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### 1NC – Court Clog DA

#### Federal courts are barely recovering from COVID now.

Morris ’21 [Angela; ALM Media's Texas litigation reporter, internally citing several Texas district court judges; 6/11/21; “'Backlogs Keep Me Up at Night': A look at Cases Clogging Texas Dockets Amid Pandemic”; <https://www.law.com/texaslawyer/2021/06/11/backlogs-keep-me-up-at-night-a-look-at-cases-clogging-texas-dockets-amid-pandemic/?slreturn=20210805152423>; Texas Lawyer; accessed 9/5/21; TV]

Texas Lawyer analyzed case data from the administrative office and found that between 2019 and March of this year, the active criminal docket in district courts swelled by 34% to land at nearly 255,800 cases. The number of active family cases grew by 13% since 2019, ending at just over 370,600 this March. In contrast, there was only 2% growth in the number of active civil cases in the time period. The number of juvenile cases actually shrank by 5%. “Any backlog is always concerning to me, because I know backlogs represent unresolved cases,” said 379th Criminal District Judge Ron Rangel of San Antonio. “Backlogs do keep me up at night.” Criminal docket The pandemic was the hardest on criminal cases. Although district courts had a 94% clearance rate for criminal cases in 2019, it dropped to 70% in 2020. It’s recovered somewhat so far this year at 80%. Case clearance rates represent a comparison between the number of old cases that courts dispose of, and the new cases added to their dockets. The gold standard is a 100% clearance rate, and means courts are getting rid of the same number of old cases as the new cases coming in. If courts have a rate less than 100%, that will lead to a growing case backlog. If a court’s clearance rate is more than 100%, it means the court is shrinking its docket. The result of criminal clearance rates dropping so much during the pandemic was a case backlog that skyrocketed from about 7,600 cases in 2019 to over 55,200 backlogged cases in 2020. The backlog number represents the difference in case numbers at the end of the year compared to the beginning. The backlog would remain the same if a court had disposed of the same number of cases as were filed that year. But if a court was not keeping up, the backlog would grow. Backlogs sometimes shrink if courts are clearing cases faster than they are coming in. Overall, the number of active pending criminal cases on district courts’ dockets grew by 29% between 2019 and 2020, to land at nearly 247,000 cases. The docket’s growth continued at a slower rate of 4% so far in 2021, and as of March 31, there were nearly 255,800 active criminal cases in the district courts. Rangel, who serves as the local administrative judge in Bexar County, said criminal case backlogs grew more during 2020 than other case types because virtual jury trials were not available for criminal matters. The U.S. Constitution gives criminal-defendants the right to confront their accusers, and the Texas Supreme Court did not allow a court to compel a virtual trial in criminal cases, he explained. When the pandemic started, judges across Texas granted large numbers of personal recognizance bonds to get defendants with low-level, non-violent offenses out of jails, where conditions were ripe for infections, added Rangel. Once a defendant gets released from jail, it lowers the motivation to resolve a case, he said. “The lack of a jury trial removes significant incentives for defendants to work their cases out,” said Rangel. The issue will get better as courts resume in-person jury trials. Rangel noted that Bexar County started sending out jury summonses in May and setting cases in preparation for restarting in-person jury trials in June. “Cases started moving a lot faster. In district court, we reduced the backlog by 200 cases since May 17,” Rangel said during a June 7 interview. “I have always recognized that having the loss of an in-person trial available makes it very tough to move cases, because the parties recognize nobody can force anything on them.” Judge Robert Schaffer of Harris County’s 152nd Civil District Court said that courts have already been able to cut into coronavirus case backlogs for one simple reason—they’re starting to seat juries for trials. But those trials won’t happen in great numbers for quite some time. “We can try a maximum in Harris County we can take a maximum of four juries a day,” said Schaffer, who is local administrative judge in his county. “Until there is access to jury trials in larger numbers, I don’t know what you can do to fix the backlog.” He said that criminal-defense attorneys might have advised their clients not to go to trial during the pandemic. “Lawyers today say, ‘This is a horrible situation that we are in right now. You should not be trying your case now, because of the makeup of the juries, because of the COVID mask restrictions—you can’t see people’s faces,’” said Schaffer. “If I were a lawyer, I wouldn’t want to try a case in this environment, especially if I had a substantial case.” Family dockets The same reticence to use virtual proceedings may have contributed to the backlog in family law cases. Slayton, the Texas court administrator, said that he has talked with judges and attorneys who felt that it wasn’t a good time to resolve cases during the upheaval of the pandemic. “Judges and attorneys felt it was best dealt with in-person, in a courtroom, than over Zoom. I think there was more resistance to doing that remotely,” Slayton said. District courts in 2019 had a 100% clearance rate for family cases, which dropped to 80% in 2020, leading to a backlog that mushroomed to just over 46,500 cases. The active pending family docket grew by 14% between 2019 and 2020—when it was more than 374,000 cases. There was a slight 1% dip in the first quarter of 2021, but the district courts still had more than 370,600 family cases on their dockets. Civil dockets Civil case dockets were not as badly impacted by the pandemic–perhaps because judges and lawyers embraced remote court. District courts’ civil case clearance rates stayed the same–90%–in 2019, 2020 and so far in 2021. The number of cases considered to be a backlog actually shrank by just under 700 cases between 2019 and 2020. As a result, the civil active pending case docket only grew by 5% during the pandemic year, going from nearly 382,900 in 2019 to nearly 401,700 in 2020. This number has already dropped by 2% in the first quarter of 2021. Judge Amy Clark Meachum of Travis County’s 201st District Court wrote in an email that judges rose to the challenges of the pandemic by using virtual platforms. Travis County judges ran their usual non-jury dockets and met their normal daily demands, she said.

#### Antitrust litigation consumes vast judicial resources – causes backlogs.

Fitch et al. ’21 [Lynn Fitch, Krissy C. Nobile, Justin L. Matheny; Attorney General of Mississippi; Deputy Solicitor General for Mississippi; Assistant Solicitor General; 3/1/21; “BRIEF FOR THE STATES OF MISSISSIPPI, ALABAMA, ARIZONA, ARKANSAS, CONNECTICUT, FLORIDA, GEORGIA, IDAHO, INDIANA, IOWA, KENTUCKY, LOUISIANA, MAINE, MICHIGAN, MINNESOTA, MONTANA, NEW JERSEY, OREGON, SOUTH CAROLINA, TEXAS, UTAH, VIRGINIA, AND WEST VIRGINIA AS AMICI CURIAE IN SUPPORT OF PETITIONER”; <https://www.supremecourt.gov/DocketPDF/20/20-1018/170601/20210301174920932_pdf>; Louisiana Real Estate Appraisers Board v. United States Federal Trade Commission; accessed 9/6/21; TV]

The financial costs and burdens of defending antitrust litigation are also extraordinarily high. To mitigate those costs and burdens, which ultimately are borne by state taxpayers and citizens, States and their political subdivisions have a significant interest in dismissal of antitrust claims at the earliest stage possible whenever dismissal is legally appropriate. “Litigation, though necessary to ensure that officials comply with the law, exacts heavy costs in terms of efficiency and expenditure of valuable time and resources that might otherwise be directed to the proper execution of the work of the Government.” Ashcroft v. Iqbal, 556 U.S. 662, 685 (2009).

Immediate appellate review of a denial of a claim of state-action immunity is also efficient. Antitrust litigation is costly for litigants and the judicial system. Antitrust cases are complex and can easily consume judicial time and resources. Fully resolving state-action immunity on the front-end of litigation focuses on a narrow, outcome-determinative issue and can prevent the waste of judicial resources expended in a trial that, at the end, proves to be unwarranted. Courts therefore have a vested interest in early-stage dismissal of antitrust claims that cannot lead to redress.

An appeal from a final judgment cannot adequately safeguard these important state and judicial interests or adequately protect against financial burdens needlessly imposed by forcing a state entity entitled to state-action immunity to litigate antitrust cases to a final judgment. See Commuter Transp. Sys., 801 F.2d at 1289 (“The purpose of the state action doctrine is to avoid needless waste of public time and money.”). Allowing an immediate appeal to avoid an unnecessary trial when a State or state entity is in fact immune will protect significant public interests; obviate, or at least diminish, unnecessary financial expenditure; foster efficiency; and conserve judicial resources.

B. It is widely recognized that antitrust litigation is particularly costly. Indeed, this Court’s decision in Bell Atlantic Corp. v. Twombly, 550 U.S. 544 (2007) is predicated in good measure on the fact that antitrust litigation is notoriously expensive. The complex and protracted discovery inherent in the early stages of antitrust litigation accounts for much of that expense. Id. at 558. In fact, that is why Twombly admonished courts not “to forget that proceeding to antitrust discovery can be expensive.” Id. at 558-59 (citing, inter alia, Note, Modeling the Effect of One-Way Fee Shifting on Discovery Abuse in Private Antitrust Litigation, 78 N.Y.U. L. REV. 1887, 1898-99 (2003) (discussing the unusually high cost of discovery in antitrust cases); Manual for Complex Litigation, Fourth, § 30, p. 519 (2004) (describing extensive scope of discovery in antitrust cases); and Memorandum from Hon. Paul V. Niemeyer, Chair, Advisory Committee on Civil Rules, to Hon. Anthony J. Scirica, Chair, Committee on Rules of Practice and Procedure (May 11, 1999), 192 F.R.D. 354, 357 (2000) (reporting that discovery accounts for as much as 90 percent of litigation costs when discovery is actively employed)).

Twombly stands for the general proposition that, when allegations in a complaint, however true, fail to state a claim for relief, the claim should be dealt with “at the point of minimum expenditure of time and money by the parties and the court.” Twombly, 550 U.S. at 558 (quoting 5 C. Wright & A. Miller, Federal Practice and Procedure § 1216, at 233-234 (3d ed. 2004)). The point of minimum expenditure in an antitrust case, in particular, comes before the case proceeds to discovery. Twombly, 550 U.S. at 568 (citing Car Carriers, Inc. v. Ford Motor Co., 745 F.2d 1101, 1106 (7th Cir. 1984) (“[T]he costs of modern federal antitrust litigation and the increasing caseload of the federal courts counsel against sending the parties into discovery when there is no reasonable likelihood that the plaintiffs can construct a claim from the events related in the complaint.”)).

If a state entity defendant in an antitrust case is entitled to state-action immunity—whether that immunity is deemed immunity from suit or from liability— there is no reasonable likelihood that a plaintiff can raise a claim of entitlement to relief or recovery. There is thus every reason to allow the state-action immunity issue to be appealed before the parties and the court are faced with the costs of discovery and trial—i.e., to deal with the issue “at the point of minimum expenditure of time and money by the parties and the court.”

Antitrust litigation is legally and factually complex, inevitably requires massive discovery, cannot be conducted without a battery of expert witnesses, and is of protracted duration. See, e.g., Corr Wireless Commc’ns v. AT&T, Inc., 893 F. Supp. 2d 789, 809-10 (N.D. Miss. 2012); Nepresso USA, Inc. v. Ethical Coffee Co. SA, 263 F. Supp. 3d 498, 508 (D. Del. 2017) (highlighting “the financial burden of the discovery process in general, but particularly in antitrust cases”). Those concerns counsel in favor of application of the collateral-order doctrine to allow interlocutory appeals of the denial of claims of state-action immunity in antitrust cases.

#### Court clog produces patent delays.

Ball & Kesan ’10 [Gwendolyn G. & Jay P; Research Fellow Business, Economics and Law Group Institute for Genomic Biology and Information Trust Institute University of Illinois; Professor and Mildred Van.Voorhis Jones Faculty Scholar College of Law Business, Economics and Law Group Institute of Genomic Biology University of Illinois; 4/30/10; “Judges, Courts and Economic Development: the Impact of Judicial Human Capital on the Efficiency and Accuracy of the Court System”; <https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=ALEA2010&paper_id=380>; accessed 9/7/21; TV]

While most economic scholarship analyzing the importance of the courts has focused on disputes over real property, the relationship between the court system and investment is no less strong for intellectual property. And to a large extent, the relationship between the courts and the patent system depends on the quality of “judicial human capital.”

In the United States, as in many countries, the courts are a crucial part of the patent system to the extent that the patent system is can be termed a two-stage process. In the first stage, the U.S. Patent and Trademark Office grants property rights to inventors. In the second stage, inventors can protect those rights through patent infringement suits in the courts and alleged infringers have the right to challenge improvidently granted patents and have them declared invalid. As a consequence, some authors have referred to patent rights as being “probabilistic,” depending not only on whether the innovation embodied in the patent has commercial value, but also on the refinement of that patent property right after litigation.15

Just as with real property, the management of the court system has an impact on both patenting behavior and on investment in research and development. While the majority of all patents are not litigated, those that are disputed in the courts are among the most valuable.16 The rules governing the court system may even “feed back” into patenting behavior; some authors have found evidence that the increasingly “patent friendly” rules17 adopted by the courts are a major factor in the surge in patenting since the 1980s.18 Moreover, the ability to define the “probabilistic” property rights is an important element in determining whether patents fulfill their purpose of promoting innovation.19 Finally, the costs associated with the patent systems can be reduced by an efficient court system; firms may hesitate to invest in new products and technologies which may infringe on existing patents, so any additional delay or cost in clarifying existent rights may slow the process of innovation. The more quickly and cheaply these rights are defined, the more beneficial the patent system will be in promoting and not inhibiting innovation and investment.

However, in the United States this second phase in the patent system is managed by a District Court system in which judges with a general legal background preside over cases ranging from drug trials to anti-trust actions. Under such circumstances, patent infringement suites can pose particular challenges. Patent litigation is officially classified by the U.S. Administrative Office of the District Courts as one of several types of “complex litigation” which place special burdens on judges and other court personnel. Not only are technical issues involved, but there are also procedures and rules that are unique to patent law. For example, since the “Markman” ruling of 1995 on “claim construction,” judges in patent cases have been required to examine the claims stated in the patent document, thereby defining the boundaries of the technology.20 This procedure is a potentially lengthy process involving briefs from the plaintiff and defendant, expert opinions and a special claims construction hearing. Such procedures can create difficulties for judges who are not familiar with the intricacies of patent law. And there is evidence suggesting dissatisfaction with the performance of district courts in patent cases at the District level. Approximately 10% of judgments in other areas of the law are appealed, whereas 50% of the judgments in patent cases are appealed.21 As a consequence, intellectual property disputes are included as one of the topical areas warranting a special section in the Federal Judicial Center (FJC)22 Manual for Complex Litigation (2004), along with anti-trust cases, securities cases, employment discrimination, CERCLA (Superfund) and civil RICO. Moreover, in the FJC’s 2003-04 study of the amount of work required for District Court cases, while an “average” case is assigned a weight of 1, patent cases received a weight of 4.72. Only environmental cases (4.79) and death penalty cases (12.89) received higher weights.23 Thus, lack of familiarity with patent law can be a barrier to efficient resolution of patent disputes, and has led to observations like the following24:

Patent litigation stands among the most complex, with disputes about cutting-edge technology muddied with esoteric and arcane language, laws, and customs.

Even with the assistance of legal and technical experts as well as special masters, generalist judges and juries are often at sea almost from the beginning of a patent case. When compared to other adversarial actions, patent cases benefit significantly from having a judge hear the case who is familiar with technical issues.

Most recently, the issue of judicial human capital has been part of a discussion about whether the United States should have a specialized lower-level patent court; several legislative reforms have been proposed in Congress to create opportunities for specialization at the district court level in patent cases.25

While a detailed discussion the arguments for and against specialized courts is beyond the scope of this paper,26 they can large be categorized under four headings: 1) improvements in judicial human capital, 2) uniformity and predictability in the development of legal doctrine, 3) the impact on and influence of the political economy of the judicial system, and 4) the efficiency of the court system. The creation of a specialized appellate court for patent cases27 in 1982 arguably had some success in dealing with the second and fourth criteria; patent law is now applied in a more uniform manner across the circuits and inefficient forum shopping, though still occurring, is not as great as it once was.28 Nonetheless, there is still a belief that a specialized patent trial court is needed, and the primary rationale for this is improvements in judicial human capital. Many scholars and policy makers believe that the average district court judge hears too few patent cases and/or does not have the specialized training to adequately and expeditiously rule on complex issues. Appellate review of claim construction, for example, results in a relatively high reversal rate.29 However, there is little empirical work exploring the relationship between judicial experience-either general or patent specific-and the efficiency and accuracy of the resolution of cases.30

#### Patents secure US AI leadership.

Bifano et al. ’20 [Larissa S. Bifano, Danny Tobey, Joseph Wolfe; US Chair, Patent Prosecution Practice at DLA Piper, J.D., University of Pittsburgh School of Law; Partner at DLA Piper, J.D., Yale Law School; Associate at DLA Piper; 5/7/20; “Protecting AI technologies through patents: A US guide”; <https://www.dlapiper.com/en/us/insights/publications/2020/04/a-us-guide-to-protecting-ai-based-inventions>; DLA Piper; accessed 9/7/21; TV]

The importance of protecting AI-based inventions

A strong patent portfolio developed around a company’s artificial intelligence innovations is an important asset, both offensively and defensively.

Offensively, a strong patent portfolio can guard and protect the artificial intelligence innovation. Building out a family of patents around the artificial intelligence innovation can discourage competitors from practicing similar processes, while protecting the monetary investment that went into developing the innovation.

Defensively, a strong patent portfolio can be used to discourage other companies from alleging that your practicing of your artificial intelligence innovation violates their patent.

Further, for startups or smaller companies, a strong patent portfolio may be a valuable asset that can be attractive to potential buyers or licensees.

Patenting AI-based innovations

A patent is a form of intellectual property protection that grants an inventor exclusive rights to an innovation for a period of time (eg, about 20 years) in exchange for public disclosure of the innovation. With respect to artificial intelligence, patents may be filed on hardware (eg, improved CPUs, GPUs, quantum computing components) and on algorithms executing the artificial intelligence processes (eg, learning processes, prediction processes).

Because new matter cannot be added to a nonprovisional patent application after it is filed, a prudent inventor strives to ensure that the application covers all current functionality, as well as any planned functionality. As discussed, if an application proceeds to a patent grant, that patent is enforceable for 20 years from the date of filing. Due to the ever-evolving nature of artificial intelligence, a technology that may be cutting edge at the time of filing may be outdated by the time the patent grants. It is important that the application is drafted in a manner that future-proofs the client’s technology.

AI and subject matter eligibility

The US Patent Office dictates the types of inventions that are eligible for patent protection in the United States. Generally, this may include inventions directed to any new and useful process, machine, manufacture or componsition of matter, or any new and useful improvement thereof. For purposes of software-based inventions, including those rooted in artificial intelligence, the state of eligibility is constantly evolving. Over the past several years, software-related applications have been more heavily scrutinized than other applications at the US Patent Office under the standard set forth in Alice Corp. v. CLS Bank International, 573 U.S. 208 (2014). Alice states that merely describing an algorithm at a high level and having that algorithm execute on a generic computing device constitutes an abstract idea and is not eligible for patent protection. Subsequent case law and US Patent Office Guidance have expanded on what constitutes an “abstract idea” for purposes of subject matter eligibility. A claim may constitute an abstract idea if it recites certain groupings of subject matter, such as mathematical concepts, certain methods of organizing human activity, and mental processes. Typically, claims that do not fall within one of these groupings cannot be characterized as an abstract idea. As those experienced in artificial intelligence recognize, artificial intelligence innovations typically utilize mathematical concepts and/or algorithms that underly the artificial intelligence models.

While, on its face, Alice seems troublesome for artificial intelligence innovations, in the years following Alice, subsequent case law and US Patent Office guidance have provided avenues for overcoming such challenges and have made overcoming such rejections easier for certain technologies, including artificial intelligence innovations.

#### AI dominance dampens conflict escalation and quell revisionism globally – extinction.

Dale & Herbeck ’18 [Aryan & Brendon; Air Force Space Operations Officers, Graduate and Instructor of the USAF Weapons School, students in the Multi-Domain Operational Strategist Concentration at Air Command and Staff College, M.B.A. in Aviation from Embry Riddle University, B.S. from Charleston Southern University; 3/26/18; “21st Century Strategic Deterrence: ‘Beyond Nuclear’”; https://othjournal.com/2018/03/26/21st-century-strategic-deterrence-beyond-nuclear/; Over the Horizon; accessed 11/23/18; TV]

Introduction For half of the 20th Century, Warsaw Pact and NATO countries alike wrote the book for how deterrence theory should be applied. In particular, nuclear deterrence played a significant role in the way the U.S. built its national security strategy. Nuclear deterrence was so pervasive that the very word “deterrence” itself became synonymous with nuclear deterrence. However, according to General John Hyten, Commander, U.S. Strategic Command, strategic deterrence in the 21st century does not equate to 20th century deterrence. Strategic deterrence is a multi-polar, multi-domain problem and it is fundamentally different now than it was in last century. The myopic focus on nuclear options in a national deterrence strategy falls short of the critical thinking required to provide U.S. national leaders with the options necessary for effective decision making. Today’s complex social-political environment requires more than just a nuclear element for strategic deterrence to be effective against a diverse set of adversaries. Deterrence today must leverage all six domains of warfare. So what is deterrence? According to DoD Joint Publication 1, deterrence “influences potential adversaries not to take threatening actions” for fear of the overwhelming retaliation from U.S. military might. More simply, deterrence could be any action that convinces an adversary to not act due to perceived unacceptable costs or because “the probability of success [is assessed to be] extremely low.” For an adversary to believe costs will be unacceptable or that there is a low probability of success, it must assess the U.S. threat as credible and capable, regardless of whether it is nuclear or conventional. Deterrence hinges on the adversary’s assessment of credibility and capability. During the Cold War the Soviet Union believed that use of nuclear weapons would lead to an overwhelming retaliation from the U.S.; and therefore, striking any NATO allies with nuclear weapons was not worth the cost. Effects of a Multi-Polar Environment The end of the Cold War brought to a close 50 years of a bi-polar world, and with it the simplicity of employing one strategy to deter a single adversary. The multi-polar world of today brings adversaries who are motivated differently. Both rational and irrational actors must be considered, which also causes national leaders to question the level of success strategic deterrence has on an adversary. Generally, it is believed strategic deterrence is effective only against a rational actor, and not an irrational actor. This is due to the perception that a rational actor will take into account some form of cost-benefit analysis prior to acting versus the irrational actor who might act without any consideration of the losses. Further complicating the world environment is that potential adversaries are watching and learning from U.S actions. This is not a new concept as adversaries have been studying each other for thousands of years to gain advantage. But General Hyten reminded us in a speech last fall that “in a multi-polar world, everybody watches you [the U.S.] everywhere.” His point was to highlight that since the fall of the Soviet Union, the U.S. has had a spotlight on it where adversaries have been studying the asymmetric advantages of the U.S. and creating specific capabilities and methods to counter those advantages. Thus, we must now recognize that a deterrent method of the past may not be viable in the future. The U.S. must seek out new deterrent strategies. Nuclear versus Strategic Deterrence Nuclear deterrence remains the foundation of U.S. deterrence strategy. However, nuclear deterrence cannot be the sole pillar of strategic deterrence since nuclear deterrence is not a one-size-fits-all solution. The most recent National Security Strategy (NSS) reflects this requirement to expand deterrence. As Brian Willis points out in the recent “Multi-domain ops at the Strategic Level” article, the recent NSS and Nuclear Posture Review (NPR) make strides to extend deterrence to the space and cyberspace domains. Creating non-nuclear deterrence options for use against potential adversaries is critical, especially against those actors who do not possess nuclear weapons. Michael Gerson suggests the nuclear taboo reduces the credibility—and therefore the utility—of nuclear weapons, especially against regimes not possessing nuclear weapons or other weapons of mass destruction. This thought process feeds back to the concept of credibility. The adversary must know the capability exists and the U.S. is willing to use it. The U.S. must consider a more balanced approach to deterrence as two of its near-peer adversaries have done. China and Russia are starting to demonstrate new ideas and concepts about strategic deterrence. This new “deterrence” does not solely focus on nuclear weapons or even the military instrument of power. China defines this new way of thinking as “Integrated Strategic Deterrence” while the Russians have called it “Cross-Domain Coercion.” People’s Republic of China Approach to Deterrence The PRC’s approach is not focused on preventing actions in a given domain but about achieving certain political goals. Around 2001, PRC military literature started discussing a concept known as “Integrated Strategic Deterrence” which focuses on nonmilitary aspects of national power—diplomatic, economic, and scientific and technological strength—contributing to strategic deterrence alongside space and cyber capabilities. These actions could include demonstrating new capabilities through tests and exercises where international observers are watching, owning the majority of mineral mines that hold a certain type of element, or working with partner countries to launch a new satellite that helps map future droughts and plots areas that are farmable. In 2007, the PRC tested an antisatellite (ASAT) technology demonstrator against a non-operational weather satellite. This test was publicized as a future scientific technology demonstration. This test demonstrated the PRC had a capability to engage satellites in Low Earth Orbit, which has now been turned over to the People’s Liberation Army (PLA) and is considered an operational military capability. It is also now a credible strategic deterrent in the space domain. Another piece to the PRC’s deterrence is their dam building operations for water control and hydropower. According to open sources, the PRC owns 45% of the world’s dams with its nearest competitors being the United States at 14% and India at 9%. Dams have the potential to turn water into political weapons to be wielded in war, or instruments during peace to influence actions or behaviors of a neighbor. India is currently concerned with a number of China dam projects and their ability to reduce river flows into India. The PRC’s “Integrated Strategic Deterrence” does not come without challenges. Unlike the U.S. who has the Department of Defense and Department of State coordinating different types of deterrent actions, the absence of an entity in the PLA to integrate and coordinate the employment of these capabilities makes it difficult to execute. However, it would come as no surprise to the casual observer to see the PLA start executing military, space, and cyber coercive activities in national level exercises in order to move “Integrated Strategic Deterrence” from theory and conjecture to fully operational in limited regional conflicts. Russia’s Approach to Deterrence The PRC is not the only competitor thinking about strategic deterrence from a non-nuclear perspective. About 30 years ago, Soviet literature introduced a concept we now know as Reflexive Control. This notion centers on the idea of driving your opponent to make decisions that are advantageous to you. This is commonly achieved through misinformation, either via “leaks” or providing a possible explanation to an unrelated event that causes your opponent to divert attention or respond. That concept has now evolved into “Cross-Domain Coercion.” “Cross Domain Coercion” is Russia’s ability to orchestrate non-nuclear and informational influence to coerce an adversary. It maintains opaqueness that clouds the nature of aggression as well as the aggressor’s identity. This informational influence was apparent during both the United States elections in 2016 and Catalonia’s bid for independence from Spain in 2017. Multiple United States intelligence agencies have noted Russian misinformation on social media and mass media outlets. This campaign is a prime example of “Cross Domain Coercion” and used a soft instrument of power, in this case information, as a form of deterrence on a global scale. The purpose of this interference is still clouded but it must have satisfied Russian objectives if it was used in Catalonia months after the United States election. Another form of this type of deterrence is Russia’s cyber-attacks in both Estonia in 2007, and Georgia in 2008. In both cases, the attacks were not solely focused on military targets but against government institutions, banks, ministries, newspapers, and broadcasters. These attacks were meant to confuse the population and drive the government towards compliance with Russian demands. Whatever the objectives, Russia has telegraphed that future attacks will fall under “Cross Domain Coercion”. The threats against financial and economic institutions as well as those of energy sources will be activated in conjunction with the military component of coercion, such as special operations forces and strategic strike systems in order to influence the target country. With both the PRC and Russia, strategic deterrence is no longer monopolized by nuclear weapons. 21st century deterrence is dam building that has regional implications on precious resources and misinformation campaigns such as Deepfakes where machine learning systems can be trained to paste one person’s face onto another person’s body, complete with facial expressions, and could change the outcome of democratic elections. U.S. Multi-Domain Strategic Deterrence Consideration of deterrent effects other than kinetic weapons must be explored. Strategic deterrence “applies to cyber, it applies to missile defense, and it applies to electronic warfare. It applies to every mission in U.S. Strategic Command.” Currently, an adversarial attack can come through any domain, and that is why the U.S. must leverage the multiplicative advantages of all domains. An adversary who is not deterred by a nuclear response may be deterred by fear of a cyber effect which degrades or destroys a country’s economic stability. Or it could be negotiations in the human domain which threaten sanctions against a country’s ability to trade. Maybe it is the threat of an information operations campaign with the goal of removing a governmental regime from power and destabilizing a nation state. Regardless of deterrence method, the adversary must perceive the U.S. as capable and willing to commit to the action for it to be an effective deterrent. The first step for the U.S. is talking about capabilities more openly so adversaries know about our capabilities and the conditions under which they would be employed. This does not mean we share the technical details of a capability, those should remain secret, but a general understanding of the effect created by the capability must be understood. Adversaries are not deterred by a capability if they do not know it exists. Future Technologies and Deterrence Technologies on the horizon have huge implications for the future of strategic deterrence. Hypersonic weapons have the capability of delivering multiple payload types to worldwide targets while rendering missile warning detection and missile defense programs obsolete. Quantum computing has the ability to make encryption unbreakable unless you have quantum technology and increase transmission speeds to levels unheard of in today’s environment. This could deter an adversary from ever trying to break your encryption unless they spend the money to harness quantum computing. Finally, Artificial Intelligence (AI) and “combat cloud” services allow computers to easily share information and make decisions involving civil and economic processes to military tasks without ever needing human interaction. AI comes with colossal opportunities, but also threats that are difficult to predict. According to Putin, whoever becomes the leader in AI will become the ruler of the world. Leading the Target The one commonality in the previous paragraph is that the U.S. is arguably not the leader in any of the technologies listed above. The question is why. The U.S. recognizes the threat but does not seem to recognize deterrence in the same lenses as our adversaries. With all of the historic examples above plus the developing technologies, our adversaries are coming up with new deterrence strategies that go beyond nuclear weapons. If the U.S. wants credible 21st century strategic deterrence, we need to look no further than recent PRC and Russian actions. They have shown us that the blueprint to strategic deterrence lies in economic expansion, information attacks, and future technologies. The U.S. needs to start rewriting the textbooks on what strategic deterrence means and start exploring new technologies such as Quantum Computing and AI and how we can leverage them through all instruments of national power and all domains. If the U.S. does not act soon, we could be deterred from intervening in future conflicts that protects our vital interests or closest allies.

### 1NC – Sua Sponte DA

#### Ruling sua sponte undermines the judicial process.

Poor & Goldschmidt ’15 [E. King & James E; DRI member and partner in Quarles & Brady LLP’s Chicago office, chair of the firm’s appellate practice, member of the board of directors of the Appellate Lawyers Association, author of two petitions for certiorari granted by the Supreme Court, 25 years of law experience; commercial litigation attorney, associate in Quarles & Brady LLP’s Milwaukee office; October 2015; “Sua Sponte Decisions on Appeal”; <https://www.quarles.com/content/uploads/2015/10/FTD-1510-Poor-Goldschmidt.pdf>; For the Defense, Appellate Advocacy; accessed 4/3/18; TV] \*Edited for reading clarity.

But these permissive exceptions are not consistently applied, and there remain ample examples of courts adhering to the principle of party presentation. See Hartmann v. Prudential Life Ins. Co. of America, 9 F.3d 1207 (7th Cir. 1993) (applying the appellate waiver rule, due to an error by counsel, against orphans whose step- mother killed their father after bribing an insurance agent to defraud the orphans). Commentators agree that such exceptions, together with balancing tests specific to various federal circuits, are susceptible to outcome-oriented application and may just be so many manifestations of the gorilla rule. Miller, supra, at 1279. “No General Rule” This patchwork of rules and exceptions leaves sua sponte decision making without any widely-accepted body of authority that is consistently applied, let alone any controlling authority on this question. As the Supreme Court summed up in Singleton v. Wulff, 428 U.S. 106, 121 (1976), “[t]he matter of what questions may be taken and resolved for the first time on appeal is one left primarily to the discretion of the courts of appeals, to be exercised on the facts of individual cases. We announce no general rule.” If the general rule is really that there is “no general rule,” then where does that leave us? One place to begin is to ask, what happens to our adversary system and the values underlying it when a court resolves a case without hearing from the parties involved? Undermining the Adversarial Process When a court raises an issue on its own and decides it without hearing from the parties involved, it chips away at our adversary system. When a court chooses to treat a case as a vehicle to decide an issue that the court believes is an overlooked, dispositive issue, rather than one addressed by the parties, then the court has ventured away from its role as a neutral decision maker into a subjective realm. In doing so, the court concludes on its own that a particular new question will dispose of the case. It then returns to being a neutral decision maker to decide the very issue which it has selected as dis- positive. A. Milani & M. Smith, Playing God: A Critical Look at Sua Sponte Decisions by Appellate Courts, 69 Tenn. L. Rev. 245, 277–78 (2002). But when a court itself selects new issues—without party participation—and then decides those very same issues, the values underlying our adversary system are compromised. The parties are far more likely than the reviewing court to explore the peculiarities and nuances of the case; after all, they have every incentive to do so. On the other hand, considerations of effciency may cause courts to be more likely to reach conclusions on issues that they them- selves have already identified as resolving the case more directly. Id. Moreover, even if identifying new issues does not actually undermine a court’s impartiality, it may still create that impression: “When [the court] a decision maker becomes an active questioner or otherwise participates in a case, she is likely to be perceived as partisan rather than neutral.” Id. at 280. Decisions reached under a court’s own initiative do not “promote respect either for the Court’s adjudicatory process or for the stability of its decisions,” and other commentators have described such decisions as “unseemly,” “not likely to be regarded favorably,” a breach of the parties’ trust, and a sacrifice of the court’s function as an adjudicator. Id. at 280–81 (quoting Justice Harlan’s dissent in Mapp v. Ohio, 367 U.S. 643, 677 (1960)). Such perceptions work against both litigants’ and society’s acceptance of judicial decisions. Id. at 284. As explained elsewhere, “If the grounds for the decision fall completely outside the framework of the argument, making all that was discussed or proved at the hearing irrelevant... the adjudicative process has become a sham, for the parties’ participation in the decision has lost all meaning.” Id. at 285 (quoting L. Fuller, e Forms and Limits of Adjudication, 92 Harv. L. Rev. 353, 388 (1978)).

#### That corrodes rule of law via abdicating judicial legitimacy.

Donaldson ’17 [Michael J; Partner at Burnet, Duckworth & Palmer, LLP, Master of Laws from Columbia; 2017; “Justice in Full Is Time Well Spent: Why the Supreme Court Should Ban Sua Sponte Dismissals”; http://www.bdplaw.com/publications/justice-in-full-is-time-well-spent-why-the-supreme-court-should-ban-sua-sponte-dismissals/; Quinnipiac Law Review, Vol 36; accessed 9/15/21; TV]

There is a lot wrong with sua sponte dismissals. They are inconsistent with the adversary system, and change the judge's role from referee to contestant.85 They can undermine respect for the legal system. And they increase the likelihood of errors, leading to unnecessary appeals and a waste of judicial resources." But most importantly, they lack the very due process the courts are supposed to safeguard.

A. Failure to Provide Due Process

Sua sponte decisions are inconsistent with due process.89 Period. There is no other way to look at it. 90 Not only does a plaintiff surprised by a sua sponte dismissal not receive "due" process, she receives no process at all.91 She has no idea her lawsuit is in jeopardy of being dismissed, no idea what the reasons for that dismissal might be, and no opportunity to respond. 92 This is the case whether the court's dismissal decision is right or wrong. 93 As Allan Vestal puts it:

When [issues are] considered sua sponte both parties are taken completely by surprise and the court decides the matter on grounds not urged by either. Neither has had any opportunity to consider the matter, and both are now bound by res judicata grounded on considerations which represent not well reasoned positions for the litigants, but rather only the fortuitous decision of a 94 wayward court.

The reference to res judicata here is important. As Milani and Smith point out, the res judicata doctrine requires a party or its privy to be a participant in the former proceeding before the court can bind him to the consequences of that proceeding because, according to the Supreme Court, "The opportunity to be heard is an essential requisite of due process of law in judicial proceedings."95 If this is the standard applied to former proceedings, how can it not apply to proceedings currently before the court? Lon Fuller once wrote of sua sponte decisionmaking:

[I]f the grounds for the decision fall completely outside the framework of the argument, making all that was discussed or proved at the hearing irrelevant ... the adjudicative process has become a sham, for the parties' participation in the decision has lost all meaning.9 6

The situation is even harder to defend when there is no hearing at all. 9

B. Undermining Respect for the Legal System

The perception that the courts are regularly failing to provide due process cannot do anything but undermine respect for the legal system.9 8 Sir Robert Megarry, in the speech quoted at the beginning of this article,99 underlined the importance of sending the unsuccessful litigant away feeling as though he has had a fair hearing.' Justice Harlan was obviously cognizant of this problem in his dissent in Mapp, when he warned that the Court's sua sponte decision in that case was "not likely to promote respect ... for the court's adjudicatory process."o

This is not a farfetched concern. Offenkrantz and Lichter note that in the Second Circuit's high-profile decision to "[sua sponte remove] Judge Shira Scheindlin from further proceedings in two stop-and-frisk cases," an order which left the Judge "completely blindsided," "newspapers were reporting that appellate courts had carte blanche to raise and decide important issues in a case without ever seeking the input of any of the parties to it."' 0 2

Megarry tells a story of a client of his who had a fatal flaw in his case, but insisted on going ahead anyway.10 3 Instead of seizing on the fatal flaw at the outset, the trial judge heard the case all the way through.1 0 4 The client won on his two collateral points, but, as expected, lost on the key issue. o Megarry tells the story of what happened next:

The course taken by the judge must have prolonged the hearing by an hour or two. But the effect on the defeated tenant was striking. True, he had lost the last point and the case as a whole; but he had been victorious on the other two points. All that nonsense about the agent's lack of authority and the letter not having been received in time had been blown away by the judge. It was a pity about the wording of the letter, of course; but he had seen his case being put in full, and none of his grievances had been left unheard or unresolved.

This is as it should be. Courts must not, as Megarry puts it, give in to "the temptation of brevity."'0 o Their very legitimacy hangs in the balance. A loss of respect for the courts marks the beginning of the unraveling of the rule of law. This is simply too high of a price to pay for efficiency.

