### Plan

#### The United States Federal Government should:

#### Amend Section 16 of the Clayton Act to allow for antitrust injury to include the threat of loss of profits due to possible price competition following a merger;

#### Holistically analyze the scope of potential mergers’ market power;

#### Reinvestigate current corporations that have unruly market power and require divestiture where appropriate.

### Adv – Environment

#### Consolidation driving out small farming and sustainable ag – makes solving warming impossible

Tam and Beilskis, 4/1/2021; Kristen Tam, Olivia Bielskis. “Stimulating Antitrust Enforcement to Expand the Regenerative Agriculture Movement.” UCLA: Library. Retrieved from https://escholarship.org/uc/item/0m16g2r5

Competition in the agricultural marketplace has significantly declined as a result of decreasing antitrust enforcement and increasing consolidation. In the current market, the largest firms control disproportionate percentages of market power, threatening consumer prices, principles of equal economic opportunity, and viability of small farms and ranches. Contrary to the notions promulgated by Robert Bork’s “consumer welfare standard,” which claims that the federal government should regulate mergers sparingly for the supposed benefit of the consumer, consumer prices have increased due to this perspective being applied to jurisprudence and enforcement. Market consolidation also harms principles of fairness and objectivity in policy. Seeing as large firms often contribute such a substantial percentage of a given agricultural product’s output, if the firm is significantly compromised financially, they must be “bailed out” because the market inherently relies on their output and constructed dominance. When large firms or farms have such robust security, they are less likely to innovate, improve the quality of their products, and invest in more sustainable agriculture practices. The Intergovernmental Panel on Climate Change (IPCC) prescribes that the world needs to limit global temperature rise to 1.5 degrees Celsius by 2050, which is contingent upon decreasing greenhouse gas emissions. Agriculture contributes to 10.5 percent of the United States’ emissions, and the ability to reduce emissions is hindered by large farms’ tendency to employ practices that increase emissions, while small farms, which are being driven out by corporate merges, are more likely to employ sustainable farming practices such no-till, compost as fertilizer, and planting cover crops. Agriculture consolidation has largely increased due to non-precautionary approaches by the Supreme Court and federal regulation agencies, the Federal Trade Commission and Department of Justice. Specifically, the Supreme Court’s ruling that the “threat of loss of profits due to possible price competition” does not constitute antitrust harm has hindered the implementation of the Clayton Antitrust Act. Additionally, the federal agencies responsible for regulating mergers have increased the number of mergers they approve, allowing consolidation of the marketplace to continue. The lack of strict antitrust regulation to prevent mergers from holding hostage undue percentages of the marketplace is hindering the growth of regenerative farming, a set of practices that will be integral in meeting the IPCC climate change goals.

#### Warming causes extinction

David Spratt 19, Research Director for Breakthrough National Centre for Climate Restoration, Ian Dunlop, member of the Club of Rome, formerly an international oil, gas and coal industry executive, chairman of the Australian Coal Association, May 2019, “Existential climate-related security risk: A scenario approach,” https://docs.wixstatic.com/ugd/148cb0\_b2c0c79dc4344b279bcf2365336ff23b.pdf

An existential risk to civilisation is one posing permanent large negative consequences to humanity which may never be undone, either annihilating intelligent life or permanently and drastically curtailing its potential. With the commitments by nations to the 2015 Paris Agreement, the current path of warming is 3°C or more by 2100. But this figure does not include “long-term” carbon-cycle feedbacks, which are materially relevant now and in the near future due to the unprecedented rate at which human activity is perturbing the climate system. Taking these into account, the Paris path would lead to around 5°C of warming by 2100. Scientists warn that warming of 4°C is incompatible with an organised global community, is devastating to the majority of ecosystems, and has a high probability of not being stable. The World Bank says it may be “beyond adaptation”. But an existential threat may also exist for many peoples and regions at a significantly lower level of warming. In 2017, 3°C of warming was categorised as “catastrophic” with a warning that, on a path of unchecked emissions, low-probability, high-impact warming could be catastrophic by 2050. The Emeritus Director of the Potsdam Institute, Prof. Hans Joachim Schellnhuber, warns that “climate change is now reaching the end-game, where very soon humanity must choose between taking unprecedented action, or accepting that it has been left too late and bear the consequences.” He says that if we continue down the present path “there is a very big risk that we will just end our civilisation. The human species will survive somehow but we will destroy almost everything we have built up over the last two thousand years.”11 Unfortunately, conventional risk and probability analysis becomes useless in these circumstances because it excludes the full implications of outlier events and possibilities lurking at the fringes.12 Prudent risk-management means a tough, objective look at the real risks to which we are exposed, especially at those “fat-tail” events, which may have consequences that are damaging beyond quantification, and threaten the survival of human civilisation. Global warming projections display a “fat-tailed” distribution with a greater likelihood of warming that is well in excess of the average amount of warming predicted by climate models, and are of a higher probability than would be expected under typical statistical assumptions. More importantly, the risk lies disproportionately in the “fat-tail” outcomes, as illustrated in Figure 1. <<figure omitted>> This is a particular concern with potential climate tipping-points — passing critical thresholds which result in step changes in the climate system that will be irreversible on human timescales — such as the polar ice sheets (and hence sea levels), permafrost and other carbon stores, where the impacts of global warming are non-linear and difficult to model with current scientific knowledge. Recently, attention has been given to a “hothouse Earth” scenario, in which system feedbacks and their mutual interaction could drive the Earth System climate to a point of no return, whereby further warming would become self-sustaining. This “hothouse Earth” planetary threshold could exist at a temperature rise as low as 2°C, possibly even lower. 13

#### The interconnected nature of the supply chain means the threshold for our impacts are very low. Continued consolidation leads to emissions and warming, spikes in gulf hypoxia, soil loss, and collapse of both biodiversity and the ag sector

Mary K. Hendrickson et. Al (University of Missouri) 11/19/2020 [“THE FOOD SYSTEM: CONCENTRATION AND ITS IMPACTS” w/ Philip H. Howard (Michigan State University), Emily M. Miller (Family Farm Action Alliance) & Douglas H. Constance (Sam Houston State University) online @ <https://farmactionalliance.org/wp-content/uploads/2020/11/Hendrickson-et-al.-2020.-Concentration-and-Its-Impacts-FINAL.pdf>, loghry]