#### Extinction.

Davis and Morse ’18 [Christina and Julia; September 19; Professor of Government at Harvard University; Professor of Political Science at the University of California at Santa Barbara; International Studies Quarterly, “Protecting Trade by Legalizing Political Disputes: Why Countries Bring Cases to the International Court of Justice,” vol. 62]

Trade, Conflict, and Adjudication

We argue that countries turn to international adjudication to protect trade flows under conditions of strong economic interdependence. This argument is built on two key assumptions. First, states believe that an international dispute over territory, fishing rights, or another salient issue could harm trade. Second, states view international adjudication as an effective way to end the dispute. Given the risk of harm to economic relations and the potential for courts to contribute to conflict resolution, states with high trade value vested in a relationship will be more willing to undertake costly litigation. This section elaborates on the general conditions of our theory and then explains why the ICJ is a good venue for testing the relationship between economic interdependence and international adjudication. The Adverse Impact of Conflict on Trade The premise that conflict disrupts trade is central to the theory of commercial peace. Russett and Oneal (2001) draw on the work of philosopher Immanuel Kant to argue that interdependence deters conflict by raising its costs. According to this reasoning, war interrupts trade while peace promotes stable commerce, leading states to calculate that the gains of peace are significant compared to the costs of war.4 Other perspectives focus on the informational role of interdependence to lower uncertainty between states (Reed 2003). Gartzke, Li, and Boehmer (2001) contend economic interdependence allows states to signal their resolve through their willingness to bear the economic costs of confrontation.5 A host of empirical studies supports the idea that conflict reduces trade (Keshk, Reuveny, and Pollins 2004; Long 2008). Several potential channels connect trade and conflict, including direct damage to infrastructure and transportation resulting from actual conflict, sanctions policies, and informal discrimination by governments or private actors. Glick and Taylor (2010) find that the effect of war on trade is significant and persistent. At a lower level, political tensions may also suppress trade (Pollins 1989; Fuchs and Klann 2013). Consumer boycotts and financial market reactions in some cases have led to adverse market impact (Fisman, Hamao, and Wang 2014; Heilmann 2016; Pandya 2016). Simmons (2005) finds that territorial disputes have a sizable negative impact on trade even in the absence of militarized action. Others suggest states anticipate the potential adverse impact of conflict on trade, and therefore trade less to begin with if they think that war is likely. In such a scenario, the marginal economic costs of war should be insufficient to change a state's calculation for going to war (Morrow 1999; Barbieri 2002). Gowa and Hicks (2017) contend that trade is largely diverted through third-party channels, which compensate for having less direct trade with the adversary. We assume that leaders and business constituencies on average believe that conflict damages trade relations. Political conflict could lead governments to adopt sanctions against an adversary or to restrict financial flows. Violence likely disrupts trading routes and slows the movement of goods. The potential for adverse financial market reactions and consumer response adds further unpredictability about the risk of spillover from political disagreement into economic harm. Substitution through third parties could alleviate the harm, but this would still increase trade costs. The expected harm to trade motivates states to pursue the resolution of disputes. Adjudication as a Conflict Resolution Mechanism When states want to resolve an interstate dispute, why would they choose adjudication rather than negotiations, economic sanctions, or militarized action? In some cases, the decision follows an episode of military conflict as part of an effort to normalize relations. In other disputes, countries may turn to a legal venue to prevent a problem from ever reaching the stage that could produce serious political tensions or threats of force. The literature offers three broad types of explanations for why states pursue adjudication: legitimacy, informational benefits, and domestic obstacles to settlement. At the systemic level, international norms support peaceful conflict resolution. Some contend that rule of law has come to shape the identities of states, forming norms about appropriate action in both the domestic and international spheres (Finnemore and Sikkink (1998, 902). When international law has been established through fair procedures and offers coherent principles, it forms a legitimate source of authority in international affairs that generates an independent “compliance pull” on state behavior (Franck 1990, 65). International courts combine both legitimacy and authority as they help states solve specific disputes about how to interpret international law; the growing role for international courts in international affairs represents an important trend (Alter 2014; Alter, Helfer, and Madsen 2016). Integration with national courts has reinforced states’ use of the European Court of Justice (ECJ), which stands out for its expansive caseload and impact on state behavior (Alter 1998). The ICJ has achieved a relatively strong record of compliance with rulings (Schulte 2004; Llamzon 2007; Mitchell and Hensel 2007; Johns 2012). Legal settlement can help states coordinate policies through the provision of information. Compared to bilateral negotiations or nonbinding third-party arbitration, adjudication conveys a government's willingness to reach an agreement (Helfer and Slaughter 2005; Gent and Shannon 2010). Having taken the public step to initiate legal action, a government would appear inconsistent and incur a reputational penalty if it also took unilateral measures such as sanctions or military actions before the legal process had reached a conclusion. This shapes the diplomatic context because participants know that the matter will neither escalate into violence nor disappear through neglect. A court ruling offers a focal point amidst uncertainty about how to interpret the terms of an agreement (Ginsburg and McAdams 2004; Huth, Croco, and Appel 2011). As the record-keeper of past actions, courts support systems of tit-for-tat and reputational enforcement (Milgrom, North, and Weingast 1990; Carrubba 2005; Mitchell and Hensel 2007). In these informational theories of courts, states may comply with court rulings in the absence of coercive measures or the threat of sanctions because the reputational costs of noncompliance are too high. Rather than simply interpret law, courts coordinate expectations about enforcement. Johns (2012) models the circumstances whereby mobilization of third-party actions in support of a court ruling generates endogenous enforcement that can affect outcomes. In this way, multilateral enforcement makes an international court different from the pressure available in bilateral negotiations. International courts also offer a way for states to frame settlements to appeal to domestic audiences (Fang 2008). Simmons notes that even when the same deal could be reached in negotiations or through a court decision, a negotiated settlement could be viewed as a sign of weakness while legal resolution would be a positive signal for future cooperation (Simmons 2002, 834). This dynamic occurs because “domestic groups will find it more attractive to make concessions to a disinterested institution than to a political adversary” (Simmons 2002, 834). In research on several prominent ICJ cases, Fischer (1982, 271) emphasizes the court has helped governments to save face. Consequently, those governments unable to reach agreements over domestic opposition may find it easier to do so with the involvement of a third-party ruling. Allee and Huth (2006a) show that governments with higher levels of domestic political constraints are more likely to choose adjudication over negotiation for settling territorial disputes. Domestic political constraints also increase the probability of filing complaints at the WTO (Davis 2012). The mobilization of domestic groups plays a critical role in litigation patterns at the ECJ (Alter and Vargas 2000).

### 1NC – Advantage CP

#### The United States legislative and executive branches should:

* adopt a presumption that agricultural mergers which cause a significant increase in concentration are anticompetitive.
* revoke the ad hoc agriculture subsidies program.
* increase funding for agriculture conservation programs.
* reform traditional commodity farm subsidies programs, by at least imposing a strict means test.
* expand international food aid, and at least double investments in agricultural and food research over the next 10 years.

#### Planks 1-3 reorients farm subsidies towards small farmers and sustainability.

Schechinger 21 [Anne; Senior Analyst of Economics for EWG; “Farm Subsidies Ballooned Under Trump – President Biden Should Not Make the Same Mistakes”; EWG; Feb 24, 2021; https://www.ewg.org/interactive-maps/2021-farm-subsidies-ballooned-under-trump/]

Taxpayer-funded farm subsidies have long been skewed in favor of the richest farmers and landowners. But under the Trump administration, even more money went to the largest and wealthiest farms, further shortchanging smaller, struggling family farms.

EWG’s analysis of records from the Department of Agriculture finds that subsidy payments to farmers ballooned from just over $4 billion in 2017 to more than $20 billion in 2020 – driven largely by ad hoc programs meant to offset the effects of President Trump’s failed trade war.

Not only did the amount of subsidies skyrocket, but the richest farms also increased their share: In 2016, about 17 percent of total subsidies went to the top 1 percent of farms and about 60 percent to the top 10th. In 2019, the richest 1 percent received almost one-fourth of the total, and the top 10th received almost two-thirds.1

The staggering growth of subsidies and the worsening inequity in distribution underscore the urgency for the Biden administration and the new Congress to enact commonsense farm subsidy reforms that will benefit small, struggling farmers and the environment and make up for the mistakes of the Trump years.

Traditional Subsidies Are Dwarfed by Ad Hoc Programs

The 2014 Farm Bill established two traditional commodity farm subsidy programs that send payouts to farmers every year. These programs, the Agricultural Risk Coverage program, or ARC, and the Price Loss Coverage program, or PLC, are triggered if crop yields or prices are lower than expected. Farmers can choose to take part in either ARC or PLC for the entire length of each farm bill, typically five years. Not every farm receives payments from these programs every year, but many do, and the programs send out billions of dollars annually.

But even though these existing programs pay farmers for reductions in crop prices, the Trump administration established additional multi-billion-dollar ad hoc subsidy programs – subsidies for specific, limited and supposedly temporary purposes.

The Market Facilitation Program, or MFP, paid billions to farmers in 2018 and 2019 for losses driven by tariffs that China placed on agricultural imports from the U.S. in retaliation for Trump’s trade war.

The Coronavirus Food Assistance Program, or CFAP, sent billions to farmers last year. The USDA is still accepting applications for this year, but Biden has ordered a freeze on payments until further notice.

ARC and PLC payments, from their inception in 2014 through 2019, the most recent year of payments, were $32.04 billion. But ad hoc subsidies far exceeded the total payments from those traditional programs in the final two years of the Obama administration and under Trump: a total of $49.08 billion in five years of annual disaster payments, two years of MFP payments and CFAP payments through October of last year.

Altogether, since 2014, ad hoc and traditional subsidy programs cost U.S. taxpayers more than $81.1 billion.

The chart below shows the growth in farm subsidies since 2018, when the MFP began. Since ARC and PLC payments are made in the calendar year after the year the crop was grown, we won’t know the 2020 payments until this fall. So the chart below includes an estimate for 2020 ARC and PLC payments, provided by the Congressional Budget Office.

The majority of payments went to just eight states – Illinois, Iowa, Kansas, Minnesota, Nebraska, North Dakota, South Dakota and Texas. Farmers in those states received more than $41 billion, or 51 percent of the total.

The interactive map below shows annual county-by-county subsidy payments since 2014. The 10 counties that received the highest ad hoc payments together received over $1.6 billion.

The massive outlays of taxpayer dollars aren’t the only cost of wasteful farm subsidies.

Nationwide, nitrate contamination of drinking water – from nitrogen in fertilizer and manure running off farm fields – is a serious and growing health hazard. Analysis of USDA records shows how federal payments are subsidizing farms in counties with severe nitrate contamination.

For example, levels of nitrate in drinking water are especially high in the San Joaquin Valley of California, where communities with majority-Latino populations are the most likely to have high nitrate. Six of the 10 U.S. counties with the highest ad hoc subsidy payments are in the San Joaquin Valley – Fresno, Kern, Kings, Merced, Stanislaus and Tulare, which since 2014 received a total of $1.09 billion from disaster payments, MFP and CFAP.

Yet all of the traditional and ad hoc subsidies outlined above are only a part of the total payments American farmers receive every year. Federal crop insurance – a Depression-era ad hoc program written into law in 1980 – adds billions each year, and tends to pay farmers for the same reductions in crop prices as ARC and PLC. Conservation programs also make payments to farmers every year, but conservation payments are considerably smaller than farm subsidies or crop insurance.

The Largest Farms Get the Most Money

The USDA classifies 98 percent of all U.S. farms as “family farms,” but the top 0.3 percent are considered “very large family farms.” These biggest farms have a gross farm income of at least $5 million and in 2019 provided their operators a median household income of just under $1 million.

As USDA data shows, the great majority of both traditional commodity and ad hoc program payments go to the largest and wealthiest farms, which generally have considerable assets to fall back on in lean years. Small farms that struggle when crop prices are low or during the pandemic-triggered economic crisis get only a small portion of payments. It’s no accident: The programs are designed so that farms with the largest acres or crop production get the highest payments.

For example, through the MFP in 2018 and 2019:

The top 1 percent of recipients received 16 percent of payments, with an average total payment for both years of $524,298 per farm. The top 10 percent received 58 percent of payments, with an average total payment of $185,340.

The bottom 80 percent of recipients received only 23 percent of payments – an average payment for both years of only $9,109 per recipient.

The ARC, PLC and CFAP programs had very similar payment concentrations. But compared to other Americans, do farmers need all this money?

In December, the USDA’s Economic Research Service forecast that when all data for 2020 is in, the median income for all farm households is expected to be $86,992. That’s almost 25 percent more than the 2019 median household income for all U.S. households of $69,703.

Just looking at income from farming, the huge ad hoc payments of recent years have made subsidies a large chunk of total farm income.

Between 2019 and 2020, total direct government payments to farms increased by over 107 percent, bringing the share of farm income from government payments to almost 40 percent. As the graphic below shows, that pushed 2020 farm income levels significantly above the 20-year average.

It’s clear that even most “small” farmers are better off than the average American – in 2019, only 3 percent of all farm households had levels of wealth that were lower than the average U.S. household.

Yet during the pandemic and economic crises of last year, when millions of Americans lost their jobs, had to close their small businesses and struggled to put food on the table, taxpayers sent over $20 billion to farmers through CFAP, plus annual disaster payments. (Like other subsidies, CFAP payments went disproportionately to the largest and richest farms, rather for direct aid to hungry Americans.) And that’s before we know the figure for payments through ARC and PLC.

How To Fix the Broken Farm Subsidy System

The Biden administration and the new Congress have many opportunities to fix the traditional commodity farm subsidy programs of ARC and PLC, and to shift funding for the ad hoc programs into conservation programs that benefit farmers, all Americans and the environment. EWG recommends:

Ending the huge ad hoc subsidy programs of the Trump administration. MFP, which paid out over $23 billion in 2018 and 2019, should not be renewed. CFAP is still making payments to farmers, but when those payments are complete, it should not be renewed unless targeted to small farmers in need.

Increasing funding for conservation programs. Instead of sending billions to the largest and wealthiest farms, funding for existing conservation programs should be increased. These programs still give money to farmers, but they also generate public health and environmental benefits through improved water quality and soil health. These programs also encourage the adoption of conservation practices that may reduce greenhouse gas emissions.

Reforming traditional commodity farm subsidy programs. The ARC and PLC programs need a strict means test to stop most of the payments from going to the largest farms. Currently, farmers can receive payments as long as their income is less than $900,000 a year, or $1.8 million for a farmer and spouse. There is a $125,000 annual payment limit, but a farm can have an unlimited number of “partners” that can each receive up to $125,000, allowing many people who do not live or work on the farm to get a check every year. Restricting farms to just a few eligible managers could greatly reduce the number of city slickers who get payments.

Changing farm subsidy programs to end USDA’s racist legacy. Stricter payment and income limits that would send payments to small farms, instead of the largest farms, would benefit Black, Latino and Asian American farmers, who often own smaller farms than white farmers do.

#### Plank 4 solves food shortages.

Keefe ’15 [Keefe 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.

### 1NC – States CP

#### The fifty states and relevant subnational entities should adopt a presumption that agricultural mergers which cause a significant increase in concentration are anticompetitive.

#### States solve.

Arteaga ’21 [Juan; 1/28/21; Partner @ Crowell & Moring LLP, JD @ Columbia; and Jordan Ludwig; Partner @ Crowell & Moring LLP, JD @ Loyola Law School, Los Angeles; “The Role of US State Antitrust Enforcement,” *Global Competition Review*; https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement; AS]

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. 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’. 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. 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.

Since the reawakening of state antitrust enforcement nearly 30 years ago, state attorneys general have continued to play an important role in the enforcement of both state and federal antitrust laws. During periods of lax federal antitrust enforcement, state attorneys general have often ramped up their enforcement activity in order to protect consumers from anticompetitive transactions and business practices. During periods of vigorous federal antitrust enforcement, they have often served as strong partners for the DOJ and FTC by, among other things, offering valuable insights about competitive dynamics in local markets, assisting with obtaining information from key market participants (including state governmental entities that are direct purchasers of goods and services), and helping develop and implement litigation strategies for cases being tried before federal judges presiding in their states.

Since January 2017, state attorneys general have increasingly played a leading and independent antitrust enforcement role. State antitrust enforcers have significantly increased their enforcement activity and willingness to act separately from their federal counterparts because many of them believe that there has been ‘under-enforcement’ by the DOJ and FTC. State antitrust enforcers have also been able to enhance their influence over key competition policy issues and the antitrust enforcement agenda within the United States because there appears to have been a significant decline in the coordination and relationship between the DOJ and FTC.

### 1NC – FTC Tradeoff DA

#### FTC’s increasing enforcement in privacy now on algorithmic bias.

James V. Fazio 21. Special counsel in the Intellectual Property Practice Group at Sheppard, Mullin, Richter & Hampton LLP, with Liisa M. Thomas, 3/11. “What Is FTC’s Course Under Biden?” https://www.natlawreview.com/article/what-ftc-s-course-under-biden

The new acting FTC chair, Rebecca Kelly Slaughter, recently signaled that the FTC may increase enforcement and penalties in the privacy and data security realm. Slaughter pointed to several areas of focus for the FTC this year, which companies will want to keep in mind: Notifying Consumers About FTC Allegations: Slaughter referred favorably to two recent cases: (1) the Everalbum biometric settlement from earlier this year (which we wrote about at the time); and (2) the Flo Health settlement over alleged deceptive data sharing practices (which we also wrote about at the time). In drawing on these two cases, Slaughter indicated that in future cases the FTC intends to include as part of any settlement a requirement to notify customers of any FTC allegations. This, she said, would allow consumers to “vote with their feet” and help them decide whether to recommend their services to others. FTC Intent to Plead All Relevant Violations: According to Slaughter, another lesson the FTC is taking from the Flo case is to include in the cases it brings all potentially applicable violations of all relevant privacy-related laws. In the Flo case, Slaughter said the FTC should have pleaded a violation of the Health Breach Notification Rule, which requires that vendors of personal health records notify consumers of data breaches. Focus on Ed Tech and COPPA: Given the explosive growth of education technology during COVID-19, the FTC is conducting an industry sweep of the industry. Related to this, the FTC is reviewing its Children’s Online Privacy Protection Act Rule. This goes beyond the refresh the agency did of their FAQs earlier in the pandemic (which we wrote about at the time). For now, Slaughter reminds companies that parental consent is needed before collecting information online from children under the age of 13. Examination of Health Apps: The FTC will take a closer look at health apps, including telehealth and contact tracing apps, as more and more consumers are relying on such apps to manage their health during the pandemic. Overlap Between Competition and Privacy: Slaughter also indicated that it is worth looking at situations where there may be not only privacy concerns, but antitrust as well. Because the FTC has a dual mission (consumer protection and competition) she notes that it has a “structural advantage” over other regulators in that it can look at these issues, especially since -she states- “many of the largest players in digital markets are as powerful as they are because of the breadth of their access to and control over consumer data.” Racial Equality and AI/Biometrics/Geotracking: Slaughter noted that COVID-19 is exacerbating racial inequities. She pointed to the unequal access to technology, as well as algorithmic discrimination (the idea that discrimination offline becomes embedded into algorithmic system logic). The FTC intends to focus on algorithmic discrimination, as well as on the discrimination potentially embedded into facial recognition technologies. (This mirrors concerns that gave rise to the recent Portland facial recognition law, which we recently wrote about). Finally, Slaughter commented on the use of location data to identify characteristics of Black Lives Matter protesters, and said she is concerned about the misuse of location data to track Americans engaged in constitutionally protected speech. Putting it Into Practice: Companies that operate health apps, that are in the education technology space, or that use algorithms or facial recognition tools will want to keep in mind that these are areas of focus for the FTC. And for everyone, keep in mind that the FTC has indicated it will beef up privacy law penalties and will ask for more notification to injured consumers.

#### Antitrust saps FTC resources – trades off with privacy

Tara L. Reinhart, et al. 21. \*\*Head of Skadden, Arps, Slate, Meagher & Flom LLP’s Antitrust/Competition Group. \*\*Steven C. Sunshine, Co-head of Skadden, Arps, Slat, Meagher & Flom LLP’s Antitrust/Competition Group. \*\*David P. Whales, antitrust lawyer with over 25 years of experience in both private and public sectors. \*\*Julia Y. York, partner at Skadden, Arps, Slat, Meagher & Flom LLP. \*\*Bre Jordan, associate at Skadden, Arps, Slat, Meagher & Flom LLP focusing on antitrust law. “Lina Khan’s Appointment as FTC Chair Reflects Biden Administration’s Aggressive Stance on Antitrust Enforcement.” 6/18/21. https://www.skadden.com/insights/publications/2021/06/lina-khans-appointment-as-ftc-chair

Second, like all antitrust enforcers, Ms. Khan and the FTC will face resource constraints. Bringing antitrust litigation is an expensive and laborious process, often requiring millions of dollars for expert fees and a large army of FTC staff attorneys and taking many months or even years to accomplish. Typically, the FTC can only litigate a handful of antitrust matters at a time. It seems likely that Congress will provide more funding to the FTC in the current environment, but even with these extra resources, the FTC will still have to pick its cases carefully and cannot challenge every deal or every instance of alleged unlawful conduct.

#### Unchecked algorithmic bias risks extinction.

Mike Thomas 20. Quoting AI experts including MIT Physics Professors, Senior Features Writer for BuiltIn. THE FUTURE OF ARTIFICIAL INTELLIGENCE: 7 ways AI can change the world for better ... or worse, Updated: April 20, 2020, <https://builtin.com/artificial-intelligence/artificial-intelligence-future>

Klabjan also puts little stock in extreme scenarios — the type involving, say, murderous cyborgs that turn the earth into a smoldering hellscape. He’s much more concerned with machines — war robots, for instance — being fed faulty “incentives” by nefarious humans. As MIT physics professors and leading AI researcher Max Tegmark put it in a 2018 TED Talk, “The real threat from AI isn’t malice, like in silly Hollywood movies, but competence — AI accomplishing goals that just aren’t aligned with ours.” That’s Laird’s take, too. “I definitely don’t see the scenario where something wakes up and decides it wants to take over the world,” he says. “I think that’s science fiction and not the way it’s going to play out.” What Laird worries most about isn’t evil AI, per se, but “evil humans using AI as a sort of false force multiplier” for things like bank robbery and credit card fraud, among many other crimes. And so, while he’s often frustrated with the pace of progress, AI’s slow burn may actually be a blessing. “Time to understand what we’re creating and how we’re going to incorporate it into society,” Laird says, “might be exactly what we need.” But no one knows for sure. “There are several major breakthroughs that have to occur, and those could come very quickly,” Russell said during his Westminster talk. Referencing the rapid transformational effect of nuclear fission (atom splitting) by British physicist Ernest Rutherford in 1917, he added, “It’s very, very hard to predict when these conceptual breakthroughs are going to happen.” But whenever they do, if they do, he emphasized the importance of preparation. That means starting or continuing discussions about the ethical use of A.G.I. and whether it should be regulated. That means working to eliminate data bias, which has a corrupting effect on algorithms and is currently a fat fly in the AI ointment. That means working to invent and augment security measures capable of keeping the technology in check. And it means having the humility to realize that just because we can doesn’t mean we should. “Our situation with technology is complicated, but the big picture is rather simple,” Tegmark said during his TED Talk. “Most AGI researchers expect AGI within decades, and if we just bumble into this unprepared, it will probably be the biggest mistake in human history. It could enable brutal global dictatorship with unprecedented inequality, surveillance, suffering and maybe even human extinction. But if we steer carefully, we could end up in a fantastic future where everybody’s better off—the poor are richer, the rich are richer, everybody’s healthy and free to live out their dreams.”

### 1NC – Biz Con DA

#### The plan creates a chilling effect that crushes business confidence and investment

Hathout 9/23 – Ahmad Hathout, reporter focusing on the tech and telecommunications industries, citing a panel event hosted by the Institute for Policy Innovation, “Washington’s Antitrust Push Could Create ‘Chilling Effect’ on Startups, Observers Say,” 9/23/21, https://broadbandbreakfast.com/2021/09/washingtons-antitrust-push-could-create-chilling-effect-on-startups-observers-say/

WASHINGTON, September 23, 2021 – Advocates for less government encroachment on big technology companies are warning that antitrust is being weaponized for political ends that may end up placing a “chilling effect” on innovative businesses.

The Institute for Policy Innovation held a web event Wednesday to discuss antitrust and the modern economy. Panelists noted their concern that antitrust law may be welded with political aims that will ultimately create a precedent whereby the federal government will stifle innovators who get too big.

Jessica Melugin, the director of the Center for Technology and Innovation, said technology companies could see what’s happening in Washington – with lots of talk of breaking up companies deemed too big – and be uncertain of the future.

She noted that growing companies largely seek one of two things to make it big: grow to file an initial public offering, where the company’s shares are publicly traded, or wait until a large company buys you out. She said talk emanating from the White House and Washington generally about regulating the industry could deter larger companies from acquiring them, and onerous financial regulations could put a damper on IPO dreams.

“If you start robbing companies of other smaller companies they purchased, it’s going to give a lot of entrepreneurs and a lot of funders in Silicon Valley pause,” Melugin said. “If another path to success gets blocked – the IPO is now harder, and now acquisitions are a little bit questionable…that’s a chilling effect.”

President Joe Biden has made a number of appointments to key positions that is bringing more attention on Big Tech, including known Amazon critic Lina Khan to chair the Federal Trade Commission, which recently filed an amended case against Facebook for alleged anticompetitive practices. He also appointed antitrust expert and Google critic Jonathan Kanter as assistant attorney general in the Justice Department’s antitrust division.

FTC could set a bad precedent if focus is ‘big is bad’

Christopher Koopman, the executive director at the Center for Growth and Opportunity at Utah State University, said he’s concerned about the precedent Khan could set for big companies.

He said the odds are that once Khan starts, she will continue down “this path of ‘big is bad’ because that’s a prior that she has and she’s continued to operate on her entire professional career. It just so happens that the focus of this is on tech companies.

“We may be building a regulatory apparatus that will continue to burrow a hole right down the middle of the American economy before we even have a chance to ask if that’s really what we want,” Koopman added. “We just have to recognize that it doesn’t matter, really, who is running the FTC – once we tell the FTC to go break up big companies, they’re going to go break up big companies.”

#### Unpredictable shifts ruin biz con and overall growth

Cambon 21 – Sarah Chaney Cambon, reporter on The Wall Street Journal's Economics Team, “Capital-Spending Surge Further Lifts Economic Recovery”, 6/27/2021, https://www.wsj.com/articles/capital-spending-surge-further-lifts-economic-recovery-11624798800

Business investment is emerging as a powerful source of U.S. economic growth that will likely help sustain the recovery.

Companies are ramping up orders for computers, machinery and software as they grow more confident in the outlook.

Nonresidential fixed investment, a proxy for business spending, rose at a seasonally adjusted annual rate of 11.7% in the first quarter, led by growth in software and tech-equipment spending, according to the Commerce Department. Business investment also logged double-digit gains in the third and fourth quarters last year after falling during pandemic-related shutdowns. It is now higher than its pre-pandemic peak.

Orders for nondefense capital goods excluding aircraft, another measure for business investment, are near the highest levels for records tracing back to the 1990s, separate Commerce Department figures show.

“Business investment has really been an important engine powering the U.S. economic recovery,” said Robert Rosener, senior U.S. economist at Morgan Stanley. “In our outlook for the economy, it’s certainly one of the bright spots.”

Consumer spending, which accounts for about two-thirds of economic output, is driving the early stages of the recovery. Americans, flush with savings and government stimulus checks, are spending more on goods and services, which they shunned for much of the pandemic.

Robust capital investment will be key to ensuring that the recovery maintains strength after the spending boost from fiscal stimulus and business reopenings eventually fades, according to some economists.

Rising business investment helps fuel economic output. It also lifts worker productivity, or output per hour. That metric grew at a sluggish pace throughout the last economic expansion but is now showing signs of resurgence.

The recovery in business investment is shaping up to be much stronger than in the years following the 2007-09 recession. “The events especially in late ’08, early ’09 put a lot of businesses really close to the edge,” said Phil Suttle, founder of Suttle Economics. “I think a lot of them said, ‘We’ve just got to be really cautious for a long while.’”

Businesses appear to be less risk-averse now, he said.

After the financial crisis, businesses grew by adding workers, rather than investing in capital. Hiring was more attractive than capital spending because labor was abundant and relatively cheap. Now the supply of workers is tight. Companies are raising pay to lure employees. As a result, many firms have more incentive to grow by investing in capital.

Economists at Morgan Stanley predict that U.S. capital spending will rise to 116% of prerecession levels after three years. By comparison, investment took 10 years to reach those levels once the 2007-09 recession hit.

Company executives are increasingly confident in the economy’s trajectory. The Business Roundtable’s economic-outlook index—a composite of large companies’ plans for hiring and spending, as well as sales projections—increased by nine points in the second quarter to 116, just below 2018’s record high, according to a survey conducted between May 25 and June 9. In the second quarter, the share of companies planning to boost capital investment increased to 59% from 57% in the first.

“We’re seeing really strong reopening demand, and a lot of times capital investment follows that,” said Joe Song, senior U.S. economist at BofA Securities.

Mr. Song added that less uncertainty regarding trade tensions between the U.S. and China should further underpin business confidence and investment. “At the very least, businesses will understand the strategy that the Biden administration is trying to follow and will be able to plan around that,” he said.

#### Extended COVID economic decline causes extinction.

McLennan 21 – Strategic Partners Marsh McLennan SK Group Zurich Insurance Group, Academic Advisers National University of Singapore Oxford Martin School, University of Oxford Wharton Risk Management and Decision Processes Center, University of Pennsylvania, “The Global Risks Report 2021 16th Edition” “http://www3.weforum.org/docs/WEF\_The\_Global\_Risks\_Report\_2021.pdf

Forced to choose sides, governments may face economic or diplomatic consequences, as proxy disputes play out in control over economic or geographic resources. The deepening of geopolitical fault lines and the lack of viable middle power alternatives make it harder for countries to cultivate connective tissue with a diverse set of partner countries based on mutual values and maximizing efficiencies. Instead, networks will become thick in some directions and non-existent in others. The COVID-19 crisis has amplified this dynamic, as digital interactions represent a “huge loss in efficiency for diplomacy” compared with face-to-face discussions.23 With some alliances weakening, diplomatic relationships will become more unstable at points where superpower tectonic plates meet or withdraw.

At the same time, without superpower referees or middle power enforcement, global norms may no longer govern state behaviour. Some governments will thus see the solidification of rival blocs as an opportunity to engage in regional posturing, which will have destabilizing effects.24 Across societies, domestic discord and economic crises will increase the risk of autocracy, with corresponding censorship, surveillance, restriction of movement and abrogation of rights.25 Economic crises will also amplify the challenges for middle powers as they navigate geopolitical competition. ASEAN countries, for example, had offered a potential new manufacturing base as the United States and China decouple, but the pandemic has left these countries strapped for cash to invest in the necessary infrastructure and productive capacity.26 Economic fallout is pushing many countries to debt distress (see Chapter 1, Global Risks 2021). While G20 countries are supporting debt restructure for poorer nations,27 larger economies too may be at risk of default in the longer term;28 this would leave them further stranded—and unable to exercise leadership—on the global stage.

Multilateral meltdown Middle power weaknesses will be reinforced in weakened institutions, which may translate to more uncertainty and lagging progress on shared global challenges such as climate change, health, poverty reduction and technology governance. In the absence of strong regulating institutions, the Arctic and space represent new realms for potential conflict as the superpowers and middle powers alike compete to extract resources and secure strategic advantage.29 If the global superpowers continue to accumulate economic, military and technological power in a zero-sum playing field, some middle powers could increasingly fall behind. Without cooperation nor access to important innovations, middle powers will struggle to define solutions to the world’s problems. In the long term, GRPS respondents forecasted “weapons of mass destruction” and “state collapse” as the two top critical threats: in the absence of strong institutions or clear rules, clashes— such as those in Nagorno-Karabakh or the Galwan Valley—may more frequently flare into full-fledged interstate conflicts,30 which is particularly worrisome where unresolved tensions among nuclear powers are concerned. These conflicts may lead to state collapse, with weakened middle powers less willing or less able to step in to find a peaceful solution.

## Big Ag

### 1NC – AT: Big Ag

#### Ag is competitive, with tons of incentive to innovate

Torsten Kurth 20, Managing Director & Senior Partner at the Boston Consulting Group, Berlin, et al., “Reviving Agricultural Innovation in Seeds and Crop Protection”, Boston Consulting Group, 2/24/2020, https://www.bcg.com/publications/2020/reviving-agricultural-innovation-seeds-crop-protection

Increasing Competition from New ­Entrants and Nimble Startups. Thanks to shifts in consumer demand, the advent of several emerging technologies, and the growing attractiveness of the agriculture market, a variety of nimble startups and new competitors from outside the traditional agriculture sector have risen to compete against the big agricultural-­input companies.

Bringing their own expertise in areas such as consumer usability, biotechnology, ­robotics, and data analytics to bear on the challenges the industry faces, numerous ­so-called agtech companies are taking ­advantage of agile product development techniques and new ways of working to focus on specific challenges and bring their innovations to market quickly. As a result, they are threatening to outcompete the big agricultural-input players in several areas.

Investment in these young agricultural-­technology companies has risen rapidly in recent years, with these companies receiving a larger and larger proportion of funding. (See Exhibit 3.) The number of acquisitions in the sector is increasing as well. Just to take one example, Blue River Technology, which uses computer vision and artificial intelligence to apply crop protection products on a plant-by-plant basis, was acquired by John Deere in 2017 for $305 million, one of the largest agtech deals in the past five years.

Several large technology companies have also begun looking carefully at the agriculture industry, bringing their competencies in consumer-facing technology infrastructure and data science to bear. IBM’s Watson Decision Platform for Agriculture, for example, analyzes information gathered by sensors in the field along with weather and other data to optimize farm operations. Similarly, FarmBeats, Microsoft’s IoT platform for agriculture, collects and analyzes data from sensors, cameras, and drones. While these companies lack the deep agronomic experience and access to growers of the traditional players, their track record in disrupting other industries, including retail, transport, travel, and financial services, should be a wake-up call for the entire agriculture sector.

#### Innovation is driving down environmental damage from farming BUT is only feasible with concentrated farming

Dr. Jayson Lusk 16, Professor of Agricultural Economics at Oklahoma State University, “Why Industrial Farms Are Good for the Environment”, The New York Times, 9/23/2016, Lexis

There is much to like about small, local farms and their influence on what we eat. But if we are to sustainably deal with problems presented by population growth and climate change, we need to look to the farmers who grow a majority of the country’s food and fiber.

Large farmers — who are responsible for 80 percent of the food sales in the United States, though they make up fewer than 8 percent of all farms, according to 2012 data from the Department of Agriculture — are among the most progressive, technologically savvy growers on the planet. Their technology has helped make them far gentler on the environment than at any time in history. And a new wave of innovation makes them more sustainable still.

A vast majority of the farms are family-owned. Very few, about 3 percent, are run by nonfamily corporations. Large farm owners (about 159,000) number fewer than the residents of a medium-size city like Springfield, Mo. Their wares, from milk, lettuce and beef to soy, are unlikely to be highlighted on the menus of farm-to-table restaurants, but they fill the shelves at your local grocery store.

There are legitimate fears about soil erosion, manure lagoons, animal welfare and nitrogen runoff at large farms — but it’s not just environmental groups that worry. Farmers are also concerned about fertilizer use and soil runoff.

That’s one reason they’re turning to high-tech solutions like precision agriculture. Using location-specific information about soil nutrients, moisture and productivity of the previous year, new tools, known as “variable rate applicators,” can put fertilizer only on those areas of the field that need it (which may reduce nitrogen runoff into waterways).

GPS signals drive many of today’s tractors, and new planters are allowing farmers to distribute seed varieties to diverse spots of a field to produce more food from each unit of land. They also modulate the amount and type of seed on each part of a field — in some places, leaving none at all.

Many food shoppers have difficulty comprehending the scale and complexity facing modern farmers, especially those who compete in a global marketplace. For example, the median lettuce field is managed by a farmer who has 1,373 football fields of that plant to oversee.

For tomatoes, the figure is 620 football fields; for wheat, 688 football fields; for corn, 453 football fields.

How are farmers able to manage growing crops on this daunting scale? Decades ago, they dreamed about tools to make their jobs easier, more efficient and better for the land: soil sensors to measure water content, drones, satellite images, alternative management techniques like low- and no-till farming, efficient irrigation and mechanical harvesters.

Today, that technology is a regular part of operations at large farms. Farmers watch the evolution of crop prices and track thunderstorms on their smartphones. They use livestock waste to create electricity using anaerobic digesters, which convert manure to methane. Drones monitor crop yields, insect infestations and the location and health of cattle. Innovators are moving high-value crops indoors to better control water use and pests.

Before “factory farming” became a pejorative, agricultural scholars of the mid-20th century were calling for farmers to do just that — become more factorylike and businesslike. From that time, farm sizes have risen significantly. It is precisely this large size that is often criticized today in the belief that large farms put profit ahead of soil and animal health.

But increased size has advantages, especially better opportunities to invest in new technologies and to benefit from economies of scale. Buying a $400,000 combine that gives farmers detailed information on the variations in crop yield in different parts of the field would never pay on just five acres of land; at 5,000 acres, it is a different story.

These technologies reduce the use of water and fertilizer and harm to the environment. Modern seed varieties, some of which were brought about by biotechnology, have allowed farmers to convert to low- and no-till cropping systems, and can encourage the adoption of nitrogen-fixing cover crops such as clover or alfalfa to promote soil health.

Herbicide-resistant crops let farmers control weeds without plowing, and the same technology allows growers to kill off cover crops if they interfere with the planting of cash crops. The herbicide-resistant crops have some downsides: They can lead to farmers’ using more herbicide (though the type of herbicide is important, and the new crops have often led to the use of safer, less toxic ones).

But in most cases, it’s a trade-off worth making, because they enable no-till farming methods, which help prevent soil erosion.

These practices are one reason soil erosion has declined more than 40 percent since the 1980s.

Improvements in agricultural technologies and production practices have significantly lowered the use of energy and water, and greenhouse-gas emissions of food production per unit of output over time. United States crop production now is twice what it was in 1970.