The concentration and consolidation we have broadly outlined has often been justified on the basis of efficiency, despite failing to incorporate an enormous number of social, economic and ecological externalities when calculating such measures. Nearly 50 years ago, in a series entitled “Who Will Control Agriculture?,” agricultural economists Briemyer, Guither and Sundquist (1973) warned that the changing organization of agriculture did not enhance the efficiency or productivity of the system and would exact social and psychological costs on farmers and society. In addition, some recent studies have failed to measure efficiency gains (nor price reductions) from consolidation in manufacturing (Blonigen and Pierce 2016). Defenders of the current monopolized system cite that consumer welfare has not been harmed,17 yet consumer prices are “sticky,” rising when costs for powerful processors and retailers increase, but less likely to fall when prices paid to farmers decrease (Shields 2010). Recently, a number of lawsuits point to multiple cases of price-fixing, including in tuna, and allegedly in chicken, beef and pork.18 For those of us concerned with resilience, efficiency has often been the enemy of redundancy, which can provide fail-safe mechanisms, making systems more resilient. Here we present two cases – the meat industry and the widespread problems with the herbicide dicamba – to illustrate the fragility and interconnectedness of the dominant agrifood system. The Meat Industry Nowhere is this systemic vulnerability clearer than in the protein sector, which has been hard hit by the COVID-19 crisis, particularly in North America. Meat production, processing and consumption have risen steadily in recent years, part of the “meatification” of global society (Weis 2015; Winders and Ransom 2019). Increased meat consumption is a central component of the industrial diet developed in the United States (Winson 2013) and diffused globally, contributing to obesity epidemics throughout the world (Otero 2018). The feed/meat complex has developed with concerted cooperation between state and market actors through various subsidies and pro-business regulations (Howard 2019). Meatification, primarily the feed/cattle complex, is also a major contributor to greenhouse gas emissions (IPCC 2018). Meat processing is one of the most dangerous jobs in the United States, especially hazardous for immigrant groups with limited English-speaking skills and sometimes precarious legal status (GAO 2005; Choi and Constance 2019; Human Rights Watch 2005). The “chickenization” of the red meat industry has restructured meatpacking from a dangerous, but good paying, blue-collar, union job dominated by white males to an even more precarious working-class, non-union job, often staffed by marginalized female, immigrant, and refugee groups (Freshour 2019; Schwartzmann 2013; Stull 2019; Stull and Broadway 2005). Finally, “chickenization” is also restructuring the protein production sector away from open markets to contract farming, as captive supplies in beef (see Table 1) and contracting in pork further marginalize producers. This protein sector clearly illustrates the complex interconnectedness of one industry. Recently, this sector revealed how worker vulnerabilities triggered by COVID-19 created crises in worker welfare, animal welfare and farmer livelihoods during the pandemic. In our consolidated farm and food system, farmers, workers and the environment are interconnected, meaning that when problems hit one part, they quickly engulf others. For meatpacking, the coronavirus hit workers, and a supply chain focused on efficiency quickly broke down. Below we focus on the impacts to workers, farmers and the environment of this one massive disruption that is a wake-up call to redesign the system. Labor: According to reporting by Leah Douglas at the Food and Environment Reporting Network, over 40,500 workers in 417 meatpacking plants had tested positive for COVID-19 by mid-August, and 189 meatpacking have died from it (see Figure 5). Transmission of COVID-19 among workers has been rapid and difficult to control in almost all large-scale poultry, pork and beef processing plants in N. America, Europe and Latin America. For instance, the Centers for Disease Control (CDC) reported that in 14 states, 9% of meat and poultry processing workers were diagnosed with COVID19 by the end of May. Close working conditions for long time periods, shared transportation to work, and shared (congregate) housing were highlighted by the CDC as potential causes. When industry CEOs such as John Tyson warned of a meat supply crisis due to plant shutdowns, President Trump issued an executive order that declared meatpacking plants to be “critical infrastructure” under the Defense Production Act and prohibited their closure by state health authorities.19 Farmers/Animal Welfare: By mid-April, nearly 20 percent of daily pork processing capacity had been idled by COVID-19, with similar problems in beef processing.20 An early outbreak at a Smithfield Foods plant in S. Dakota shut down a plant responsible for 5 percent of the nation’s daily pork slaughter.21 When a plant that processes nearly 20,000 animals a day closes, it creates crises for farmers supplying that plant. They must either feed those animals, find an alternative market or euthanize them. Alternative markets for 20,000 pigs per day are difficult to find, even outside a pandemic situation. One agriculture press article estimated that nearly a million pigs had disappeared from slaughter markets in the second quarter of the year, with anywhere from 300,000 to 800,000 pigs euthanized.22 At the low estimate, that’s nearly 29,000 tons of pork destroyed.23 At least 2 million chickens were also euthanized by mid-May.24 Previous mass euthanizations occurred in the wake of livestock disease epidemics, such as porcine diarrhea virus epidemic in 2013 and avian influenza in 2015. The genetic uniformity of these animals contributed to their susceptibility—globally just one breed accounts for more than 99% of turkeys, for example, and in the U.S. more than 85% of dairy cows belong to the Holstein breed. Mass euthanasia of healthy, marketable livestock has undoubtably caused emotional trauma for farmers, and all of us can lament the tremendous loss of life and natural resources embodied in the once living animals. The wastefulness of a system with few fail-safe mechanisms is astounding. It also clearly illustrates that our agrifood system more heavily emphasizes relations of power rather than feeding people. Food, Feed and the Environment: Meat production at this scale requires enormous amounts of corn and soybeans, two of the seven so-called “program crops” that have historically been heavily subsidized by the U.S. Farm Bill, both through direct payments and subsidized crop insurance (Starmer and Wise 2007; see also Congressional Research Service 2018).25 Howard (2019) argues that firms like Tyson, Smithfield and JBS were able to consolidate due to low feed costs, made possible by direct and disaster payments that kept row-crop farmers producing even though market prices did not cover their costs. Most of the best soil in the U.S. is devoted to the production of corn and soybeans.26 In 2018-2019, just under 40% of the U.S. corn crop was used for feed27 - some of which those hogs and chickens ate before they were euthanized. 28 The cornsoy rotation that covers much of Corn Belt, contributed to the Heartland region having the lowest diversity in seven of the eight USDA census years between 1978 and 2012 (Aguilar et al. 2015).29 Monocultures negatively impact the provision of ecosystem services and biodiversity through simplifying the ecosystem and by requiring higher production inputs (Klasen et al. 2016). Corn and soybeans become the de facto crop rotation across large portions of the Corn Belt, with associated soil erosion that was estimated to cost Iowa farmers $1 billion per year (Eller 2014). Soil erosion costs the entire U.S. over $44 billion per year, including $100 million in lost farm income.30 The washing away of nitrogen and phosphorus fertilizers in top soil contributes to hypoxia, such as the Dead Zone in the Gulf of Mexico.31 A renewed interest in soil health has led to increased use of cover crops and reduced tillage which can alleviate these problems, but still fewer farmers on the land farming larger acreages make the labor and timing of such practices challenging (Hendrickson 2019). Few if any markets exist for diversified crops and livestock meaning crop rotations are limited (Roesch-McNally et al. 2018). Dicamba Debacle:“[T]he herbicide for which [Mike] Wallace literally gave his life”32 Dicamba, registered as an herbicide in 1967 and available in 1,000 products in the U.S.,33 has recently pitted farmer against farmer and farmer against community, as well as given “all of agriculture a black eye"34 in the words of one weed scientist. In the five years since Monsanto’s (now Bayer’s) Xtend dicamba resistant soybeans were approved, all of the large agrochemical-seed firms have introduced dicamba-tolerant seeds, including ChemChina, Corteva, BASF and Bayer.35 In the same time period, the Heartland has witnessed one related murder,36 thousands of dollars of uncompensated off-target injuries and failure of institutions to combat the power of agriculture firms. Power Play: In 2015, Monsanto’s Xtend (dicamba-glyphosate tolerant) soybeans were approved for the 2016 planting season, even though the accompanying less volatile formulation of dicamba was not approved.37 Thus the dicamba formulation available in 2016 was not allowed for “incrop” use as it was volatile and could easily drift. Monsanto continued to sell these beans, and seemed to blame farmers when some “tried using older formulations of dicamba and the off target movement was very bad.”38 Indeed, court documents in a peach grower’s lawsuit against Bayer and BASF suggest that the companies “created circumstances that damaged millions of acres of crops by dicamba in order to increase profits from a set of new dicamba-related products offered for sale beginning in 2015.”39 By 2017, the new formulations of dicamba had been approved so farmers could plant dicamba-tolerant soybeans and legally use dicamba to control weeds in mid-summer. Still dicamba damage continued. There were reports of so-called defensive planting, whereby farmers protected themselves from neighboring farmers’ use of dicamba by planting Xtend or other dicamba tolerant soybeans40 – especially if the price was not substantially different than other traited seeds.41 While dicamba resistant soybeans were widely planted from 2017- 2020, – largely because of resistant weeds like waterhemp and Palmer amaranth, problems with dicamba use remained. Weed scientists at the University of Missouri detailed potential problems with volatility even with new formulations.42 In February, 2020 a jury awarded Bader Farms, a peach orchard, $15 million in compensation for damages from off-target dicamba drift, and awarded over $200 million more in punitive damages.43 In June, the agriculture community was stunned when a federal court ruled that EPA’s approval of reformulated dicamba (XtendiMax, Engenia and FeXapan) in use on “an estimated 60 million acres of soybeans and cotton [was] vacated – or ended – effective immediately.”44 Farmers could apply any existing stocks of those herbicides through July 31, 2020.45 Environmental Consequences of Corporate Actions: To understand the problems with dicamba, Howard and Hubbard (2020) trace changes in the seed industry, with historic seed firms first being acquired in the 1970s by oil and grain trading companies, and then by agrochemical companies in the 1990s. The latter was spurred by slowing rates of growth in agrochemical sales largely due to environmental concerns. Then came herbicide-tolerant crops, starting with the introduction of Monsanto’s Round-Up Ready soybeans in 1996. Agrochemicalseed firms could now bundle seeds and chemicals, which could keep farmers dependent upon one firm for these inputs (James, Hendrickson and Howard, 2013). The herbicide dicamba has been in use since the 1960s, primarily in corn production, but tensions exploded in 2016. Why? Monocropping in cotton, corn, and soybeans have created a plethora of herbicide-resistant weeds46 that have occurred since the introduction of Round-Up Ready seeds. Dicamba-tolerant, as well as 2,4-D tolerant seeds, were seen as an urgently needed solution. As Missouri weed scientist Kevin Bradley notes, dicamba became a problem for two reasons: farmers spray more to combat weeds such as herbicide resistant pigweed (Amaranthus palmeri), which we note thrives particularly well in a rapidly changing climate; and dicamba is being used later in the season, which makes it vulnerable to drift due to hot and humid conditions.47 This overreliance on one single weed management tool – herbicides – alarmed soil scientists who argue that soil conservation gains are threatened by the tillage desperate farmers use to control weeds, and called for an “integrated weed management” approach (CAST 2012). Community Impact: The volatility of dicamba has pitted neighbor against neighbor in rural communities. The most poignant, of course, is the murder of Mike Wallace by his farming neighbor’s employee, Curtis Jones, over dicamba drift damage to an estimated 40% of Wallace’s crops. In the months after this murder, Wallace’s family worked to get a permanent ban on dicamba, “a quest that has put Wallace’s family at odds with many of their neighbors.”48 Others acknowledge the potential community problems, as this Arkansas farmer said in 2017, “We’re trespassing on our neighbors, and we’re trespassing on our neighbors in town. It’s not just our neighbor farmers. There’s a lot of damage in yards. You hate to say that and call attention to it, but it is a reality.”49 In 2018, just two years after dicamba tolerant beans were introduced, an investigation by the agricultural news service DTNPF on community impacts of dicamba drift exposed the destruction of a South Dakota CSA farm’s crops, a Tennessee rural resort struggling to save gardens and trees, and an Illinois homeowner who spent at least $10,000 investigating damage from dicamba on her “carefully landscaped yard.”50 In all these cases, individuals – in the first two instances, consumers and farmers attempting to build agrifood alternatives – were blindsided by the constrained choices of conventional farmers (e.g. Hendrickson and James 2005). In essence, the rights of rural community members to make choices about their livelihoods or even their enjoyment of rural properties is usurped by the right of dominant agrifood companies to profit or of conventional row-crop farmers to control weeds.51 Perhaps the situation is best summed up by a Missouri farmer interviewed in 2019 (James et al. 2020): “With Dicamba, you can do everything right and it can still move around and damage the neighbor’s orchard or the garden of the lady down the road….morally, can you spray a product that you have no control over once it leaves the boom tip and you have to rely on Mother Nature to keep it where it's at and you damage someone else's crop?” Failure of Institutions: The power of these dominant firms is also demonstrated by the failure of the EPA and state agencies to regulate dicamba, and the struggle by universities to provide accurate information about its use. University weed scientists were caught off-guard as dicamba related injuries accumulated in 2016 and 2017.52 Some state agencies have been in the crosshairs between corporate power, desperate farmers and community concerns. For instance, after the Arkansas Plant Board restricted use of dicamba-based herbicides in 2016 and 2017, Monsanto sued the board “arguing that the 2016 rule had effectively prohibited in-crop use of XtendiMax in 2017, and that the 2017 rule would effectively prohibit in-crop use of XtendiMax in 2018.” At the same time, farmers also sued the board after it set an early April, 2018 cut-off date for spraying dicamba instead of the May 25 date.53 Other state agencies responsible for regulating herbicides issued and rescinded bans limiting use at certain times,54 and pleaded with EPA to ban post-emergent use when reregistering the chemical.55 States were flooded with damage reports,56 even though some farmers felt state agencies were reluctant to investigate and even discouraged reports.57 The federal judiciary stepped in, vacating EPA’s approval of three specially formulated herbicides in the middle of the 2020 growing season.58 Farmer and Community Impacts Both of these cases serve as illustrations for the impacts of concentration in the food system across multiple, global scales. As Hendrickson (2015) argues, a consolidated system constrains the ability of farmers to manage their farms using agroecology, which requires diversity and redundancy, rather than specialization and efficiency. In Too Big to Feed, the International Panel of Experts on Sustainable Food Systems (IPES-Food 2017)59 argued that agrifood consolidation reduces farmer autonomy and redistributes costs and benefits across the food chain, thereby squeezing farmer incomes. The table below illustrates this squeeze. One can see that the median net farm income for intermediate farms, those grossing less than $350,000 and for which one of the operators considers farming an occupation, was -$1,524 in 2018.