That would not be a good change if more land, water, pesticides and labor were being used. But that is not what happened: Agriculture is using nearly half the labor and 16 percent less land than it did in 1970.

Instead, farmers increased production through innovation. Wheat breeders, for example, using traditional techniques assisted by the latest genetic tools and information, have created varieties that resist disease without numerous applications of insecticides and fungicides. Nearly all corn and soybean farmers practice crop rotation, giving soil a chance to recover. Research is moving beyond simple measures of nitrogen and phosphorus content to look at the microbes in the soil.

New industrywide initiatives are focused on quantifying and measuring soil health. The goal is to provide measurements of factors affecting the long-term value of the soil and to identify which practices — organic, conventional or otherwise — will ensure that farmers can responsibly produce plenty of food for our grandchildren.

#### Farming is rapidly becoming sustainable---all environmental metrics are improving

Michael Shellenberger 20, Founder and President of Environmental Progress, Former President of the Breakthrough Institute, Apocalypse Never: Why Environmental Alarmism Hurts Us All, ISBN: 0063001705,9780063001701

As farms become more productive, grasslands, forests, and wildlife are returning. Globally, the rate of reforestation is catching up to a slowing rate of deforestation.19

Humankind’s use of wood has peaked and could soon decline significantly.20 And humankind’s use of land for agriculture is likely near its peak and capable of declining soon.21 All of this is wonderful news for everyone who cares about achieving universal prosperity and environmental protection.

The key is producing more food on less land. While the amount of land used for agriculture has increased by 8 percent since 1961, the amount of food produced has grown by an astonishing 300 percent.22

Though pastureland and cropland expanded 5 and 16 percent, between 1961 and 2017, the maximum extent of total agriculture land occurred in the 1990s, and declined significantly since then, led by a 4.5 percent drop in pastureland since 2000.23 Between 2000 and 2017, the production of beef and cow’s milk increased by 19 and 38 percent, respectively, even as total land used globally for pasture shrank.24

The replacement of farm animals with machines massively reduced land required for food production. By moving from horses and mules to tractors and combine harvesters, the United States slashed the amount of land required to produce animal feed by an area the size of California. That land savings constituted an astonishing one-quarter of total U.S. land used for agriculture.25

Today, hundreds of millions of horses, cattle, oxen, and other animals are still being used as draft animals for farming in Asia, Africa, and Latin America. Not having to grow food to feed them could free up significant amounts of land for endangered species, just as it did in Europe and North America.

As technology becomes more available, crop yields will continue to rise, even under higher temperatures. Modernized agricultural techniques and inputs could increase rice, wheat, and corn yields five-fold in sub-Saharan Africa, India, and developing nations.26 Experts say sub-Saharan African farms can increase yields by nearly 100 percent by 2050 simply through access to fertilizer, irrigation, and farm machinery.27

If every nation raised its agricultural productivity to the levels of its most successful farmers, global food yields would rise as much as 70 percent.28 If every nation increased the number of crops per year to its full potential, food crop yields could rise another 50 percent.29

Things are headed in the right direction regarding other environmental measures. Water pollution is declining in relative terms, per unit of production, and in absolute terms in some nations. The use of water per unit of agricultural production has been declining as farmers have become more precise in irrigation methods.

High-yield farming produces far less nitrogen pollution run-off than lowyield farming. While rich nations produce 70 percent higher yields than poor nations, they use just 54 percent more nitrogen.30 Nations get better at using nitrogen fertilizer over time. Since the early 1960s, the Netherlands has doubled its yields while using the same amount of fertilizer.31

High-yield farming is also better for soils. Eighty percent of all degraded soils are in poor and developing nations of Asia, Latin America, and Africa. The rate of soil loss is twice as high in developing nations as in developed ones. Thanks to the use of fertilizer, wealthy European nations and the United States have adopted soil conservation and no-till methods, which prevent erosion. In the United States, soil erosion declined 40 percent in just fifteen years, between 1982 and 1997, while yields rose.32

#### The plan’s uncertainty and disruption to capacity for tech innovation decimates growth of the ag sector

Dr. Don Racheter 17, President of the Public Interest Institute, Master's Degree and Ph.D. in Political Science from the University of Iowa, Taught at the University of Iowa and Central College, “Upcoming Mergers Benefit America's Farmers”, Des Moines Register, 8/6/2017, https://www.desmoinesregister.com/story/opinion/columnists/iowa-view/2017/08/06/upcoming-mergers-benefit-americas-farmers/537250001/

America’s farmers are being challenged to prepare for a global, growing population and a robust international trade market.

Not only has every farmer had to increase the number of people that he or she is responsible for feeding by almost 130 people since 1960, but international markets also are eager for Iowa’s soybeans and other agricultural products.

These market-based problems need specific market-centric solutions. By leaning on the power of an innovative and dynamic private sector, we can ensure our farmers have the tools to compete in any economic climate.

Industry leaders such as Bayer, Monsanto, Dow and DuPont are meeting these challenges head-on with a commitment to developing the latest technologies that make America’s farms both more efficient and effective. These efforts have filled the gap in public investment to groundbreaking agricultural research and development. According to the USDA Economic Research Service, government investment in agricultural R&D dropped to just 30 percent of total agricultural R&D funding since 2013.

Today, the private sector is responsible for many of the innovations that are currently shaping the future of farming in America, and more resources in the private sector means farmers can expect these advances in technology faster. The latest breakthroughs in precision farming techniques are helping farmers target their crop treatments, saving small farms money while also limiting their environmental footprint. For example, John Deere tractors use GPS sensors so that farmers don’t cover the same area twice, which can reduce their fuel input by up to 40 percent.

More permanent partnerships, such as the potential merger between Bayer and Monsanto, will ensure that leading ag companies are able to invest additional resources to bring advanced solutions to farmers. Farmers will be able to spend less time and resources on daily challenges, enabling them to meet the international demand for Iowa’s ag products.

As opponents to mergers pop up as frequently as weeds after a strong rain, we should examine what might possibly be driving their motivation. Rather than truly believing that these mergers harm consumers, many are driven by political motivations. Case in point is the July 21 commentary by Austin Frerick ["To save rural Iowa, oppose Monsanto-Bayer mega-merger"], a little-known former U.S. Treasury economist under the Obama Administration. One can’t help but question Mr. Frerick’s perspective given his support for greater government interference in the marketplace while government investment in R&D has continued to decline.

Cloaking a progressive agenda behind a call for consumers to reject private sector investment by two leading ag companies with a stake in America’s farming future is both disingenuous and harmful. Anyone who has spent any real time in a farmer’s field knows that what agriculture really needs is to attract, not reject, more investment in innovative agricultural technologies.

What critics fail to highlight is that the Bayer-Monsanto merger is the perfect example of bringing together two companies that operate in largely complementary fields to develop new tools and products with more capital. In fact, Bayer focuses mostly on crop protection, while Monsanto is known for seeds and traits capabilities. Alone, it can take each company more than a decade to create a new product for farmers, but together, the time could shorten significantly.

In an ever-changing free market, it is natural for businesses to seek to maintain a competitive advantage over their rivals by expanding their offerings to the consumers they serve. Bayer-Monsanto’s focus on finding the next generation of farming technology will spur their competitors to do the same to keep up.

Farmers are constantly battling uncertainty in their line of business and don’t have time for political posturing. The benefits from greater private sector investment in innovation from these upcoming mergers are clear and demonstrable and are necessary for the future of American farming.

#### Transitioning to small farming causes devasting land conversion AND worse fill-in abroad

Ted Nordhaus 21, Founder and Executive Director of the Breakthrough Institute and Co-Author of An Ecomodernist Manifesto, and Dan Blaustein-Rejto, Director of Food and Agriculture at the Breakthrough Institute, Conducted Research with the Environmental Defense Fund, International Center for Tropical Agriculture, and Farmers Market Coalition, “Big Agriculture Is Best”, Foreign Policy, 4/18/2021, https://foreignpolicy.com/2021/04/18/big-agriculture-is-best/

Moreover, organic farms, large and small, don’t actually outperform large conventional farms by many important environmental measures. Scale, technology, and productivity make good environmental sense and economic sense. Because organic farming requires more land for every calorie or pound produced, a large-scale shift to organic farming would entail converting more forest and other land to farming, resulting in greater habitat loss and more greenhouse gas emissions. And while organic farming doesn’t use synthetic pesticides or fertilizers, it often results in greater nitrogen pollution because manure is a highly inefficient way to deliver nutrients to crops.

Another benefit of large-scale U.S. farms is that because they are so efficient, economically and environmentally, they are also able to produce vastly more food than Americans can consume, making the country the world’s largest agricultural exporter as well.

That benefits the U.S. economy, of course, but it also comes with an environmental benefit for the world. In the contemporary environmental imagination, highly productive, globally traded agriculture is a bad thing—poisoning the land at home and undermining food sovereignty abroad. But in reality, a pound of grain or beef exported from the United States almost always displaces a pound that would have been produced with more land and greenhouse gas emissions somewhere else.

#### U.S. farm emissions are a drop in the bucket AND already declining---other GHGs thump

Dr. Frank Mitloehner 19, PhD, Professor and Air Quality Specialist in Cooperative Extension in the Department of Animal Science at UC Davis, “It’s Time to Stop Comparing Meat Emissions to Flying”, 11/13/2019, https://ghgguru.faculty.ucdavis.edu/2019/11/13/its-time-to-stop-comparing-meat-emissions-to-flying/

I can appreciate how having a sound bite is tempting and even useful like the recent Bloomberg assertion “… that the humble hamburger is a bigger contributor to the warming of the planet than the jumbo jet,” for example. The problem is, it’s not as simple as all that. Animal agriculture’s impact is overstated when speaking to an American audience, and aviation’s effect is understated when speaking to any audience.

U.S. livestock farmers have – and continue to – reduce GHGs

Globally, animal agriculture accounts for 14.5 percent of GHG emissions, the number that tends to be used to support the claim that eating meat is a bigger planetary enemy than the combustion of the fossil fuels used in aviation. But in the United States, isn’t it more helpful to look at U.S. animal agriculture statistics, especially when they’re vastly different from the global picture?

Here in the U.S., animal agriculture makes up a far smaller percentage of total GHG emissions than worldwide: 3.9 percent, according to the U.S. Environmental Protection Agency (EPA). Granted, the lower U.S. percentage is due in some part to the fact that the United States is highly industrialized and wealthy, and we are major users of energy, fossil fuels and transportation. So as those percentages swell, animal agriculture takes up a smaller piece of the pie.

Even so, our farmers are the most efficient in the world. Case in point: In Mexico, it takes up to five cows to produce the same amount of milk as one U.S. cow, and in India, it takes up to 20. These statistics point to the United States having the lowest GHG emissions per unit of milk of any country in the world. It’s a similar story for other ruminant and non-ruminant animals that produce meat in the United States. In fact, emissions from all U.S. livestock species are much lower than those in Brazil, China, India and countries in the European Union, among others.

Americans fly more – much more – than people in any other country

Consistent with using a global number for animal agriculture is the tendency to do the same thing with the GHG emissions of air travel, and that likewise distorts the picture for the United States. Whereas the global animal agriculture figure is inflated for a U.S. audience, the global aviation figure downplays the role air travel plays in the United States’ GHG emissions.

That’s because Americans fly much more than people in other countries, including China, the United Kingdom, Germany and Japan, other top consumers of air travel. According to Bureau of Transportation Statistics, there were 1 billion passengers on U.S. airlines and foreign airlines serving the U.S. in 2019, a record and yet another year-over-year increase since the global recession of 2008-2009.

Aviation is two to three times more damaging to the environment than is often reported

In our hamburger-airplane example, aviation is assigned a GHG emissions number of 2 percent, giving most readers reason to have a clear conscience when boarding a plane. But that number doesn’t capture a plane’s full emissions footprint.

A 2 percent “GHG emissions” figure for aviation accounts only for the amount of carbon dioxide (CO2) air travels puts in the atmosphere. It ignores, the other GHGs that come from planes (for example, nitrous gases, water vapor, soot, particles and sulphates).

In addition, the 2 percent number is a tailpipe assessment, meaning what is being measured are the direct CO2 emissions from the jet fuel that is combusted in the planes’ turbines. The figure fails to consider things such as the manufacture of materials for parts used in the aircraft, the transportation of materials and parts to factories where planes are made, wear and tear on roads and runways, and many more.

Life-cycle assessments and tailpipe emissions are GHGs’ apples and oranges

When we look at our metaphorical burger, we’re taking into account pretty much every GHG that is emitted by the activities and processes required to get the proverbial burger on a dinner table. Called a life-cycle assessment (LCA), it provides a more accurate and total picture of GHG emissions than does a direct (tailpipe) assessment.

In the same example, air travel gets a huge break by being subjected only to a measurement of its (direct (i.e. tailpipe) emissions. To make a fair comparison, the same system of quantification must be used for both the burger and the airplane ride, and ideally, a life-cycle assessment would provide the figures. The thing is, we don’t have life-cycle assessment numbers for planes, or other parts of the transportation sector.

Methane is a short-lived GHG; carbon dioxide might be forever

When we talk about the GHG emissions of livestock or the carbon footprint of meat, methane is often at the heart of the matter. Ruminant animals such as cows emit methane. As far as global warming potential, methane is a powerful GHG, with about 28 times the warming potential of carbon dioxide over a period of 100 years.

But methane doesn’t hang around for a century; it’s a short-lived GHG. In about a decade’s time, it’s converted to water vapor and carbon dioxide, which is part of the cycle whereby plants take CO2 out of the atmosphere and convert it into feed via photosynthesis. Animals eat the non-human edible vegetation and upcycle it to meat and dairy products that provide efficient sources of protein and other essential nutrients to humans. It’s a cyclical process, also referred to as the biogenic carbon cycle, that’s been around as long as life itself.

Given the advances American farmers have made in animal agriculture, today we are producing as much food as we did 50 years ago from cattle herds that are far smaller. All told, the U.S. herd is contributing *less methane* to the environment as a result.

On the other hand, our voracious appetite for fossil fuels has resulted in an enormous glut of carbon dioxide in the atmosphere. According to the EPA’s GHG inventory, CO2 accounted for 82 percent of GHGs in 2017, with industry, transportation and electricity contributing nearly 80 percent of the total. It’s so much more emissions than oceans, rainforests and plants can absorb, by conservative accounts, it will hang over the planet for a thousand years. Realistically, it could be forever.

#### Plan will be circumvented to continue consolidation

James M. MacDonald 1, Economic Research Service at the USDA, and Marvin Hayenga, Iowa State University, “Concentration, Mergers, and Antitrust”, Economic Research Service Report, https://www.iatp.org/sites/default/files/Concentration\_Mergers\_and\_Antitrust.htm

Prohibit mergers among large agribusiness firms

Some recent Congressional proposals would place temporary or permanent moratoria on mergers between large agribusiness firms. Such actions would eliminate two types of mergers that can bring overall benefits to the economy. First, mergers that allow firms to realize economies of scale would not occur. Second, some mergers effectively allow for the replacement of one poorly performing management team by another. In each case, the merger would allow for lower costs and product prices and expanded output. Expanded output, in turn, would lead to higher demand for agricultural inputs. Merger prohibition could eliminate those gains.

A prohibition on large mergers would also eliminate those mergers that create market power, but that would not have been stopped by antitrust authorities. In those cases, the prohibition will lead to lower product prices to consumers or higher prices paid to farm producers. Finally, some mergers do not lead to market power, but they create no new cost efficiencies--rather, they lead to inefficiency by simply making the merged firm more complicated, without any attendant advantages. An agribusiness merger moratorium might also limit those types of mergers and their attendant costs.

Agribusiness mergers are one strategy for large firms, and they could respond to a ban with other strategic steps. Those seeking scale economies could grow internally, by building bigger facilities instead of merging. Because firms have that alternative, a merger prohibition will not necessarily halt increases in concentration based on scale economies. Second, firms could respond to a prohibition on the purchase of large agribusiness firms by purchasing other large firms in the economy and becoming conglomerates. Such moves might be particularly inefficient (cost-raising).

#### Runoff is inevitable from any type of farming---organics make it worse by expanding farming’s footprint

Ted Nordhaus 21, Founder and Executive Director of the Breakthrough Institute and Co-Author of An Ecomodernist Manifesto, and Dan Blaustein-Rejto, Director of Food and Agriculture at the Breakthrough Institute, Conducted Research with the Environmental Defense Fund, International Center for Tropical Agriculture, and Farmers Market Coalition, “Small Farms, Big Pollution”, Foreign Policy, 6/2/2021, https://foreignpolicy.com/2021/06/02/big-agriculture-pollution-small-farms-inefficient/

A reader could be excused for concluding from Matthew R. Sanderson and Stan Cox’s criticism of our recent essay, “Big Agriculture Is Best,” that virtually all environmental impacts associated with the production of food in the United States and globally can be laid at the feet of “industrial agriculture.” But it is a definitional sleight of hand, not “empirical evidence,” as they claim, that does most of the work here. Sanderson and Cox define “industrial agriculture” so capaciously as to be basically synonymous with “agriculture.”

In the United States, that is arguably true. Most agricultural output—and hence environmental impacts—comes from large-scale, industrial production. Globally, it is not true. In both cases, there is no free lunch. Agriculture, unavoidably, has environmental impacts for the simple reason that growing food requires the conversion of forests, grasslands, and other ecosystems into fields whose biocapacity is then monopolized to produce food for people.

As human populations have grown enormously over the last two centuries, from about a billion people globally in 1800 to nearly 8 billion today, and as those populations have become wealthier and able to eat higher on the food chain, the impacts associated with food production have grown as well. But that has little to do with the prevalence of industrial versus nonindustrial agriculture. Instead, it reflects the basic realities associated with scaling agriculture globally to meet those enormous new demands.

Consider the negative impacts that nitrogen pollution from the American corn belt has had on the Gulf of Mexico. Most of that runoff comes from industrial farms for the simple reason that large-scale, intensive production is the dominant form of agriculture across the region. Shifting production to organic practices, though, wouldn’t much change the situation. Organic farms are typically associated with higher rates of runoff per calorie of food produced, even as they require more land. So unless total production were very substantially scaled back, a corn belt dominated by organic farms rather than conventional ones would require more land while having similar or even greater impacts on waterways and biodiversity.

Sanderson and Cox blame industrial agricultural in the corn belt not only for the dead zone in the Gulf of Mexico but for rendering “entire landscapes uninhabitable” across the region. Millions of Americans still comfortably living in such places would beg to differ. Yes, as Sanderson and Cox note, there are more hogs in the state of Iowa than people. So what? Insofar as the claim is relevant at all, it regards the question of why Iowa has so few people, not why it has so many hogs. And while the expansion of hog farming in the state in recent decades is attributable to industrial production methods, the decline of the human population is not, as large-scale rural outmigration has been underway in Iowa for over a century. As we note in our essay, rural depopulation has been much more the cause of the consolidation and industrialization of American agriculture than it is the result of those farming practices.

#### Food security is strong BUT requires maintaining large producers

Ted Nordhaus 21, Founder and Executive Director of the Breakthrough Institute and Co-Author of An Ecomodernist Manifesto, and Dan Blaustein-Rejto, Director of Food and Agriculture at the Breakthrough Institute, Conducted Research with the Environmental Defense Fund, International Center for Tropical Agriculture, and Farmers Market Coalition, “Big Agriculture Is Best”, Foreign Policy, 4/18/2021, https://foreignpolicy.com/2021/04/18/big-agriculture-is-best/

In some ways, it is not surprising that many of the best fed, most food-secure people in the history of the human species are convinced that the food system is broken. Most have never set foot on a farm or, at least, not on the sort of farm that provides the vast majority of food that people in wealthy nations like the United States consume.

In the popular bourgeois imagination, the idealized farm looks something like the ones that sell produce at local farmers markets. But while small farms like these account for close to half of all U.S. farms, they produce less than 10 percent of total output. The largest farms, by contrast, account for about 50 percent of output, relying on simplified production systems and economies of scale to feed a nation of 330 million people, vanishingly few of whom live anywhere near a farm or want to work in agriculture. It is this central role of large, corporate, and industrial-style farms that critics point to as evidence that the food system needs to be transformed.

But U.S. dependence on large farms is not a conspiracy by big corporations. Without question, the U.S. food system has many problems. But persistent misperceptions about it, most especially among affluent consumers, are a function of its spectacular success, not its failure. Any effort to address social and environmental problems associated with food production in the United States will need to first accommodate itself to the reality that, in a modern and affluent economy, the food system could not be anything other than large-scale, intensive, technological, and industrialized.

Not so long ago, farming was the principal occupation of most Americans. More than 70 percent labored in agriculture in 1800. As late as 1900, some 40 percent of the U.S. labor force still worked on farms. Today, that figure is less than 2 percent.

The consolidation of U.S. agriculture has been underway for more than 150 years. First came irrigation and ploughs, then better seeds and fertilizers, and then tractors and pesticides. With each innovation, farmers were able to produce larger harvests with fewer people and work larger plots of land. Better opportunities drew people to cities, where they could get jobs that provided higher wages and, thereby, produced greater economic surplus—that is, profits and ultimately societal wealth. The large-scale migration of labor from farms to cities pushed farmers to invest even more in labor-saving and productivity-enhancing practices and technologies in a virtuous cycle of urbanization, agricultural intensification, and economic growth that is the hallmark of all affluent societies.

It is not a stretch to say that the United States is wealthy today because most of its people work in manufacturing, services, technology, and other sectors of the economy. In this, the country is not alone. No nation has ever succeeded in moving most of its population out of poverty without most of that population leaving agriculture work.

That transition often isn’t easy. Millions of Black Americans made the difficult journey from tenant farming in the South to factory work in the North, where they faced new forms of racism even as they escaped the tyranny of sharecropping. More recently, small farmers have struggled to survive as increasingly high agricultural productivity and falling commodity prices tilted the playing field toward large farms. Rural communities have likewise suffered as dramatic improvements in labor productivity have shrunk employment in agriculture.

But over the long term, the living standards and life opportunities offered in the modern knowledge, service, and manufacturing economies have proved vastly greater than anything possible under the agrarian social and economic arrangements that most Americans over the last two centuries happily abandoned—and that too many Americans today romanticize.

Modern life required not only liberating most Americans from agrarian labor but also the development of a food system capable of getting food from farms to the cities where increasing numbers of Americans lived and worked. A food system that lost much of its harvest to pests and spoilage needed to dramatically cut losses even as its bounty needed to travel farther and farther. For this reason, the rise of modern agriculture is as much a story of railways and highways as combines and tractors, refrigeration and grain elevators as pesticides and fertilizer.

The development and growth of feedlots followed a similar path. As the historian Maureen Ogle recounts in her magnificent history of the beef industry, In Meat We Trust, the first feedlots grew out of the stockyards of Chicago and Kansas City in the late 19th century. The most efficient way to get beef to burgeoning markets in America’s cities was to drive cattle to these new rail centers, where they were finished, slaughtered, and then shipped throughout the country by rail. After World War II, beef production and feedlots expanded massively, driven not so much by corporate greed as by rising demand for beef from the United States’ newly prosperous middle class and by a scarcity of labor as ranch hands returning from the battlefields of Europe and the Pacific chose to pursue better economic opportunities in the postwar economy.

Debates about the social and environmental impacts of America’s food system cannot be disentangled from the basic reality that in a modern industrialized society, most people will live in cities and suburbs and will not work in agriculture. As a result, most food will need to be produced by large farms, with little labor, far away from the people who will consume it.

Many sustainable agriculture advocates tout the recent growth of organic agriculture as proof that an alternative food system is possible. But growing market share vastly overstates how much food is actually produced organically. In reality, organic production accounts for little more than 1 percent of total U.S. agricultural land use. Meanwhile, only a bit more than 5 percent of food sales come from organic producers, mostly because organic sales are overwhelmingly concentrated in high-value sectors of the market, namely produce and dairy, and fetch a premium from well-heeled consumers.

#### Global food supply strong

Indur Goklany 15, PhD from Michigan State, Assistant Director of Programs, Science and Technology Policy at the DOI, represented the United States at the Intergovernmental Panel on Climate Change (IPCC) and during the negotiations that led to the United Nations Framework Convention on Climate Change, “CARBON DIOXIDE: The good news”, The Global Warming Policy Foundation, GWPF Report 18

Crop yields have increased (see Figure 3) and global food production, far from declining, has actually increased in recent decades. Between 1990–92 and 2011–13, although global population increased by 31% to 7.1 billion, available food supplies increased by 44%. Consequently, the population suffering from chronic hunger declined by 173 million despite a population increase of 1.7 billion.112 This occurred despite the diversion of land and crops from production of food to the production of biofuels. According to one estimate, in 2008 such activities helped push 130–155 million people into absolute poverty, exacerbating hunger in this most marginal of populations. This may in turn have led to 190,000 premature deaths worldwide in 2010 alone.113 Thus, ironically, a policy purporting to reduce AGW in order to reduce future poverty and hunger only magnified these problems in the present day.

#### No food wars.

Vestby ’18 [Vestby, Ida Rudolfsen, and Halvard Buhaug; 5-18-18; Doctoral Researcher at the Peace Research Institute Oslo; doctoral researcher at the Department of Peace and Conflict Research at Uppsala University and PRIO; Research Professor at the Peace Research Institute Oslo (PRIO); Professor of Political Science at the Norwegian University of Science and Technology (NTNU); and Associate Editor of the Journal of Peace Research and Political Geography; “Does hunger cause conflict?” Prio, https://blogs.prio.org/ClimateAndConflict/2018/05/does-hunger-cause-conflict/]

It is perhaps surprising, then, that there is little scholarly merit in the notion that a short-term reduction in access to food increases the probability that conflict will break out. This is because to start or participate in violent conflict requires people to have both the means and the will. Most people on the brink of starvation are not in the position to resort to violence, whether against the government or other social groups. In fact, the urban middle classes tend to be the most likely to protest against rises in food prices, since they often have the best opportunities, the most energy, and the best skills to coordinate and participate in protests.

Accordingly, there is a widespread misapprehension that social unrest in periods of high food prices relates primarily to food shortages. In reality, the sources of discontent are considerably more complex – linked to political structures, land ownership, corruption, the desire for democratic reforms and general economic problems – where the price of food is seen in the context of general increases in the cost of living. Research has shown that while the international media have a tendency to seek simple resource-related explanations – such as drought or famine – for conflicts in the Global South, debates in the local media are permeated by more complex political relationships.

#### The overall environment is resilient---‘existential’ threats are false

Ronald Bailey 20, Science Correspondent at Reason, Member of the Society of Environmental Journalists and the American Society for Bioethics and Humanities, “The Global Environmental Apocalypse Has Been Canceled”, Reason Magazine, 8/1/2020, <https://reason.com/2020/08/01/the-global-environmental-apocalypse-has-been-canceled/> [grammar edit]

According to these activists and politicians, humanity is beset on all sides by catastrophes that could kill off civilization, and maybe even our species. Are they right?

Absolutely not, answers the longtime environmental activist Michael Shellenberger in an engaging new book, Apocalypse Never: Why Environmental Alarmism Hurts Us All. "Much of what people are being told about the environment, including the climate, is wrong, and we desperately need to get it right," he writes. "I decided to write Apocalypse Never after getting fed up with the exaggeration, alarmism, and extremism that are the enemy of positive, humanistic, and rational environmentalism." While fully acknowledging that significant global environmental problems exist, Shellenberger argues that they do not constitute inexorable existential threats. Economic growth and technological progress, he says, can ameliorate them.

Shellenberger's analysis relies on largely uncontroversial mainstream science, including reports from the Intergovernmental Panel on Climate Change (IPCC) and the Food and Agriculture Organization. And as a longstanding activist, Shellenberger is in a good position to parse the motives behind the purveyors of doom.

Shellenberger's activism is the real deal. To raise a donation to the Rainforest Action Network, he charged his friends $5 to attend his 16th birthday party. At 17 he went to Nicaragua to experience the Sandinista revolution. In the 1990s he worked with the Landless Workers' Movement in Brazil.

In 2003, Shellenberger and allies launched the New Apollo Project to jumpstart a no-carbon energy revolution over the next 10 years. In 2008, Time named him "A Hero of the Environment." He co-founded the ecomodernist Breakthrough Institute, which advocates the use of advanced technologies such as nuclear power and agricultural biotechnology to decouple the economy from the ecology, allowing both humanity and the natural world to flourish. More recently, he founded Environmental Progress, which campaigns for, among other things, the deployment of clean modern nuclear power. He is an invited expert reviewer of the Intergovernmental Panel on Climate Change's next assessment report.

Ohio Passes Controversial Conscience Clause for Doctors

So what does he say about climate change? "On behalf of environmentalists everywhere, I would like to formally apologize for the climate scare we created over the last 30 years," he wrote in an essay to promote his new book. "Climate change is happening. It's just not the end of the world. It's not even our most serious environmental problem." Needless to say, there are environmentalists everywhere who do not believe they have anything to apologize for. A group of six researchers assembled by the widely respected Climate Feedback fact-checking consortium rated his article as having low scientific credibility.

Shellenberger doesn't devote much of Apocalypse Never to the science behind man-made climate change. He basically accepts the consensus that it's a significant problem and instead focuses on various claims about the harms it is supposedly already causing. In that promotional essay, he argues that (1) human[s] being are not causing a "sixth mass extinction," (2) the Amazon rainforests are not the "lungs of the world," (3) climate change is not making natural disasters worse, and (4) fires have declined 25 percent around the world since 2003.

Shellenberger isn't denying the reality of man-made climate change. He's arguing that humanity is already adapting to the ways climate change has been making weather patterns evolve, and that we will continue to adapt successfully in the future. His book is ultimately a sustained argument that poverty is world's most important environmental problem, and that rising prosperity and increasing technological prowess will ameliorate or reverse most deleterious environmental trends.

#### No environment impact and it’s self-correcting.

Kareiva ’18 [Peter, Ecology PhD; Valerie Carranza; Institute of the Environment and Sustainability, University of California, Los Angeles; “Existential Risk Due to Ecosystem Collapse: Nature Strikes Back.” *Futures* 102, p. 39-50]

The interesting question is whether any of the planetary thresholds other than CO2 could also portend existential risks. Here the answer is not clear. One boundary often mentioned as a concern for the fate of global civilization is biodiversity (Ehrlich & Ehrlich, 2012), with the proposed safety threshold being a loss of greater than .001% per year (Rockström et al., 2009). There is little evidence that this particular .001% annual loss is a threshold—and it is hard to imagine any data that would allow one to identify where the threshold was (Brook et al., 2013; Lenton & Williams, 2013). A better question is whether one can imagine any scenario by which the loss of too many species leads to the collapse of societies and environmental disasters, even though one cannot know the absolute number of extinctions that would be required to create this dystopia. While there are data that relate local reductions in species richness to altered ecosystem function, these results do not point to substantial existential risks. The data are small-scale experiments in which plant productivity, or nutrient retention is reduced as species number declines locally (Vellend, 2017), or are local observations of increased variability in fisheries yield when stock diversity is lost (Schindler et al., 2010). Those are not existential risks. To make the link even more tenuous, there is little evidence that biodiversity is even declining at local scales (Vellend et al 2017; Vellend et al., 2013). Total planetary biodiversity may be in decline, but local and regional biodiversity is often staying the same because species from elsewhere replace local losses, albeit homogenizing the world in the process. Although the majority of conservation scientists are likely to flinch at this conclusion, there is growing skepticism regarding the strength of evidence linking trends in biodiversity loss to an existential risk for humans (Maier, 2012; Vellend, 2014). Obviously if all biodiversity disappeared civilization would end—but no one is forecasting the loss of all species. It seems plausible that the loss of 90% of the world’s species could also be apocalyptic, but not one is predicting that degree of biodiversity loss either. Tragic, but plausible is the possibility our planet suffering a loss of as many as half of its species. If global biodiversity were halved, but at the same time locally the number of species stayed relatively stable, what would be the mechanism for an end-of-civilization or even end of human prosperity scenario? Extinctions and biodiversity loss are ethical and spiritual losses, but perhaps not an existential risk. What about the remaining eight planetary boundaries? Stratospheric ozone depletion is one—but thanks to the Montreal Protocol ozone depletion is being reversed (Hand, 2016). Disruptions of the nitrogen cycle and of the phosphorous cycle have also been proposed as representing potential planetary boundaries (one boundary for nitrogen and one boundary for phosphorous). There are compelling data linking excesses in these nutrients to environmental damage. For example, over-application of fertilizer in Midwestern USA has led to dead zones in the Gulf of Mexico. Similarly, excessive nitrogen has polluted groundwater in California to such an extent that it is unsuitable for drinking and some rural communities are forced to drink bottled water. However, these impacts are local. At the same time that there is too much N loading in the US, there is a need for more N in Africa as a way of increasing agricultural yields (Mueller et al., 2012). While the disruption of nitrogen and phosphorous cycles clearly perturb local ecosystems, end-of-the-world scenarios seem a bit far-fetched. Another hypothesized planetary boundary entails the conversion of natural habitats to agricultural land. The mechanism by which too much agricultural land could cause a crisis is unclear—unless it is because land conversion causes so much biodiversity loss that is species extinctions that are the proximate cause of an eco-catastrophe. Excessive chemical pollution and excessive atmospheric aerosol loading have each been suggested as planetary boundaries as well. In the case of these pollution boundaries, there are well-documented mechanisms by which surpassing some concentration of a pollutant inflicts severe human health hazards. There is abundant evidence linking chemical and aerosol pollution to higher mortality and lower reproductive success in humans, which in turn could cause a major die-off. It is perhaps appropriate then that when Hollywood envisions an unlivable world, it often invokes a story of humans poisoning themselves. That said, it is doubtful that we will poison ourselves towards extinction. Data show that as nations develop and increase their wealth, they tend to clean up their air and water and reduce environmental pollution (Flörke et al., 2013; Hao & Wang, 2005). In addition, as economies become more circular (see Mathews & Tan, 2016), environmental damage due to waste products is likely to decline. The key point is that the pollutants associated with the planetary boundaries are so widely recognized, and the consequences of local toxic events are so immediate, that it is reasonable to expect national governments to act before we suffer a planetary ecocatastrophe.

#### No ABR or superbugs impact.

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

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

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

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

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

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

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

[FOONOTE]

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

[END FOOTNOTE]

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

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

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

#### Genetic diversity is increasing AND gene banks solve

Colin Khoury 18, Research Scientist at the International Center for Tropical Agriculture (CIAT), Colombia and at the USDA National Laboratory for Genetic Resources Preservation, “Evaluating Claims GMOs and Modern Agriculture have Led to a 75% Drop in Crop Diversity”, Genetic Literacy Project, 12/14/2018, https://geneticliteracyproject.org/2018/12/14/myth-busting-modern-agriculture-really-led-75-drop-crop-diversity/

One of the central concepts that unifies those concerned with biodiversity is the belief that diversity is being lost, piece by piece, to a greater or lesser degree, globally.

The same goes for the biodiversity of what we eat. Scientists and activists have worried about the loss of crops and their many traditional varieties for at least a hundred years, since botanist N. I. Vavilov traveled the world in search of plants useful for cultivation in his Russian homeland. He noticed that diversity was disappearing in the cradles of agriculture – places where crops had been cultivated continuously for thousands of years. The alarm sounded even louder 50 years ago, during the Green Revolution, when farmers in some of the most diverse regions of the world largely replaced their many locally adapted wheat, rice, and other grain varieties with fewer, more uniform, higher yielding professionally bred varieties.

Economic development, human migration, urbanization, and globalization have further affected the diversity of food crops cultivated and consumed around the world. Most modern farmers seem to want uniform, mechanized production. Most eaters seem to want unblemished vegetables of known shapes and sizes, and inexpensive processed food products. In most of the decisions producers, food distributors, and consumers make, crop diversity inadvertently gets the short end of the stick.

This is ironic, since modern productive crop varieties are bred by wisely mixing and matching diverse genetic resources. The disappearance of old varieties thus reduces the options available to plant breeders, including those working to produce more nutritious and resilient crops. Genebank collections, such as the beans, cassava, and other staples conserved at CIAT, which were originally built to provide access for plant breeders to genetic resources, have therefore taken on increasingly important conservation roles.

In many regions of the world, the loss of crop diversity also has profound cultural and spiritual significance, with seeds no longer handed down through generations and no longer connecting people as closely to the places they call home. What people cultivate and what they eat are important to how they identify themselves, both as cultures and as individuals. “We are what we eat.”

Taking stock

Being a food biodiversity scientist, I grew up (in the professional sense) with the loss of crop diversity looming over my head, providing both a raison d’être and an urgency to my efforts. Somewhere along the line, I became interested in understanding its magnitude. That is, counting how many crops and how many varieties have been lost.

And that’s where it started to become complicated, and also more interesting. Because, when I went looking for signs of the loss of specific crops, I couldn’t find any. Instead, I found evidence of massive global changes in our food diversity that left me worried, but at the same time hopeful.

A bit of background. Most of the numbers seen in the news on how much crop diversity has been lost go back to a handful of reports and books that reference a few studies: for example, the changing number of vegetable varieties for sale in the U.S. over time. The results are estimations for a few crops at local to national levels, but they somehow have been inflated to generalized statements about the global state of crop diversity, the most common of which is some variation of “75% of the diversity in crops has been lost.”

Putting true numbers on diversity loss turns out to be a complicated and contested business, with no shortage of strong opinions. One big part of the problem is that there aren’t many good ways to count the diversity that existed before it disappeared. Researchers have done some work to assess the changes in diversity in crop varieties of Green Revolution cereals, and to some degree on the genetic diversity within those varieties. The results indicate that, although diversity on farms decreased when farmers first replaced traditional varieties with modern types, the more recent trends are not so simple to decipher.

Reviewing what had been researched, it was particularly surprising to me that very little work had been done to understand the changes in what is probably the simplest level to measure: the diversity of crop species in the human diet, that is, how successful is maize versus rice versus potato versus quinoa and so on. I realized that data on the contribution of crops to national food supplies were available for almost all countries worldwide via FAOSTAT, with information for every year since 1961. Perhaps these were the data that could show when a particular grain, or legume, or vegetable, fell off the world map, and just how diverse our global food supply is now compared to half a century ago.

Fast forward through a couple of years of investigation. To my surprise, I found that not a single crop was lost over the past 50 years! There was no evidence for extinction. What was going on? Was I missing something or was the loss of food biodiversity narrative wrong?

It turns out that my failure to see any loss of crops was due in large part to the lack of sufficient resolution in the FAO food supply data. Only 52 meaningful crop species-specific commodities are measured and a number of these are general groupings such as “cereals, other.” Because of this lack of specificity, the data couldn’t comprehensively assess the crops that have been most vulnerable to changes in the global food system over the past 50 years.

Related article: Viewpoint: 'Heritage' of emotional decision-making fuels EU's opposition to biotech crops

In FAO data, these plants are either thrown into the general categories or they aren’t measured at all, especially if they are produced only on a small scale, for local markets or in home gardens. This is, in itself, sign enough that they may be imperiled. We need better statistics about what people eat (and grow) around the world. But, enough is known to be confident that many locally relevant crops are in decline.

But that’s not to say that the data weren’t useful to the question at hand. With some further analysis, they eventually provided what I think is a powerful argument for further concern about the loss of crop diversity globally. Yet, at the same time, they also offer some hope.

Over the past 50 years, almost all countries’ diets actually became more diverse, not less, for the crops that FAO statistics do report. We found that traditional diets that were primarily based on singular staples a half century ago, for instance rice in Southeast Asia, had diversified over time to include other staples such as wheat and potatoes. The same was true for maize-based diets in Latin America, sorghum- and millet-based diets in sub-Saharan Africa, and so on. Diets around the world were balancing out with regard to the contribution of these foods.

Not that there weren’t plant winners and losers. Wheat, rice, and maize, the most dominant crops worldwide 50 years ago, became more important globally. Other crops emerged as widespread staples, particularly oilcrops such as soybean, palm oil, sunflower, and rapeseed oil. And, as the winners came to take more precedence in food supplies around the world, alternative staples such as sorghum, millets, rye, cassava, sweet potato, and yam were marginalized. They haven’t disappeared (at least not yet), but they have become less important to what is eaten every day.

As countries’ food supplies became more diverse in the winner crops reported by FAO, and the relative abundance of these crops within diets became more even, food supplies worldwide became much more similar. If we are what we eat, then it seems that we are quickly becoming very much the same type of human being ‒ modern people eating globalized food crops.

The publication of our findings of increasing homogeneity in global food supplies generated substantial scientific and public interest. This wasn’t, I think, because the main finding was a big shocker. It’s easy to see how pizza is now available in Tokyo, bread available in traditional maize and potato regions of Latin America, and McDonalds, Subway, and Starbucks available, well, almost everywhere. Rather, I think it’s because we were able to examine the food supplies of virtually all the countries of the world, over a relatively long time period, and put some real numbers to the change we saw. On average, for instance, the amount of variation between food supplies in different countries decreased by 68.8% from 1961 to 2009.

This is why, although we could see no absolute loss in crops consumed over the past 50 years, I am concerned. For even in the relatively small list of crops reported in the FAO national food supply data, . That doesn’t seem like a good thing for the long-term resilience of our agricultural areas, nor for human health, although it’s important to remember that such changes are the collateral damage resulting from the creation of highly productive mega-crop farming systems, which have increased the affordability of these foods worldwide, leading to less stunting and other effects of undernutrition worldwide. On the other hand, global dependence on a few select crops equates to expansive monocultures, with more lives riding on the outcome of the game of cat and mouse between pestilence and uniform varieties grown over large areas. Moreover, cheaply available macronutrients sourcing from these crops have contributed to the negative effects of the nutrition transition, including obesity, heart disease, and diabetes.

So why then am I hopeful? Because the data, and some literature, and my own direct experience also indicate that diets in recent years, in some countries, are beginning to move in different directions, reducing the excessive use of animal products and other energy-dense and environmentally expensive foods, and becoming more diverse, particularly with regard to fruits and vegetables, and even healthy grains. This seems good, both for human health and for the sustainability of agricultural production. Change is still occurring, and the future does not appear to be fixed. What better evidence than quinoa, which was relatively unknown outside the Andes a couple of decades ago, and is now cultivated in 100 countries and consumed in even more?

#### Monocultures are stable and sustainable

Tim Durham 20, Associate Professor at Ferrum College, Degree in Plant Medicine, Operator of Deer Run Farm, “Perspective: Why Monocultures are a Deceptively Simple Solution in Agriculture”, Ag Daily, 4/29/2020, https://www.agdaily.com/crops/row-crop-redemption/

It’s a humble, if one-sided goal. But what’s often in the crosshairs of activists is the philosophy of the planting system — the “dreaded” monoculture.

Row crops are a relic, say self-styled pundits in the sustainability debate.

Indian activist Vandana Shiva touts her surreally titled book “Monocultures of the Mind,” defying the prevailing mindset and conformity of row crops.

In the closing segment of the BBC’s acclaimed Reith Lecture Series, Prince Charles agreed, proposing that we work “with the grain of nature” and follow the “genius of nature’s clearly defined boundaries.”

After straying too far from nature’s bosom, they say it’s time to square up with polyculture, a mosaic inspired by the rainforest. What does this mean? Grow multiple crops in a shared space. Shun that one-dimensional simplification for a more intricate ecosystem. The selling points are perennial stability, productivity, and built-in checks and balances that keep pests and diseases at bay.

Certainly sounds appealing. In their view, it’s naive to think something so elegantly simple can sustainably provide. If monoculture is a 100 level basket-weaving class for unambitious and shortsighted, polyculture is an all-out doctoral dissertation for the studious and eco-aligned.

Seems like a Rube Goldberg complex though — insufferable complexity just for the sake of it. Ironically, nature’s model is best suited to provide food and fiber — only salvation isn’t the miracle system the Prince is peddling.

Though no farm can ever hope (nor should they want to) faithfully replicate a wild ecosystem, current methods seem to be well grounded. In fact, researcher David Wood thinks Mother Nature would be flattered at the lengths we’ll go to mimic her.

Questioning the theory that cereals (not the milk in a bowl kind, at least not directly!) first arose as weeds on the outskirts of human settlements, Wood found that they exist today as vast monocultures along ancient waterways. Frequent floods would flush these stands with nutrient rich sediment; much in the same way a farmer spreads fertilizer in the field.

For centuries, wild rice was widely harvested as a staple crop from southern Sudan to the Atlantic. Wood suggests that early farmers had a working knowledge of this system and adapted it, realizing the precedents set in nature’s fields.

Even though wet rice has been sustained on the same land for millennia, Miguel Altieri of UC-Berkeley claims that monocultures are inherently unstable because they “provide optimal conditions for the unhampered growth of weeds, insects, and diseases because ecological niches are not filled by other organisms.”

The alternative is to model our ambitions on the rainforest. Hosting perhaps 25 million of the Earth’s 30 million wild species, it remains a hotspot of biodiversity. With limited resources, organisms effectively keep the peace by filling the least intrusive niches and avoiding competition at all costs. Skirmishes for resources are just too costly. Though productivity (in terms of sheer plant biomass) remains high, few of those gains are edible or of economic value to a farmer.

Indeed, the rainforest’s treasure trove of life is largely a last ditch effort to survive.

Suggesting such a model for food production is counterintuitive. Blistering heat robs the soil of nutrients and tilth, and yields suffer. In the Amazon, growers are resigned to slash and burn, while U.S. farmers still tend the land that their forefathers cleared centuries before.

They didn’t know it, but early pioneers extended the historical reign of monodominance by selecting the best land, leaving the marginal areas (which host a much broader spectrum of life) as a last resort. This is the polyculture (and often by association, organic) paradox.

It’s also a textbook case in ecology. When resources are plentiful, a few species dominate. Opportunists need not be pests, as Altieri claims. Nobel Laureate Norman Borlaug capitalized on this principle to develop high-yielding wheat strains responsive to fertilizer and other inputs. In the process he saved a billion lives and 12 million square miles of wildlife habitat.

The Green Revolution taught us that the key to averting human misery and wildlife loss is properly pairing land with practice. We can be intentional by conscripting the “best” land (which tends to trend monodominant anyway), and spare the rich biodiversity in poor(er) real estate. This land sparing ensures maximum productivity on the smallest footprint, sustaining us and leaving more land for nature.

Far from failing the eco-palatability taste test, the take home message is to embrace a monoculture in both mind and practice — using nature’s forgotten fields as inspiration. Farmers can (and should) still leverage crop rotation and fallowing to keep pests and pathogens from building to intolerable levels. No one is suggesting they grow the same crop year in, year out, in the same space. That’s the definition of insanity — not monoculture.

Turns out the deceptively simple monoculture playbook has been right all along. As an eco-foray in conservation, food security, and social justice, polyculture is a recurring fad that’s doomed to fail.

# 2NC

## Advantage CP

### 2NC – OV

#### 3. Subsidies alone are a massive alt cause to the case. Only the counterplan directly finances sustainability, rather than leaving agriculture practices to be determined by the free hand of the market.

Edwards 18 [Chris; MA in economics from GMU; “Agricultural Subsidies,” Downsizing the Federal Government, April 16, 2018; https://www.downsizinggovernment.org/agriculture/subsidies]

Subsidies Harm the Environment. Federal farm policies damage the natural environment in a number of ways. Subsidies cause overproduction, which draws lower-quality farmlands into active production. Areas that might have been used for parks, forests, grasslands, and wetlands get locked into agricultural use. AEI scholars note that subsidizing crop insurance encourages farmers "to expand crop production on highly erodible land."47 Lands that would have been used for pasture or grazing have been shifted into crop production.

Subsidies may induce excessive use of fertilizers and pesticides. Producers on marginal lands that have poorer soils and climates tend to use more fertilizers and pesticides, which can cause water contamination problems. Sugar cane production has expanded in Florida because of the federal sugar program, for example, and the phosphorous in fertilizers used by the growers causes damage to the Everglades.

Finally, subsidies may discourage crop rotation in favor of planting only a subsidized crop, which in turn can lead to increased use of fertilizers. The boom in corn production driven by subsidies and the ethanol mandate is apparently generating pollution problems in the Mississippi River and Gulf of Mexico.48

### 2NC – Solvency – Small Farms/Regional Food/Innovation

#### Subsidies wreak small farm innovation by allowing large-scale farms to outcompete and grow larger

NSAC 2017 [National Sustainable Agriculture Coalition; December 21, 2017; “How Farm Subsides Encourage the Big to Get Bigger,” https://sustainableagriculture.net/blog/farm-subsidies-encourage-big-get-bigger/

A recent pair of reports from the Economic Research Service (ERS) confirms that federal subsidies to farms are increasingly going to larger and larger farms, thus supporting the cycle of the big getting bigger. Fewer and bigger farms mean less money circulating in local economies, fewer farm jobs in rural areas, and fewer opportunities for beginning and young farmers to get into the business.

Since 1991, the household income threshold for farms receiving half of all commodity program payments more than doubled from about $60,000 to over $146,000. For crop insurance indemnities we see a similar shift. In 1997, half of crop insurance indemnities went to farms with incomes of over $63,000; today that number is $143,000.

This is all concerning, but with crop insurance we see an even more worrisome trend when you look at farms with over $1 million in Gross Cash Farm Income (GCFI) income, which includes large and very large farms according to ERS definitions. These largest farms saw their share of indemnities increase from 12 percent to nearly 33 percent of the total. This dramatic change – combined with the recently revealed data showing that the top one percent of farms-by-sales receive 20 percent of subsides – raises questions about how crop insurance benefits are distributed. Logically, even as large and very large farms become more common, the proportion of indemnities among different sized farms should stay the same. This seems to indicate that as crop insurance has expanded, it has provided disproportionately favorable incentives to the largest farms, including unlimited crop insurance subsidies.

Since 1991, taxpayer subsidies for crop insurance have greatly increased from $300 million to $6.1 billion. While total acreage in the program has increased significantly, the number of policyholders has stayed relatively steady meaning more acres covered by the same number of farms, also indicative of consolidation.

This is all overlaid on the fact that during this same period the number of farms in America fell by around 70,000 [1] and the percent of land owned by actual farmers declined, with nearly 40 percent of land now being rented or leased and 80 percent of rented or leased land being owned by non-farmers.

This raises the question: is the crop insurance program, under its current subsidy structure, doing a good job keeping people in farming, or is it contributing to the consolidation of farms and pushing people out of farming?

In addition to shedding light on the impacts of the current subsidy structure, these reports also shed light on the problem of access to crop insurance. Of farms with GCFI between $150,000 and $350,000, less than half have crop insurance, which is concerning especially when you consider that farms with a GCFI of under $350,000 account for 50 percent of all farmland. ERS indicates that at the $350,000-$999,000 GCFI level, participation jumps to 65-69 percent; and that when GFCI exceeds $1 million, participation in crop insurance tops out at 71.2 percent. NSAC has several recommendations for increasing access to crop insurance, including for small farms and beginning farmers.

According to ERS Large family farms, those over $1 million of GCFI only represent 13 percent of crop insurance program participants, but operate 34 percent of cropland in the program and receive 34 percent of indemnities. Small farms, those with a GFCI of less than $350,000 operate over half of farm acreage but receive only 16 percent of indemnities. This indicates that farms of substantial size, but by no means the largest, have more limited access to crop insurance than the largest farms.

Negative Impacts of Subsidies on Mid-Scale, Beginning and Young farmers

As the ERS report rightly points out, government subsidies don’t always directly translate into support for the farmers being targeted. This is because subsidy payments increase the net return on farmland, and in the case of conservation payments, can increase costs.

As has been firmly established, government subsidy programs increase land prices and rents since landowners try to capture some the increased net return that results from subsidy payments. Government subsides of all types to farms totaled $16.9 billion in 2015.

Increased land prices and rents resulting from government subsidies have detrimental impacts on mid-scale, beginning, and young farmers. When government payments of all types increase, they make land more expensive to rent and buy, thus making it more expensive for those farmers just starting out. The payments also have the perverse effect of helping the largest farms (which receive the largest portion of the payments and indemnities) get bigger by allowing them to capitalize subsides in order to bid higher for land or pay higher rents thus perpetuating the cycle. This was laid to bare in a recent Wall Street Journal article, where a farmer with over 10,000 acres in Kansas acknowledged the difficulty any young or new farmer would have in trying to outbid him for land.

#### The CP solves innovation – revoking subsidy causes growing and land use changes.

Edwards 18 [Chris; MA in economics from GMU; “Agricultural Subsidies,” Downsizing the Federal Government, April 16, 2018; https://www.downsizinggovernment.org/agriculture/subsidies]

Farmers Would Thrive Without Subsidies. If U.S. farm subsidies were ended and agricultural markets deregulated, farming would change. Different crops might be planted, land use might change, and some farm businesses might contract while others expanded. Farm businesses would rely on market-based risk-reduction methods, such as saving and diversification. A stronger and more innovative industry would emerge that had greater resilience to market fluctuations.

An interesting example of farmers prospering without subsidies is New Zealand. In 1984 that nation ended its farm subsidies, which was a bold stroke because New Zealand is four times more dependent on farming than is the United States. The changes were initially met with resistance, but New Zealand farm productivity, earnings, and output rose in the years after reform. New Zealand farmers cut costs, diversified land use, sought nonfarm income, and developed niche markets such as kiwi fruit.

The Federated Farmers of New Zealand argues that New Zealand's experience "thoroughly debunked the myth that the farming sector cannot prosper without government subsidies."73 That myth needs to be debunked in the United States as well.

A number of major farm programs expire at the end of September 2018, which provides Congress a chance to rethink its costly farm policies. Policymakers should look to the Trump administration's 2019 budget, which includes a number of sensible reforms to farm programs.

For Republicans in Congress, farm subsidy cuts would signal that the party is concerned about fiscal responsibility at a time of rising budget deficits. The GOP has sought cuts to low-income welfare programs, and it makes sense to combine those with cuts to farm subsidies, which are welfare for the well-to-do.

As the Heritage Foundation has argued, Congress this year should at least repeal the crop subsidy programs added in the last farm bill, ARC and PLC.74 Over the longer term, all farm subsidies should be ended. American farmers should stand on their own two feet in the marketplace, as do businesses in nearly all other industries.

## Case

### XT 1-4 – Ag Innovation Turn

#### 4. Turns disease.

Alex Smith 20, Food and Agriculture Analyst at the Breakthrough Institute, MA/MSc in International and World History from Columbia University and the London School of Economics and Political Science, “To Combat Pandemics, Intensify Agriculture”, The Breakthrough Institute, 4/13/2020, https://thebreakthrough.org/issues/food/zoonosis

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.

#### 5. Turns the environment – industrial-scale production unlocks precision farming---empirics prove that’s the best way to cut pollution.

Dan Blaustein-Rejto 18, Director of the Food and Agriculture Program at the Breakthrough Institute, Masters of Public Policy from University of California, Berkeley, BA in Environmental Studies from Brown University, “Eating Environmentally Requires Embracing Technology and Industry”, The Breakthrough Institute, 5/1/2018, https://thebreakthrough.org/issues/food/eating-environmentally-requires-embracing-technology-and-industry

Since then, thought leaders such as writer Michael Pollan and chef Alice Waters have carried the torch forward, diagnosing the ills of our food system. US agriculture generates as much greenhouse gas as all of Britain. Excess farm nutrients pollute rivers, lakes, and coastal areas such as the Gulf of Mexico to the point that fish can’t survive. And pesticide use harms farmworkers, children, and wildlife.

The solutions, according to many advocates, lie in cutting back on modern indulgences and supporting alternatives to the conventional food system. These include buying food from local farmers, shopping organic, eating less meat or at least eating free-range meat, and avoiding processed foods. One of the most well-known rules of thumb in this school of thought is, as Pollan writes, to eat only what your great-grandmother would recognize as food.

While these recommendations have merit, and certainly intuitive appeal for many, the reality of sustainability is far more complicated. For instance, locally produced food often has a greater environmental footprint than imported food. Organic farming typically requires more land use and contributes more to nutrient pollution of water bodies. Most free-range beef emits substantially more greenhouse gas emissions than beef from a feedlot, or factory farm as it’s commonly called. And many types of food processing have reduced food waste by increasing shelf life — just think of how long a bag of frozen fruit or loaf of sliced bread lasts.

Recent research into sustainable agriculture has given rise to a new paradigm. I call it Ecomodern Eating. Ecomodern Eating challenges many widespread assumptions, highlighting the importance of agricultural productivity and innovation in building an eco-friendly and delicious food future.

Historically, increasing agricultural productivity has been key to growing more environmentally friendly food. Advances in livestock production, such as nutritionally-optimized feed, have enabled North American chicken, beef, and dairy producers to emit less greenhouse gas emissions per pound of meat, eggs, or milk produced than most other regions in the world.

The same is true in crop production: the high levels of productivity and efficiency often derisively likened to industrial production has enabled North American crop production to emit less greenhouse gases per unit calorie than any other part of the world.

Agricultural productivity continues to advance and drive sustainability forward. A suite of new “precision agriculture” technologies such as GPS-driven tractors and drone imagery enable farmers to grow more food while using less fertilizer and pesticides. And advances in indoor farming are enabling companies like Plenty and AeroFarms to grow many times more food than traditional farms while using a fraction of the water and land.

In addition, we also need substitutes for foods with the largest environmental footprints. Many of the greatest environmental successes of the past have involved finding replacements for ecologically harmful practices. For instance, when wild sturgeon were on the precipice of extinction, the caviar industry found ways to raise and harvest farmed fish instead. And today, plant-based and cultured meat start-ups are developing hamburgers, fish, and other animal products that taste like the original thing, but with fewer of some important environmental impacts (especially compared to beef).

#### 6. It's net-offense---productivity is the biggest variable for conservation AND trends solve their internal link

Alex Smith 20, Food and Agriculture Analyst at the Breakthrough Institute, MA/MSc in International and World History from Columbia University and the London School of Economics and Political Science, “To Combat Pandemics, Intensify Agriculture”, The Breakthrough Institute, 4/13/2020, https://thebreakthrough.org/issues/food/zoonosis

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.

### -- UQ – Squo Solves

#### Farming is decentralized AND a wave of competition’s coming

Sara Spaventa 20, MA from Durham University, BA in Applied Science from the University of California, San Diego, “Myths Debunked About Farmland”, Farm Together, 8/18/2020, https://farmtogether.com/learn/blog/myths-debunked-about-farmland

Myth #1: Farmland is controlled by big corporations and the wealthy.

Historically, farmland hasn’t always been available to anyone as an investment opportunity. But, that’s not due to a stigma tied to risk or wealth. Instead, it’s because of a lack of access. Farmland has traditionally stayed within the family, being handed down from generation-to-generation.

With growing concerns over factory farming and a continuous decrease in arable land, the question of who owns America’s farmland often arises: families own 97% of US farmland. However, with the average age of farmers approaching 60, and younger generations exploring different career routes other than the taking over the family business, more farmland is entering the market. Experts anticipate 25% of farmers and ranchers will retire by 2030 and roughly one-third of US farmland and ranch land will likely change hands in the next 15 years.

This boom in land ownership transfers and the introduction of investing technology like FarmTogether allow for the democratization of farmland ownership. With modern farmland investing, anyone can invest in farmland and have a say in what practices are being used.

#### The current antitrust process is robust, guaranteeing sufficient competition without squelching innovation

Dr. Robert Young 18, Former Chief Economist for the American Farm Bureau Federation, Served as Chief Economist of the U.S. Senate Committee on Agriculture, Ph.D. in Agricultural Economics from the University of Missouri, “Regulators Did Their Job, Now Let Agriculture Merger Go Through”, The Hill, 1/31/2018, <https://thehill.com/opinion/energy-environment/371673-regulators-did-their-job-now-let-agriculture-merger-go-through> [language modified]

There is no denying the U.S. farming economy is in a constant state of flux. If ever there was a sector that is attuned to technology, it must be American agriculture. Farmers have to be financers of the first order to work in the kind of high-capital, low-margin business in which they chose to make a living.

To do this, farmers must rely on a competitive marketplace that embraces innovation and maintains consumer choice. As agricultural companies, big and small, work to meet the needs of their farming customers, they too are constantly fighting an uphill battle against regulatory challenges and funding issues that affect the odds of bringing successful products to market.

One way to meet the growing demands of farming customers while overcoming obstacles to agricultural innovation is through thoughtful alliances between key agricultural companies with strong capabilities in two complementary offerings. While there are some well-founded concerns regarding industry consolidation, there are some business partnerships that will also be the key to ensuring American farmers maintain their competitive edge in the global marketplace. Consumers and farmers will see positive results from the collaboration of agricultural powerhouses on new products and tools to make America’s farms more efficient.

However, many [ignore] ~~turn a blind eye~~ to the positives of industry consolidation and mergers between companies such as Dow-Dupont and the upcoming acquisition of Monsanto by Bayer. Recently, Bayer’s proposed acquisition of Monsanto has been met with both blunt and thinly veiled opposition driven by both politics and competitors, even as the deal goes through a very rigorous and methodical antitrust review process in countries around the world.

In fact, all evidence points to the fact that the process is working. Consider a study released by Texas A&M in 2016. Researchers at A&M concluded the Bayer-Monsanto deal as originally constructed had the potential to raise cotton seed costs by 18.2 percent generating a company with a 70 percent market share for cotton seed. Not surprisingly, the prospect of such market concentration raised the alarm among farmers, ranchers and regulators alike.

However, since the study’s release, and as a result of the regulatory process, Bayer has agreed to divest $6.98 billion of its Crop Science business including the majority of their global cotton seed business, as well as much of their canola and soybean seed business. This transaction also includes the sale of Bayer’s LibertyLink technology for herbicide tolerance to proactively reduce overlap with Monsanto’s own offerings.

In short, American farmers have been right to raise their concerns about a perceived anti-competitive marketplace during a time when agricultural input costs are increasing. And regulators have been correct in responding. But they should also be informed of the facts. Bayer and Monsanto have two complementary offerings, crop chemical protection and plant genetics. Combining these two companies will allow them to reduce inefficiencies and advance new products to farmers faster. Following free market based policies, regulators have taken appropriate steps to balance market and consumer concerns without stifling business ambitions that help the greater good.

Let us also recognize that the Dow-Dupont merger is happening. We have already created a joint crop chemical/seed technology company. Having only one with that combination of attributes at this point in time would also be anti-competitive. In short, if you are going to have one, you had better have two.

While there should always be tough scrutiny of any major companies merging, the antitrust process both here and abroad carefully examines steps that companies should take during the merger process in order to not harm competition, or drive prices up for farmers. By requesting companies, including Bayer, Dow and ChemChina, to divest certain businesses and make certain changes, consumers and farmers have the best of both worlds: protection and innovation.

Let’s not be short-sighted on the positives of the Bayer-Monsanto deal and be sure all of the facts are on the table. Everyone wants to see American farmers succeed and continue to lead in the global agriculture marketplace, but placing further restrictions on the free market and stifling innovation is not the way forward.

### XT 5-6 – No Impact to Big Farms

#### 2. Sustainability is increasing

Alison McGrew 20, Writer for Illinois Farm Families, “3 Myths About Sustainable Agriculture”, March 2020, https://www.watchusgrow.org/2020/03/02/3-myths-about-sustainable-agriculture/

Myth #1: Today’s farms are less sustainable than they used to be.

Fact: Simply put, farmers today are doing more with less. Here are a few examples:

* Compared to 1977, today’s beef farmers produce the same amount of beef with 33% fewer cattle.
* Pig farms now use 75.9% less land than in 1960.
* Over the last 40 years, soybean farmers have nearly doubled how much they grow while using 8% less energy.
* Dairy farmers have reduced greenhouse gas (GHG) emissions by 63% over the past 60 years.
* Corn farmers have increased yields while reducing pesticide and fertilizer use, thanks in part to biotechnology.

Sustainable agriculture may look different on each farm, but the goal is always the same: make the farm better for tomorrow and for future generations while providing a safe, sustainable food supply.

#### 3. Monocultures are efficient AND easily managed---no mass crop failure

Andrew Porterfield 18, MS in Biotechnology from the University of Maryland, BA from the University of Pennsylvania, Owner of Porterfield Marketing and Communications, Writer, Editor and Communications Consultant for Academic Institutions, Companies and Non-Profits in the Life Sciences, “Is monoculture a bad thing? It’s time to revise simplistic ideological narrative”, Genetic Literacy Project, 5/4/2018, https://geneticliteracyproject.org/2018/05/04/is-monoculture-a-bad-thing-its-time-to-revise-simplistic-ideological-narrative/

In a Nebraska field, thousands of acres of winter wheat stretch to the horizon. In California, workers pick strawberries in a field that has grown no other crop for the past eight years. And in Maryland, a single tomato plant grows in a single pot.

What do these have in common?

They could all fall under the phrase “monoculture.” Okay, that last one with the tomato is a bit of a stretch, but it’s an example that underscores how simplistic this discussion often plays out. Many critics of modern agriculture, including anti-GMO activists, point to monoculture as what Michael Pollan calls the “great evil of modern agriculture” and a major reason for the loss of biodiversity in agriculture. They say that biotech crops encourage monocultural farming.

So, what is “monoculture” and is it bad or is the issue more complicated?

Andrew Kniss, a plant scientist and weed expert at the University of Wyoming, is one of many scientists who think that the word doesn’t do the practices justice. On the surface, all monoculture means is that a farmer is growing just one crop in an area. By that definition, all crops are grown in monocultures except for those grown in the tiniest of farms or home gardens.

So, how big an area defines what is “monoculture”? And how many years must a crop be grown in a given field before it’s considered “monoculture”? Does monoculture actually reduce biodiversity?

What does the science say?

Most critics appear to use the term to suggest that something bad happens in single crop areas: blight, crop failure, or loss of biodiversity (in the form of native plants, pollinating insects, or microorganisms).

The Union of Concerned Scientists, under the leadership of its prior agricultural sciences director Doug Gurian-Sherman—who left UCS two years ago and now lobbies against crop biotechnology for the Center of Food Safety [read GLP profile of Gurian-Sherman here]—has argued in a post entitled “Expanding Monoculture: 8 Ways Monsanto Falls at Sustainable Agriculture”, that monoculture reduces diversity and leads to a host of other problems.

Monsanto’s emphasis on limited varieties of a few commodity crops contributes to reduced biodiversity and, as a consequence, to increased pesticide use and fertilizer pollution. Large-acreage field crops—corn, cotton, soybeans, canola, and now alfalfa—make up the bulk of Monsanto’s products, in part because of the high cost of developing engineered traits. And the approach to agriculture that this product line encourages—monoculture, the production of only one crop in a field year after year—is not a sustainable one.

The piece is short of an understanding of the basic science of farming and long on ideology, say agricultural experts.

Consider crop rotation. Most organic food supporters point to crop rotations, which are required for organic certification, as an alternative to the ‘dangers’ of monoculture. But that’s a deceptive argument. Most large farms now rotate their crops as well, so rotating in an of itself does not address the question of the impact of monoculture. And just switching between crops in alternate years doesn’t bring the kind of genetic diversity that can prevent the downsides of mechanized farming.

Monoculture, incorporating crop rotation, can also have positive impacts. Just having one crop in the field allows mechanization of agriculture. Mechanized farming allows faster, efficient planting, weeding, and harvesting, which reduces the destruction of habitats–organic and agro-ecological farming has a yield lag averaging 15-45%. Scaled up to meet the growing global demand for food, smaller scare farming would result in clear cutting of forests and dramatically reduce biodiversity, leading to a sharp increase in greenhouse gases. Intensive farming also frees humans to discover other ways to spend our time and make a living.

Kniss also has made the point that a focus on genetic biodiversity in farming can help reduce the problems of monoculture while preserving its benefits. Examples such as the Irish Potato Famine shows what can happen when farmers depend not only on just one crop but on a crop that is genetically very, very narrow; they are vulnerable to disease. Planting genetically diverse potatoes (or any other crop) can help protect against the potentially negative impact of monoculture. And newly developed genetically modified crops, such as the Simplot Innate potato, have been specifically engineered to protect against the genetically narrowly focused potato blight. Other conventional and organically-grown potatoes are still vulnerable to the blight.

### XT 7 – Circumvention

#### Courts will always read regulatory statutes down – regulatory capture

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

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

### XT 9-10 – Food Security High

#### 2. Farmers will adapt AND the COVID shock spurred preparedness and redundancy

David Green 20, Director of the U.S. Sustainability Alliance, “How Innovation is Helping U.S. Farmers Rise to the Challenges of COVID-19”, Open Access Government, 9/18/2020, https://www.openaccessgovernment.org/how-innovation-is-helping-u-s-farmers-rise-to-the-challenges-of-covid-19/94589/

Consumers are used to buying the food they want, where and when they want it. So, imagine their shock and distress when, in the early days of the COVID-19 pandemic, they were confronted with aisles of empty shelves at their local supermarket or grocery store.

Equally shocking were the scenes of vegetable farmers ploughing surplus produce back into the ground while dairy farmers poured milk on their fields.

This is what unprecedented supply chain disruption looks like. When consumers panic buy, and schools, offices and foodservice businesses close, where and how food is bought and consumed – and the type of food consumed – changes and the food system is forced to play catch up.

Despite the upheaval, U.S. farmers have managed to adapt and find ways to keep putting food on our tables while protecting their own livelihoods. Innovation is one such way.

Labour shortages

In the United States, and elsewhere, one of the biggest challenges for the food supply chain has been the availability of labour. Like many industries, farming and food production need people – skill and dexterity are important for picking and preparing certain produce. However, virus outbreaks among workers and a reduced seasonal workforce due to travel restrictions and COVID fears have depleted resources.

Meat and poultry processing plants have been particularly hard hit. According to the U.S. Centers for Disease Control and Prevention, among 23 states reporting COVID-19 in April and May 2020, 16,233 cases in 239 facilities occurred, including 86 COVID-19–related deaths. Temporary closures and meat shortages ensued – at one point fast-food chain Wendy’s ran out of hamburgers at some of its restaurants.

Nor are farmworkers immune. Initially, the concern was that not enough seasonal workers would be able to travel to farms to harvest the fruit and vegetable crops. Now that harvest is underway, the virus continues to spread despite safety precautions. The risk is that crops won’t get picked, leading to wastage, shortages and higher prices for consumers.

The robots are coming

Some U.S. farmers are using technology to plug gaps in the workforce. American farmers have been early adopters of AgTech, from variable rate technologies that enable them to manage the inputs for their crops more accurately to GM crops that mean less herbicide and insecticide, but better yields, and they have made substantial sustainability and productivity gains as a result. So, it is hardly surprising that they should turn to the latest innovations to create efficiencies at a critical time such as this.

FarmWise, a San Francisco company that makes robots to help with farming tasks such as picking weeds and harvesting vegetables, reports seeing increased demand from farmers in California and Arizona for robotic helpers to maintain production levels.

And dispelling the myth that machines can’t mimic human skill, this summer, some U.S. farmers have been using the new Virgo harvesting robot from Somerville, Massachusetts, start-up Root AI, which the company claims is capable of doing anything a person can. Leveraging artificial intelligence (AI) and an advanced 3D vision system, Virgo automates the picking of tomatoes – and could potentially be used for other delicate produce.

Meeting future food demand

Could technology play an even greater role in helping farmers meet future food demand?

Arzum Akkas, a professor of operations and technology management at Boston University and an expert in food supply chain management, believes that a trend for automation and mechanisation was already in motion even before the pandemic “and the extra labour shortage risks due to COVID-19 will accelerate automation adoption.”

Increased automation is something food company Tyson Foods, a processor and marketer of chicken, beef, and pork has been working on at its Manufacturing Automation Centre in Springdale, Arkansas.

Over the past three years, the company has invested $500 million in tech and automation. One innovation in progress is an automated deboning system that will be able to handle the millions of chickens processed at its facilities every week. Meat giants JBS US Holdings and Cargill are also working on robotic technologies. They aren’t quite there yet, but the pandemic has served to speed up their development.

According to Erik Pekkeriet, Programme Manager Agro Food Robotics at Wageningen University, in the Netherlands, robots are set to become even more commonplace, performing all of the menial, repetitive work in farming 10 to 20 years from now.

An automated future

So, yes, the future could well be innovation-driven. Science and technology innovations are already helping farmers create efficiencies, helping them to reduce their inputs, boost yields and conserve natural resources such as land and water. Why shouldn’t other areas of the supply chain benefit, too?

The ability for farmers and producers to cut their reliance on manual labour, which is hard to come by at the best of times, is pretty compelling.

Up until now, the costs of robotics and automation have been prohibitive for some, but Root AI co-founder and CEO John Lessing believes this is changing: “The underlying costs of building a robot have massively dropped. We’re now able to deploy these systems for growers in a way that their cost structure doesn’t go up.”

The pandemic has also opened people’s eyes to the importance of science and technology and removed the stigma of something new often being viewed as ‘scary’ or mystifying.

This is good news for farmers. With the right innovations in place, they are better equipped than ever to respond to future crises to maintain a sustainable, future food supply.

#### 3. Supply is structurally decentralized and resilient

Saktipada Maity 18, Practice Head of Engineering & Operations Analytics at Cap Gemini, MTech from the Indian Statistical Institute, BE from Jadavpur University, “Debunking the Myths—the MNC Monopoly”, Cap Gemini, 3/30/2018, https://www.capgemini.com/2018/03/debunking-the-myths-the-mnc-monopoly/

The Digital Agriculture and Smart Farming trend continues to thrive in this age of technology transformation and disruption. With every passing month, we read news like the Bayers and the Monsantos of the world merging, or cooperatives like FrieslandCampina going bold with acquisitions. While consolidation of some parts of the food chain is certainly happening, such news tends to paint an inaccurate picture of food being a global, highly consolidated business. Misconstrued perceptions lead to different myths and, food being controlled by multinational giants, is one such myth.

Perception though, is not always reality. Food, unlike many other industries, is a very local and extremely fragmented business. Food production involves stakeholders sitting in plush offices at multi-billion dollar conglomerates, down to local operating small landholders. Consolidation isn’t consistent across all segments and in all geographies of the agricultural industry. In fact, while grain trading represents only a relatively limited part of the whole value chain, it’s interesting to watch four giant transnational companies dominate this global grain trade. The four companies account to an indicative and staggering 75% to 90% of the global grain trade. It is this extraordinary concentration of money and power that is a structural flaw in the system. Large players automatically extract as much value possible, but transfer as much of the cost and risk onto the weakest links—the farmers and laborers —in this food chain. Currently, the Fairtrade movement is working on resolving this problem. France has taken a legal stance wherein French law prohibits food waste by supermarkets. The rationale behind is that, this will have a positive effect on the economic position of the farmers.

The fragmentation of the agricultural industry stems from constraints resulting from food security. Control over one’s land and food security is enough for any government to get finicky over allowing MNCs to exert control over their food chains. In developing countries, agriculture is still the primary driver of the economy, and agriculture results in jobs for several hundred thousand people. Governments constantly need to balance the move to disenfranchise such a large segment, and not in the process, risk political turmoil. Land ownership is a sovereign function, and corporates cannot win this battle any time soon. With anti-monopoly regulations, with registration rules of the land, and with strict monitoring of water and types of crops grown in an area, food production is unlikely to be a consolidated industry in the near future.

### XT 11 – No Food Wars

#### Non-resource factors and costs of war.

Baryamov ’18 [Agha; PhD candidate and lecturer in the department of International Relations and International Organization @ University of Groningen; “Review: Dubious nexus between natural resources and conflict,” *Journal of Eurasian Studies* 9(1): 72-81]

First, function of natural resources in conflict is narrowly explained. Less research has been devoted to non-resource factors of conflicts and their connection with resources. Conflict is composed of multiple dimensions (political, economic, historical, cultural, ethnic and geographical etc.) rather than single factor. It is not clear how non-resource dimensions o1f conflict interact with natural resources, namely poor performance of state institutions or scarcity of state capacity One may understand how natural resources influence non-resource dimensions but one may not find how and whether non-resource dimensions affect scarcity or abundancy of natural resources. In this regard, it is not sufficient to simply propose scarcity or abundancy of natural resources as the fundamental reason for conflicts. Second, less research has scrutinized political and economic costs of resources wars, namely occupation cost, international cost and investment costs (e.g. Meierding, 2016). The existing works give a misleading impression that resource incomes can cover easily invasion, investment and international costs of wars.