#### Agriculturally driven topsoil loss is accelerating and unsustainable – extinction

Cribb 17 (Julian Cribb – Australian National University Emeritus Faculty and Australian Academy of Technology Science and Engineering Fellow, 2017, “Surviving the 21st Century”, <https://link.springer.com/content/pdf/10.1007%2F978-3-319-41270-2.pdf>, accessed 8/16/21)

Not Just Dirt “A rough calculation of current rates of soil degradation suggests we have about 60 years of topsoil left,” Sydney University’s Professor John Crawford told TIME magazine in an interview. “Some 40 % of soil used for agriculture around the world is classed as either degraded or seriously degraded—the latter means that 70 % of the topsoil, the layer allowing plants to grow, is gone. Because of various farming methods that strip the soil of carbon and make it less robust as well as weaker in nutrients, soil is being lost at between 10 and 40 times the rate at which it can be naturally replenished” (Crawford 2012 ). In a separate report, Professor Duncan Cameron of the University of Sheffi eld’s Grantham Centre for Sustainable Futures found that nearly 33 % of the world’s arable land had been lost to erosion or pollution between 1975 and 2015 (Cameron et al. 2015 ). Soil degradation is among humanity’s largest impacts on the planet—and is typically the one that is least understood or of concern to city people, in spite of the real threat it poses to their future. American soil scientists Bruce Wilkinson and Brandon McElroy calculated that we displace around 75 billion tonnes of topsoil worldwide every year, based on contemporary levels of erosion measured in farmers’ fields (Wilkinson and McElroy 2007 ). This is nearly four times greater than the natural erosion which takes place Earthwide without human agency. Most of this lost soil eventually ends up at the bottom of the ocean, borne on the wind or in rivers, and so can never again be used to grow food or forests. While the lion’s share of the erosion is due to land-clearing, crop cultivation or overgrazing, a significant portion is caused by badly-designed urban development, drainage, roads and engineering works. Since soil typically takes from thousands to millions of years to form through natural weathering of rock and the workings of biology, such a colossal loss of the world’s topsoil represents an un-staunched haemorrhage of one of the main things which keeps us alive. The destruction of topsoil has contributed to the collapse of civilisations in the past, notable cases being the Mayans, the Greeks and the Romans. “Many ancient civilizations indirectly mined their soil to fuel their growth…” writes David Montgomery, author of ‘Dirt’ (Montgomery 2007 ). “Such problems are not just ancient history. That soil abuse remains a threat to modern society is clear from the plight of environmental refugees driven from the US southern plains Dust Bowl in the 1930s, the African Sahel in the 1970s and across the Amazon Basin today.” South African researchers calculate that soil loss has already reduced African food production by 8 %, with worse to come (Scholes and Scholes 2013 ). Scientists and aid agencies increasingly link the onset of the Syrian civil war and refugee crisis to a savage drought which started in 2006 and turned thousands of farmers off their land (UNCCD 2014 ). UNCCD executive secretary Monique Barbut said: “When land degradation reaches a level at which it seriously threatens people’s livelihoods, it can turn into a security issue. This is because land is so closely linked to basic human needs, such as access to food and water. If land degradation interferes with the fulfilment of these needs, it can lead to conflicts over scarce land and water resources, spark food riots or turn smallholder farmers into refugees. It is striking that many of today’s violent conflicts are taking place in countries with vulnerable dry ecosystems” (Barbut 2014 ). The United National Food and Agriculture Organisation cautions there are many impacts of soil degradation : “Firstly, billions of tons of soil are being physically lost each year through accelerated erosion from the action of water and wind and by undesirable changes in soil structure. Secondly, many soils are being degraded by increases in their salt content, by waterlogging, or by pollution through the indiscriminate application of chemical and industrial wastes. “Thirdly, many soils are losing the minerals and organic matter that make them fertile, and in most cases, these materials are not being replaced nearly as fast as they are being depleted. Finally, millions of hectares of good farmland are being lost each year to nonfarm purposes; they are being flooded for reservoirs or paved over for highways, airports, and parking lots. The result of all this mismanagement will be less productive agricultural land at a time when world population is growing and expectations are rising among people everywhere for a better life” (UNFAO 2015a ). “Soil erosion is most serious in China, Africa, India and parts of South America. If the food supply goes down, then obviously, the price goes up. Th e crisis points will hit the poorest countries hardest, in particular those which rely on imports…The capacity of the planet to produce food is already causing conflict,” Crawford told TIME. Rich countries are not immune: they will have to cope with floods of fleeing refugees—as in the Syrian crisis, whose deep drivers many now attribute to a combination of desertification and climate change—increasingly volatile food prices, spreading ill-health in their own populations, conflicts arising out of ‘food wars’ and failed states. Soil degradation is not an isolated problem. In particular, it causes the degradation of fresh water—turning rivers and lakes turbid and blocking dams with sediment, poisoning them through chemical and nutrient runoff. It causes dust storms, injurious to human health and, when it enters the ocean is chiefly responsible for the lifeless ‘dead zones’ now spreading along heavily-populated coastlines around the planet and for the loss of coral reefs. Though the links are seldom appreciated by either consumers or farmers, soil erosion thus contributes to the loss of sea fisheries. There are subtler linkages too: today’s crop varieties, according to Crawford, are specially bred to cope with the depleted conditions of the modern soils in which they are farmed. Th ese crops are much lower in micronutrients—and higher in carbohydrates, a major driver of the global obesity pandemic, as well as the other diet-related diseases that together now claim the lives of two thirds of all humans (WHO 2012). So soil loss is, ironically, one of the factors in a more overweight humanity. In short, global soil degradation is undermining human health and civilisation’s long-term prospects for survival, planetwide. There is, as yet, no end in sight. Yet it is a problem easily solved, as we shall see (Chap.

#### Gulf hypoxia is growing because of ag runoff---it’ll collapse whole oceans---extinction

Dr. Ian Hendy 17, PhD in Trophic Marine Biology, Research and Communication Officer and Senior Scientific Researcher in Marine Ecology at the University of Portsmouth, Institute of Marine Sciences Laboratories, Gulf of Mexico 'Dead Zone' Is Already A Disaster – But It Could Get Worse, Phys Org, 8-14, https://phys.org/news/2017-08-gulf-mexico-dead-zone-disaster.html

Each summer, a large part of the Gulf of Mexico "dies". This year, the Gulf's "dead zone" is the largest on record, stretching from the mouth of the Mississippi, along the coast of Louisiana to waters off Texas, hundreds of miles away. Around 8,776 square miles of ocean, an area the size of New Jersey or Wales, is almost lifeless. John Muir, the famed naturalist and early conservation campaigner, once said that: "When we try to pick out anything by itself, we find it hitched to everything else in the Universe." His point was that everything in nature is connected, and that no part of our ecosystem exists entirely independently from any other. It is perhaps no surprise then that ultimate cause of the Gulf of Mexico's dead zone can be found many miles inland. Fertilisers used by farmers then wash into the Mississippi River and eventually into the sea, where nutrients such as nitrogen and phosphorus stimulate an explosion in microscopic algae, creating huge "algal blooms". The algae then die and sink to the bottom, where they decompose. But the same bacteria which decompose the algae also use the sea's oxygen during the process, leaving an "anoxic" ocean. Fish and other mobile sea creatures are able to escape the suffocating dead zone. Less lucky however are the sponges, corals, sea squirts and other animals who live their lives fixed in one place on the sea bed. Low oxygen levels place them under great stress and we have seen huge mortalities. Such losses will of course ripple up the food web, creating a negative chain reaction of increasing mortality rates in larger and larger animals. The "dead zone" has grown this year due to increased rainfall in America's Midwest washing ever greater amounts of nutrients into the Mississippi, which ultimately end up in the Gulf. Not only is this a huge conservation issue – the Gulf contains key nursery habitats such as mangrove forests, sea grass beds and coral reefs that benefit adjacent fisheries – but it also has huge consequences for the local fishing economy, particularly the shrimp industry. Steps are under way to slow down the ecological disaster. Some farmers in the Mississippi basin are using large grassy zones along waterways in order to soak up the agricultural fertilisers and filter out many of the nutrients before they make their way down the Mississippi to pollute the Gulf. However, it remains to be seen whether such measures are effective – and US farmers certainly need to greatly reduce the nitrogen and phosphates they use. In the century since Muir's death, things have sped up. A larger population demands more food which means more deforestation, more farmland and more fertiliser. The increase demand placed on our land is ultimately affecting the marine environment. These losses are unsustainable. The marine environment is integral for all life on earth, from an ecological and economic point of view. If we keep losing ecosystem services such as coastal nursery habitats and spawning grounds at this current rate, it will not just be an area the size of a state that is a dead zone, but the whole Gulf, or even whole oceans.

#### Biodiversity loss causes extinction

Phil Torres, Scholar at the Institute for Ethics and Emerging Technologies, 5-20-2016, "Biodiversity Loss: An Existential Risk Comparable to Climate Change," Future of Life Institute, https://futureoflife.org/2016/05/20/biodiversity-loss/

Catastrophic consequences for civilization. The consequences of this rapid pruning of the evolutionary tree of life extend beyond the obvious. There could be surprising effects of biodiversity loss that scientists are unable to fully anticipate in advance. For example, prior research has shown that localized ecosystems can undergo abrupt and irreversible shifts when they reach a tipping point. According to a 2012 paper published in Nature, there are reasons for thinking that we may be approaching a tipping point of this sort in the global ecosystem, beyond which the consequences could be catastrophic for civilization. As the authors write, a planetary-scale transition could precipitate “substantial losses of ecosystem services required to sustain the human population.” An ecosystem service is any ecological process that benefits humanity, such as food production and crop pollination. If the global ecosystem were to cross a tipping point and substantial ecosystem services were lost, the results could be “widespread social unrest, economic instability, and loss of human life.” According to Missouri Botanical Garden ecologist Adam Smith, one of the paper’s co-authors, this could occur in a matter of decades—far more quickly than most of the expected consequences of climate change, yet equally destructive. Biodiversity loss is a “threat multiplier” that, by pushing societies to the brink of collapse, will exacerbate existing conflicts and introduce entirely new struggles between state and non-state actors. Indeed, it could even fuel the rise of terrorism. (After all, climate change has been linked to the emergence of ISIS in Syria, and multiple high-ranking US officials, such as former US Defense Secretary Chuck Hagel and CIA director John Brennan, have affirmed that climate change and terrorism are connected.) The reality is that we are entering the sixth mass extinction in the 3.8-billion-year history of life on Earth, and the impact of this event could be felt by civilization “in as little as three human lifetimes,” as the aforementioned 2012 Nature paper notes. Furthermore, the widespread decline of biological populations could plausibly initiate a dramatic transformation of the global ecosystem on an even faster timescale: perhaps a single human lifetime. The unavoidable conclusion is that biodiversity loss constitutes an existential threat in its own right. As such, it ought to be considered alongside climate change and nuclear weapons as one of the most significant contemporary risks to human prosperity and survival.

#### Monoculture makes ABR pandemics inevitable---extinction

Pamlin 15 – Dennis Pamlin, Entrepreneur and Founder of 21st Century Frontiers, Senior Associate at Chinese Academy of Social Sciences, Visiting Research Fellow at the Research Center of Journalism and Social Development at Renmin University, Advisor to Centre for Sustainable Development at Confederation of Indian Industries, Stuart Armstrong, DPhil from Oxford University, James Martin Research Fellow at the Future of Humanity Institute at Oxford University, “Global Challenges, 12 Risks That Threaten Human Civilization: The Case for a New Risk Category”, Global Challenges Foundation, February, https://api.globalchallenges.org/static/wp-content/uploads/12-Risks-with-infinite-impact.pdf

3.1.4.1 Expected impact disaggregation 3.1.4.2 Probability Influenza subtypes266 Infectious diseases have been one of the greatest causes of mortality in history. Unlike many other global challenges pandemics have happened recently, as we can see where reasonably good data exist. Plotting historic epidemic fatalities on a log scale reveals that these tend to follow a power law with a small exponent: many plagues have been found to follow a power law with exponent 0.26.261 These kinds of power laws are heavy-tailed262 to a significant degree.263 In consequence most of the fatalities are accounted for by the top few events.264 If this law holds for future pandemics as well,265 then the majority of people who will die from epidemics will likely die from the single largest pandemic. Most epidemic fatalities follow a power law, with some extreme events – such as the Black Death and Spanish Flu – being even more deadly.267 There are other grounds for suspecting that such a high impact epidemic will have a greater probability than usually assumed. All the features of an extremely devastating disease already exist in nature: essentially incurable (Ebola268), nearly always fatal (rabies269), extremely infectious (common cold270), and long incubation periods (HIV271). If a pathogen were to emerge that somehow combined these features (and influenza has demonstrated antigenic shift, the ability to combine features from different viruses272), its death toll would be extreme. Many relevant features of the world have changed considerably, making past comparisons problematic. The modern world has better sanitation and medical research, as well as national and supra-national institutions dedicated to combating diseases. Private insurers are also interested in modelling pandemic risks.273 Set against this is the fact that modern transport and dense human population allow infections to spread much more rapidly274, and there is the potential for urban slums to serve as breeding grounds for disease.275 Unlike events such as nuclear wars, pandemics would not damage the world’s infrastructure, and initial survivors would likely be resistant to the infection. And there would probably be survivors, if only in isolated locations. Hence the risk of a civilisation collapse would come from the ripple effect of the fatalities and the policy responses. These would include political and agricultural disruption as well as economic dislocation and damage to the world’s trade network (including the food trade). Extinction risk is only possible if the aftermath of the epidemic fragments and diminishes human society to the extent that recovery becomes impossible277 before humanity succumbs to other risks (such as climate change or further pandemics). Five important factors in estimating the probabilities and impacts of the challenge: 1. What the true probability distribution for pandemics is, especially at the tail. 2. The capacity of modern international health systems to deal with an extreme pandemic. 3. How fast medical research can proceed in an emergency. 4. How mobility of goods and people, as well as population density, will affect pandemic transmission. 5. Whether humans can develop novel and effective anti-pandemic solutions. 1. Extensive medical research will be key to preventing and combatting large scale pandemics. The drawbacks are the possibility of accidental release of dangerous pathogens from laboratories and of bioterrorism. 2. As so much is known about pandemic risks compared with other risks, there are more possibilities for specific prepandemic contingency plans. 3. The effectiveness of healthcare systems will be important, especially in less developed nations where the pandemic may overwhelm the system, and then transmit from there to other nations. 4. Global coordination in detection, analysis and treatment are vital for stopping a pandemic in its early stages, and for implementing measures such as quarantines and more advanced countermeasures. 5. Poverty will affect the quality of national healthcare systems, population density and sanitation quality, the movement of local goods and people, and the effectiveness of the political response. 6. Bioterrorists may unleash a pathogen held in storage, such as smallpox. 7. Laboratory security at the top labs is insufficient for the danger at hand, and accidental release is a nonnegligible possibility. 8. Pandemics are one of the risks where there is a possibility for a very large number of direct casualties, depending on the severity of the pathogen. 9. Mass casualties and finger-pointing could destabilise the world political and economic systems. 10. If the pathogen is transmissible to farm animals, this could affect the world food supply. 11. It is unlikely the pathogen would be a recurrent, long-term risk, but variants of it could continue to affect people and animals for many years, dependent on its transmissibility and life cycle. 12. Small pandemic scares could improve global coordination on the issue. 13. Increased population density causes increased transmissibility of the pathogen, especially in urban slums. 14. Some pathogens, such as bird flu, depend on regular contact between humans and “reservoir species” in order to evolve into periodically dangerous strains. 15. If antibiotic resistance develops, humanity could see the resurgence of bacteria-based pandemics. 16. The increased movement of people and products increases the speed and spread of pandemic transmission. 17. Sanitation or its lack will strongly affect the spread of certain pathogens in key areas. 18. The efficiency of global reaction to a new pandemic will be strongly determined by the speed of research on the pathogen during the pandemic. 19. A great risk will arise if a pathogen combines the different dangerous features of current viruses or bacteria. 20. The improvements to surveillance and sensing technologies (including indirect detection via web queries or social media) open the possibility of smarter interventions (such as microquarantines) and faster understanding of the pathogen’s transmissibility. 21. Post-pandemic politics will be important for preventing a civilisation collapse or enabling reconstruction. 22. Many pathogens incubate in species close to humans, before leaping the species barrier. 23. Monoculture food systems make it easier to transmit any pathogen infecting human food animals. 24. The mode of transmission of the pathogen will be critical to its ultimate reach and impact. 25. Various countermeasures are available in terms of detection, virus analysis, treatment, and quarantining. Future research, technological and political developments may open up new methods of fighting the pathogen. 26. Many of the current factors determining pathogen transmission are unprecedented, such as movements of goods and people, the quality of healthcare systems, and the existence of a centralised political response. This means that data from past pandemics will not be as reliable for computing probability distributions. 27. The pandemic risk lies in the “tails” – the extreme events – and these tails must be estimated from few data points, making them tricky and uncertain. 3.1 Current risks during 2013 3.1.4.3 Main events 10-Jun-13: Pandemic Influenza Risk Management: WHO Interim Guidance 278 – Policy This is an updated document that replaces the 2009 Pandemic Influenza Preparedness and Response: a WHO guidance document.279 It updates its recommendations based on lessons from the influenza A(H1N1) 2009 pandemic (swine flu),280 the adoption by the Sixty-fourth World Health Assembly of the Pandemic Influenza Preparedness Framework281 (for the sharing of influenza viruses and access to vaccines and other benefits), and the States Parties’ obligations on capacity strengthening contained in the International Health Regulations of 2005.282 Of significance was the Report of the Review Committee on the Functioning of the International Health Regulations (2005) on the A(H1N1) 2009 pandemic,283 which concluded: “We were lucky this time, but as the report concludes, the world is ill-prepared to respond to a severe influenza pandemic or to any similarly global, sustained and threatening public-health emergency.” This is reinforced by the fact that the 2009 pandemic is alleged to have infected 24% of the population.284 The main lesson the WHO drew from that epidemic was that member states generally had communication issues (between ministries of health and decision,makers, and with the public), and were prepared for a pandemic of high severity and appeared unable to adapt their national and subnational responses adequately to a more moderate event. The guidance paper indicates simultaneously the weaknesses of pandemic preparations, the improvements in these preparations, and the continued role of the WHO as global directing and coordinating authority. 24-Jul-13: Bacteria become resistant to some of the last remaining antibiotics 285 – Event Bacterial infections, such as the Black Death, 286 syphilis, 287 and tuberculosis, 288 have been responsible for millions of deaths, over the thousands of years they have co-existed with humanity. Though these diseases have not been eradicated – overall, a third of the world is currently infected with the tuberculosis bacillus289 – they have been controlled since the introduction of antibiotics, and prognostics have improved tremendously. But recently a rising number of bacteria have developed antibiotic resistance, due mainly to antibiotic over-prescription290 and use in livestock feed.291 This Nature report highlights the worrying way in which Enterobacteriaceae (bacteria with a 50% mortality rate) have become resistant to carbapenems, one of the last remaining antibiotics that had been effective against them.