### XT 12-13 – AT: Environment/Bio-D

#### Self-correction checks and no tipping points — it’s reversible

Hance ’18 [Jeremy, “Could biodiversity destruction lead to a global tipping point?” Environment Analyst at *The Guardian*. Internally cites scientific researchers, including experts from Paul Sabatier Univeristy. Trinity College, and Duke University who are global experts on biodiversity loss and extinction. https://www.theguardian.com/environment/radical-conservation/2018/jan/16/biodiversity-extinction-tipping-point-planetary-boundary]

But what’s arguably most fascinating about this event – known as the Permian-Triassic extinction or more poetically, the Great Dying – is the fact that anything survived at all. Life, it seems, is so ridiculously adaptable that not only did thousands of species make it through whatever killed off nearly everything (no one knows for certain though theories abound) but, somehow, after millions of years life even recovered and went on to write new tales.

Even as the Permian-Triassic extinction event shows the fragility of life, it also proves its resilience in the long-term. The lessons of such mass extinctions – five to date and arguably a sixth happening as I write – inform science today. Given that extinction levels are currently 1,000 (some even say 10,000) times the background rate, researchers have long worried about our current destruction of biodiversity – and what that may mean for our future Earth and ourselves.

In 2009, a group of researchers identified nine global boundaries for the planet that if passed could theoretically push the Earth into an uninhabitable state for our species. These global boundaries include climate change, freshwater use, ocean acidification and, yes, biodiversity loss (among others). The group has since updated the terminology surrounding biodiversity, now calling it “biosphere integrity,” but that hasn’t spared it from critique.

A paper last year in Trends in Ecology & Evolution scathingly attacked the idea of any global biodiversity boundary.

“It makes no sense that there exists a tipping point of biodiversity loss beyond which the Earth will collapse,” said co-author and ecologist, José Montoya, with Paul Sabatier Univeristy in France. **“**There is no rationale for this.”

Montoya wrote the paper along with Ian Donohue, an ecologist at Trinity College in Ireland and Stuart Pimm, one of the world’s leading experts on extinctions, with Duke University in the US.

Montoya, Donohue and Pimm argue that there isn’t evidence of a point at which loss of species leads to ecosystem collapse, globally or even locally. If the planet didn’t collapse after the Permian-Triassic extinction event, it won’t collapse now – though our descendants may well curse us for the damage we’ve done.

### XT 14 – AT: Disease

#### Social distancing solves

Avril ’21 [Tom. Writes about scientific research in the Philly region, with an emphasis on findings that can impact everyday lives. “Flu and other infections are down, likely due to COVID-19 social distancing”. 1/21/21. https://www.inquirer.com/health/coronavirus/flu-covid19-social-distancing-acute-flaccid-myelitis-st-chris-20210121.html]

The usual broken bones and other trauma are being treated this winter at the emergency department of St. Christopher’s Hospital for Children. But one category of medical complaints has all but disappeared: infectious disease.

Take influenza, for example. Typically between December and April, nurses and doctors at the North Philadelphia hospital see hundreds of children with the flu. So far this winter, the number is zero.

Flu numbers for Pennsylvania, New Jersey, and the United States as a whole also are well below normal across all ages, though far from zero. Likewise the country has seen few cases of acute flaccid myelitis, a form of childhood paralysis that is thought to be caused by viral infection. The rate of that illness typically spikes in the fall of even-number years, with 238 confirmed cases in 2018, according to the U.S. Centers for Disease Control and Prevention. Yet in 2020 there were just 29.

Call it the upside of life in a pandemic. While several factors could be at work in these downward disease trends, a key driver is almost certainly the various precautions that remain in place for COVID-19, physicians say.

“Wearing masks, social distancing, staying home, children not being in school together,” said Emily Souder, an infectious diseases specialist at St. Chris. “All that happening at the same time has definitely impacted lots of respiratory viruses.”

In Pennsylvania, 2,195 confirmed cases of flu were reported to the state Department of Health from late September through Jan. 16. In many years, the state sees three times that many flu cases in just one week.

When flu rates are down in any given year, a variety of factors can play a role.

The predominant strains may be similar to strains that have circulated in the recent past, meaning more people have at least partial immunity. Or the vaccine may be an especially good match for the strains in question, and perhaps more people than usual choose to get it.

That may be happening this winter. Concerned that emergency rooms would be swamped with a double whammy of flu and COVID cases, public health officials have made an especially strong effort to encourage the flu vaccine. As of Jan. 1, 192.5 million flu vaccine doses already had been distributed in the United States, compared with 174.5 million doses for the entire 2019-20 season, the CDC says.

And two late-December surveys found that 53% to 54% of adults had gotten the flu vaccine, compared with 42% in December 2019, though coverage was lower in some minority groups, the agency said.

But could a flu surge still be on the way this winter? The disease is generally in full swing by this time of year, but not always. The low level of flu so far this season is similar to what was seen in the winter of 2015-16, when cases started to rise in late February.

Still, evidence so far suggests the COVID precautions are helping to keep the flu in check, said Ray Barishansky, deputy secretary of health preparedness and community protection at the state Health Department.

“I do think that the washing of hands, the avoidance of gatherings, wearing masks, these are things that definitely reduce the spread of flu,” he said.

Another possible explanation for low reported flu numbers this winter could be that people are reluctant to seek medical care for fear of contracting COVID. In other words, some people with flu symptoms may simply be staying home, and will never be counted. That’s true in any year, as most people with flu symptoms are not tested, even if they do go to the doctor’s office.

But Souder, the St. Christopher’s physician, doubts that phenomenon is much greater this winter than in others. Because symptoms of the flu overlap somewhat with those of COVID (such as fever), anyone with those symptoms is likely to seek medical care — or at least get tested.

And many hospitals are testing nasal swabs for both illnesses. If patients turn out to have one or the other, they will be counted in official statistics. Patients also can check symptoms and receive warnings of possible COVID exposure by using an app called COVID Alert PA.

Yet another clue suggests that the apparent decline of flu is real: the decline in other infectious diseases such as acute flaccid myelitis, said Ignacio Valencia, chief of the neurology section at St. Christopher’s.

# 1NR Round 3

## FTC Tradeoff

### 1NR – AT: Thumpers

#### Framing issue for thumpers is it doesn’t assume the magnitude of the link – the plan BREAKS UP big ag and creates an abrupt shift and doctrinal instability in antitrust that spills over throughout the economy---it’s impossible to distinguish specific industries because, unlike regulation, it’s enforced in generalist common law

Rogerson 20 – William Rogerson, Charles E. and Emma H. Morrison Professor of Economics at Northwestern University, Ph.D. in Social Sciences from the California Institute of Technology, and Dr. Howard Shelanski, Ph.D. in Economics from University of California, Berkeley, Professor of Law at Georgetown University and Partner at Davis Polk & Wardwell LLP, JD from the UC Berkeley School of Law, BA from Haverford College, Former Clerk for Judge Stephen F. Williams of the U.S. Court of Appeals for the D.C. Circuit and Justice Antonin Scalia of the United States Supreme Court, Former Administrator of the White House Office of Information and Regulatory Affairs and Director of the Bureau of Economics at the Federal Trade Commission, Former Chief Economist of the Federal Communications Commission and Senior Economist for the President’s Council of Economic Advisers at the White House, “Antitrust Enforcement, Regulation, and Digital Platforms”, University of Pennsylvania Law Review, 168 U. Pa. L. Rev. 1911, June 2020, Lexis

I. GOING BEYOND ADJUDICATION FOR ANTITRUST ENFORCEMENT

Antitrust statutes are primarily enforced in court, usually through the adjudication of specific cases or settlement against the backdrop of court-made antitrust doctrine. Indeed, despite statutory authority for the FTC to issue competition rules, and despite the technical complexity of many antitrust cases, antitrust enforcement and policy in the United States has evolved primarily through precedent developed by generalist courts, not specialized agencies. 18To be sure, the Department of Justice and the FTC influence policy through the investigations they pursue and the consent decrees they reach with parties. The FTC itself adjudicates some cases, although it does so largely according to law developed in the federal courts, to which parties can appeal any FTC decision. 19Academics and other commentators have also affected the evolution of antitrust in the United States, from supporting an economic, notably price-focused framework for U.S. competition policy to sparking a rethinking of that framework in contemporary debates. As the courts have absorbed such learning, antitrust doctrine has evolved over the decades through the push and pull of precedent across the United States judicial circuits, with the Supreme Court periodically stepping in to correct, clarify, or resolve differences among the lower federal courts. Commentators often cite antitrust as a rare example of "federal common law" in the U.S. system. 20

The adjudicatory model for implementing antitrust enforcement has several key attributes, which in turn have both advantages and disadvantages. We put aside for now the question of who is adjudicating--whether it be an expert tribunal or a court of general jurisdiction, for example--and focus on three characteristics of antitrust adjudication itself.

A. Case-by-Case, Fact-Specific Approach

Complexity of underlying issues aside, adjudication is well suited to settings in which applicability of the law is contingent on case-specific facts. With the exception of the limited conduct that the antitrust laws prohibit per se, courts review most business activities through a rule of reason, under which some conduct that is illegal in one set of circumstances is allowable in [\*1918] another. 21The inquiry into liability goes beyond whether particular conduct in fact occurred (which is the extent of the inquiry into conduct that is illegal per se) and extends into a balancing of the conduct's likely effects on competition. 22The more that liability is contingent on such case-specific facts, the more difficult it is to determine liability in advance of the conduct's having taken place. Adjudication typically occurs when conduct either is imminent or has already occurred, at which point the relevant facts as to the effects of the conduct are, in principle, more readily measured. 23Such "ex post" mechanisms of enforcement can reduce the risk of over-enforcement when compared to alternative approaches, like some forms of regulation, that spell out more comprehensively in advance what conduct is illegal. 24Reducing false positives, however, may or may not be a virtue--that calculation depends on the extent to which particular adjudicative institutions and processes under-enforce by allowing harmful conduct or transactions to slip through the liability screen.

B. Slow, Usually Predictable Doctrinal Development

A second attribute of the American adjudicatory process for antitrust is stability. While antitrust doctrine has occasionally swerved abruptly over the past century, the common-law process through which antitrust law has developed usually provides clear notice that a change is coming. As a recent example, the Supreme Court's shift in *Leegin Creative Leather Products, Inc. v. PSKS. Inc*. 25from per se liability to a rule of reason for resale price maintenance likely caught few observers by surprise. 26

Antitrust adjudication's stability, like its suitability for fact-dependent situations, is potentially double-edged. Antitrust jurisprudence can be slow to adjust to changes in economic learning or changes in the underlying economy that alter the effects of a particular kind of business conduct. For [\*1919] example, nearly thirty years ago the Supreme Court in Brooke Group v. Brown & Williamson Tobacco Corp. 27required that plaintiffs claiming predatory pricing show not only prices below some measure of incremental cost, but also that the defendant could recoup its losses. 28No plaintiff has prevailed in a predatory pricing case in a U.S. federal court since. 29That outcome might not be of concern were it the case that the Supreme Court's test accurately captures the incidence of predatory pricing. 30Economic research demonstrates, however, that predatory conduct does occur and does not depend on either below-cost pricing or recoupment. 31Predation is just one area in which court-made doctrine appears out of step with relevant economic facts and knowledge. To be sure, other forces could accelerate the common-law process of doctrinal development. For example, Congress could legislate changes to the scope, presumptions, and other parameters of antitrust law in ways that would immediately alter precedent and bind the courts going forward. 32 In practice, however, such intervention is rare and unlikely, making significant lags in doctrine a reality of antitrust adjudication in the courts.

C. Market-Driven Case Selection

In the United States, most adjudicative bodies do not select the cases that come before them. To be sure, courts have jurisdictional limitations that prevent them from hearing certain kinds of cases, and doctrines exist that allow courts to reject weak or poorly conceived complaints. Beyond those mechanisms, however, independent parties decide when and whether to pursue litigation as method of relief. One potential virtue of this separation between decisionmaking and case selection is that the market can drive the focus of judicial attention. Assuming the most widespread and most troublesome anticompetitive conduct will receive the greatest investment of litigation resources, that conduct will in turn receive the most adjudication and doctrinal development.

[\*1920] Unfortunately, the separation between adjudication and case selection will not necessarily lead to an efficient match between judicial attention and the most pressing antitrust violations. In practice, even conduct that is clearly prohibited can persist when offenders think detection is difficult; one only has to look at the consistently high number of civil and criminal price fixing cases that wind up in court, even though that conduct has clearly been illegal per se for nearly a century. 33The most widespread anticompetitive conduct might not therefore be the conduct most in need of doctrinal development--it can be just the opposite, as the persistence of cartels demonstrates. 34Moreover, if the courts develop doctrine that needs revisiting, but that deters the government or private plaintiffs from filing cases, 35then the market for judicial attention to antitrust conduct will not work well dynamically; once doctrine is settled, there may be no mechanism outside of legislation or regulatory intervention to drive doctrinal change. We return to this issue below.

D. Generalists versus Industry Experts

Returning to an issue we put aside earlier, who is doing the adjudication can matter for substantive outcomes. In U.S. antitrust law, that adjudication has occurred, at least ultimately, in generalist federal courts. That institutional locus might well make sense given the wide variety of conduct, industries, and factual circumstances that antitrust cases present. However, as specific industries come to pose particular challenges for antitrust enforcement, the case for more specialized enforcement decisionmakers becomes stronger. Traditionally, where detailed, industry-specific knowledge is required to make sound competition policy decisions, Congress has assigned authority over those decisions, at least in part, to industry-specific regulatory agencies. Thus, the Securities and Exchange Commission has authority over competitive conduct in key financial sectors. 36The FCC has parallel authority with the Department of Justice (DOJ) over telecommunications mergers and sole authority to establish terms for competitive entry into various telecommunications markets. 37State [\*1921] regulators govern entry into hospital markets through Certifications of Public Need. 38The federal courts have increasingly safeguarded the domain of industry specific regulators over competition issues even when agency decisions might be in tension with antitrust law. 39

As antitrust enforcement focuses on distinct challenges posed by a particular industry, whether digital platforms, pharmaceuticals, or something else, expert and specialized knowledge becomes even more essential to making good enforcement decisions. Under current law and enforcement frameworks, there is no systematic way to bring such specialization into the ultimate adjudication of antitrust cases in industries not already covered by specific, competition-related, regulatory statutes. To be sure, the FTC and DOJ have divisions that specialize in various industrial sectors in which they have considerable expertise. Those divisions bring that expertise into their review of conduct and transactions, but neither the FTC nor DOJ has ultimate adjudicative authority over the cases they choose to litigate. The DOJ must go to federal court to seek enforcement. The FTC can opt for an administrative enforcement mechanism with the Commission itself sitting in appellate review of initial adjudication by an administrative law judge. The Commission's decision is, however, subject to review by federal appellate courts, which have not hesitated to reverse the agency's decisions. 40 The result is that, even when agencies have brought specific industry expertise into antitrust enforcement, doctrinal application and resolution still proceeds through the common-law process of adjudication by generalist judges.

E. Tradeoffs Inherent in the Adjudicatory Approach to Antitrust

As the foregoing discussion suggests, the ex post case-by-case approach, slow doctrinal evolution, and case selection mechanism of antitrust adjudication have potential advantages and disadvantages. The tradeoffs become particularly clear through the interaction of those three characteristics.

[\*1922] Adjudication may mitigate the rate of false positives or false negatives obtained through enforcement, as proceeding case-by-case is less likely to bring about those results than are general rules that impose limits on business conduct in advance, regardless of specific circumstances. Broad ex ante specifications could prohibit beneficial or harmless conduct, and narrow ex ante specifications could fail to prevent anticompetitive practices. As a decisionmaking process moves from strict ex ante prescription to pure case-by-case adjudication, particular facts and circumstances increasingly predominate over generic categorization of conduct. 41In principle, the movement along that spectrum enables the decisionmaker to avoid under-inclusiveness or over-inclusiveness of categorical rules. 42

The extent to which an adjudicator actually succeeds in reducing enforcement errors in either direction depends on the doctrine and precedent through which it evaluates the case-specific evidence. Doctrine and precedent will determine how a court allocates burdens, prioritizes facts, and weighs presumptions in evaluating the legality of conduct. If precedent provides mistaken guidance on those factors, case-specific adjudication might do no better a job than ex ante prohibitions in avoiding errors or bias toward either under or over-enforcement. For this reason, the evolutionary pace of doctrinal development through antitrust adjudication is very important. Where that evolution has been toward convergence with state-of-the-art analysis and evidence as to the effects of conduct, doctrinal stability is a virtue. Reasonable people disagree over the Supreme Court's movement from per se illegality to rule of reason treatment of vertical price restraints, as Justice Breyer's dissent in Leegin demonstrates. 43 The decision in that case nonetheless drew on a body of legal and economic analysis that, over decades, had continually narrowed the application of per se rules to vertical conduct and led logically (even if some might argue incorrectly) to the majority's conclusion. 44Many commentators might therefore say Leegin is a good example of where the evolution of doctrine through adjudication worked well: stakeholders had notice and the doctrine moved in an internally consistent direction. While it is debatable whether the per se rule against restraints on [\*1923] intra-brand competition has in recent years led to over-enforcement, there is a good case that it had done so in the past, 45so that the doctrine plausibly moved in an error-reducing direction.

However, where doctrine gets on the wrong track, the application of precedent will perpetuate rather than reduce enforcement errors. In the case of predation, for example, there is a good argument that, in the light of current economic knowledge, the Brooke Group decision has led to underenforcement. 46The potential case-by-case advantages of adjudication are lost where judicial precedent renders important facts and circumstances irrelevant. In such cases, the relatively slow process of doctrinal correction through common law evolution is harmful to sound antitrust enforcement.

The discussion above shows that the error-reducing potential of a case-by-case, adjudicatory approach to antitrust enforcement depends heavily on the actual doctrine courts apply and on the process by which that doctrine evolves. Similarly, whether case selection in an adjudicatory approach in fact directs judicial attention to the conduct that most warrants oversight depends on existing doctrine and precedent. It may well be that the conduct doing the most harm is also the conduct for which the courts impose the highest burdens of proof on plaintiffs. The deterrent effect of those burdens likely leads to fewer cases than the conduct's actual effects warrant. 47Similarly, doctrine that too readily imposes liability could have the opposite effect: lower barriers for plaintiffs would lead to too many cases and more devotion of judicial resources than the conduct deserves. 48Like error-reduction, the distribution of antitrust cases brought for adjudication depends heavily on the state of the doctrine and on the ability of the common law process to correct course where necessary.

The potential disadvantages of antitrust adjudication by generalist courts raise the question of whether a different approach might be preferable, specifically with regard to digital platforms. Digital platforms present relatively novel challenges. Considering the tenuous fit between some [\*1924] potential theories of harm and current antitrust doctrine, the complexity of the underlying technical issues in antitrust cases, and the interrelatedness of those issues and adjacent policy goals, a more informed, comprehensive approach coordinated by an expert regulatory agency might foster more advantages than does the exclusive resort to traditional antitrust adjudication. However, before we turn to the form such regulation might take, we briefly identify some general principles for such regulation.

#### Congress and the courts prevent Biden’s XO from accomplishing anything

McGinnis 21 – John O. McGinnis, George C. Dix Professor in Constitutional Law at Northwestern University, “Abandoning the Consumer Welfare Standard,” 8/26/21, https://lawliberty.org/abandoning-the-consumer-welfare-standard/

The Executive Order, however ill-conceived the specifics are, will do the most damage if it changes antitrust law fundamentally. And here the Biden administration happily faces problems. We have had forty years of bipartisan competition policy focused generally on consumer welfare. The President does not have a political eraser to wipe that away.

One possibility is for the Biden administration to persuade Congress to enact major changes in antitrust law. The House Judiciary Committee has passed a few bills that would make is harder for tech companies to merge with other companies. But these measures are not yet going anywhere on the House floor, and it will be difficult, if not impossible, to get any substantial changes in antitrust law through the evenly divided Senate.

Thus, the administration has pinned its strategy on transformation through administrative fiat. To that end, it appointed Lina Khan, a 32-year-old associate law professor to become Chairman of the FTC. Khan may be the single most radical appointment in the Biden administration. She opposed Amazon’s acquisition of Whole Foods, although Amazon and Whole Foods together constitute a very small part of the grocery market, and no other company in the history of the United States has been more innovative than Amazon.

Khan has begun by voting along with her Democratic colleagues on the commission to revoke a policy of the FTC supported by both Democratic and Republican administrations that essentially defined “unfair method of competition” by reference to methods that undermined consumer welfare. The idea no doubt is to write a regulation that would provide a more open-ended approach, perhaps taking into account other values like democracy and decentralization, even if these are at the expense of consumer welfare.

But it is not at all clear Khan can succeed. On such a central question as the definition of competition, courts may not give her agency much deference now that the Roberts Court appears to have stopped applying Chevron—the quintessential modern case for agency deference—to major questions raised by a statute. The meaning of competition is obviously the major question for competition law, and courts are likely to determine that for themselves, influenced by decades of their own consumer welfare jurisprudence.

Beyond that technical obstacle, Khan may be a poor choice for overhauling antitrust law because of her lack of practical experience in litigation or administration. She has already alienated her agency staff by refusing to let them speak at professional panels, as they have for years. That is a rookie mistake. Moreover, she has been so strident in her attacks as an activist against companies like Google and Amazon that the courts are likely to look at her enforcement actions with suspicion, even if the companies do not get her recused for her past opinions.

Even if the Biden administration is unlikely to succeed in the near term in transforming antitrust, it has put on the table a new vision, however amorphous, that may well influence the approach of Democratic administrations and legislators for years to come. We are moving from an era of bipartisan consensus around a constrained and economically focused antitrust law to an era of fundamental partisan disagreement. In that sense, antitrust law will become—like many other areas of our law—a reflection of polarization and a source of instability. But here the folly and instability will make us poorer.

#### Court opposition and low resources prevent expanded antitrust enforcement now – the plan is the new bolt from the blue

Rivero 21 – Nicholas Rivero, tech reporter for Quartz, “Biden’s antitrust crusaders can’t crusade without Congress,” 3/11/21, https://qz.com/1982437/lina-khan-and-tim-wu-need-congress-to-push-their-antitrust-agenda/

US president Joe Biden is poised to promote two of the country’s most prominent anti-monopoly crusaders to top jobs in his administration. The moves signal that Biden is serious about cracking down on dominant companies that include Facebook, Google, Amazon, and Apple. But for the president’s trustbusting champions to make a real impact, they’ll need support from Congress.

Biden appointed Columbia law professor Tim Wu to the National Economic Council (NEC) as his top advisor on technology and competition on March 5. Politico reports that Biden will soon follow up by nominating Lina Khan, also a Columbia law professor, to the Federal Trade Commission (FTC). (Before she can take her seat as one of the antitrust agency’s five commissioners, Khan must be confirmed by the Senate.)

Khan and Wu are two of the leading voices in a new movement of legal thought that argues the US should fundamentally overhaul the way it approaches antitrust. The crux of their argument is that courts should broaden the values they consider when deciding whether to block a merger or break up a dominant company. Rather than focus narrowly on the impact a company has on consumer prices, they argue that judges should also think about a company’s impact on small businesses, labor rights, and the health of democracy.

Khan and Wu have already secured a win for their cause just by being appointed—essentially a White House stamp of approval on their viewpoints. But despite much handwringing from industry groups, neither appointee will be able to single-handedly remake American antitrust in their image.

How the FTC can tackle antitrust

To be sure, Wu can advocate loudly for his preferred policies from his perch at the NEC, which advises the president on economic policy. And if Khan makes it to the FTC, which is the top US antitrust enforcement agency, she’ll have direct influence over which investigations the agency prioritizes, which lawsuits it brings, and whether its prosecutors will ask judges to impose fines, break up dominant firms, or require them to change their business practices.

But there are clear limits to their power. The most the FTC can do is bring more antitrust cases that ask courts for more aggressive remedies, like breakups. That would allow the agency to make a point about what it considers acceptable business behavior. But many of those lawsuits would be bound to lose in front of judges who have grown far more skeptical of antitrust cases over the past four decades and far more conservative over the past four years.

A larger caseload would also require Congress to approve more funding for the cash-strapped agency, which is already struggling to pay for its current docket. “The agencies have been asked on many occasions to do a lot with relatively little…but it’s not for free,” says former FTC chair and George Washington University law professor Bill Kovacic. If the FTC wants to pursue more large cases without a bigger budget, “they’ll have to make choices, and those choices will involve backing off of other areas of enforcement.”

The FTC could also decide to dust off its rarely used rule-making power and declare certain anticompetitive business practices illegal. But any new rule would almost certainly trigger legal challenges, which would spark a long, expensive court battle in front of judges who aren’t likely to be sympathetic. Kovacic estimates the process could take four or five years—and in the end, judges might just strike the rule down.

How Congress can tackle antitrust

The best hope for stricter antitrust enforcement lies in Congress. Lawmakers could pass bills, like one recently proposed by Minnesota senator Amy Klobuchar, that would make it easier for enforcement agencies to challenge mergers and acquisitions. They could even go a step further and draft an updated set of antitrust laws, perhaps following the blueprint laid out in last year’s antitrust report from the House of Representatives (which was co-authored by Khan). Armed with new laws clearly banning specific behaviors, prosecutors at the Department of Justice and the FTC would stand a better chance winning cases against well-funded adversaries like Facebook and Google.

Those steps wouldn’t hinge on heroics from antitrust hardliners like Khan and Wu. Instead, their success would depend on the whims of Senate centrists like West Virginia’s Joe Manchin, who has lately been flexing his power to derail the chamber’s democratic majority in opposition to left-wing priorities like a $15 minimum wage.

#### That provides uniqueness for our business perception arguments – losses in court increase business confidence and make the FTC look weak

McLaughlin 21 – David McLaughlin, economics and antitrust reporter for Bloomberg, “Antitrust Crusader Lina Khan Faces a Big Obstacle: The Courts,” 6/23/21, https://www.bloomberg.com/news/articles/2021-06-23/tech-antitrust-lina-khan-faces-courts-as-challenge-to-ftc-s-progressive-agenda?sref=iKB6XOvf

Instead, hours after the Senate confirmed her, Biden put the 32-year-old Khan—one of the most prominent antagonists of big business—in charge of the agency, where she’ll be responsible for challenging mergers and taking on companies when they use their market muscle to snuff out competition.

Now comes the hard part: putting her agenda into action. The biggest hurdle, say antitrust experts, is a judiciary that has made it very difficult for competition watchdogs to win ambitious cases. And to make any change of consequence, whether breaking up a monopoly or stopping a takeover, enforcers must prevail in court.

“None of that is easy, and it’s particularly not easy when courts are very conservative, as they are today,” says Stephen Calkins, a law professor at Wayne State University and a former general counsel at the FTC. “She’s certainly talked about breaking up companies but, my golly, that’s incredibly hard to do.”

Khan made her mark in 2017, with a law review article she wrote while still a student at Yale Law School. Titled “Amazon’s Antitrust Paradox,” it traced how the online retailer came to control key infrastructure of the digital economy and how traditional antitrust analysis fails to consider the danger to competition the company poses. The paper was widely talked about in antitrust circles and was read by senior enforcement officials.

U.S. tech titans are at the center of the antitrust debate in Washington. They are ever more powerful, with Apple Inc., Amazon.com Inc., Alphabet Inc., and Facebook Inc. among the top 10 largest companies in the world, by market value. A House of Representatives investigation last year accused the companies of abusing their dominance to thwart competition, and lawmakers are considering a raft of bills to impose new rules on how the companies operate. Federal antitrust enforcers and state attorneys general have sued Google and Facebook for what authorities say are monopoly abuses.

Khan, who was counsel to the House antitrust committee during its probe, was one of the main authors of the House report. It recommended a series of reforms to antitrust laws that she and anti-monopoly activists have long championed, like restricting which markets the companies can operate in and requiring them to treat other businesses on their platforms fairly and without favoritism.

Khan’s work helped revolutionize competition-policy debates and shift support for a more forceful approach that abandoned the playbook inspired decades ago by Robert Bork, the conservative legal scholar and judge. That framework came to be known as the consumer welfare standard and relies on price effects as the measure of competitive harm. Khan argued in her paper for a new approach, focused on the competitive process and the structure of markets, that she said would more fully capture harms that the consumer welfare standard misses.

Once considered on the fringes of antitrust thinking, Khan and her acolytes—often dubbed the New Brandeis School, after Supreme Court Justice Louis Brandeis—are now firmly mainstream with Khan’s appointment as FTC chairwoman.

The FTC has suffered some stinging defeats recently. Last year, the agency lost a major monopoly case filed against chipmaker Qualcomm. In April, a unanimous Supreme Court eliminated a tool used by the FTC to recover money for defrauded consumers. Later this month, a federal judge in Washington is expected to rule on whether the agency’s monopoly lawsuit against Facebook can proceed.

Still, there’s widespread agreement that the status quo is no longer tenable. Over the last two decades, concentration has risen in industries across the economy. Some economists say dominant companies can use their market power to suppress wages, for example, exacerbating inequality. The worries are bipartisan. Republicans and Democrats alike are pushing for antitrust reforms to rein in the biggest tech platforms, and Khan was confirmed by the Senate with significant Republican support.

Big losses in the courts would eventually hurt Khan’s authority and demoralize her staff, says William Kovacic, a former FTC chairman who now teaches at George Washington University Law School. “You become like a sports team that is known to its opponents as unable to win,” he says. But defeats also could provide the foundation for the kind of sweeping antitrust legislation that Khan and her supporters want.

“If you want to change the world, at some point it goes to the courts or it goes to the legislature,” Kovacic says. “But you can’t do it by yourself.”

#### Limited FTC resources prevent large antitrust actions now

Chakravorti 21 – Bhaskar Chakravorti, dean of global business at Tufts University’s Fletcher School of Law and Diplomacy, “Lina Khan Has Her Own Antitrust Paradox,” 9/7/21, https://foreignpolicy.com/2021/07/07/ftc-lina-khan-regulate-tech-congress/

Since Khan has written forcefully about revisiting antitrust standards, it is natural to expect this case would be her chance to rewrite not only the charge against Facebook but to change those standards more broadly. There is little doubt this is where her mind is. The FTC under her leadership voted to revoke a 2015 policy statement that limited the agency’s reach, giving it room to frame cases beyond the two foundational boundaries of antitrust in the United States: the Sherman Antitrust Act and the Clayton Antitrust Act.

But the FTC’s levers are limited.

Although Khan can reframe the fundamentals of the antitrust complaint, without adequate regulatory infrastructure—something only Congress can provide—there are likely to be unsurmountable obstacles as the chess game between the law and Facebook unfolds. No matter how brilliantly Khan’s FTC rewrites the case against Facebook, the agency’s powers, budget, and resources are still limited. Ad hoc adjustments to the FTC’s budget, as envisioned in one of the bills in Congress, and stopgap measures to expand its powers do not get around the fundamental fact that the FTC was not set up to pursue the breadth of novel issues and policy trade-offs that digital industries create.

Antitrust in digital industries cannot be considered in isolation. It is also quite different from antitrust in other industries because there are issues unique to the industry. A holistic view of digital antitrust means tying antitrust concerns with numerous broader questions, such as securing users’ data rights, the responsibilities platforms ought to have for the content they host, and criteria that helps demarcate the benefits of network effects from the abuses of network power. The FTC is too much of a general purpose entity to dive into these complexities. As former Federal Communications Commission chair Tom Wheeler observed: “The vast scope of the FTC’s present responsibilities—as diverse as funeral director practices, robocalls, and labeling hockey pucks—means that the oversight of digital platform regulation must compete with the agency’s existing diverse responsibilities and limited resources.”

#### No major antitrust actions coming now – it’s all tinkering around the edges

Wright 21 – Joshua D. Wright, Executive Director of the Global Antitrust Institute at the Antonin Scalia Law School, former commissioner of the U.S. Federal Trade Commission from 2013 to 2015, interviewed by James Pethokoukis, senior fellow at AEI, “Will US antitrust law break up Big Tech? My long-read Q&A with Joshua D. Wright,” 2/9/21, <https://www.aei.org/economics/will-us-antitrust-law-break-up-big-tech-my-long-read-qa-with-joshua-d-wright/>

[Italics denote questions from Pethokoukis]

*Do you think that, if we have this conversation in four years, we will have seen any major action against any of the largest technology companies that involves them selling off a significant business?*

That’s a great question. I bet the under, and here’s why. The US antitrust doctrine is what it is right now, and we still have meaningful judicial review. And on the left and the right, you see all of the attention paid to legislative change — they’re not going to win in the court. The DOJ will bring its case against Google, the FTC has a Facebook case where they might be able to convince a court to spin off WhatsApp or Instagram. I’m skeptical that those are good cases, but neither of them are the big-breakup, affect-the-business-model case that proponents of a new antitrust are looking for. For what it’s worth, my money is that the government loses both of those cases, but those cases exist. But overall, I think that the hope for the antitrust reformers lies, not in the courts, but in Congress.

Maybe I’ve been in DC too long, but I always bet the under if someone tells me that the revolution is coming from Congress. I don’t think we’re going to see legislation that undoes the consumer welfare standard. I do think that you’ll see some antitrust legislation. You’ll get bigger budgets for the agencies, and maybe you’ll get tinkering around the margins with the presumption here or presumption there. But I don’t think that you’re going to see a regulatory antitrust revolution via Congress.

I think it’s going to have to be done through the courts, and I’m skeptical. My silver lining of hope when watching some of these discussions happen is that you’ve got to win in the Article III courts, and that means you’ve got to have proof, not just political grievances. I don’t think they’ve got that.

#### Any new antitrust will be tiny tweaks rather than the aff’s substantial change

Hirsh 21 – Michael Hirsh, senior correspondent at Foreign Policy, “Big Talk on Big Tech—but Little Action,” 4/6/21, https://foreignpolicy.com/2021/04/06/big-tech-regulation-facebook-google-amazon-us-eu/

Problem is, that’s just about where the consensus ends. And even if you add more lawyers, antitrust cases move glacially, and federal judges are extremely cautious about punishing behavior deemed anti-competitive, especially in an era when antitrust experts disagree vehemently about remedies. Plus, now every case faces the prospect of being squelched by a very conservative Supreme Court.

Despite the documented actions of Facebook and other companies in crushing would-be competitors, there is also good reason for judicial caution. Consider the irony that Microsoft—itself the target of a major antitrust action a quarter century ago—now considers itself the aggrieved party in the recent Department of Justice case against Google, since it is trying to raise the profile of its Bing search engine, which has a meager 2.5 percent of the market. Or that Facebook’s own dominance may someday fall victim—without any help from government at all—to new blockchain technology that could allow users to run their own web services and applications. (Ironically, among the key innovators pushing for that are Zuckerberg’s old antagonists from Harvard University, Tyler and Cameron Winklevoss, who famously claimed that he stole the social network idea from them.) Even today, many antitrust experts say it’s probably a judicial and legislative bridge too far for the government to try to proactively promote competition in the tech world; let the markets take care of that instead.

But so changed is the political environment that U.S. President Joe Biden and some of his top regulators, such as Lina Khan, a Yale Law School wunderkind who was recently nominated to the FTC, might seek to break up the big tech firms. Biden, on the campaign trail, said that breaking up tech quasi-monopolies such as Facebook is “something we should take a really hard look at.”

That is almost certainly not going to happen: The political will simply isn’t there, even among many Democratic legislators influenced by Khan and other progressive thinkers.

“I don’t think Biden has the stomach for that,” said Herbert Hovenkamp, an antitrust expert at the University of Pennsylvania. The reason is simple: Today’s monopolistic abuses are quite unlike the monopoly power of old, when big cartels like John D. Rockefeller’s Standard Oil inflicted predatory high prices on consumers and political will was high to “bust trusts.” On the contrary: Most consumers love the fact that they can buy all kinds of inexpensive stuff on Amazon and have it delivered the next day, and that Facebook doesn’t charge them a cent, even as it makes a mint selling their private information to advertisers and market manipulators.

“The Democrats need to be cautious here,” Hovenkamp said. “Consumers are their constituency. And these companies are among the biggest producers of growth in the U.S. Biden certainly doesn’t want to ruin that.” Instead, the administration may well decide to focus more on smaller fish in other industries, as the FTC did last week by challenging Illumina’s $7 billion purchase of cancer test developer Grail. In a sign of how aggressive the FTC might be under Biden, it was the first time in decades that the commission sought to block a so-called vertical merger, alleging that ownership of Grail would incentivize Illumina, a gene-sequencing company, to raise costs on Grail’s competitors.

Indeed, though the United States and the European Union agree that new solutions are needed to curtail the dominance of Big Tech, the approaches remain very different. For years, the EU has led the way in filing antitrust cases, but late last year it did an about-face—deciding on a regulatory rather than lawsuit-based approach. After Brussels released a draft of its Digital Markets Act, EU competition minister Margrethe Vestager tweeted that the new rules would establish “do’s & don’t to gatekeepers” of our digital world. If passed, the act could levy stiffer penalties than ever before, including a demand for a percentage of earnings.

On the other side of the Atlantic, the FTC is also mulling ways to amp up its regulatory power. Khan and other progressives advocate rules that prevent a tech platform from favoring its own products in search results or pressing its own technologies on users, as Google allegedly does with Android, a mobile operating system. Violation of such rules could subject companies to substantial fines. According to a report last fall by Democratic members of the House Subcommittee on Antitrust—and partially written by Khan—Google has used “a series of anti-competitive contracts” that pushed Google search for users of Android phones.

Yet in many areas huge disagreement remains about how to contain Big Tech. Republicans and Democrats both want to do so, for different reasons; the former believe that Silicon Valley is biased against the right politically, while the latter tend to worry about anti-competitive behavior. Klobuchar has sponsored a monster bill, the Competition and Antitrust Law Enforcement Reform Act, which is intended not only to give federal enforcers more resources but also to strengthen prohibitions on anti-competitive conduct and mergers, among other reforms. As yet, however, she has no Republican co-sponsors, and Democrats in the House are leery of going the same route with a sprawling omnibus bill, according to a legislative aide with knowledge of the process. “If you have a big bill it creates a honey pot” for opponents, he said, noting that Big Tech’s pockets are much deeper than those of their antitrust counterparts. House leaders will instead try to introduce a slew of specifically targeted separate bills.