#### Industrial ag collapses insect populations---extinction

Dr. Liz Kimbrough 21, Ph.D. in Ecology and Evolutionary Biology from Tulane University, BS in Botany from Humboldt State University, Journalist at Monga Bay, “Are Major Insect Losses Imperiling Life on Earth?”, Monga Bay, 1/28/2021, https://india.mongabay.com/2021/01/are-major-insect-losses-imperiling-life-on-earth/

New studies assessing insect declines around the planet find that on average, the decline in insect abundance, seen on nearly every continent, is thought to be around 1-2% per year or 10-20% per decade. Precipitous insect declines are being escalated by humanity as soaring population and advanced technology push us closer to overshooting several critical planetary boundaries including biodiversity, climate change, nitrification, and pollution. Action on a large scale (international, national, and public/private policymaking), and on a small scale (replacing lawns with insect-friendly habitat, for example) are desperately needed to curb and reverse insect decline. Chances are, the works of the world’s insects touch your lips every day. The coffee or tea you savor, both are pollinated by insects. Apples, oranges, cabbages, cashews, cherries, carrots, broccoli, watermelon, garlic, cinnamon, basil, sunflower seeds, almonds, canola oil — all are insect-pollinated. Honey, dyes, even some vaccines require insects to come to fruition. Vital to the world’s food web, nested in nutrient cycling, and embedded in industries — the closer we look, the more we see insects as vital to maintaining life’s frameworks. Referring to this fact, famed biologist E.O. Wilson wrote in 1987, “[I]f invertebrates were to disappear, I doubt the human species could last more than a few months.” Which is why the precipitous decline of insects is raising alarms. Insect populations are being reduced at varying rates across space and time, but on average, the decline in their abundance is thought to be around 1-2% per year, or 10-20% per decade. “Think of a landowner with a million-dollar house on a river that’s a little bit wild. And they’re losing 10% to 20% of their land every decade, and it’s horrifying. It means that after even a century, you really don’t have anything left,” David Wagner, an entomologist with the University of Connecticut told Mongabay in an interview. That, he says of this comparison, is the danger we now face. Wagner has just edited a newly released in-depth feature in the Proceedings of the National Academy of Science, Global Decline of Insects in the Anthropocene, in which 56 researchers present scientific studies, opinions and news on insect declines. The journal offers perspectives on the ecological, taxonomic, geographical and sociological dimensions of insect declines, along with suggestions on how we move forward to study and reverse this drain on global biodiversity. Insect “death by a thousand cuts” In a perspective piece that leads off the special issue, Wagner and his co-authors address the likely causes of insect decline. The main stressors to insects, they write, are changes in land use (particularly deforestation), agriculture, climate change, nitrification, pollution and introduced species. However, the importance of each stressor and how they interact still puzzles scientists. “There are so many good scientists that can’t figure out what the cause is,” Wagner said. He poses the well-known honeybee as an example. “I mean, this thing is worth billions upon billions of dollars and we don’t know why it’s having such a hard time. And I think the reason is, it’s death by a thousand cuts… most of these things are hit by four or five pretty important stressors, and they’re acting synergistically.” The articles that follow that opening essay zero in on the key causes for some of the biggest known losses: A study by Wagner and Peter Raven, president emeritus of the Missouri Botanical Garden, concludes that declines in insect biodiversity and biomass are linked to the intensification of agriculture over the past 50 years. Research by Dan Janzen and Winnie Hallwachs — both biologists from the University of Pennsylvania who describe themselves as “intense observers of caterpillars, their parasites, and their associates” — focuses on climate change as a stressor. Since the late 1970s, they write, they’ve watched as insect declines came to the dry forests, cloud forests, and rainforests of Costa Rica’s Guanacaste Conservation Area, as the region was plagued by rising temperatures, increasingly erratic seasons and inconsistent rainfall. Another study in the special feature, titled, Insects and recent climate change, argues that climate may be playing even more of a role in declines than land-use change — which is massive around the planet mostly due to agribusiness expansion. The authors base their climate findings on a Northern California butterflies case study, where declines were severe even in areas suffering little habitat loss. Similar losses within well-protected areas have been detected in Germany and Puerto Rico. Likewise, butterfly populations in Europe face challenges. In the UK, butterfly numbers have declined by around 50% over the past 50 years, with 8% of known resident species considered extinct. In the Netherlands, upwards of 20% of species have been lost and in Belgium 29%. Researchers suggest habitat loss, habitat degradation and chemical pollution as the primary causes. The authors offer conservation solutions and recommend policy changes to conserve butterflies and other insects — but so far political will has been lacking. Moving from the winged creatures of the day to night fliers, Wagner and colleagues give an overview of the global state of moth declines. Moths are extremely diverse and cosmopolitan. “For every butterfly that Mongabay readers see during the daytime, there are 19 species of moths flying around at night,” Wagner revealed. Although moth numbers have declined in some areas, such as in parts of Europe and Central America, in other, mostly temperate areas, many moth taxa are increasing in abundance. Another study found that the overall abundance of arthropods in the Arctic has increased in recent years. Researchers attribute these increases in insect abundance to climate change, which scientists say has both its species winners and losers. As warmer temperatures march northward, new suitable habitats open up for insects. The consequences of this range expansion — and the conflicts which may occur with plant and insect species already occupying those ranges — have yet to be analysed. Insect declines are emblematic of a larger problem: the earth is in the midst of what some call the “sixth mass extinction.” Birds, amphibians, freshwater mussels, large mammals, all have seen dwindling numbers. The question for entomologists, Wagner said, is whether or not the decline of insects is actually occurring faster than for some other groups, especially because insects are often the direct target of destruction by human, due to pesticide and herbicide use. Sarah Cornell, a scientist at the Stockholm Resilience Centre (SRC), raises an insect-related question relevant to our time: “There might have been many more mass extinctions. It’s just that we only see extinctions with the things that leave a record… things with skeletons… When people [say], ‘we’re entering the sixth mass extinction.’ Okay, well, how do we know that? We might be entering the 17th?… We might make ourselves extinct before we even reach these hallowed glories of the sixth.” Overshooting planetary boundaries Clearly, the loss of insect abundance — depending on where and how fast it occurs — could have far more dire, unforeseen impacts than the loss of coffee or cashews. The wholesale transformation of global ecosystems, triggering mass insect declines, could be pushing the Earth past what scientists have dubbed as a “planetary boundary.”

### Adv – Food

#### Ag consolidation exploits and marginalizes labor while setting the stage for massive food shocks

Mary K. Hendrickson et. Al (University of Missouri) 11/19/2020 [“THE FOOD SYSTEM: CONCENTRATION AND ITS IMPACTS” w/ Philip H. Howard (Michigan State University), Emily M. Miller (Family Farm Action Alliance) & Douglas H. Constance (Sam Houston State University) online @ <https://farmactionalliance.org/wp-content/uploads/2020/11/Hendrickson-et-al.-2020.-Concentration-and-Its-Impacts-FINAL.pdf>, loghry]