#### The threat created by the plan will be perceived as encouraging over-caution in other industries

Crews 19 – Clyde Wayne Crews, VP for policy & director of technology studies at the Competitive Enterprise Institute, “The Case against Antitrust Law,” 4/16/19, https://cei.org/studies/the-case-against-antitrust-law/

The issue has taken on greater urgency, as populist politicians from both left and right push for more aggressive antitrust enforcement. Regulators in the United States and the European Union have expressed an interest in pursuing antitrust actions against tech giants known as the FAANG companies— Facebook, Apple, Amazon, Netflix, and Google. President Trump has specifically singled out Facebook, Google, and Amazon as antitrust targets. Entire business models, such as franchising, are at risk from potential antitrust regulation.

The mere threat of legal penalties—and the environment of over-caution it engenders—also has a chilling effect on entrepreneurs who want to try new business practices and innovate. Such opportunity costs are impossible to measure.

Few large antitrust cases have been brought in the United States recently, and overall enforcement activity has been slower than in previous eras, but there is a large pool of potential cases that populist politicians are interested in pursuing.

#### Err neg – enforcement actions have subtle over-deterrence effects and it’s better to err on the side of less regulation

Auer 18 – Dick Auer, Senior Fellow, International Center for Law & Economics, “Comments of the International Center for Law & Economics: Topic 4: Antitrust law and the consumer welfare standard,” FTC Hearings on Competition & Consumer Protection in the 21st Century, https://www.ftc.gov/system/files/documents/public\_comments/2018/10/ftc-2018-0074-d-0071-155999.pdf

One of the important lessons of economics in antitrust is that economic tools are uniquely capable (although still imperfectly so) of distinguishing competitive from anticompetitive conduct — the perennial challenge of (non-cartel) antitrust enforcement and adjudication. Non-economic evidence (so-called “hot docs,” for example) can be counter-productive and can obscure rather than illuminate the competitive significance of challenged conduct. A rigorous adherence to economic principles and economic reasoning is essential if antitrust enforcers are to ensure that their interventions actu-ally benefit consumers.

Thus, a necessary corollary to reliance on the consumer welfare standard in antitrust cases is that an evidence-based approach rooted in error-cost analysis is crucial. Particularly in innovative markets where unfamiliar business strategies are attempted, and the relative knowledge of regulators and enforcers is low, it is critical to hew to an evidence-led, error-cost approach to antitrust evaluation.57

The error-cost framework in antitrust originates with Easterbrook’s seminal analysis,58 itself built on twin premises: first, that false positives in enforcement are more costly than false negatives because self-correction mechanisms mitigate the latter but not the former; and second, that errors of both types are inevitable, because distinguishing procompetitive conduct from anticompetitive conduct is an inherently difficult task.59

A key virtue of employing the error-cost framework is that it helps to avoid the bias of economists, who frequently fail to conduct their analyses in a realistic institutional setting and avoid incorporating the social costs of erroneous enforcement decisions into their recommendations for legal rules.

Antitrust over-deterrence is not costless — the losses from erroneously deterred innovative business practices may be unseen, but they function as a drag on society nonetheless. The goal of the error-cost approach is optimal enforcement that errs on the side of permitting innovative practices that might otherwise be difficult to square under existing antitrust rules.

## Biz Con

### 1NR – O/V

#### Turns case – it cascades across global systems.

Maavak 21 – Mathew Maavak, PhD in Risk Foresight from the Universiti Teknologi Malaysia, External Researcher (PLATBIDAFO) at the Kazimieras Simonavicius University, Expert and Regular Commentator on Risk-Related Geostrategic Issues at the Russian International Affairs Council, “Horizon 2030: Will Emerging Risks Unravel Our Global Systems?”, Salus Journal – The Australian Journal for Law Enforcement, Security and Intelligence Professionals, Volume 9, Number 1, p. 2-8

Various scholars and institutions regard global social instability as the greatest threat facing this decade. The catalyst has been postulated to be a Second Great Depression which, in turn, will have profound implications for global security and national integrity. This paper, written from a broad systems perspective, illustrates how emerging risks are getting more complex and intertwined; blurring boundaries between the economic, environmental, geopolitical, societal and technological taxonomy used by the World Economic Forum for its annual global risk forecasts. Tight couplings in our global systems have also enabled risks accrued in one area to snowball into a full-blown crisis elsewhere. The COVID-19 pandemic and its socioeconomic fallouts exemplify this systemic chain-reaction. Onceinexorable forces of globalization are rupturing as the current global system can no longer be sustained due to poor governance and runaway wealth fractionation. The coronavirus pandemic is also enabling Big Tech to expropriate the levers of governments and mass communications worldwide. This paper concludes by highlighting how this development poses a dilemma for security professionals.

Key Words: Global Systems, Emergence, VUCA, COVID-9, Social Instability, Big Tech, Great Reset

INTRODUCTION

The new decade is witnessing rising volatility across global systems. Pick any random “system” today and chart out its trajectory: Are our education systems becoming more robust and affordable? What about food security? Are our healthcare systems improving? Are our pension systems sound? Wherever one looks, there are dark clouds gathering on a global horizon marked by volatility, uncertainty, complexity and ambiguity (VUCA).

But what exactly is a global system? Our planet itself is an autonomous and selfsustaining mega-system, marked by periodic cycles and elemental vagaries. Human activities within however are not system isolates as our banking, utility, farming, healthcare and retail sectors etc. are increasingly entwined. Risks accrued in one system may cascade into an unforeseen crisis within and/or without (Choo, Smith & McCusker, 2007). Scholars call this phenomenon “emergence”; one where the behaviour of intersecting systems is determined by complex and largely invisible interactions at the substratum (Goldstein, 1999; Holland, 1998).

The ongoing COVID-19 pandemic is a case in point. While experts remain divided over the source and morphology of the virus, the contagion has ramified into a global health crisis and supply chain nightmare. It is also tilting the geopolitical balance. China is the largest exporter of intermediate products, and had generated nearly 20% of global imports in 2015 alone (Cousin, 2020). The pharmaceutical sector is particularly vulnerable. Nearly “85% of medicines in the U.S. strategic national stockpile” sources components from China (Owens, 2020).

An initial run on respiratory masks has now been eclipsed by rowdy queues at supermarkets and the bankruptcy of small businesses. The entire global population – save for major pockets such as Sweden, Belarus, Taiwan and Japan – have been subjected to cyclical lockdowns and quarantines. Never before in history have humans faced such a systemic, borderless calamity.

COVID-19 represents a classic emergent crisis that necessitates real-time response and adaptivity in a real-time world, particularly since the global Just-in-Time (JIT) production and delivery system serves as both an enabler and vector for transboundary risks. From a systems thinking perspective, emerging risk management should therefore address a whole spectrum of activity across the economic, environmental, geopolitical, societal and technological (EEGST) taxonomy. Every emerging threat can be slotted into this taxonomy – a reason why it is used by the World Economic Forum (WEF) for its annual global risk exercises (Maavak, 2019a). As traditional forces of globalization unravel, security professionals should take cognizance of emerging threats through a systems thinking approach.

METHODOLOGY

An EEGST sectional breakdown was adopted to illustrate a sampling of extreme risks facing the world for the 2020-2030 decade. The transcendental quality of emerging risks, as outlined on Figure 1, below, was primarily informed by the following pillars of systems thinking (Rickards, 2020):

• Diminishing diversity (or increasing homogeneity) of actors in the global system (Boli & Thomas, 1997; Meyer, 2000; Young et al, 2006);

• Interconnections in the global system (Homer-Dixon et al, 2015; Lee & Preston, 2012);

• Interactions of actors, events and components in the global system (Buldyrev et al, 2010; Bashan et al, 2013; Homer-Dixon et al, 2015); and

• Adaptive qualities in particular systems (Bodin & Norberg, 2005; Scheffer et al, 2012) Since scholastic material on this topic remains somewhat inchoate, this paper buttresses many of its contentions through secondary (i.e. news/institutional) sources.

ECONOMY

According to Professor Stanislaw Drozdz (2018) of the Polish Academy of Sciences, “a global financial crash of a previously unprecedented scale is highly probable” by the mid- 2020s. This will lead to a trickle-down meltdown, impacting all areas of human activity.

The economist John Mauldin (2018) similarly warns that the “2020s might be the worst decade in US history” and may lead to a Second Great Depression. Other forecasts are equally alarming. According to the International Institute of Finance, global debt may have surpassed $255 trillion by 2020 (IIF, 2019). Yet another study revealed that global debts and liabilities amounted to a staggering $2.5 quadrillion (Ausman, 2018). The reader should note that these figures were tabulated before the COVID-19 outbreak.

The IMF singles out widening income inequality as the trigger for the next Great Depression (Georgieva, 2020). The wealthiest 1% now own more than twice as much wealth as 6.9 billion people (Coffey et al, 2020) and this chasm is widening with each passing month. COVID-19 had, in fact, boosted global billionaire wealth to an unprecedented $10.2 trillion by July 2020 (UBS-PWC, 2020). Global GDP, worth $88 trillion in 2019, may have contracted by 5.2% in 2020 (World Bank, 2020).

As the Greek historian Plutarch warned in the 1st century AD: “An imbalance between rich and poor is the oldest and most fatal ailment of all republics” (Mauldin, 2014). The stability of a society, as Aristotle argued even earlier, depends on a robust middle element or middle class. At the rate the global middle class is facing catastrophic debt and unemployment levels, widespread social disaffection may morph into outright anarchy (Maavak, 2012; DCDC, 2007).

Economic stressors, in transcendent VUCA fashion, may also induce radical geopolitical realignments. Bullions now carry more weight than NATO’s security guarantees in Eastern Europe. After Poland repatriated 100 tons of gold from the Bank of England in 2019, Slovakia, Serbia and Hungary quickly followed suit.

According to former Slovak Premier Robert Fico, this erosion in regional trust was based on historical precedents – in particular the 1938 Munich Agreement which ceded Czechoslovakia’s Sudetenland to Nazi Germany. As Fico reiterated (Dudik & Tomek, 2019):

“You can hardly trust even the closest allies after the Munich Agreement… I guarantee that if something happens, we won’t see a single gram of this (offshore-held) gold. Let’s do it (repatriation) as quickly as possible.” (Parenthesis added by author).

President Aleksandar Vucic of Serbia (a non-NATO nation) justified his central bank’s gold-repatriation program by hinting at economic headwinds ahead: “We see in which direction the crisis in the world is moving” (Dudik & Tomek, 2019). Indeed, with two global Titanics – the United States and China – set on a collision course with a quadrillions-denominated iceberg in the middle, and a viral outbreak on its tip, the seismic ripples will be felt far, wide and for a considerable period.

A reality check is nonetheless needed here: Can additional bullions realistically circumvallate the economies of 80 million plus peoples in these Eastern European nations, worth a collective $1.8 trillion by purchasing power parity? Gold however is a potent psychological symbol as it represents national sovereignty and economic reassurance in a potentially hyperinflationary world. The portents are clear: The current global economic system will be weakened by rising nationalism and autarkic demands. Much uncertainty remains ahead. Mauldin (2018) proposes the introduction of Old Testament-style debt jubilees to facilitate gradual national recoveries. The World Economic Forum, on the other hand, has long proposed a “Great Reset” by 2030; a socialist utopia where “you’ll own nothing and you’ll be happy” (WEF, 2016).

In the final analysis, COVID-19 is not the root cause of the current global economic turmoil; it is merely an accelerant to a burning house of cards that was left smouldering since the 2008 Great Recession (Maavak, 2020a). We also see how the four main pillars of systems thinking (diversity, interconnectivity, interactivity and “adaptivity”) form the mise en scene in a VUCA decade.

ENVIRONMENTAL

What happens to the environment when our economies implode? Think of a debt-laden workforce at sensitive nuclear and chemical plants, along with a concomitant surge in industrial accidents? Economic stressors, workforce demoralization and rampant profiteering – rather than manmade climate change – arguably pose the biggest threats to the environment. In a WEF report, Buehler et al (2017) made the following pre-COVID-19 observation:

The ILO estimates that the annual cost to the global economy from accidents and work-related diseases alone is a staggering $3 trillion. Moreover, a recent report suggests the world’s 3.2 billion workers are increasingly unwell, with the vast majority facing significant economic insecurity: 77% work in part-time, temporary, “vulnerable” or unpaid jobs.

Shouldn’t this phenomenon be better categorized as a societal or economic risk rather than an environmental one? In line with the systems thinking approach, however, global risks can no longer be boxed into a taxonomical silo. Frazzled workforces may precipitate another Bhopal (1984), Chernobyl (1986), Deepwater Horizon (2010) or Flint water crisis (2014). These disasters were notably not the result of manmade climate change. Neither was the Fukushima nuclear disaster (2011) nor the Indian Ocean tsunami (2004). Indeed, the combustion of a long-overlooked cargo of 2,750 tonnes of ammonium nitrate had nearly levelled the city of Beirut, Lebanon, on Aug 4 2020. The explosion left 204 dead; 7,500 injured; US$15 billion in property damages; and an estimated 300,000 people homeless (Urbina, 2020). The environmental costs have yet to be adequately tabulated.

Environmental disasters are more attributable to Black Swan events, systems breakdowns and corporate greed rather than to mundane human activity.

Our JIT world aggravates the cascading potential of risks (Korowicz, 2012). Production and delivery delays, caused by the COVID-19 outbreak, will eventually require industrial overcompensation. This will further stress senior executives, workers, machines and a variety of computerized systems. The trickle-down effects will likely include substandard products, contaminated food and a general lowering in health and safety standards (Maavak, 2019a). Unpaid or demoralized sanitation workers may also resort to indiscriminate waste dumping. Many cities across the United States (and elsewhere in the world) are no longer recycling wastes due to prohibitive costs in the global corona-economy (Liacko, 2021).

Even in good times, strict protocols on waste disposals were routinely ignored. While Sweden championed the global climate change narrative, its clothing flagship H&M was busy covering up toxic effluences disgorged by vendors along the Citarum River in Java, Indonesia. As a result, countless children among 14 million Indonesians straddling the “world’s most polluted river” began to suffer from dermatitis, intestinal problems, developmental disorders, renal failure, chronic bronchitis and cancer (DW, 2020). It is also in cauldrons like the Citarum River where pathogens may mutate with emergent ramifications.

On an equally alarming note, depressed economic conditions have traditionally provided a waste disposal boon for organized crime elements. Throughout 1980s, the Calabriabased ‘Ndrangheta mafia – in collusion with governments in Europe and North America – began to dump radioactive wastes along the coast of Somalia. Reeling from pollution and revenue loss, Somali fisherman eventually resorted to mass piracy (Knaup, 2008).

The coast of Somalia is now a maritime hotspot, and exemplifies an entwined form of economic-environmental-geopolitical-societal emergence. In a VUCA world, indiscriminate waste dumping can unexpectedly morph into a Black Hawk Down incident. The laws of unintended consequences are governed by actors, interconnections, interactions and adaptations in a system under study – as outlined in the methodology section.

Environmentally-devastating industrial sabotages – whether by disgruntled workers, industrial competitors, ideological maniacs or terrorist groups – cannot be discounted in a VUCA world. Immiserated societies, in stark defiance of climate change diktats, may resort to dirty coal plants and wood stoves for survival. Interlinked ecosystems, particularly water resources, may be hijacked by nationalist sentiments. The environmental fallouts of critical infrastructure (CI) breakdowns loom like a Sword of Damocles over this decade.

GEOPOLITICAL

The primary catalyst behind WWII was the Great Depression. Since history often repeats itself, expect familiar bogeymen to reappear in societies roiling with impoverishment and ideological clefts. Anti-Semitism – a societal risk on its own – may reach alarming proportions in the West (Reuters, 2019), possibly forcing Israel to undertake reprisal operations inside allied nations. If that happens, how will affected nations react? Will security resources be reallocated to protect certain minorities (or the Top 1%) while larger segments of society are exposed to restive forces? Balloon effects like these present a classic VUCA problematic.

Contemporary geopolitical risks include a possible Iran-Israel war; US-China military confrontation over Taiwan or the South China Sea; North Korean proliferation of nuclear and missile technologies; an India-Pakistan nuclear war; an Iranian closure of the Straits of Hormuz; fundamentalist-driven implosion in the Islamic world; or a nuclear confrontation between NATO and Russia. Fears that the Jan 3 2020 assassination of Iranian Maj. Gen. Qasem Soleimani might lead to WWIII were grossly overblown. From a systems perspective, the killing of Soleimani did not fundamentally change the actor-interconnection-interaction adaptivity equation in the Middle East. Soleimani was simply a cog who got replaced.

### 1NR – AT: Growth Low

#### Delta has reduced the pace of the recovery, but the economy is still growing substantially

Egan 9/27 – Matt Egan, reporter for CNN Business, “Economists slash their forecasts for America's growth,” 9/27/21, https://www.cnn.com/2021/09/27/economy/gdp-forecast-nabe/index.html

Business economists are marking down their forecasts for US growth this year as the Delta variant takes a toll on the recovery, according to a survey released Monday.

The National Association for Business Economists said the panel of 47 economists it surveyed now expects US GDP growth of 5.6%. Although that's still strong, it marks a downgrade from May when business economists anticipated 6.7% growth. Economists also sharply cut their call for third-quarter growth to an annualized pace of 4%, down from 6.6% in May.

The downgrades reflect the damage from the Delta variant, which has slowed air travel, hotel reservations and office reopenings.

At the same time, economists are bracing for price spikes to continue at the end of this year. Consumer prices are expected to surge by 5.1% during the fourth quarter on a year-over-year basis, according to NABE. That's up sharply from a forecast for 2.8% inflation as of May and underscores the sticker shock Americans are experiencing in everything from used cars and gasoline to meat.

The good news is that business economists share the Federal Reserve's view that high inflation will prove to be temporary as the economy continues to adjust to Covid. Consumer prices inflation is expected to moderate to 2.4% by the fourth quarter of next year, NABE said.

#### Rising vaccinations stop Delta from killing the economy

Reilly 9/23 – Devon Reilly, assistant editor at S&P Global, “Economic Outlook U.S. Q4 2021: The Rocket Is Leveling Off,” 9/23/21, https://www.spglobal.com/ratings/en/research/articles/210923-economic-outlook-u-s-q4-2021-the-rocket-is-leveling-off-12120697

In this light, we revised our forecasts of real GDP growth for 2021 and 2022 to 5.7% and 4.1%, respectively, from 6.7% and 3.7% in our June report, with our new 2021 GDP forecast down a whopping 1 percentage point from June. Still, the near-term health of the U.S. economy remains strong and our current GDP forecast, if correct, is still the highest reading since 1984. The number of new cases fell in the first week of September, for the first time since late June. The delta variant and FDA approval of the Pfizer vaccine are encouraging more people to get vaccinated, bringing the country closer to herd immunity with 55% of Americans fully vaccinated as of Sept. 20. Moreover, the U.S. economy has felt less impact with each wave of the virus and has been able to withstand the damage. We maintain our assessment of U.S. recession risk over the next 12 months at 10%-15%--our lowest assessment in six years.

#### No supply chain shocks.

Barnes 9/29 – Mitchell Barnes, research analyst for the Hamilton Project, part of the Brookings Institution, “11 facts on the economic recovery from the COVID-19 pandemic,” 9/29/21, https://www.brookings.edu/research/11-facts-on-the-economic-recovery-from-the-covid-19-pandemic/

Overall, the pandemic continues to weigh on aggregate demand for goods and services. In addition, bottlenecks and supply shortages have created challenges for businesses to meet consumer demand for some products, particularly as consumer demand has shifted wildly. Also, the pace of hiring has not kept up with the pace of labor demand, as job matching has been held back by a number of factors described below.

Those developments have led to a notable increase in inflation. Because prices fell in 2020, one-year changes from August 2020 to August 2021 overstate the increase in inflation since the pandemic began. Instead, focusing on the annualized rate of inflation since February 2020 shows that inflation through August 2021 (as measured by the core consumer price index) was 3.1 percent, substantially lower than the one-year trend but still higher than any annual increase since the early 1990s.

There are two primary reasons why the rise in inflation is unlikely to persist. First, the significant shifts in demand and bottlenecks are a function of the recent, temporary pace of economic activity. For example, demand for automobiles recovered quickly during the pandemic to high levels even as production was curtailed, in part due to disruptions in the supply chain for critical semiconductors. The result has been a sharp increase in prices for new and used vehicles. Second, as production is increased (with normalization of global supply chains) and growth in demand abates, inflation should slow overall.

#### Growth is strong – most recent CBO projections

Barnes 9/29 – Mitchell Barnes, research analyst for the Hamilton Project, part of the Brookings Institution, “11 facts on the economic recovery from the COVID-19 pandemic,” 9/29/21, https://www.brookings.edu/research/11-facts-on-the-economic-recovery-from-the-covid-19-pandemic/

With the ongoing effects of fiscal support, pent-up demand from consumers for face-to-face services, and the strength in labor markets and asset prices, economic growth is poised to be strong for the remainder of 2021. Indeed, the Congressional Budget Office (CBO) projects that real GDP will grow 7.4 percent from the fourth quarter of 2020 to the fourth quarter of 2021 (CBO 2021c). Moreover, CBO predicts that, by the middle of 2022, real GDP will exceed its sustainable level by 2.5 percent. The sustainable level of GDP, also known as potential output, is not a ceiling. Instead, it is the estimated level of output, given current laws and underlying structural factors, that the economy can achieve without putting upward pressure on inflation. As the factors boosting growth in the short term begin to wane, real GDP growth is expected to slow significantly.

CBO’s projection is subject to a great deal of uncertainty. In particular, the resurgence in the pandemic stemming from the Delta variant, vaccine hesitancy, and the slowness in vaccinating children ages 12 and younger appear to have dampened the growth of consumer demand and employment. Recent data suggest that the latest COVID-19 wave might be waning. However, if the Delta variant—or others that take its place—continue to affect consumer behavior and supply chains, the economic recovery will be notably slower.

#### Economic growth is stable but new shocks could derail the recovery

Irwin 9/27 – Neil Irwin, economics correspondent for the New York Times, “The Economy Looks Solid. But These Are the Big Risks Ahead.” 9/27/21, https://www.nytimes.com/2021/09/27/upshot/economy-risk-analysis.html

The Organization for Economic Cooperation and Development last week projected that the world economy would grow 4.5 percent in 2022, downshifting from an expected 5.7 percent expansion in 2021. Its forecast for the United States shows an even steeper slowdown, from 6 percent growth this year to 3.9 percent next.

Of course, a year of 3.9 percent G.D.P. growth would be nothing to scoff at — that would be much faster growth than the United States has experienced for most of the 21st century. But it would represent a resetting of the economy.

“We’ve had liftoff, and now we’re at cruising altitude,” said Beth Ann Bovino, chief U.S. economist at S&P Global.

After the global financial crisis of 2008-9, the great challenge for the recovery was a shortfall of demand. Workers and productive capacity were abundant, but there was inadequate spending in the economy to put that capacity to work. The post-reopening stage of this recovery is the opposite image.

Now there is plenty of demand — thanks to pent-up savings, trillions of dollars in federal stimulus dollars, and rapidly rising wages — but companies report struggles to find enough workers and raw materials to meet that demand.

Dozens of container ships are backed up at Southern California ports, waiting their turn to unload products meant to fill American store shelves through the holiday season. Automakers have had to idle plants for want of semiconductors. Builders have had a hard time obtaining windows, appliances and other key products needed to complete new homes. And restaurants have cut back hours for lack of kitchen help.

These strains are, in effect, acting as a brake that slows the expansion. The question is how much, and for how long, that brake will be applied.

“The kinds of growth rates we are seeing were a bounce-back from a really severe recession, so it’s no surprise that won’t continue,” said Jennifer McKeown, head of the global economics service at Capital Economics. “The risk is that this becomes less about a natural cooling and more about the supply shortages that we’re seeing really starting to bite. That may mean that economic activity doesn’t continue to grow as we’re expecting it to, as instead there is a stalling of activity and price pressures starting to rise.”

The problem is that the supply shortages have many causes, and it is not obvious when they will all diminish. Spending worldwide, and especially in the United States, shifted toward physical goods over services during the pandemic, more quickly than productive capacity could adjust. The Delta variant and continued spread of Covid has caused restrictions on production in some countries. And the lagged effects of production shutdowns in 2020 are still being felt.

Then there are the risks that lurk in the background — the kinds of things that aren’t widely forecast to be a source of economic distress, but could unspool in unpredictable ways.

#### The economy is stable and growing, but Delta makes it fragile

Bachman 9/16 – Daniel Bachman, senior manager with Deloitte Services LP, in charge of US economic forecasting for Deloitte’s Eminence and Strategy functions, “United States Economic Forecast: 3rd Quarter 2021,” 9/16/21, https://www2.deloitte.com/us/en/insights/economy/us-economic-forecast/united-states-outlook-analysis.html

The SARS-COV-2 virus surprised us once again. The economic impact, however, is likely to be much less dramatic than the initial phase of the pandemic.

Vaccines work against the Delta variant, but with an asterisk. Breakthrough infections (affecting vaccinated people) are possible. And the half of the US population that was unvaccinated in the middle of the summer has proven to be extremely vulnerable to the more highly transmissible Delta variant. Masks are back, and with them is, once again, some reluctance to participate in activities that might be thought “risky.”

By early August, indicators in pandemic-sensitive sectors such as restaurant reservations and air travel were trending down. Spending on consumer services is decelerating, and spending on goods is unlikely to replace it. But the economy isn’t shutting down like it did in March 2020. Sporting events are still taking place, religious services are happening, and while the number of air travelers may be falling, people haven’t stopped flying. In short, the Delta variant is not going to derail the economic recovery. But Delta definitely clouds the near-term outlook and serves as a reminder that our low-growth scenarios are a real possibility.

Meanwhile, economic fundamentals remain strong. Household and business balance sheets are still in good shape, and consumers are sitting on piles of savings. GDP is now above the prepandemic level, even though employment is 4.4% below the fourth-quarter average. That’s not good for the people still not working—but the strong growth in productivity (output per worker) is a positive sign. And continued government action in the form of the bipartisan infrastructure agreement should support the economy in the short term and foster even greater productivity growth in the long run.

Deloitte’s five-year baseline remains, therefore, quite positive (although slightly less so in the very near term). We expect GDP to remain above the prepandemic baseline level for the entire forecast horizon. That’s a surprising prospect and doesn’t alter the damage that the pandemic has done. The US economy’s ability to bounce back from such a sudden, damaging shock, is amazing. But don’t forget that alternative scenarios are a key part of our forecast. We continue to place a relatively high probability on our “Side effects in post-op” scenario, and the Delta variant could—if things get worse—easily lead there.

#### Business investment rising – generates longer-term growth

Ro 21 – Sam Ro, Markets Correspondent for Axios, “The "remarkable" business investment recovery,” 7/28/21, <https://www.axios.com/business-investment-recovery-0f7e7080-269e-4838-976a-fc91debb8d4f.html>

[Capex = capital expenditure]

Businesses are investing in themselves.

Why it matters: Core capital goods orders, or those for durable goods that aren’t aircraft or defense-related, are a proxy for business investment.

These equipment orders will get fulfilled in the months ahead, so they reflect businesses’ expectations for the future.

Continued growth in this measure suggests the economic growth we’re experiencing today may not be the peak.

By the numbers: Core capital goods orders increased by 0.5% in June to $76.1 billion, up from an upwardly revised $75.7 billion in May. Year-over-year, this measure is up 16.7%.

What they’re saying: Pantheon Macroeconomics’ Ian Shepherdson says the elevated levels of these orders is “remarkable.”

“A combination of rebounding earnings and support from the federal government, coupled recently with clear evidence of acute labor shortages, is pushing companies into raising capex in order to expand capacity and remain competitive,” he writes.

“If you aren't spending but your competitors are, you'll lose market share," Shepherdson adds.

The big picture: “These data points provide insight into businesses’ plans for investment in the third quarter,” Grant Thornton chief economist Diane Swonk writes.

“Continued strength in computers and electronics offset a small drop in orders in the vehicle sector, which has suffered some of the biggest supply-chain problems due to a shortage of computer chips,” Swonk says.

What to watch: These mounting orders for new capital equipment should translate to higher growth expectations from businesses.

Meanwhile, the monthly durable goods reports bear watching to see if these core capital goods orders continue to rise.

“Companies in aggregate are cash-rich, but they remain asset-constrained after a decade of under-investment following the financial crisis,” Shepherdson said. “Accordingly, we expect capex to continue rising at a rapid pace for the foreseeable future.”

The bottom line: Orders for business equipment represent companies putting their money where their mouths are. Whether or not you believe economic activity has peaked, it is the case that businesses are positioning themselves for more growth.

#### The economy is growing and recovering now – that’s key to global growth

Lynch 21 – David J Lynch, global economics correspondent for the Washington Post, “With stimulus cash and jobs spike, U.S. emerges as main engine for global economic recovery,” 4/4/21, https://www.washingtonpost.com/business/2021/04/04/us-economy-global-recovery/

The robust U.S. economic recovery this year is expected to be good news for factory workers, freight handlers and farmers.

Factory workers in China. Freight handlers in the Netherlands. And farmers in Germany.

Amid steady progress with coronavirus vaccinations, the U.S. economy is gathering so much steam that its gains will not stay at home. Demand for goods and services this year is expected to spill well beyond U.S. borders, making the United States the largest single contributor to global growth for the first time since 2005, according to Oxford Economics.

The U.S. ascent ends — at least for now — China’s long reign as the principal engine powering the $90 trillion global economy.

Free spending by the Biden administration — coupled with the Federal Reserve’s ultralow interest rates — is driving the nascent U.S. boom and lifting other countries, where governments have not responded as aggressively to the pandemic. As Americans spent their $600 government stimulus checks in January on furniture, laptops and clothing, the U.S. imported a record $221 billion worth of goods. And that was before a round of $1,400 checks in March.

“We are ahead of the world,” said Kristin Forbes, who was one of President George W. Bush’s White House economic advisers. “And a meaningful share of the stimulus is likely to leak abroad.”

Fresh evidence of the U.S. outperformance appeared on Friday as the Labor Department reported that the economy had gained 916,000 new jobs in March and that the unemployment rate fell to a post-recession low of 6 percent. The Institute for Supply Management’s gauge of manufacturing activity released on Thursday hit its highest mark since December 1983.

These signs of U.S. strength came as Europe’s economic rebound stalled amid surging coronavirus case totals. France last week announced its third national lockdown; Germany and Italy have imposed partial restrictions on activities.

Accelerating progress in vaccinating people against the coronavirus, plus more generous government spending, explains the U.S. edge. As of the end of March, the United States had vaccinated more than twice as large a share of its population as had the European Union.

Most economists expect China this year to grow at a faster annual rate than the United States. But since the $21 trillion U.S. economy is still significantly larger than China’s, measured in dollars, the American contribution to global growth will be slightly larger, according to Oxford Economics.

To be sure, the U.S. outlook is far from worry-free. Some economists, such as Lawrence Summers, once President Barack Obama’s top economic adviser, say the administration has done too much to spur the economy and is inviting an inflationary price spiral.

The recovery from the pandemic shock also is incomplete: More than 8 million Americans who were working in early 2020 are unemployed and an additional 4 million have quit the labor market.

A strengthening U.S. economy, however, is welcome after a year of pandemic gloom. But as expectations of strong growth drive up long-term interest rates, investors are pulling money out of emerging markets to earn higher returns in the United States. More than $5 billion left developing countries in March, which some analysts worry could herald larger outflows to come and undermine recovery prospects in poor and middle-income nations.

“It’s a double-edged sword,” said Maurice Obstfeld, an economics professor at the University of California at Berkeley. “The effect of higher U.S. demand is spilling over to imports from other countries. But as U.S. growth leads to higher long-term interest rates, that’s a big negative for these countries.”

Kristalina Georgieva, managing director of the International Monetary Fund, warned in a speech last week that the U.S. and Chinese economies could leave behind poorer nations in a “multispeed recovery.” By next year, emerging markets are likely to have suffered a 20 percent loss in per-person income, almost twice the figure in the industrial world, according to IMF data.

“Prospects are diverging dangerously not only within nations but also across countries and regions,” she said.

On Monday, global finance officials and central bank chiefs are scheduled to kick off the annual spring meetings of the IMF and World Bank, where Georgieva plans to release a rosier 2021 forecast.

The U.S. role in leading the global economy this year contrasts with the aftermath of the 2008 financial crisis, when China unleashed a massive stimulus program that funded new railroads, airports, roads and public housing programs. The construction splurge rained money on commodity-producing countries, helping avert a more punishing global downturn.

In the United States, a fierce debate about the rising federal budget deficit short-circuited stimulus spending and left the U.S. share of global growth by 2010 at just half of this year’s forecast of 28 percent, according to Oxford Economics.

Congress in March approved the Biden administration’s $1.9 trillion American Rescue Plan. Together with a $900 billion bill in December, it will add almost 1.5 percent to the global economy’s growth rate this year, according to the Organization for Economic Cooperation and Development.

“This will not only benefit the U.S. economy, but it will fuel global growth,” Laurence Boone, the OECD’s chief economist, said last month.

The impact of the U.S. government rescue plan will be felt in India, Australia, South Korea, the United Kingdom, Canada and elsewhere, the OECD said.

#### Start-ups and innovation are high.

Atkinson 21 – Robert D. Atkinson, founder and president of the Information Technology and Innovation Foundation, “How Progressives Have Spun Dubious Theories and Faulty Research Into a Harmful New Antitrust Doctrine,” 3/10/21, https://itif.org/publications/2021/03/10/how-progressives-have-spun-dubious-theories-and-faulty-research-harmful-new

Neo-Brandeisians have argued that market concentration has grown, and that this has caused a precipitous decline in the number of business start-ups. In this narrative, “monopoly” is a sclerotic scourge, robbing the economy of its traditional dynamism—which is largely wrong.

This claim is based on correlation. Concentration has increased while the number of start-ups has fallen; therefore, they argue, concentration caused the decline. In fact, there is no statistical relationship between changes in concentration and changes in new firm formation. Moreover, all the net decline in new firm formation is in one major sector—retail—wherein the results of increasing retail firm size have been superior productivity growth, higher wages for workers in larger stores, and significant consumer benefit in the form of lower prices and broader selection. (See figure 3.)

And when it comes to the most important kind of start-ups—potentially high-growth start-ups, especially in technology sectors—there has been no decline. When MIT professors Jorge Guzman and Scott Stern looked at trends in high-growth entrepreneurship for 15 large states from 1988 to 2014, they found that even after controlling for the size of the U.S. economy, the second-highest rate of high-growth entrepreneurship occurred in 2014.21

### 1NR – AT: No Econ Impact

#### Extended COVID-induced economic instability causes human extinction. Global COVID recovery solves nuclear war.

RECNA, Research Center for Nuclear Weapons Abolition, Nagasaki University (RECNA), Asia Pacific Leadership Network (APLN) & Nautilus Institute (2021), ’21, Pandemic Futures and Nuclear Weapon Risks: The Nagasaki 75th Anniversary pandemic-nuclear nexus scenarios final report, Journal for Peace and Nuclear Disarmament, 4:sup1, 6-39, DOI: 10.1080/25751654.2021.1890867

The Challenge: Multiple Existential Threats

The relationship between pandemics and war is as long as human history. Past pandemics have set the scene for wars by weakening societies, undermining resilience, and exacerbating civil and inter-state conflict. Other disease outbreaks have erupted during wars, in part due to the appalling public health and battlefield conditions resulting from war, in turn sowing the seeds for new conflicts. In the post-Cold War era, pandemics have spread with unprecedented speed due to increased mobility created by globalization, especially between urbanized areas. Although there are positive signs that scientific advances and rapid innovation can help us manage pandemics, it is likely that deadly infectious viruses will be a challenge for years to come. The COVID-19 is the most demonic pandemic threat in modern history. It has erupted at a juncture of other existential global threats, most importantly, accelerating climate change and resurgent nuclear threat-making. The most important issue, therefore, is how the coronavirus (and future pandemics) will increase or decrease the risks associated with these twin threats, climate change effects, and the next use of nuclear weapons in war.5

Today, the nine nuclear weapons arsenals not only can annihilate hundreds of cities, but also cause nuclear winter and mass starvation of a billion or more people, if not the entire human species. Concurrently, climate change is enveloping the planet with more frequent and intense storms, accelerating sea level rise, and advancing rapid ecological change, expressed in unprecedented forest fires across the world. Already stretched to a breaking point in many countries, the current pandemic may overcome resilience to the point of near or actual collapse of social, economic, and political order. In this extraordinary moment, it is timely to reflect on the existence and possible uses of weapons of mass destruction under pandemic conditions – most importantly, nuclear weapons, but also chemical and biological weapons. Moments of extreme crisis and vulnerability can prompt aggressive and counterintuitive actions that in turn may destabilize already precariously balanced threat systems, underpinned by conventional and nuclear weapons, as well as the threat of weaponized chemical and biological technologies. Consequently, the risk of the use of weapons of mass destruction (WMD), especially nuclear weapons, increases at such times, possibly sharply. The COVID-19 pandemic is clearly driving massive, rapid, and unpredictable changes that will redefine every aspect of the human condition, including WMD – just as the world wars of the first half of the 20th century led to a revolution in international affairs and entirely new ways of organizing societies, economies, and international relations, in part based on nuclear weapons and their threatened use. In a world reshaped by pandemics, nuclear weapons – as well as correlated non-nuclear WMD, nuclear alliances, “deterrence” doctrines, operational and declaratory policies, nuclear extended deterrence, organizational practices, and the existential risks posed by retaining these capabilities – are all up for redefinition.

A pandemic has potential to destabilize a nuclear-prone conflict by incapacitating the supreme nuclear commander or commanders who have to issue nuclear strike orders, creating uncertainty as to who is in charge, how to handle nuclear mistakes (such as errors, accidents, technological failures, and entanglement with conventional operations gone awry), and opening a brief opportunity for a first strike at a time when the COVID-infected state may not be able to retaliate efficiently – or at all – due to leadership confusion. In some nuclear-laden conflicts, a state might use a pandemic as a cover for political or military provocations in the belief that the adversary is distracted and partly disabled by the pandemic, increasing the risk of war in a nuclear-prone conflict. At the same time, a pandemic may lead nuclear armed states to increase the isolation and sanctions against a nuclear adversary, making it even harder to stop the spread of the disease, in turn creating a pandemic reservoir and transmission risk back to the nuclear armed state or its allies.