In the last 150 years of relatively temperate and stable climate, we have come to rely on a high-yielding, mechanized, capital-intensive system of agriculture and food that operates at a global scale, impacting local places around the globe unevenly. Lyson (2004) succinctly illustrated how technological revolutions including mechanization, the use of chemicals, and biotechnology made agriculture more specialized, disconnecting food production and consumption from particular places and their communities. Big data/digitalization of agriculture continues this trend (Mooney 2018; Rotz et al 2019). These revolutions tend to deskill agrifood labor, rewarding the most powerful firms and exploiting vulnerable labor forces. Our fossil-fuel dependent transportation systems have enabled regional specialization across the globe – for example, fruit and vegetable specialization in places such as Spain, Kenya or Mexico, or highly industrialized grain production in the American Midwest or Eastern Europe. These processes have altered producers’ relationship with their land and communities, often marginalizing the labor process across the food chain, and changing the relationship of consumers with food acquisition and preparation – transforming ecological and community relationships in the process. These changes have paved the way for the current social and economic structure of our agrifood system. A capital-intensive system rewards those with access to capital (that is money), and marginalizes those without it. This has become particularly important in an increasingly unequal society, where money and power have accrued to a few, predominantly white households, with agriculture following the same trends. More importantly, money and wealth that is increasingly concentrated in the hands of a few risks the notions of dispersed power at the center of Western democracies (Wu 2018). This concentration of ownership, wealth and power is particularly apparent in the agrifood system where just a few companies dominate almost all aspects of food production. The social and ecological risks associated with our current agrifood system – rising levels of food insecurity and hunger, ecological degradation – are directly related to who has the power to make decisions in food and agriculture. Who decides where and what food will be produced, who produces it and how, and who will get to eat it? We observe that these decisions have increasingly migrated from a more community or public arena (c.f. Weis 2007; Wilkinson 2017) into the realm of private decision-making that largely involves those within the biggest firms, including their management teams, boards of directors and shareholders. Those decision-makers have their eye on increasing their power relative to other firms, and although this may increase their profits, it does not usually align with enhancing the public good. We need only look at the agrifood sector during the COVID-19 pandemic. In a time where the World Food Programme warned that the number of hungry people in the world will double to 270 million people1 and dairy farmers dumped their milk while facing bankruptcy,2 grain traders like Bunge and ADM reported healthy profits3 and privately held Cargill returned record profits to the family that constitutes their shareholders. 4 Consolidation and concentration are key features across the food system, from aggregating farmland holdings to seeds and fertilizers to processing and manufacturing to distributing and retailing. We have seen horizontal, vertical and global integration within and across the supply chain, across commodities and food sectors, and at multiple scales – from regional markets to global markets. The food system is not unique in the way capital and decision-making is concentrated. Studies show that concentration is a systemic rather than isolated feature of the broader economy, and within agrifood itself (Hendrickson, Howard and Constance 2019; Khan 2020). Recent authors of The Curse of Bigness (Wu 2018) and Goliath (Stoller 2019) argue that concentrated political and economic power threatens our democracy and must be addressed. From our perspective, it may be even more urgent to address within the agriculture and food system, both in the U.S. and globally, in order to ensure that humanity can be fed in the future. The distribution of power in the food system, embodied in the power to make decisions about what food is produced, how, where and by whom, as well as who gets to eat – and what they get to eat, is our major focus of concern because of the negative impacts of those decisions to farmers, workers, communities and our ecology. Without a rebalancing of economic and political power within the global food system, humanity confronts a crisis over our very sustenance.

#### Industry consolidation magnifies the impact – amplifies shocks and guts resiliency

Merkle et al 21 (Magnus Merkle, School, l of Geosciences, The University of Edinburgh, Institute of Geography, Dominic Moran, Global Academy of Agriculture and Food Security, University of Edinburgh, Frances Warren, School of Geosciences, The University of Edinburgh, Peter Alexander, School of Geosciences, The University of Edinburgh, “How does market power affect the resilience of food supply”, Global Food Security, Vol. 30, September) DB