In principle, the common threat of the pandemic might induce nuclear-armed states to reduce the tension in a nuclear-prone conflict and thereby the risk of nuclear war. It may cause nuclear adversaries or their umbrella states to seek to resolve conflicts in a cooperative and collaborative manner by creating habits of communication, engagement, and mutual learning that come into play in the nuclear-military sphere. For example, militaries may cooperate to control pandemic transmission, including by working together against criminal-terrorist non-state actors that are trafficking people or by joining forces to ensure that a new pathogen is not developed as a bioweapon.

To date, however, the COVID-19 pandemic has increased the isolation of some nuclear-armed states and provided a textbook case of the failure of states to cooperate to overcome the pandemic. Borders have slammed shut, trade shut down, and budgets blown out, creating enormous pressure to focus on immediate domestic priorities. Foreign policies have become markedly more nationalistic. Dependence on nuclear weapons may increase as states seek to buttress a global re-spatialization6 of all dimensions of human interaction at all levels to manage pandemics. The effect of nuclear threats on leaders may make it less likely – or even impossible – to achieve the kind of concert at a global level needed to respond to and administer an effective vaccine, making it harder and even impossible to revert to pre-pandemic international relations. The result is that some states may proliferate their own nuclear weapons, further reinforcing the spiral of conflicts contained by nuclear threat, with cascading effects on the risk of nuclear war.

Developing Pandemic-nuclear Nexus Scenarios

How might the COVID-19 pandemic (and future pandemics) create new opportunities or challenges for governments, civil society, and market actors to reduce nuclear risk and resume nuclear disarmament? And how might those challenges and opportunities emerge in Northeast Asia, in particular?

In the face of so much uncertainty, a powerful way to obtain navigational guidance and to develop robust strategies is to conduct scenario-based dialogues. Scenarios may be underpinned by analysis, but they rest primarily on eliciting diverse insights through a dialogic process (typically a workshop) that explores the multiple, powerful drivers of complex problems and possible strategies to resolve such problems. Rather than predict any specific future, the goal of developing scenarios is to prepare individuals and organizations for radically divergent, possible futures.

A scenario is a tool for ordering one’s perceptions about alternative future environments in which today’s decisions might play out. In practice, scenarios resemble a set of stories built around carefully constructed plots. These stories can express multiple perspectives on complex events and give multiple meaning to these events. The development of such scenarios was the primary goal of the Nagasaki 75th Anniversary Pandemic-Nuclear Nexus Scenarios workshop. Through this project, we wanted to develop an analytic understanding of the interrelated nature of nuclear weapons and global pandemics. We wanted to explore the potential levers and pathways to influence the future. And we wanted to find concrete strategies to reduce the risk of nuclear war and resume disarmament, particularly novel approaches that could engage both state and non-state actors.

Shaping the Focal Question

At the outset of the Pandemic-Nuclear Nexus Scenarios Project, the organizers framed a focal question that would guide the development of the scenarios: What are the opportunities driven by global pandemics for Northeast Asian governments, civil society, and market actors to reduce nuclear risk and resume nuclear disarmament? This focal question has twin normative values in it: (a) how to reduce the risk of nuclear war arising from the pandemic and (b) how to resume nuclear disarmament under pandemic conditions. Measures to realize (a) might be in opposition to measures to realize (b). They might be independent, or they might be complementary. Discovering opportunities where the measures are synergistic has the highest value; avoiding contradictory measures might be critically important. But forced to choose, we likely must go first and foremost with measures to reduce the risk of nuclear war, as disarmament becomes moot and improbable if nuclear war occurs.

As in any scenarios event, we sought to identify robust strategies that could work across the divergent, uncertainty-based scenarios and move each story line toward a higher probability of realizing these two strategic goals. We were particularly interested in prompting discussion on the role of cities as potential new players with regard to nuclear war risk reduction. The challenges of “global nuclear governance” and nuclear disarmament have traditionally been dominated by great powers (that is, nation-states).

But given their evident and emerging leading role as “first responders” to the existential threats of the coronavirus pandemic and climate change effects, we wanted to see how cities’ capacity and experience may be useful in relation to nuclear risk and disarmament. The focal question also centers on Northeast Asia, a region that was the site of the first use of nuclear weapons (in Hiroshima and Nagasaki), and that today has thousands of cities, as well as potential for conflict on multiple fronts, including between China and Taiwan, China and the United States, and the ROK and DPRK. Northeast Asia sits at the nexus of relations between the world’s three largest nuclear armed states (China, Russia, and the United States), and it is home to the DPRK, a rapidly developing new nucleararmed state.

Identifying Critical Uncertainties

In the first phase of the scenario development process, participants were divided into four groups where they brainstormed a broad range of “critical uncertainties,” variables whose outcomes are both undetermined and important for shaping the near- and long-term future. Participants were asked to consider uncertainties based on different categories (social, technological, environmental, economic, political, military, and epidemiological). Through their initial brainstorm, groups developed a list of dozens of critical uncertainties (see Appendix 2). They were asked to narrow down their lists of uncertainties to those most likely to play a major role in shaping the pandemic-nuclear nexus. They then considered how these uncertainties could unfold along an axis with two diverging outcomes. Following are a few of the drivers participants identified: How might a distanced society affect nuclear strategies? On one end of the spectrum, for example, re-spatialization could lead to greater cooperation as people work across borders, physical and virtual. On the other end, the need to maintain distance could lead to shifts in militaries’ offshore strategies for deterrence/military projection of might and could potentially lead to the increased use of non-conventional (including nuclear) weapons.

How will changes in budgets affect dis/armament? The economic recession caused by the pandemic could lead to drastic cuts in funding for the military, including for nuclear weapons. On the other hand, countries’ economic struggles could lead them to increasingly favor investing in nuclear, as opposed to higher-cost conventional weapons.

How might pandemics affect global cooperation? The COVID-19 pandemic could serve as an impetus for increased international cooperation and the sharing of global information, which could extend to other areas, including nuclear. On the other hand, questions over the origin of the virus, border closures, and “vaccine competition” could lead to a rise in tensions.

How will information sharing evolve? The proliferation of misinformation through diverse media channels (including social media) could erode progress in tackling shared global challenges. Or new systems could emerge that help ensure that information is shared with a high level of transparency and be verified as accurate.

Will inequality increase or decrease? Following the economic recession caused by shutdowns aimed at limiting the pandemic, the gap could continue to grow between (and within) societies regarding economic well-being and human health. Or the pandemic may usher in a more redistributive economic system that leads to a decrease in inequality.

How will governments manage simultaneous or prolonged threats? Governments may struggle to contend with concurrent challenges of pandemics, climate change, food insecurity, and terrorism, leaving them to ignore the nuclear issue. Or they may find ways to collaborate, reallocating budgets toward effective solutions and developing international agreements that could later pave the way for disarmament.

What is the effect of technology on nuclear risk and disarmament? Changes in technology could have a major influence on nuclear risk. New risks could emerge from the proliferation of artificial intelligence systems (including in nuclear command, control, and communication systems), deep fakes, drones, and hackers intercepting and altering messages. On the other hand, technology could enhance capacity for early warning systems, increase monitoring of military movement, and improve communication systems.

#### Specifically, sustained economic decline causes China to press its claims in the SCS.

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We therefore see that COVID-19 may cause a decline in U.S. economic power, which may undermine its military readiness and ability to support future economic gains. However, the next question is: does the PRC seek to challenge the U.S. for global primacy, and if so, why? In his speech to the Communist Party in 2017, President Xi Jinping claimed that China should now, “take center stage in the world.”4 A key part in of this effort is represented by Xi’s 2013 Belt and Road Initiative (OBOR), which seeks to extend the PRC’s economic, political, and cultural influence throughout south Asia to the Middle East and into Europe. The OBOR utilizes the newly created Asian Infrastructure Investment Bank (AIIB), an alternative to the World Bank, to finance infrastructure projects throughout the different regions (Liao and McDowell 2016). From the power transition standpoint, it therefore appears that the PRC is developing a string of assets and bases extending from the Pacific through the Indian Ocean to the Persian Gulf. Numerous U.S. military planners view these developments as a deliberative effort to undermine U.S. power and influence in both the Pacific and Middle East theaters. In theoretical terms, if we accept that the OBOR represents an effort by the PRC (the rising power) to supplant the U.S., war could still be avoided if the power transition moves at a relatively slower rate. Powell’s (2006) model establishes that dominant powers only initiate preemptive war if they are declining at precipitous rates. This is where COVID-19 poses a significant threat. Since the outbreak, the U.S. economy has declined by 4.8%, and the U.S. is borrowing from its future at high levels.5 If the PRC wanted to challenge the US for supremacy, this would be the time, and there is some evidence that the PRC is exploiting the opportunity. Beginning in May 2020, the Peoples’ Liberation Army (PLA) is engaging in repeated clashes with the Indian Armed Forces in the Ladekh region as part of a longstanding border dispute.6 As of July 2020, China is coming close to forming a strategic partnership with Iran. The pact would give the PRC a foothold in the Middle East, secure discounted oil, and perhaps allow for more oil trades to be settled in non-dollar denominations. This effort is in spite of significant strategic interests in the region and growing hostilities between Washington and Tehran. The greater concern is that China will use its newfound clout to accelerate its effort to take control of much of the territory in the South China Sea. China has long claimed large portions of this key area as its own, whereas Vietnam, Malaysia, the Philippines, and Brunei who all have competing claims. The US has long served as a balancer to prevent China from encroaching. However, beginning in December 2013, China constructed and later militarized artificial islands in the South China Sea to reinforce its territorial claims, despite promises not to do so.7 In this period, the states of Southeast Asia have typically looked to the U.S. Navy to challenge China’s claims. It has done so through Freedom of Navigation exercises. However, now, with COVID-19, the Navy’s capabilities are in doubt. Interestingly, most analysts conclude that China is not exploiting the opportunity in the area. Instead, the PRC’s efforts to build and fortify their islands continue at the previous rate, indicating “business as usual.”8Nonetheless, the U.S. seems concerned about the possibility that China will seek to exploit the opportunity created by COVID-19. The Trump administration is therefore sending three carrier strike groups, with a large influx of naval vessels, into the area to re-assert American control of the seas. Although this increases U.S. capability, it also signals weakness, in that the U.S. would not need to take such dramatic steps unless it faced a significant challenge. While it does not appear that the US is ready to initiate a preemptive challenge here, this increased militarization raises the possibility of accidents, which in turn does increase the probability of conflict. Empirically, military mobilizations such as these raise the possibility of accidents that may trigger militarized interstate disputes, or military crises short of war (Ghosn, Palmer, and Bremer 2004). Theoretically, military mobilizations may temporarily increase a state’s power, but this increase may be unsustainable given the increasing cost of putting armed forces in theater. This creates a dynamic where a state that has mobilized may be forced to use its weapons before it is compelled to redeploy them (Slantchev 2005; Tarar 2013). 3 COVID-19’s Long Term Threat These observations lead to several conclusions about the immediate security situation. COVID-19 seems to have cost the U.S. some of its military capability relative to China. This may encourage China to push the U.S. while it is weak, and conversely, may compel the U.S. to mobilize to counter this threat. Since each of these activities is a response to the economic shock of COVID-19, we can see that the virus has increased the likelihood of a militarized encounter between the U.S. and China. However, it is important to recognize that even if China were to succeed in all of its military challenges to the U.S., this alone would not shift hegemony from the U.S. The key reason for this is that the majority of economic actors in the world seem to view the USD as the key reserve currency, and at this point, the RMB is not in a position to challenge that status (Norrlof et al. 2020; Oatley et al. 2013; Poast 2015).9 Despite significant criticism of the Trump administration during the economic shock of COVID-19, much of the world seems to view Federal Reserve Chairman Jerome Powell as a critical and stable player in international monetary policy. Powell indicated that the U.S. will continue to support global growth by keeping U.S. interest rates low. This allows for more money to be available for the rest of the world. Indirectly, this move may make China more powerful by encouraging investments in their market. However, this is also keeping the world tied to the dollar based system, which is the key component of American power. So long as the rest of the world continues to rely on USD as the means to settle transactions, and so long as the PRC’s market seems less transparent and stable, the US will continue to maintain its position of power in the international system. However, this is based on the assumption that the US will be able to recover whatever power it has temporarily lost due to COVID-19. There are a few reasons to call this assumption into question. First, the US right now is the global epicenter of the COVID-19 crisis, despite its economic power and large medical infrastructure. This is largely attributed to a poor political response, which is causing the virus to spread at a much faster rate than in other states. As a result, the US now finds itself facing travel restrictions from numerous countries. This may give other states less reason to engage in economic transactions with Americans. These lost exchanges will likely be replaced by interacting with other citizens throughout the globe, and will therefore be settled in non-dollar denominations. The more this occurs, the more demand for USD could decline into the future. The US could potentially find itself increasing isolated with fewer individuals demanding its currency. Should this occur, the ability of the US to finance its budgets through deficit spending will decrease, and it will need to raise taxes and cut spending. Some of this will likely be on defense, which means that the ability of the US to defend interests in the Pacific and the Middle East will decline, opening the door for China. Even worse, the political rhetoric inside the US is encouraging these changes. President Trump’s foreign policy platform is described as “American First”, which represents a combination of isolationism and unilateralism, and a general rejection of multilateral cooperation. If that is the case, each state in the international system will need to begin planning to move away from the American backed system. The damage done by COVID-19 to the US market, and the weakening of the US position as a result of the virus, will accelerate this process. These changes will not happen overnight, and will not happen so quickly that a rapid transition will occur. This means that it is unlikely that COVID-19 will increase the risk of general war between the US and China, though it does raise the risk of crises and limited encounters. However, over the long term, if the US is unable to get the virus under control and develop a plan of action, COVID-19 does pose significant threats to US military and economic hegemony.

#### Post-COVID economic rebound secures geopolitical dominance---the alternative is global conflict, EU collapse and Chinese authoritarian dominance

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Place your bets for the coming race to growth. It will be an epic contest among the world’s most significant economies, with generational and geopolitical consequences. For context, think back to what the United States accomplished after World War II, when it rose as an economic power to shape a better world. The post-COVID19 race could determine whether the U.S. rebounds in a manner that allows it to retain the mantle of global leadership. More likely for the moment, Beijing could leverage its first-mover advantage – alongside a faster economic recovery across Asian markets – accelerating the trend toward a Chinese-centric globalization. Elsewhere, as President Macron argued this week to the Financial Times, the coming months could determine whether the European Union collapses as a political and economic project. The days ahead also could trigger a dangerous widening of the economic gap between emerging markets and the developed world – with escalating conflict and surging migration. It may seem premature to reflect on which of the globe’s economies is likely to have the most robust and lasting economic comeback – and with what geopolitical impact. After all, this was a week in which the International Monetary Fund projected a 3% contraction in global GDP for 2020, the most dramatic drop since the Great Depression. Yet it is the details behind that dismal forecast that should raise concerns within the U.S. and Europe. Their steeper economic decline and slower recovery could lay the seeds for a long-lasting shift of global tectonic plates to China’s advantage. The IMF projected a U.S. economic decline of about 6% in 2020 and a contraction of the eurozone of 7.5%. That compares to projected Chinese economic growth for 2020 of 1.2% after a first quarter real decline of 6.7% – far less than the 10%-plus dip many experts had expected. The only group of countries in the world projected to be in positive territory are East Asian, at roughly 1%. Even if one accepts that Chinese coronavirus fatalities likely are greater than their public figures and that the growth decline is likely larger, that doesn’t change the potential for a scenario that Deloitte and Salesforce this week referred to as “Sunrise in the East.” Describing this scenario, as one of four possibilities they list, they write, “The global center of power shifts decisively east as China and other East Asian nations take the reigns as primary powers on the world stage and lead global coordination of the health system and other multilateral institutions.” That comes with the broader acceptance of greater surveillance mechanisms as part of the public good, a faster recovery of East Asian countries with less economic impact from COVID19, and a significant ramping up of Chinese foreign direct investment to burnish its global reputation. Still, the U.S. has a host of incumbent advantages that could serve it well if it uses its economic recovery to also strengthen its infrastructure, if it reverses runaway unemployment quickly, if it can tame political polarization and, most significantly, if it rediscovers its taste for collaborative global leadership. In the economic race, no advantage is greater than the dollar. China may be the world’s second largest economy, but the Chinese yuan makes up only 2% of global payments and reserves while the dollar accounts for roughly two thirds of foreign exchange reserves. The dollar underpins four-fifths of global supply chains. The Economist reckons China could chip away at U.S. economic advantages through three underestimated strengths of its own: as a trusted debtor, an attractive creditor, and increasingly as a tech partner. As a debtor, China’s $13 trillion bond market is the world’s second largest and has weathered the crisis well. Chinese debt returned 1.3% in the first quarter, vastly better than the 15.5% decline for other emerging market bonds. Over the same period, the Chinese market added $8.5 billion (60 billion yuan) in net inflows. As a creditor, China has remained willing and generous, an approach that served the U.S. well after World War II. For example, it declared its willingness to back a G20 deal to suspend bilateral loan repayments by poorer countries, a sizable benefit also at its own cost. On the tech front, few countries were as ready as China for money and people to go entirely online. Tencent and Ant Financial have more than a billion users each for their digital wallets, and they are expanding rapidly throughout Asia. OneConnect, an offshoot of China’s largest insurer, provides financial institutions in sixteen Asian countries with cloud-based services. So, what other advantages can the United States leverage in this race? Never underestimate the brittleness of an authoritarian country under stress. Its broad censorship, it’s opaque legal system, and the nature of its surveillance state are hardly models to emulate. Beyond that, Japanese Prime Minister Shinzo Abe is not alone in proposing that his country relocate high-value supply chains from China. If many countries do the same, the manufacturing foundation of China’s economy could erode. The Financial Times’ Gideon Rachman adds that the global trust in the dollar is just one of two built-in U.S. advantages that are difficult to dislodge. The other? “Where, outside your home country, would you most like your children to go to university or to work?” he writes. Most significant in this race would be if the United States regained its appetite for political and economic leadership as the world’s premier “convening power.” That need not be done at the cost of China – or anyone else. The race still can be won if U.S. leaders see it as a marathon and recall that much of the world long embraced their global leadership because partners learned they were more likely to win as American partners. This economic rebound from COVID19 will be patchy and uneven. Being first out the gate will be significant, and that is likely to be China. Yet history has taught the United States that it’s victory will be longest lasting if it can achieved alongside partners and allies.4.

#### Economic strength prevents nuclear war

Henricksen 17, emeritus senior fellow at the Hoover Institution (Thomas, “Post-American World Order,” *Hoover Institution*, http://www.hoover.org/research/post-american-world-order)

The tensions stoked by the assertive regimes in the Kremlin or Tiananmen Square could spark a political or military incident that might set off a chain reaction leading to a large-scale war. Historically, powerful rivalries nearly always lead to at least skirmishes, if not a full-blown war. The anomalous Cold War era spared the United States and Soviet Russia a direct conflict, largely from concerns that one would trigger a nuclear exchange destroying both states and much of the world. Such a repetition might reoccur in the unfolding three-cornered geopolitical world. It seems safe to acknowledge that an ascendant China and a resurgent Russia will persist in their geo-strategic ambitions. What Is To Be Done? The first marching order is to dodge any kind of perpetual war of the sort that George Orwell outlined in “1984,” which engulfed the three super states of Eastasia, Eurasia, and Oceania, and made possible the totalitarian Big Brother regime. A long-running Cold War-type confrontation would almost certainly take another form than the one that ran from 1945 until the downfall of the Soviet Union. What prescriptions can be offered in the face of the escalating competition among the three global powers? First, by staying militarily and economically strong, the United States will have the resources to deter its peers’ hawkish behavior that might otherwise trigger a major conflict. Judging by the history of the Cold War, the coming strategic chess match with Russia and China will prove tense and demanding—since all the countries boast nuclear arms and long-range ballistic missiles. Next, the United States should widen and sustain willing coalitions of partners, something at which America excels, and at which China and Russia fail conspicuously. There can be little room for error in fraught crises among nuclear-weaponized and hostile powers. Short- and long-term standoffs are likely, as they were during the Cold War. Thus, the playbook, in part, involves a waiting game in which each power looks to its rivals to suffer grievous internal problems which could entail a collapse, as happened to the Soviet Union.

#### Best models flow aff.

Gallea 21 – Quentin Gallea, PhD, postdoctoral researcher in political economy at the University of Zürich, and Dominic Rohner, Faculty of Business and Economics, University of Lausanne, “Globalization mitigates the risk of conflict caused by strategic territory,” *Proceedings of the National Academy of Sciences*, Volume 118, Number 39, September 28, 2021, https://doi.org/10.1073/pnas.2105624118

This contrasts with an intellectual tradition of arguing that globalization, business, and trade may—by fostering interdependence—curb the incentives for engaging in domestic and international conflicts. This argument has its roots ranging as far back as the thinking of De Montesquieu [1758 (2)] or Angell [1909 (3)], has been refined verbally by an array of “liberalist” scholars in international relations (see the survey in ref. 4), and has recently been scrutinized in formal game-theoretical models (see, e.g., refs. 5 and 6).

While a small body of empirical research has linked trade to interstate wars (4, 5, 7, 8), the arguably even more pressing question of how globalization and trade affect domestic conflicts has received even less attention.† This is a major gap in the literature, given that since World War II, roughly 80 to 90% of wars have been within rather than between states (11). Hence, the goal of the current article is to study the question of how places close to strategically important trade routes may be more or less subject to civil conflict and how their fate is affected by surges in globalization.‡

We have built what—to the best of our knowledge—is the most precise and fine-grained dataset of strategic location importance covering the entire globe. Our dataset allows us to investigate, using a regression analysis, how a location’s strategic centrality affects its risk of being drawn into an armed conflict and how globalization can influence this centrality-conflict nexus.

In order to develop an empirically testable hypothesis to guide our statistical investigation, we have built a game-theoretic model that systematically studies the incentives for engaging in conflict (SI Appendix). As discussed in detail in SI Appendix, our framework predicts that under mild conditions in years of low international trade openness, strategic territory tends to entail above-average levels of conflict (due to the strategic value of territory providing incentives for appropriation). In contrast, in years of roaring globalization, areas with strategic value are, on average, less combatted, as major international powers have incentives to intervene in local disputes to make sure that crucial trade routes remain open.§ In what follows, we will present the data and methods, before confronting these predictions to the data.

Data and Methods

To carry out our empirical analysis, we have constructed a panel dataset that consists of grid cells of size 0.5 × 0.5 decimal degrees (55 km × 55 km at the equator) covering the whole world from 1989 to 2018. We have designed an algorithm to detect strategic zones in the sea, so-called maritime “choke points” (e.g., straits or capes) that are points of “natural congestion along two wider and important navigable passages” that are typically of key strategic importance for international shipping. Crucially, we have built this measure purely based on geographical features, which has the advantage of addressing a series of potential statistical biases—such as reverse causation—that would arise if we were to focus on measures of actual water transport volumes.¶ In particular, drawing on a network model, we compute the betweenness centrality of any water location, allowing us to uncover where crucial strategic choke points lie. SI Appendix contains detailed variable definitions and sources and a full discussion of the construction of all variables.

It is widely accepted that maritime choke points are of crucial importance to world trade and global energy security. Our algorithm identifies real ship density and all famous maritime landmarks, such as the straits of Hormuz or Malacca and the canals of Suez or Panama. Furthermore, our measure provides a fine-grained scale of strategic importance for any water spot worldwide, including the great number of less well-known locations. Fig. 1A depicts for each water location how close it is to a choke point, as computed using our algorithm. Fig. 1B displays for illustration major marine traffic routes (observed density of ships in 2017 from https://www.marinetraffic.com/). Strikingly, the proximity to waterway choke points, as computed by our algorithm based on purely geographical features, matches remarkably well the actual marine trade routes, hence stressing the relevance of our measure.

After having computed strategic water choke points, we have then, in a second step, constructed, for all land locations, the distance to these waterway bottlenecks. The obtained values across the world are displayed in Fig. 1C. Darker colors indicate areas closer to choke points, which typically lie close to major straits and waterways, and brighter colors indicate zones that are further away from maritime choke points. This measure of the strategic importance of any land location worldwide is used as the main explanatory variable in our statistical analysis. We study its direct impact as well as how it interacts with the volume of world trade in a given year, which is measured by using world trade openness from the World Bank [trade in percentage of gross domestic product (GDP) (18)]. SI Appendix contains a graphical representation of the evolution of this variable, as well as of other key covariates.

In terms of the dependent outcome variable, for measuring conflict, we draw on fine-grained geolocalized information on conflict events from the Uppsala Conflict Data Program (UCDP) Georeferenced Event Dataset (GED) (19). This allows us to know for each cell and year whether at least one conflict event took place, as well as the types of events and their number. As mentioned, all data, variable construction, and methods are described in detail in SI Appendix.

Descriptive summary statistics of all variables of the analysis are provided in SI Appendix. In a nutshell, the final sample is composed of 64,818 cells covering the world from 1989 to 2018, resulting in a total of 1,944,540 observations. The unconditional likelihood for any type of violent events for the whole sample at the cell level is 1.5%, while for state-based it is 0.7%, for nonstate 0.2%, and 0.6% for one-sided events. The mean number of deaths is 1.126 per year per cell. The difference between the mean value of the outcome for the cells “close” to choke points (above median by proximity) and for those “far away” (below median by proximity) is also displayed. The difference is statistically significant and positive for any type of violence (using a t test with a bilateral null hypothesis; SI Appendix). These results highlight a positive association between the proximity to waterway choke points and violent events, which we shall investigate in more depth in what follows.

In terms of the methodology used, we carry out a multivariate regression analysis, focusing on Linear Probability Models (LPMs) when facing a binary dependent variable and on Ordinary Least Squares (OLS) estimators otherwise. We will include a battery of fixed effects, filtering out time-invariant location characteristics, as well as global shocks. Specifically, in some specifications, we go as far as including fixed effects at the cell level (i.e., separate constant terms for each cell), which control for all local, time-invariant potential confounders such as local climate, elevation, sea access, distance to capital, and historical population density, among others. We also control for annual time effects, which analogously capture all global shocks occurring in a given year, such as, for example, major geo-political shocks like the fall of the Soviet Union or 9/11, major recessions such as the subprime crisis, or health shocks such as a pandemic (e.g., severe acute respiratory syndrome or COVID-19). The various specifications, as well as additional estimation results, are reported in SI Appendix.

Results

We start by running a very simple regression specification before gradually increasing complexity. In particular, we focus first on comparing areas with high strategic importance scores (according to our measure) with cells for which our algorithm has found a lower strategic importance (i.e., that are further away from maritime choke points). Our main explanatory variable is “proximity” (to the nearest choke point), and the dependent variable of interest is the likelihood of experiencing at least one violent event in a given cell and year. The goal of this initial table being to report the parsimonious “raw” correlation, we limit ourselves to controlling for latitude fixed effects (i.e., a specific constant term for each latitude, filtering out climate zone effects and earth perimeter# ) and annual year dummies (which account for global shocks). All methodological details of this specification are provided in SI Appendix.

The regression analysis of Table 1 reveals that overall areas closer to maritime choke points face a greater risk of conflict, as shown by the fact that in all columns, the proximity variable has a positive, statistically significant coefficient. This holds when including a dummy for any violent event (column [col.] 1) and also for various subcategories of violent events (col. 2–4). It is imprecisely estimated for a violence intensity measure (col. 5). The effect is quantitatively sizable, as one SD greater proximity (i.e., 1,100 km closer to a choke point, corresponding to the straight-line distance from Paris to Rome or New York to Chicago) in the main specification (col. 1) corresponds to a 0.31-percentage-point increase in conflict risk, which is about a fifth of the baseline conflict risk for a given cell and year (1.5%). Note that the results of col. 2–4 show that the quantitatively largest effect emanates from state-based conflict (col. 2).

Next, we investigate the main prediction of our game-theoretic model (SI Appendix), namely, that while proximity to maritime choke points increases the conflict risk for moderate levels of trade openness, for peak levels of globalization, the prediction reverses, and locations of strategic importance are expected to benefit from a relatively low likelihood of conflict. We illustrate graphically how the locations of strategic choke points relate to conflict events—both for periods of high trade (Fig. 2 A and C) and low trade (Fig. 2 B and D). We zoom in on key strategic regions: Panama Canal and Cape of Good Hope (a full map of the world is depicted in SI Appendix). Visual inspection suggests—in line with our predictions discussed above—that strategic territory may bear a conflict potential, in particular, during periods of low trade, while in times of high trade volumes (when major powers are particularly keen to keep world trade routes open and secure), conflicts may be less concentrated around choke points. While these associations are interesting, they could be driven by various confounders, and, hence, we need to perform in what follows an in-depth regression analysis that allows us to control for confounding variables and statistical biases.

At present, we move to a regression analysis with this interactive effect. Note that SI Appendix presents a simplified regression specification (featuring the same controls as in Table 1) and provides all methodological details for the more demanding main specification that we shall now discuss. This main regression specification features, as before, as dependent variables several measures of violent events. As a main explanatory variable, we still focus on the proximity to maritime choke points, but now not only as a linear term, but also in interaction with a measure of world trade openness (imports plus exports) in percentage of world GDP. In this main baseline specification, we include a more stringent set of controls. As before, we control for annual time dummies (which account for global shocks) and latitude fixed effects (capturing, among others, climate zone effects, earth perimeter, and cell size), but now we also control for country fixed effects. These different constant terms for each country allow us to control for any time-invariant country characteristics (such as colonial heritage, tradition of autocracy, country size, geographical features, etc.), and, hence, our identifying statistical variation stems from comparing different locations of the same country (e.g., Medellin with Bogota or Miami with Nashville). Note that controlling for annual time dummies picks up the world trade openness measure (which takes the same value for each country and varies annually), which, hence, is dropped.

The results are displayed in Table 2. Consider the main specification of col. 1, where the linear effect of proximity has a statistically significant positive coefficient, whereas its interaction with world trade openness has the expected negative sign. This means that strategic territories face, on average, a higher conflict risk in periods of low trade openness, while with greater trade openness, they are relatively more shielded from armed conflict, which is fully consistent with our game-theoretic model in SI Appendix. This result carries over for subcategories of conflict (col. 2–4) and for a conflict intensity variable (col. 5). The results of Table 2 are represented graphically in Fig. 3.

The impact is quantitatively sizable, as moving one SD (1,100 km) closer to a choke point increases by 0.4 percentage points∥(24.8% of the unconditional baseline risk) the conflict likelihood in periods when trade openness is low (0.4), while reducing it by 0.2 percentage points\*\* (12.1% of the conflict baseline risk) when trade openness is high (0.6).

In SI Appendix, we present the details of all specifications used in the main text, in addition to results for alternative specifications. In particular, we go one step further by running the same regression, but including controls for cell fixed effects. These constant terms are specific to each cell of 0.5 × 0.5 decimal degrees (55 km × 55 km at the equator) and, hence, filter out all time-invariant characteristics of this very fine-grained local area. In particular, this controls for the potentially confounding impact of elevation, microclimate, sea access, ruggedness of terrain, river proximity, and historical road network, to name a few. This specification is described in detail in SI Appendix. It is shown that all our results go through in this demanding specification and that the interaction term of interest between the proximity to maritime choke points and world trade openness continues to have a statistically significant negative sign in all specifications.

#### Rigorous game theory.

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Thus, under resource security asymmetry that σA > σB, the derivative in Equation 30.b is strictly positive. This positive sign implies that the marginal welfare of arming (∂SWA/∂GA) decreases as trade costs are lower. To raise welfare when there is greater trade openness (resulting from lower trade costs), country A is better off by reducing its arming. It is instructive to use the three marginal effects of arming, as shown in Equation 30.a, to explain the positivity of the derivative in Equation 30.b. When trade costs are lower, country A’s arming affects its national welfare, ∂SWA/∂GA in three separate ways. (i) The negative sign for the first term on the RHS of Equation 30.a indicates that lowering trade costs will make the export revenue effect of arming stronger. That is, country A has a stronger incentive to increase arming because the terms-of-trade improvement causes export revenue to go up. (ii) The positive sign for the second term on the RHS of Equation 30.a indicates that lowering trade costs will make the resource-predation effect of arming weaker. That is, country A’s arming incentive (to appropriate input B for producing good Y) declines.21 (iii) The positive sign for the third term on the RHS of Equation 30.a indicates that lowering trade costs will make the output-distortion effect of arming stronger, discouraging arming by country A. Simultaneously taking into account these three effects, we have from Equation 30.b that the marginal welfare of arming ∂SWA/∂GA decreases as t decreases. This implies that, as trade costs are lower, the output-distortion effect (which measures the MC of arming) is strong enough to dominate the sum of the export-revenue effect and the resource-predation effect (which measures the MR of arming). Namely, greater trade openness (by lowering trade costs) will make the MC of arming to be higher than its MR. In response, country A finds it better off to reduce arming, other things being equal (i.e., given the arming level by its rival). We illustrate this result in Figure 7, where A’s decrease in arming is shown by a leftward shift in its reaction curve from RFAsym A to RFAsym A 0 .

#### Trade decreases arms buildup.

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When the two countries in conflict also trade with each other, the impact of a country's arming on its TOT is negative. Provided these countries are sufficiently symmetric, not only in terms of technologies and preferences, but also in terms of the mix of their secure resource endowments, equilibrium arming by both is lower and their payoffs are higher under trade than under autarky. These results, which are robust to the presence of trade costs, provide theoretical support to the longstanding classical liberal hypothesis that increased trade openness can ameliorate conflict and thus amplify the gains from trade. With sufficiently extreme differences in the distribution of the primary resources, a shift to trade could induce one country to arm more heavily and to such an extent so as to imply that autarky is preferable over trade to the other country.65 Nevertheless, in an equilibrium that involves positive trade flows, the aggregate allocation of resources to dispute the insecure resource is lower than in an equilibrium with no trade at all. When the structure of comparative advantage is such that the two adversaries do not trade with each other, but instead trade with a third, friendly country and they compete in the same export market, the TOT effect of security policies is positive. As such, a shift from autarky to trade unambiguously intensifies international conflict, possibly with negative net welfare consequences. Consistent with the model's predictions, our empirical analysis provides reduced-form evidence that the effects of trade costs on a country's military spending depend qualitatively on whether trade is with a rival or with a friend. Our findings complement the more structural evidence presented by Martin et al.'s (2008), that increased opportunities for multilateral trade can aggravate bilateral conflict, increasing the likelihood of war. They also complement Seitz et al. (2015)’s evidence that a decrease in trade costs between two countries reduces their military spending, which reduces such spending by other countries.

#### All data sets prove.

Zeng 20 – Department of Political Science, University of South Carolina (Yuleng, “Bluff to peace: How economic dependence promotes peace despite increasing deception and uncertainty,” Conflict Management and Peace Science 2020, Vol. 37(6) 633–654)//gcd

Robustness checks To make sure that the results are not driven by arbitrary choices of either data or operationalization, I perform a number of robustness checks. I use (a) the International Crisis Behavior data to generate an alternative set of dependent variables, (b) the UN general assembly voting data to generate a different status quo variable, (c) the trade share measurement to proxy economy dependence, (d) the dependence measurement without weighting the trade network and (e) alternative weights and centrality measurement for the trade networks. I show some of the results in Models 2–4 in Table 2.26 The general pattern is confirmed by most results: a target’s economic dependence simultaneously encourages deception and concession. Relatedly, it also promotes peace despite a lower credibility of threats. Dual functions of economic interdependence Combined with the existing wisdom in commercial peace literature, the above results suggest that inflicting or enduring economic costs on oneself signals resolve and can convince irresolute adversaries to quit

, while imposing costs on an opponent can test the target’s determination and nudges it toward acquiescence despite possible lack of credibility. This does not necessarily indicate that leaders should or will ignore the negative impact on credibility.27 One practical way to complement economic coercion is to increase the publicity. China, for instance, publicly destroyed 35 tons of Philippine bananas in March 2016 in response to the latter’s claim of the South China Sea dispute in the International Court of Arbitration.28 If China were only concerned about the coercive effect, then this publicity is meaningless. More broadly, when states flex their economic muscles, the strategic calculations are not solely about either coercion or signal. First, imposing and enduring economic costs are two sides of the same coin. That is, when a challenger seeks to coerce, its target can endure the costs to signal resolve. For instance, when South Korea agreed to install the Terminal High Altitude Area Defense system in 2017, China rallied nationwide support to divert its tourists and boycott South Korea’s stores and products. By some estimates, Chinese sanctions cost South Korea around 0.5% of its GDP, much more than it cost Beijing (around 0.02%).29 To be sure, the coercive effects were substantial: South Korea companies and citizens eagerly urged the government to end the spat.30 However, Seoul chose to endure the economic and political pressure. This in turn convinced China that South Korea was resolute on the issue and prodded Beijing to blink later that year. Second, states typically evaluate the informational and coercive impact concurrently. Consider Britain’s reaction toward US coercion during the Suez Crisis. If the impact of denying London’s access to the International Monetary Fund were purely coercive, then Britain should not have retreated, at least not immediately. Indeed, Britain’s capacity and willingness to endure the economic disruption was genuine: when Macmillan was informed on the threats of the balance of payments, he convinced himself that Britain was ‘pretty well armed for Suez’. In late October, the prime minister told his colleagues that he expected to lose $300 million and his government’s policy was to see things through (Turner, 2014, p. 119). On the eve of British retreat, there was no immediate need for Britain to draw the Fund. In fact, pressure on sterling had eased, which might have been further improved if the Canal were captured (Fforde, 1992). Although this does not suggest the coercive effect was immaterial, it does showcase that it was not the only factor in play. In particular, the recognition of the true intention of the US played an important role. Prior to the crisis, British leaders mistakenly believed that they would have US support (without which they also firmly believed they would end the military course). Even after Eisenhower’s clear correspondence and the deployment of the Sixth Fleet, they still retained the belief that the US would not oppose. At worst, the US would ‘lament publicly and do nothing’ (Steed, 2016, p. 67). The misinformation was further amplified by Downing Street’s inclination to interpret ‘what they wanted to hear’ from their American counterparts’ statements (McCourt, 2014, p. 70). US warnings were read as a possible acceptance of a fait accompli, if delivered speedily. Although denying International Monetary Fund access did not bear an immediate coercive impact, the willingness of the US to publicly threaten the economic exchange with a critical ally updated the prime minister’s prior belief and convinced him that Amercian goodwill ‘could not be obtained’ without an immediate cease-fire and retreat (Turner, 2014, p. 123).32 Conclusion I have argued that the bargaining environment of economic interdependence allows states to inform and coerce simultaneously. This is important because the field has been interpreting the two as opposing mechanisms: states can either inform or coerce, but not both. Focusing on target states’ vulnerability, I argue that neither mechanism can dominate. Specifically, if commercial peace works solely via the signaling channel, then a higher level of economic dependence can indicate a less credible threat, resulting in more conflict escalation and bloodshed. I argue that this is not the case in the context of economic dependence because a coercive channel parallels the informational one. The exact factor that indicates a lower credibility also constrains, leading to a lower likelihood of escalation and bloodshed. Analogously, if economic dependence only coerces, then imposing economic losses on oneself makes little sense as it will only drain away one’s bargaining leverage. Therefore, instead of debating the merits of either theory, we should interpret the opportunity costs and costly signaling theories as two parallel mechanisms.