Food systems are characterised by vertically integrated and increasingly global commodity supply chains. In such systems, regional shocks can quickly cross geographies, causing price spikes and shortages for consumers. Shocks can be caused by a wide range of events, including extreme weather, unsustainable agricultural practices, political crises affecting trade, and pandemics (Bailey et al., 2015; Bakalis et al., 2020; Hamilton et al., 2020). Supply chain configuration can mitigate or exacerbate the associated risks to food supplies. Systems that are resilient have the capacity to maintain food supply in spite of unforeseen disturbances (Tendall et al., 2015). One characteristic of global food supply chains is the concentration of market power, which can emerge from consolidation through mergers and acquisitions assisted by the availability of alternative forms of corporate financing. Power imbalances are manifest in many food supply chain relations (ETC Group, 2015; Hendrickson, 2015; iPES Food, 2017; Renwick, 2012; Swinburn, 2019; Woodall and Shannon, 2018), and a split between corporate ownership and control can create tension between consumer and supplier interests, and those of often-remote shareholders. The power and influence of large companies in the food system has been likened to the role of “keystone species” crucial to the function of ecosystems (Österblom et al., 2015). This ecological analogy leads to the examination of the role of such actors in system resilience. More specifically, how their dominant position affords more or less resilience to other actors and to the overall system. While market concentration and elevated power of individual firms is critically framed in some food system literature, there is little systematic understanding of the effects that market power can have on the resilience of food supply. Literature on indicators of food system resilience (Cabell and Oelofse, 2012; Speranza et al., 2014; Tendall et al., 2015) overlooks the role of market power. Economic literature (Bakucs et al., 2014; McCorriston, 2013; Weldegebriel, 2004) focuses on short-term price movements, without considering resilience or wider adaptive capacity. Most studies either only consider one aspect of market power (e.g. Bakucs et al., 2014 considering market concentration), or else offer no explicit definition of market power (e.g. Woodall and Shannon, 2018). Sexton and Xia (2018) are an exception in considering a range of defined aspects of market power, and their potential effects on agricultural supply chains. Building on economic and socio-ecological systems literatures, we consider how market power affects supply chain resilience to external shocks. We also draw on experience from recent food supply shocks in the UK, a country that is considered to be threatened by “inherent systemic risks”, with 50% of its domestic food sales dependent imports (Benton et al., 2017). The UK also has a recent history of government inquiries into alleged anti-competitive market practices (see CMA, 2019). We outline a differentiated conceptualisation of market power for food system resilience research, and speculate on ways to improve the adaptive capacity of food systems. We first derive working definitions of resilience and market power from the literature. The resilience implications of different dimensions of market power is then analysed, using literature from multiple disciplines and cases from the UK. We end with a reflection on regulatory needs. 2. Resilience and market power The focus on the resilience of food supply arises as a desirable attribute of food systems and concern about food security more generally. This is particularly so when food systems are subject to an increasing array of foreseen and unforeseen shocks. Conceptually, resilience has roots in engineering as well as in ecological literature, which focus on the equilibrium of complex systems and the thresholds that define the boundaries of stable and unstable dynamic systems. Although resilience is defined differently by several disciplines (Thorén, 2014), it is commonly viewed in conjunction with the concept of vulnerability (Nelson et al., 2007). An early definition of system resilience is the dynamic ability of systems to persist in a functional way (Holling, 1973), which can also be termed as the capacity “to continue providing a function over time despite disturbances” (Tendall et al., 2015). Helfgott (2018) suggests specifying this function in terms of resilience of what, to what, for whom, and over what time frame. Following this suggestion, the focus of this study is on the resilience of food supply to external shocks for consumers, over the short to medium time frame. A similar focus on food supply is adopted by Tendall et al. (2015), who define food system resilience as. “the capacity over time of a system and its units at multiple levels, to provide sufficient, appropriate and accessible food to all, in the face of various and even unforeseen disturbances”. Food system resilience has been described as the stability dimension of food security (ibid.). It is also possible to frame system resilience from a perspective of environmental sustainability, or producer livelihoods, which imply a different focus and metrics. Resilience at one end of a supply chain does not always imply resilience at the other points in the chain, and it is important to consider conflicts and trade-offs that can appear (Oliver et al., 2018; Zurek et al., 2020). It is also important to consider larger-scale interactions between consumption, production and ecosystem services, which are all part of the same complex socio-ecological system, hierarchically linked through ecological and economic dependencies and systemic feedback loops (Nyström et al., 2019). A persistently stable food supply is thus underpinned by the sustainability of the whole system. Indicators for resilience in socio-ecological systems include capacity buffers, redundancy, flexibility, diversity, and the right balance between cooperation and autonomy (Cabell and Oelofse, 2012; Speranza et al., 2014). Resilience implies a system's capability to deal with change, namely (1) through system persistence, (2) through incremental system adjustments, or (3) through more fundamental transformational change to maintain a system's function (Doherty et al., 2019). These capacities have been reinterpreted as (1) Robustness to resist disruptions, (2) Recovery, the ability to return to a desired state following disruption, and (3) Reorientation, the ability to change to a different state in order to maintain the function despite the disruption (GFS-FSR, 2019). These three capacities can be conflicting, i.e. a highly robust system might lack capacity to change fundamentally and vice versa (Doherty et al., 2019). Market power refers to the influence of a firm (or a group of colluding firms) over its customers or its suppliers, which increases in less competitive markets (White, 2013). Power can be associated with different and sometimes interrelated causes, including (1) market concentration, for example in the current market for smartphone operating systems largely dominated by two firms, (2) cooperation and collusion between firms, for example in case of an oil oligopoly manipulating oil prices, (3) rigid contracts, for example when a supplier is locked into a contract preventing a change of business partners, (4) exclusive rights or unique products, for example when a firm owns an important patent providing it with a unique technology, or when consumers consistently consider a firm's product more desirable than comparable products by other firms; or (5) infrastructure and size, for example when economies of scale have enabled a firm to grow significantly larger than others, preventing rivals from competing in terms of handling capacity and cost advantage. In each case the extent of actual power and anti-competitive practice can be contested because of data challenges that hamper estimation (Sexton and Xia, 2018; Swinnen and Vandeplas, 2010), and the fact that market concentration indicators are not always indicative of market power (Adajar et al., 2019). Power can be deployed subtly and is difficult to measure as it does not always manifest in the same way. Firms can exercise power for different objectives, including the maintenance of supernormal profits, which is often considered socially detrimental in terms of consumer and producer welfare relative to perfectly competitive markets. In practice, power can enable a variety of outcomes that are tied to questions of accountability, agency, and contracts. In some cases, market power can enable higher levels of consumer welfare (Williamson, 1968). 3. Resilience implications of market power 3.1. Market concentration and vulnerability Market concentration can increase the power of individual firms, as suppliers and customers have fewer alternative firms to do business with. Concentrated markets in the food system include the global agricultural inputs market, where Bayer-Monsanto, Dow-Dupont, ChemChina-Syngenta, and BASF control 70% of the market (DeCarlo, 2018), or the UK retail market, where Tesco, Sainsbury's, Asda, and Morrisons control 67% of the market (KANTAR, 2020). In earlier studies, market concentration has been related to low levels of diversity and redundancy, and thus vulnerability to shocks (e.g. Hendrickson, 2015; Rotz and Fraser, 2015). The rationale is that a disruption hitting one dominant firm, will have more severe consequences for the food system, and low firm diversity is therefore expected to lead to systemic vulnerability. Market concentration at some levels can nevertheless coexist with system (functional) diversity elsewhere. A concentrated retail market, for example, is not necessarily vulnerable to supply disruptions if its upstream supply base remains diversified. Furthermore, a firm can have numerous subsidiaries, contractors, regionally distributed business locations, and functionally independent divisions and operations. Drucker (2010) makes an important distinction in emphasising the difference between economic diversity as “variety of heterogeneous activities comprising an economy at a specific time”, and industrial concentration as “the extent to which the economic activity of an industry or industrial sector is accounted for by one or a few large firms”. Garmestani et al. (2006) highlight that functional richness and functional diversity are central attributes of resilience and these do not necessarily correlate with market concentration. Vulnerability to shocks is associated with homogenous processes that are not robust, have low capacity of recovery, or for reorientation. A lack of diversity on a functional level can impair redundancy and therefore impair resilience (Cabell and Oelofse, 2012). Accordingly, food system resilience assessments need to specifically consider diversity at the functional level rather than only at the level of the market. 3.2. Firm size: a trade-off between infrastructure and flexibility? Power concentrated in fewer larger firms can often imply larger infrastructure and varying flexibility to address shocks. The last UK food security assessment noted that large conglomerates such as Cargill, Archer Daniels Midland and ConAgra help to safeguard supply by managing contracts and providing knowledge, capital, and infrastructure (DEFRA, 2010). This suggests that economies of scale, itself conducive to market power, can be beneficial for the resilience of food supply in terms of providing ability to handle bulk (Garmestani et al., 2006). Size might also be an asset in case of a regional crisis, when access to global infrastructure and strong logistics enable a firm to divert supply between production regions. In contrast, some have argued that large organisational structures can reduce the reactive flexibility to a shock, compared to smaller more diverse actors that are more flexible and reactive when conditions change (Garmestani et al., 2006; Hendrickson, 2015). When the hospitality sector was closed during the Covid-19 pandemic, for example, several small farms swiftly redesigned their business model to supply directly to consumers (Farming UK, 2020). Socio-ecological systems literature considers flexibility as a central prerequisite to be able to deal with changes (Nelson et al., 2007). Size can therefore imply a resilience trade-off between infrastructure and flexibility. Garmestani et al. (2006) suggest that industries with firms of varying sizes (i.e. some are big and some are small) might be the most resilient as they combine both capacities. 3.3. Conflicts between efficiency and resilience Economic theory suggests that reduced competition leads to lower production levels, economic efficiency and welfare, because the profit-maximising quantity in a non-competitive market is lower than in a competitive setting (White, 2013). However, when considering resource extraction and external costs, a less competitive “slower race” might enable more sustainable practices (Crona et al., 2016). Natural resource literature has shown that resource exploitation rates can be lower when competition is reduced (Solow, 1974; Stiglitz, 1976). When it comes to resource depletion and external costs, the advantages of imperfect competition may therefore offset its disadvantages. A similar efficiency vs. resilience trade-off is evident along supply chains. Efficiency, as defined in a competitive market, implies that slack or redundancy is minimal. Capital and other resources are fully employed, leaving little leeway to buffer disruptions. However, the ability to mitigate a shock impact requires some form of leeway, for example financial capacity to offset price fluctuations caused by a disruption in production. If this capacity to mitigate shock impacts results from additional profit margins due to market power, the higher prices for consumers or lower prices for producers could be considered as a resilience ‘insurance premium’ at the expense of sector efficiency. Price-buffering behaviour happens in the potash industry, where the dominant legal cartel has been able to maintain price stability despite frequent supply shocks (Gnutzmann et al., 2019). An illustrative case in the UK food system was the weather-induced Southern European vegetable shortage in 2017, where financial capacity enabled packers and retailers in the UK to maintain the supply of lettuce to consumers by contracting American producers at higher freighting costs (BBC Radio 4, 2018). However, as shown by price transmission research (Lloyd, 2017), a firm may not automatically make use of this buffering ability. McCorriston et al. (2001) as well as Weldegabriel (2004) analysed whether elevated profit mark-ups due to market power generally absorb price fluctuations, and concluded that this depends on assumed demand and supply elasticities. Without knowing firm-specific incentives, price transmission models are therefore ambiguous as to whether elevated profit mark-ups increase the resilience of food supply. 3.4. Costs and benefits of power imbalances Market power for any supply chain actor typically comes at the cost of reduced freedom and autonomy for other supply chain actors. If producers are dependent on a powerful buyer, a large part of their decision-making control is passed on to the buyer, who can now dictate rules and conditions for their business relationship. The impact of power imbalance on food system resilience is completely dependent on the powerful firm. Power can enable firms to act as positive change makers, for example, though the promotion of sustainable production practices (Folke et al., 2019; Rueda et al., 2017) or through the promotion of robustness in agricultural landscapes to better be able to withstand shocks (Macfadyen et al., 2015). Powerful retailers can also shape consumer attitudes and inform about environmental issues associated with certain food, in order to incentivise sustainable production and possibly higher resilience of ecosystems (ibid.). However, without accountability for social or environmental consequences, powerful retailers can be detrimental. An example are the North Sea cod crises of 2006 and 2019, where stocks fell below safe biological levels (MSC, 2019). As retailers diverted to Atlantic cod to offset the domestic shortage, consumers remained unaffected and unaware of the acute ecosystem depletion in the North Sea (Crona et al., 2016). Power in the supply chain structure prevented the price signal from signalling scarcity (Crona et al., 2016; Nyström et al., 2019). The cod crisis is an example for how continued supply at the consumer end can coincide with an undermining of resilience at the individual ecosystem and producer level. It can also be framed as an information failure wherein powerful firms fail to a transmit information about ecological impacts and, by extension, to promote ecosystem resilience. Similarly, if powerful firms systematically withhold information, knowledge and technology, they impair the adaptive capacity of other firms (iPES Food, 2017). Power imbalances can create both winners and losers, as they shift vulnerability to where there is least power in the supply chain. The combination of downstream competition (i.e. competition amongst retailers) with upstream buyer power (i.e. power of retailers towards suppliers), for example, may reduce consumer prices and hence be beneficial to ensure consumer access to food (Swinnen and Vandeplas, 2010; Zhao, 2019), but at the expense of producers who may be exploited (iPES Food, 2017). An example was the BSE crisis in 1996, when UK beef exports were stopped, and domestic beef consumption decreased drastically over concern that eating beef could lead to fatal Creutzfeldt-Jacob Disease. Using their buyer power, UK retailers reduced the prices paid to livestock farmers by twice the level of the decrease in retail prices, taking advantage of a shock to make additional profits at the expense of producers (Competition Commission, 2000; Lloyd et al., 2003). Beef producers were made doubly vulnerable due to the combined effects of BSE and their lack of bargaining power. Suggested indicators for agroecosystem resilience include social self-organisation, calibrated connectedness, global autonomy and local independence (Cabell and Oelofse, 2012). Dependencies, in contrast, reduce the ability of individual firms to act according to their own locally specific knowledge to adapt to changed circumstances (Hendrickson, 2015; iPES Food, 2017). If power imbalances imply low autonomy and reduced ability along the supply chain to react to changes, the net impact of power imbalance on resilience of food supply may be negative. 3.5. Competition vs. cooperation Collusion between firms increases their joint power in a market and is usually regulated by competition authorities to control any exploitative behaviour. In a crisis however, cooperation can increase capacity to maintain food supplies to consumers, because infrastructure, resources, logistics, and knowledge can be shared. Cooperation can enhance resilience, as long as cooperating firms face incentives to act in a benign way. Cases showing how cooperation increases both resilience and efficiency have been found in seafood supply (Nyström et al., 2019), pork supply (Leat and Revoredo-Giha, 2013) and UK retailer supply networks (Duffy and Fearne, 2004). The collaboration-competition tension was also illustrated during the Covid-19 pandemic, when the UK government relaxed competition laws allowing retailers to collaborate to address distribution challenges (UK Government, 2020). Concerns about the fine line between cooperation and collusion have nevertheless been raised (BBC, 2020). Sykuta and Cook (2001) observe that ownership structure of a firm can be a factor in the extent of cooperative contracting. If so, then the question of the distribution of power (i.e. who holds the firm) is an important corollary to resilience outcomes. A comparison of investor-owned and producer-owned firms illustrates how cooperative contracting between producers is more efficient than contracting in which distrust between the parties leads to an incentive to withhold information (ibid.). Producer ownership creates accountability towards producers, which can be an incentive to act in a resilience-promoting way. This was illustrated by a case from the UK milk supply chain in winter 2018, when cold weather conditions interrupted logistics and UK dairy farmers were forced to discard thousands of litres of milk that could not be collected (Perrett, 2018; Yates, 2018). Although this milk did not reach supermarkets, big co-operatives such as Arla continued to pay farmers for their production (ibid.). This decision to support producers is an example for producer risk diversification through cooperation, as Arla is owned by 2500 farmers (Perrett, 2018). However, the line between voluntary cooperation based on trust and involuntary cooperation based on coercion is difficult to determine (Dapiran and Hogarth-Scott, 2003), and power imbalances can prevail in cooperative and competitive systems. Regulatory scrutiny may sometimes find this distinction hard to detect. 4. Regulating for resilient food systems Resilience has been assumed as an emergent property of largely self-regulating market structures that comprise the food system in many countries. However, there is no guarantee that self-organisation, shared underlying infrastructures and other information flows between actors configure to generate a socially optimal compromise between lowest possible consumer prices and resilience to exogenous shocks. This includes stability of food supplies, plus consideration of other environmental and health external costs that might reasonably be expected of a system that seeks to promote sustainable production and consumption or a “whole society approach to food” (Lewis, 2020). The dominant food system in the UK is arguably focused predominantly on financial returns to shareholders, an objective that is not always convergent with this broader scope of resilience or transparent stewardship of the natural resource base on which it depends (Clapp and Isakson, 2018). As with the financial system at the time of the global financial crisis of 2007–2008, risk taking – arguably amplified by market power – is largely sanctioned by current regulation on the presumption that internal incentives align with broader social goals, and that the system has an in-built incentive not to fail. This presumption is an article of faith, both untested and risky. Notwithstanding largely coping with the recent stress-test from COVID-19 (Moran et al., 2020), there is nothing intrinsically self-correcting about current systems, which are responsible for a significant burden of national health and environmental externalities (Afshin et al., 2019; Springmann et al., 2018). Some have suggested that voluntary market discipline, corporate responsibility initiatives, and spontaneous collective action by some market participants, could correct detrimental social and environmental impacts. However, this notion has not been proven to be very reliable (Jones and Nisbet, 2011) and there are no market mechanisms to drive corrective actions to market failure. Expecting the delivery of a public good – resilience – by a system in private hands and increasingly concentrated in structure may therefore be hazardous. Regulation is a response to market failure. Current food system regulation largely monitors and controls some aspects of market power and the maintenance of food safety, the latter a credence attribute of food and therefore associated regulation is a public good function. If resilience is a public good, then there is a need for more regulation and research beyond market power and food safety, to understand risks and to untangle the additional elements of responsibility and agency of both private and public sectors with regards to resilience. 5. Conclusion Interest in food system resilience has increased in the wake of several regional and global crises, which have revealed systematic vulnerabilities that can be both amplified and neutralised by the presence of market power in parts of the supply chain. Power relations are not extensively discussed in resilience literature, and resilience is not extensively discussed in economic literature. Efficient markets constituted by profit-seeking actors have no built-in mechanism to deliver resilience. We highlight that some aspects associated with market power, such as infrastructure, financial capacity, and cooperation can be enablers for enhanced resilience in times of crisis. We equally highlight the need to consider how resilience can be jeopardised when the interests of dominant powerful firms are not aligned with societal interests, and when detrimental environmental and social effects are not regulated for. In such circumstances, risk is amplified by power imbalances. The provision of resilience – as a public good attribute of a system that is largely in private hands – potentially calls for wider scope of regulation that scrutinises elements such as functional diversity, flexibility, efficiency/redundancy trade-offs, autonomy, cooperation, agency and the regulation of environmental impacts to make firms accountable. This gets us nearer to whole society approach to food governance, suggested by some commentators.