#### Growth solves all scenarios for conflict.

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Four structural forces will shape the future of International Relations: globalization (but without liberal rules, institutions, and leadership)1; multipolarity (the end of American hegemony and wider distribution of power among states and non-states2); the strengthening of distinctive, national and subnational identities, as persistent cultural differences are accentuated by the disruptive effects of Western style globalization (what Samuel Huntington called the “non-westernization of IR”3); and secular economic stagnation, a product of longer term global decline in birth rates combined with aging populations.4 These structural forces do not determine everything. Environmental events, global health challenges, internal political developments, policy mistakes, technology breakthroughs or failures, will intersect with structure to define our future. But these four structural forces will impact the way states behave, in the capacity of great powers to manage their differences, and to act collectively to settle, rather than exploit, the inevitable shocks of the next decade.

Some of these structural forces could be managed to promote prosperity and avoid war. Multipolarity (inherently more prone to conflict than other configurations of power, given coordination problems)5 plus globalization can work in a world of prosperity, convergent values, and effective conflict management. The Congress of Vienna system achieved relative peace in Europe over a hundred-year period through informal cooperation among multiple states sharing a fear of populist revolution. It ended decisively in 1914. Contemporary neoliberal institutionalists, such as John Ikenberry, accept multipolarity as our likely future, but are confident that globalization with liberal characteristics can be sustained without American hegemony, arguing that liberal values and practices have been fully accepted by states, global institutions, and private actors as imperative for growth and political legitimacy.6 Divergent values plus multipolarity can work, though at significantly lower levels of economic growth-in an autarchic world of isolated units, a world envisioned by the advocates of decoupling, including the current American president.7 Divergent values plus globalization can be managed by hegemonic power, exemplified by the decade of the 1990s, when the Washington Consensus, imposed by American leverage exerted through the IMF and other U.S. dominated institutions, overrode national differences, but with real costs to those states undergoing “structural adjustment programs,”8 and ultimately at the cost of global growth, as states—especially in Asia—increased their savings to self insure against future financial crises.9

But all four forces operating simultaneously will produce a future of increasing internal polarization and cross border conflict, diminished economic growth and poverty alleviation, weakened global institutions and norms of behavior, and reduced collective capacity to confront emerging challenges of global warming, accelerating technology change, nuclear weapons innovation and proliferation. As in any effective scenario, this future is clearly visible to any keen observer. We have only to abolish wishful thinking and believe our own eyes.10

Secular Stagnation

This unbrave new world has been emerging for some time, as US power has declined relative to other states, especially China, global liberalism has failed to deliver on its promises, and totalitarian capitalism has proven effective in leveraging globalization for economic growth and political legitimacy while exploiting technology and the state’s coercive powers to maintain internal political control. But this new era was jumpstarted by the world financial crisis of 2007, which revealed the bankruptcy of unregulated market capitalism, weakened faith in US leadership, exacerbated economic deprivation and inequality around the world, ignited growing populism, and undermined international liberal institutions. The skewed distribution of wealth experienced in most developed countries, politically tolerated in periods of growth, became intolerable as growth rates declined. A combination of aging populations, accelerating technology, and global populism/nationalism promises to make this growth decline very difficult to reverse. What Larry Summers and other international political economists have come to call “secular stagnation” increases the likelihood that illiberal globalization, multipolarity, and rising nationalism will define our future. Summers11 has argued that the world is entering a long period of diminishing economic growth. He suggests that secular stagnation “may be the defining macroeconomic challenge of our times.” Julius Probst, in his recent assessment of Summers’ ideas, explains:

…rich countries are ageing as birth rates decline and people live longer. This has pushed down real interest rates because investors think these trends will mean they will make lower returns from investing in future, making them more willing to accept a lower return on government debt as a result.

Other factors that make investors similarly pessimistic include rising global inequality and the slowdown in productivity growth…

This decline in real interest rates matters because economists believe that to overcome an economic downturn, a central bank must drive down the real interest rate to a certain level to encourage more spending and investment… Because real interest rates are so low, Summers and his supporters believe that the rate required to reach full employment is so far into negative territory that it is effectively impossible.

…in the long run, more immigration might be a vital part of curing secular stagnation. Summers also heavily prescribes increased government spending, arguing that it might actually be more prudent than cutting back – especially if the money is spent on infrastructure, education and research and development.

Of course, governments in Europe and the US are instead trying to shut their doors to migrants. And austerity policies have taken their toll on infrastructure and public research. This looks set to ensure that the next recession will be particularly nasty when it comes… Unless governments change course radically, we could be in for a sobering period ahead.12

The rise of nationalism/populism is both cause and effect of this economic outlook. Lower growth will make every aspect of the liberal order more difficult to resuscitate post-Trump. Domestic politics will become more polarized and dysfunctional, as competition for diminishing resources intensifies. International collaboration, ad hoc or through institutions, will become politically toxic. Protectionism, in its multiple forms, will make economic recovery from “secular stagnation” a heavy lift, and the liberal hegemonic leadership and strong institutions that limited the damage of previous downturns, will be unavailable. A clear demonstration of this negative feedback loop is the economic damage being inflicted on the world by Trump’s trade war with China, which— despite the so-called phase one agreement—has predictably escalated from negotiating tactic to imbedded reality, with no end in sight. In a world already suffering from inadequate investment, the uncertainties generated by this confrontation will further curb the investments essential for future growth. Another demonstration of the intersection of structural forces is how populist-motivated controls on immigration (always a weakness in the hyper-globalization narrative) deprives developed countries of Summers’ recommended policy response to secular stagnation, which in a more open world would be a win-win for rich and poor countries alike, increasing wage rates and remittance revenues for the developing countries, replenishing the labor supply for rich countries experiencing low birth rates.

Illiberal Globalization

Economic weakness and rising nationalism (along with multipolarity) will not end globalization, but will profoundly alter its character and greatly reduce its economic and political benefits. Liberal global institutions, under American hegemony, have served multiple purposes, enabling states to improve the quality of international relations and more fully satisfy the needs of their citizens, and provide companies with the legal and institutional stability necessary to manage the inherent risks of global investment. But under present and future conditions these institutions will become the battlegrounds—and the victims—of geopolitical competition. The Trump Administration’s frontal attack on multilateralism is but the final nail in the coffin of the Bretton Woods system in trade and finance, which has been in slow but accelerating decline since the end of the Cold War. Future American leadership may embrace renewed collaboration in global trade and finance, macroeconomic management, environmental sustainability and the like, but repairing the damage requires the heroic assumption that America’s own identity has not been fundamentally altered by the Trump era (four years or eight matters here), and by the internal and global forces that enabled his rise. The fact will remain that a sizeable portion of the American electorate, and a monolithically proTrump Republican Party, is committed to an illiberal future. And even if the effects are transitory, the causes of weakening global collaboration are structural, not subject to the efforts of some hypothetical future US liberal leadership. It is clear that the US has lost respect among its rivals, and trust among its allies. While its economic and military capacity is still greatly superior to all others, its political dysfunction has diminished its ability to convert this wealth into effective power.13 It will furthermore operate in a future system of diffusing material power, diverging economic and political governance approaches, and rising nationalism. Trump has promoted these forces, but did not invent them, and future US Administrations will struggle to cope with them.

What will illiberal globalization look like? Consider recent events. The instruments of globalization have been weaponized by strong states in pursuit of their geopolitical objectives. This has turned the liberal argument on behalf of globalization on its head. Instead of interdependence as an unstoppable force pushing states toward collaboration and convergence around market-friendly domestic policies, states are exploiting interdependence to inflict harm on their adversaries, and even on their allies. The increasing interaction across national boundaries that globalization entails, now produces not harmonization and cooperation, but friction and escalating trade and investment disputes.14 The Trump Administration is in the lead here, but it is not alone. Trade and investment friction with China is the most obvious and damaging example, precipitated by China’s long failure to conform to the World Trade Organization (WTO) principles, now escalated by President Trump into a trade and currency war disturbingly reminiscent of the 1930s that Bretton Woods was designed to prevent. Financial sanctions against Iran, in violation of US obligations in the Joint Comprehensive Plan Of Action (JCPOA), is another example of the rule of law succumbing to geopolitical competition. Though more mercantilist in intent than geopolitical, US tariffs on steel and aluminum, and their threatened use in automotives, aimed at the EU, Canada, and Japan,15 are equally destructive of the liberal system and of future economic growth, imposed as they are by the author of that system, and will spread to others. And indeed, Japan has used export controls in its escalating conflict with South Korea16 (as did China in imposing controls on rare earth,17 and as the US has done as part of its trade war with China). Inward foreign direct investment restrictions are spreading. The vitality of the WTO is being sapped by its inability to complete the Doha Round, by the proliferation of bilateral and regional agreements, and now by the Trump Administration’s hold on appointments to WTO judicial panels. It should not surprise anyone if, during a second term, Trump formally withdrew the US from the WTO. At a minimum it will become a “dead letter regime.”18

As such measures gain traction, it will become clear to states—and to companies—that a global trading system more responsive to raw power than to law entails escalating risk and diminishing benefits. This will be the end of economic globalization, and its many benefits, as we know it. It represents nothing less than the subordination of economic globalization, a system which many thought obeyed its own logic, to an international politics of zero-sum power competition among multiple actors with divergent interests and values. The costs will be significant: Bloomberg Economics estimates that the cost in lost US GDP in 2019- dollar terms from the trade war with China has reached $134 billion to date and will rise to a total of $316 billion by the end of 2020.19

Economically, the just-in-time, maximally efficient world of global supply chains, driving down costs, incentivizing innovation, spreading investment, integrating new countries and populations into the global system, is being Balkanized. Bilateral and regional deals are proliferating, while global, nondiscriminatory trade agreements are at an end. Economies of scale will shrink, incentivizing less investment, increasing costs and prices, compromising growth, marginalizing countries whose growth and poverty reduction depended on participation in global supply chains. A world already suffering from excess savings (in the corporate sector, among mostly Asian countries) will respond to heightened risk and uncertainty with further retrenchment. The problem is perfectly captured by Tim Boyle, CEO of Columbia Sportswear, whose supply chain runs through China, reacting to yet another ratcheting up of US tariffs on Chinese imports, most recently on consumer goods:

We move stuff around to take advantage of inexpensive labor. That’s why we’re in Bangladesh. That’s why we’re looking at Africa. We’re putting investment capital to work, to get a return for our shareholders. So, when we make a wager on investment, this is not Vegas. We have to have a reasonable expectation we can get a return. That’s predicated on the rule of law: where can we expect the laws to be enforced, and for the foreseeable future, the rules will be in place? That’s what America used to be.20

The international political effects will be equally damaging. The four structural forces act on each other to produce the more dangerous, less prosperous world projected here. Illiberal globalization represents geopolitical conflict by (at first) physically non-kinetic means. It arises from intensifying competition among powerful states with divergent interests and identities, but in its effects drives down growth and fuels increased nationalism/populism, which further contributes to conflict. Twenty-first-century protectionism represents bottom-up forces arising from economic disruption. But it is also a top-down phenomenon, representing a strategic effort by political leadership to reduce the constraints of interdependence on freedom of geopolitical action, in effect a precursor and enabler of war. This is the disturbing hypothesis of Daniel Drezner, argued in an important May 2019 piece in Reason, titled “Will Today’s Global Trade Wars Lead to World War Three,”21 which examines the preWorld War I period of heightened trade conflict, its contribution to the disaster that followed, and its parallels to the present:

Before the First World War started, powers great and small took a variety of steps to thwart the globalization of the 19th century. Each of these steps made it easier for the key combatants to conceive of a general war.

We are beginning to see a similar approach to the globalization of the 21st century. One by one, the economic constraints on military aggression are eroding. And too many have forgotten—or never knew—how this played out a century ago.

…In many ways, 19th century globalization was a victim of its own success. Reduced tariffs and transport costs flooded Europe with inexpensive grains from Russia and the United States. The incomes of landowners in these countries suffered a serious hit, and the Long Depression that ran from 1873 until 1896 generated pressure on European governments to protect against cheap imports.

…The primary lesson to draw from the years before 1914 is not that economic interdependence was a weak constraint on military conflict. It is that, even in a globalized economy, governments can take protectionist actions to reduce their interdependence in anticipation of future wars.

In retrospect, the 30 years of tariff hikes, trade wars, and currency conflicts that preceded 1914 were harbingers of the devastation to come. European governments did not necessarily want to ignite a war among the great powers. By reducing their interdependence, however, they made that option conceivable.

…the backlash to globalization that preceded the Great War seems to be reprised in the current moment. Indeed, there are ways in which the current moment is scarier than the pre-1914 era. Back then, the world’s hegemon, the United Kingdom, acted as a brake on economic closure. In 2019, the United States is the protectionist with its foot on the accelerator. The constraints of Sino-American interdependence—what economist Larry Summers once called “the financial balance of terror”—no longer look so binding. And there are far too many hot spots—the Korean peninsula, the South China Sea, Taiwan—where the kindling seems awfully dry.

Multipolarity

We can define multipolarity as a wide distribution of power among multiple independent states. Exact equivalence of material power is not implied. What is required is the possession by several states of the capacity to coerce others to act in ways they would otherwise not, through kinetic or other means (economic sanctions, political manipulation, denial of access to essential resources, etc.). Such a distribution of power presents inherently graver challenges to peace and stability than do unipolar or bipolar power configurations,22 though of course none are safe or permanent. In brief, the greater the number of consequential actors, the greater the challenge of coordinating actions to avoid, manage, or de-escalate conflicts. Multipolarity also entails a greater potential for sudden changes in the balance of power, as one state may defect to another coalition or opt out, and as a result, the greater the degree of uncertainty experienced by all states, and the greater the plausibility of downside assumptions about the intentions and capabilities of one’s adversaries. This psychology, always present in international politics but particularly powerful in multipolarity, heightens the potential for escalation of minor conflicts, and of states launching preventive or preemptive wars. In multipolarity, states are always on edge, entertaining worst-case scenarios about actual and potential enemies, and acting on these fears—expanding their armies, introducing new weapon systems, altering doctrine to relax constraints on the use of force—in ways that reinforce the worst fears of others.

The risks inherent in multipolarity are heightened by the attendant weakening of global institutions. Even in a state-centric system, such institutions can facilitate communication and transparency, helping states to manage conflicts by reducing the potential for misperception and escalation toward war. But, as Waheguru Pal Singh Sidhu argues in his chapter on the United Nations, the influence of multilateral institutions as agent and actor is clearly in decline, a result of bottom-up populist/nationalist pressures experienced in many countries, as well as the coordination problems that increase in a system of multiple great powers. As conflict resolution institutions atrophy, great powers will find themselves in “security dilemmas”23 in which verification of a rival’s intentions is unavailable, and worst-case assumptions fill the gap created by uncertainty. And the supply of conflicts will expand as a result of growing nationalism and populism, which are premised on hostility, paranoia, and isolation, with governments seeking political legitimacy through external conflict, producing a siege mentality that deliberately cuts off communication with other states.

Finally, the transition from unipolarity (roughly 1989–2007) to multipolarity is unregulated and hazardous, as the existing superpower fears and resists challenges to its primacy from a rising power or powers, while the rising power entertains new ambitions as entitlements now within its reach. Such a “power transition” and its dangers were identified by Thucydides in explaining the Peloponnesian Wars,24 by Organski (the “rear-end collision”)25 during the Cold War, and recently repopularized and brought up to date by Graham Allison in predicting conflict between the US and China.26

A useful, and consequential illustration of the inherent challenge of conflict management during a power transition toward multipolarity, is the weakening of the arms control regime negotiated by the US and the Soviet Union during the Cold War. Despite the existential, global conflict between two nuclear armed superpowers embracing diametrically opposed world views and operating in economic isolation from each other, the two managed to avoid worst-case outcomes. They accomplished this in part by institutionalizing verifiable limits on testing and deployment of both strategic and intermediate-range nuclear missiles. Yet as diplomatically and technically challenging as these achievements were, the introduction of a third great power, China, into this twocountry calculus has proven to be a deal breaker. Unconstrained by these bilateral agreements, China has been free to build up its capability, and has taken full advantage in ramping up production and deployment of intermediate-range ground-launched cruise missiles, thus challenging the US ability to credibly guarantee the security of its allies in Asia, and greatly increasing the costs of maintaining its Asian regional hegemony. As a result, the Intermediate Nuclear Force treaty is effectively dead, and the New Start Treaty, covering strategic missiles, is due to expire next year, with no indication of any US–Russian consensus to extend it. The US has with logic indicated its interest in making these agreements trilateral; but China, with its growing power and ambition, has also logically rejected these overtures. Thus, all three great powers are entering a period of nuclear weapons competition unconstrained by the major Cold War arms control regimes. In a period of rapid advances in technology and worsening great power relations, the nuclear competition will be a defining characteristic of the next decade and beyond. This dynamic will also complicate nuclear nonproliferation efforts, as both the demand for nuclear weapons (a consequence of rising regional and global insecurity), and supply of nuclear materials and technology (a result of the weakening of the nonproliferation regime and deteriorating great power relations) will increase.

Will deterrence prevent war in a world of several nuclear weapons states, (the current nuclear powers plus South Korea, Iran, Saudi Arabia, Japan, Turkey), as it helped to do during the bipolar Cold War? Some neorealist observers view nuclear weapons proliferation as stabilizing, extending the balance of terror, and the imperative of restraint, to new nuclear weapons states with much to fight over (Saudi Arabia and Iran, for example).27 Others,28 examining issues of command and control of nuclear weapons deployment and use by newly acquiring states, asymmetries in doctrines, force structures, and capabilities between rivals, the perils of variable rates in transition to weapons deployment, problems of communication between states with deep mutual grievances, the heightened risk of transfer of such weapons to non-state actors, have grave doubts about the safety of a multipolar, nuclear-armed world.29 We can at least conclude that prudence dictates heightened efforts to slow the pace of proliferation, while realism requires that we face a proliferated future with eyes wide open.

The current distribution of power is not perfectly multipolar. The US still commands the world’s largest economy, and its military power is unrivaled by any state or combination of states. Its population is still growing, despite a recent decline in birth rates. It enjoys extraordinary geographic advantages over its rivals, who are distant and live in far worse neighborhoods. Its economy is less dependent on foreign markets or resources. Its political system has proven—up to now—to be resilient and adaptable. Its global alliance system greatly extends its capacity to defend itself and shape the world to its liking and is still intact, despite growing doubts about America’s reliability as a security guarantor. Based on these mostly material and historical criteria, continued American primacy would seem to be a good bet, if it chooses to use its power in this way.30

So why multipolarity? The clearest and most frequently cited evidence for a widening distribution of global power away from American unipolarity is the narrowing gap in GDP between the US and China. The IMF’s World Economic Outlook forecasts a $0.9 trillion increase in US GDP for 2019–2020, and a $1.3 trillion increase for China in the same period.31 Many who support the American primacy case argue that GDP is an imperfect measure of power, that Chinese GDP data is inflated, that its growth rates are in decline while Chinese debt is rapidly increasing, and that China does poorly on other factors that contribute to power—its low per capita GDP, its political succession challenges, its environmental crisis, its absence of any external alliance system. Yet GDP is a good place to start, as the single most useful measure and long-term predictor of power. It is from the overall economy that states extract and apply material power to leverage desired behavior from other states. It is true that robust future Chinese growth is not guaranteed, nor is its capacity to convert its wealth to power, which is a function of how well its political system works over time. But this is equally the case for the US, and considering recent political developments is not a given for either country.

As an alternative to measuring inputs—economic size, political legitimacy, technological innovation, population growth—in assessing relative power and the nature of global power distribution, we should consider outputs: what are states doing with their power? The input measures are useful, possibly predictive, but are usually deployed in the course of making a foreign policy argument, sometimes on behalf of a reassertion of American primacy, sometimes on behalf of retrenchment. As such, their objectivity (despite their generous deployment of “data”) is open to question. What is undeniable, to any clear-eyed observer, is a real decline in American influence in the world, and a rise in the influence of other powers, which predates the Trump administration but has accelerated into America’s free fall over the last four years. This has produced a de facto multipolarity, whether explainable in the various measures of power—actual and latent—or not. This decline results in part from policy mistakes: a reckless squandering of material power and legitimacy in Iraq, an overabundance of caution in Syria, and now pure impulsivity. But more fundamentally, it is a product of relative decline in American capacity—political and economic—to which American leadership is adjusting haphazardly, but in the direction of retrenchment/restraint. It is highly revealing that the last two American presidents, polar opposites in intellect, temperament and values, agreed on one fundamental point: the US is overextended, and needs to retrench. The fact that neither Obama nor Trump (up to this point in his presidency) believed they had the power at their disposal to do anything else, tells us far more about the future of American power and policy—and about the emerging shape of international relations—than the power measures and comparisons made by foreign policy advocates.

Observation of recent trends in US versus Russian relative influence prompts another question: do we understand the emerging characteristics of power? Rigorously measuring and comparing the wrong parameters will get us nowhere at best and mislead us into misguided policies at worst. How often have we heard, with puzzlement, that Putin punches far above his weight? Could it be that we misunderstand what constitutes “weight” in the contemporary and emerging world? Putin may be on a high wire, and bound to come crashing down; but the fact is that Russian influence, leveraging sophisticated communications/social media/influence operations, a strong military, an agile (Putin-dominated) decision process, and taking advantage of the egregious mistakes by the West, has been advancing for over a decade, shows no sign of slowing down, and has created additional opportunities for itself in the Middle East, Europe, Asia, Latin America, the Arctic. It has done this with an economy roughly the size of Italy’s. There are few signs of a domestic political challenge to Putin. His external opponents are in disarray, and Russia’s main adversary is politically disabled from confronting the problem. He has established Russia as the Middle East power broker. He has reached into the internal politics of his Western adversaries and influenced their leadership choices. He has invaded and absorbed the territory of neighboring states. His actions have produced deep divisions within NATO. Again, simple observation suggests multipolarity in fact, and a full explanation for this power shift awaiting future historians able to look with more objectivity at twenty-first-century elements of power.

When that history is written, surely it will emphasize the extraordinary polarization in American politics. Was multipolarity a case of others finding leverage in new sources of power, or the US underutilizing its own? The material measures suggest sufficient capacity for sustained American primacy, but with this latent capacity unavailable (as perceived, I believe correctly, by political leadership) by virtue of weakening institutions: two major parties in separate universes; a winnertake-all political mentality; deep polarization between the parties’ popular bases of support; divided government, with the Presidency and the Congress often in separate and antagonistic hands; diminishing trust in the permanent government, and in the knowledge it brings to important decisions, and deepening distrust between the intelligence community and policymakers; and, in Trump’s case, a chaotic policy process that lacks any strategic reference points, mis-communicates the Administration’s intentions, and has proven incapable of sustained, coherent diplomacy on behalf of any explicit and consistent set of policy goals.

Rising Nationalism/Populism/Authoritarianism

The evidence for these trends is clear. Freedom House, the go-to authority on the state of global democracy, just published its annual assessment for 2020, and recorded the fourteenth consecutive year of global democratic decline and advancing authoritarianism. This dramatic deterioration includes both a weakening in democratic practice within states still deemed on balance democratic, and a shift from weak democracies to authoritarianism in others. Commitment to democratic norms and practices—freedom of speech and of the press, independent judiciaries, protection of minority rights—is in decline. The decline is evident across the global system and encompasses all major powers, from India and China, to Europe, to the US. Right-wing populist parties have assumed power, or constitute a politically significant minority, in a lengthening list of democratic states, including both new (Hungary, Poland) and established (India, the US, the UK) democracies. Nationalism, frequently dismissed by liberal globalization advocates as a weak force when confronted by market democracies’ presumed inherent superiority, has experienced a resurgence in Russia, China, the Middle East, and at home. Given the breadth and depth of right-wing populism, the raw power that promotes it—mainly Russian and American—and the disarray of its liberal opponents, this factor will weigh heavily on the future.

The major factors contributing to right-wing populism and its global spread is the subject of much discussion.32 The most straightforward explanation is rising inequality and diminished intergenerational mobility, particularly in developed countries whose labor-intensive manufacturing has been hit hardest by the globalization of capital combined with the immobility of labor. Jobs, wages, economic security, a reasonable hope that one’s offspring has a shot at a better life than one’s own, the erosion of social capital within economically marginalized communities, government failure to provide a decent safety net and job retraining for those battered by globalization: all have contributed to a sense of desperation and raw anger in the hollowed-out communities of formerly prosperous industrial areas. The declining life expectancy numbers33 tell a story of immiseration: drug addition, suicide, poor health care, and gun violence. The political expression of such conditions of life should not be surprising. Simple, extremist “solutions” become irresistible. Sectarian, racial, regional divides are strengthened, and exclusive identities are sharpened. Political entrepreneurs offering to blow up the system blamed for such conditions become credible. Those who are perceived as having benefited from the corrupt system—long-standing institutions of government, foreign countries and populations, immigrants, minorities getting a “free ride,” elites—become targets of recrimination and violence. The simple solutions of course, don’t work, deepening the underlying crisis, but in the process politics is poisoned. If this sounds like the US, it should, but it also describes major European countries (the UK, France, Italy, Germany, Poland, Hungary, the Czech Republic), and could be an indication of things to come for non-Western democracies like India.

We have emphasized throughout this chapter the interaction of four structural forces in shaping the future, and this interaction is evident here as well. Is it merely coincidence that the period of democratic decline documented by Freedom House, coincides precisely with the global financial and economic crisis? Lower growth, increasing joblessness, wage stagnation, superimposed on longer-term widening of inequality and declining mobility, constitute a forbidding stress test for democratic systems, and many continue to fail. And if we are correct about secular stagnation, the stress will continue, and authoritarianism’s fourteen-year run will not be over for some time. The antidemocratic trend will gain additional impetus from the illiberal direction of globalization, with its growth suppressing protectionism, weaponization of global economic exchange, and weakening global economic institutions. Multipolarity also contributes, in several ways. The former hegemon and author of globalization’s liberal structure has lost its appetite, and arguably its capacity, for leadership, and indeed has become part of the problem, succumbing to and promoting the global right-wing populist surge. It is suffering an unprecedented decline in life expectancy, and recently a decline in the birth rate, signaling a degree of rot commonly associated with a collapsing Soviet Union. While American politics may once again cohere around its liberal values and interests, the time when American leadership had the self-confidence to shape the global system in its liberal image is gone. It may build coalitions of the like-minded to launch liberal projects, but there will be too much power outside these coalitions to permit liberal globalization of the sort imagined at the end of the Cold War. In multipolarity, the values around which global politics revolve will reflect the diversity of major powers, their interests, and the norms they embrace. Convergence of norms, practices, policies is out of the question. Global collective action, even in the face of global crises, will be a long shot. To expect anything else is fantasy

Unbrave New World and Future Challenges

At the outset of this chapter we described these structural forces as interacting to produce more conflict and diminished prosperity. We also predicted a world with shrinking collective capacity to address new challenges as they arise. What specifically will such a world look like? We address below three principal challenges to global problem solving over the next decade.

Interstate Conflict

In the world experienced by most readers of this volume, conflict is observed within weak states, sometimes promoted by regional competitors, by terrorist groups, or by great powers, acting through surrogates or by indirect means. Sometimes, as in Syria, this conflict spills over to contiguous states and contributes to regional instability, and challenges other regions to respond effectively, a challenge that Europe has not met. Much of this will continue, but the global significance of such local conflicts will be greatly magnified by increasing great power conflict, which will feed—rather than manage or resolve—local instabilities and will in turn be exacerbated by them. Great powers will jockey for advantage, support their local partners, escalate preemptively. Conflicts initially confined to failing states or unstable regions will be redefined by great powers as global in scope and significance.

This tendency of states to view local conflicts in the context of a zero-sum, global struggle for power is familiar to students of the Cold War, but now with the additional challenges to collective action, expanded uncertainty and worst-case thinking associated with the power transition to multipolarity. We can easily observe increased conflict in US–China relations, as we will in US–Russia relations as future US administrations try to make up for ground lost during the Trump presidency, especially in the Middle East. We can observe it among powerful states with mutual historical grievances, now with a weakening presence of the hegemonic security guarantor and having to consider the renationalization of their defense: Japan-South Korea, Germany-France. We can observe it among historical rivals operating in rapidly changing security landscapes: India-China. We can observe it within the Middle East, as internal rivalries are appropriated by regional powers in a contest for regional dominance. We can observe it clearly in Syria, where the regime’s violent suppression of Arab Spring resistance led to all-out civil war, attracted outside support to proxy forces by aspiring regional hegemons Saudi Arabia and Iran, enabled the rise of ISIS, and eventually to great power intervention, principally by Russia. In a world of effective great power collaboration or American primacy, the Syrian civil war might have been settled through power sharing or partition, or if not, contained within Syria. The collapse of Yugoslavia, occurring during a period of US “unipolarity” and managed effectively, demonstrates the possibilities. Instead, with the US retrenching, Middle East rivals unconstrained by great powers, and great power competition rising, the Syria civil war was fed by outside powers, then metastasized into the region, and—in the form of refugee flows—into Europe, fundamentally altering European politics. Libya may be at the early stages of this scenario.

This is not the end of the Syria story. Russia has established itself as a major player in Syria and the Middle East’s power broker, the indispensable country with leverage throughout the region. China is poised to reap the financial and power benefits of Syrian reconstruction. The US has just demonstrated, in its act of war against the Iranian regime, its willingness, without consultation, to put its allies’ security in further jeopardy, accentuating the risks of security ties with Washington and generating added opportunities for Russia and China. The purpose here is not to critique US policy, but to point out the dramatically shifting power balance in a critical region, toward multipolarity. The dangers of such a shift will become apparent as some future US president attempts to reassert US influence in the region and finds a crowded playing field.

Can a multipolar distribution of power among several states whose interests, values, and political practices are divergent, all experiencing bottom-up nationalist pressures, all seeking advantages in the oversupply of regional instability, be made to work? I think not. Will this more dangerous world descend into direct military confrontation between great powers, and could such confrontation lead to use of nuclear weapons? Here the question becomes, what will this more dangerous world actually look like; what instruments of coercion will be available to states as technology change accelerates; how will states employ these instruments; how will deterrence work (if at all) among several states with large but unequal levels of destructive capacity, weak command, and control, disparate— or opaque—strategies and simmering rivalries; can conflict management work in a world of weak institutions? The collapse of the Cold War era nuclear arms control regime, the threat to the Non-Proliferation Treaty represented by the demise of the JCPOA, and multiple indications of an accelerating nuclear arms race among the three principle powers, augurs badly. Given the structural forces at play, and without predicting the worst, we are indeed entering perilous times.

Global Poverty and Inequality

Despite the challenges of volatility and disruptive change inherent in globalization, the world under American liberal leadership has managed a dramatic reduction of extreme poverty. According to World Bank estimates, in 2015, 10 percent of the world’s population lived on less than $1.90 a day, down from nearly 36 percent in 1990.34 In fact, as of September 2018, half the world is now middle class or wealthier.35 The uneven success of the UN Millennium Development Goals (MDGs) exemplifies this achievement, and demonstrates what is possible when open markets are managed through strong global institutions, effective leadership and interstate collaboration. What this liberal hegemonic system did not achieve, however, was a fair distribution of the gains from globalization within states, and among those states that for various reasons were not full participants in this system.

This record of partial achievement leaves us with a full agenda for the next fifteen years, but without the hegemonic leadership, strong institutions, ascendant liberalism or robust global growth that enabled previous gains. There are powerful reasons to question the sustainability of these poverty reduction gains, leading to doubts about the realization of the Sustainable Development Goals, which have replaced the MDGs as global development targets.36 (See Jens Rudbeck’s chapter and Sidhu’s UN chapter for SDGs). Skeptics have pointed to slowing global growth, specifically in China, whose demand for imported commodities was a major factor in developing country growth and job creation; growing protectionism in developed country markets, fueled by bottom-up forces of nationalism, and from top-down by a weakened global trading regime and increased geopolitical rivalry; the effects of accelerating climate change on agriculture, migration and communal conflict in poor countries; and the growth burst among poor countries from the rapid transition to more efficient use of resources, a transition that is now slowing down.37

Perhaps the greatest concern in this scenario is a general deterioration in the developing country foreign investment climate. Foreign direct investment (FDI) has been a major contributor to growth, job creation, and poverty alleviation among poor countries. It has incentivized growthfriendly policies, reduced corruption, introduced technology and effective management practices, and linked poor countries to foreign markets through global supply chains.38 It has stimulated growth of indigenous manufacturing and service companies to supply new foreign investments.

It has been the major cause of economic convergence between rich and poor countries. From 2000 to 2009, developing economies’ growth rates were more than four percentage points higher than those of rich countries, pushing their share of global output from just over a third to nearly half.39 However, FDI flows into poor countries are imperiled by the structural forces discussed here. Political instability arising from slower growth and environmental stress will increase investors’ perception of higher risk, reinforcing their developed country bias. Protectionism among developed countries will threaten the global market access upon which manufacturing investment in developing countries is premised, causing firms to pare back their global supply chains. As companies retrench from direct investment in poor countries, the appeal to those countries of Chinese debt financed infrastructure projects, under the Belt-Road Initiative with little or no conditionality, but at the risk of “debt traps,” will increase.

Global Warming

The question posed at the beginning of this section is whether the international system, evolving toward multipolarity and rising nationalism, will find the collective political capital to confront challenges as they arise. Global warming is the mother of all challenges, and the weakness in the system’s capacity to respond is clear. With the two major political/economic powers and greenhouse gas emitters locked in deepening geopolitical conflict (and with one of them locked in climate change denial, possibly through 2024), the chances of significantly slowing global warming or even ameliorating its effects are very slim. We are reduced to the default option, nation-specific adaptation to climate change, which will impose rising human, political and economic costs on all, and will widen the gap between rich countries with adaptive capacity (of varying degrees), and the poor, who will suffer deteriorating economic, political, and social conditions. (For a contrary, optimistic view see Michael Shank’s chapter, which credits new actors—like cities—as playing a more constructive role in climate mitigation.) This would bring to a close liberal globalization’s greatest achievement; the raising of 1.1 billion people out of extreme poverty since 1990,40 with all its associated gains in quality of life (in the WHO Africa region, for example, life expectancy rose by 10.3 years between 2000 and 2016, driven mainly by improvements in child survival and expanded access to antiretrovirals for treatment of HIV).41

Several forces are at work here. The problem itself is graver—in magnitude and in rate of worsening—than predicted by climate scientists. The UN Intergovernmental Panel on Climate Change (IPCC), the major source of information on global warming, has consistently underpredicted the rate of climate deterioration. This holds true even for its “worst-case scenarios,” meaning that what was meant as a wake-up call has in fact reinforced complacency.42 (see Michael Shank’s chapter for further discussion of climate change). The IPCC, in its 2019 report, has tried to undo the damage by emphasizing the acceleration in the rate of warming and its effects, the only partially understood dynamic of climate change, and—given wide uncertainty—the possibility of unpleasant surprises yet to come. This strengthens the scientific case for urgency—to both severely limit greenhouse gas emissions, and to increase investment in ameliorating the effects.

Unfortunately, the crisis comes at a moment when the climate for collective action is ice cold. Geopolitical competition incentivizes states to out produce each other, regardless of the environmental effects. Multipolarity complicates collective action. Economic stagnation mandates job creation, making regulation politically toxic. Bottom-up nationalism/populism causes states to pursue “relative gains,” meaning that if the nation is seen as gaining in a no-holds-barred economic competition with others, the negative environmental effects can be tolerated. A post-Trump presidency would help, with the US rejoining the Paris Agreement, and lending its weight to tighter regulation, increased R and D, and stronger economic incentives to reduce carbon emissions. Keep in mind, however, that President Obama was fully behind such efforts, but in a deeply polarized America was unable to implement measures needed to fulfill the Paris obligations through legislation, and his executive orders to do this were swiftly overturned by Trump.

Conclusion

It may be tempting to hope that post-Trump, the US can regain its global leadership and exert its considerable power in a liberal direction, but with enough self-awareness of its relative decline to share responsibility with others. This was, I believe, the broad direction of the Obama strategy, evidenced by the JCPOA and the Trans-Pacific Partnership: liberal, collective solutions to global problems, as US dominance receded.

This would constitute an optimistic scenario, and it confronts two major problems: can US internal politics support it (can, for example, the country legislate controls on carbon, essential for the global credibility and durability of such commitments); and is the world ready to reengage with American leadership, given the damage to its reputation and the structural forces discussed in this chapter?

My educated guess is no, on both counts. The rot within is extensive, the concrete evidence clear in the economic inequality/immobility numbers, the life expectancy numbers, the deep political polarization, between the two major parties, between regions, between cities and rural areas. We are in fact a long way from fitness for global leadership, and the recognition of this by others will accelerate the decline of American influence. The rest of the world is well on its way toward adjusting to post-American hegemony, some by renationalizing their defense, or by cutting deals with adversaries, by building new alliances or by seizing new opportunities for influence in the vacuum left by American retrenchment. The evidence for this will accumulate. Observe the current and emerging Middle East, where all these post-hegemonic strategies are visible.