#### Food prices high now and more increases on the horizon, only the plan’s use of antitrust can reverse the trend

Philip H. Howard & (faculty member in the Department of Community Sustainability at Michigan State University) Mary Hendrickson (Associate Professor of Rural Sociology at the University of Missouri-Columbia) 2/17/2021 [“Op-ed: Monopolies In the Food System Make Food More Expensive and Less Accessible” online @ <https://civileats.com/2021/02/17/op-ed-monopolies-in-the-food-system-make-food-more-expensive-and-less-accessible/>, loghry]

Agribusiness executives and government policymakers often praise the U.S. food system for producing abundant and affordable food. In fact, however, food costs are rising, and shoppers in many parts of the U.S. have limited access to fresh, healthy products. This isn’t just an academic argument. Even before the current pandemic, millions of people in the U.S. went hungry. In 2019, the U.S. Department of Agriculture estimated that over 35 million people were “food insecure,” meaning they did not have reliable access to affordable, nutritious food. Now, food banks are struggling to feed people who have lost jobs and income thanks to COVID-19. As rural sociologists, we study changes in food systems and sustainability. We’ve closely followed corporate consolidation of food production, processing, and distribution in the U.S. over the past 40 years. In our view, this process is making food less available or affordable for many Americans. Fewer, Larger Companies Consolidation has placed key decisions about our nation’s food system in the hands of a few large companies, giving them outsized influence to lobby policymakers, direct food and industry research, and influence media coverage. These corporations also have enormous power to make decisions about what food is produced how, where and by whom, and who gets to eat it. We’ve tracked this trend across the globe. It began in the 1980s with mergers and acquisitions that left a few large firms dominating nearly every step of the food chain. Among the largest are retailer Walmart, food processor Nestlé, and seed/chemical firm Bayer. Between 1996 and 2013 Monsanto acquired more than 70 seed companies, before the firm was itself acquired by competing seed/chemical firm Bayer in 2018. (Image credit: Philip Howard) Between 1996 and 2013 Monsanto acquired more than 70 seed companies, before the firm was itself acquired by competing seed/chemical firm Bayer in 2018. (Image credit: Philip Howard) Some corporate leaders have abused their power–for example, by allying with their few competitors to fix prices. In 2020, Christopher Lischewski, the former president and CEO of Bumblebee Foods, was convicted of conspiracy to fix prices of canned tuna. He was sentenced to 40 months in prison and fined $100,000. In the same year, chicken processor Pilgrim’s Pride pleaded guilty to price-fixing charges and was fined $110.5 million. Meatpacking company JBS settled a $24.5 million pork price-fixing lawsuit, and farmers won a class action settlement against peanut-shelling companies Olam and Birdsong. Industry consolidation is hard to track. Many subsidiary firms often are controlled by one parent corporation and engage in “contract packing,” in which a single processing plant produces identical foods that are then sold under dozens of different brands–including labels that compete directly against each other. Recalls ordered in response to food-borne disease outbreaks have revealed the broad scope of contracting relationships. Shutdowns at meatpacking plants due to COVID-19 infections among workers have shown how much of the U.S. food supply flows through a small number of facilities. With consolidation, large supermarket chains have closed many urban and rural stores. This process has left numerous communities with limited food selections and high prices–especially neighborhoods with many low-income, Black or Latinx households. Widespread Hunger As unemployment has risen during the pandemic, so has the number of hungry Americans. Feeding America, a nationwide network of food banks, estimates that up to 50 million people– including 17 million children–may currently be experiencing food insecurity. Nationwide, demand at food banks grew by over 48 percent during the first half of 2020. Today’s food system is complex. Simultaneously, disruptions in food supply chains forced farmers to dump milk down the drain, leave produce rotting in fields, and euthanize livestock that could not be processed at slaughterhouses. We estimate that between March and May of 2020, farmers disposed of somewhere between 300,000 and 800,000 hogs and 2 million chickens–more than 30,000 tons of meat. What role does concentration play in this situation? Research shows that retail concentration correlates with higher prices for consumers. It also shows that when food systems have fewer production and processing sites, disruptions can have major impacts on supply. Consolidation makes it easier for any industry to maintain high prices. With few players, companies simply match each other’s price increases rather than competing with them. Concentration in the U.S. food system has raised the costs of everything from breakfast cereal and coffee to beer. As the pandemic roiled the nation’s food system through 2020, consumer food costs rose by 3.4 percent, compared to 0.4 percent in 2018 and 0.9 percent in 2019. We expect retail prices to remain high because they are “sticky,” with a tendency to increase rapidly but to decline more slowly and only partially. We also believe there could be further supply disruptions. A few months into the pandemic, meat shelves in some U.S. stores sat empty, while some of the nation’s largest processors were exporting record amounts of meat to China. U.S. Senators Elizabeth Warren (D-MA) and Cory Booker (D-NJ) cited this imbalance as evidence of the need to crack down on what they called “monopolistic practices” by Tyson Foods, Cargill, JBS, and Smithfield, which dominate the U.S. meatpacking industry. Tyson Foods responded that a large portion of its exports were “cuts of meat or portions of the animal that are not desired by” Americans. Store shelves are no longer empty for most cuts of meat, but processing plants remain overbooked, with many scheduling well into 2021. Toward a More Equitable Food System In our view, a resilient food system that feeds everyone can be achieved only through a more equitable distribution of power. This in turn will require action in areas ranging from contract law and antitrust policy to workers’ rights and economic development. Farmers, workers, elected officials, and communities will have to work together to fashion alternatives and change policies.

#### Ag collapse induce cascading failures that risk all life

C. E. Richards et al (With R. C. Lupton & J. M. Allwood, Department of Engineering, University of Cambridge) 2021 [“Re-framing the threat of global warming: an empirical causal loop diagram of climate change, food insecurity and societal collapse” Climatic Change (2021) 164: 49, <https://link.springer.com/article/10.1007%2Fs10584-021-02957-w>, loghry]

The distribution of data-driven methods used across the evidence base is notably different for each societal collapse proxy. Evidence points for natural mortality mostly use collection/ analysis of interview/survey data. This is likely because the minimum daily food intake for human survival is well established (FAO 2004); as such, statistical analysis of food and mortality data sets would not yield significantly new insights into thresholds whereas interviews/surveys can provide insight into an individual’s circumstances influencing this relationship. Evidence points for conflict mortality mostly use statistical analysis of existing datasets. This likely reflects the interest in rigorously curated conflict datasets, such as UCDP/ PRIO (2019), across the conflict and peace fields. Evidence points for emigration mostly use collection/analysis of interview/survey data, likely because this provides nuanced insight into an individual’s decision to migrate. It may also be due to data availability and quality challenges that limit quantitative statistical analyses, which are being addressed by groups such as IOM GMDAC (2019). Amongst these data challenges, it is important to recognise the issue of reconciling different types of voluntary and forced migration with causal drivers, given the complex social, economic and political factors at play; this challenge similarly applies to the other societal collapse proxies but is particularly noted in the migration studies. We observe from these studies that a food insecurity threshold for natural mortality is well established but thresholds for conflict mortality and emigration are not. Indeed, distinguishing causal drivers within datasets and defining quantitative thresholds for these determinants remains a ‘grand challenge’ (Kintigh et al. 2014). Each data-driven method offers different advantages. The complex systems models each describe ‘chunks’ of the system at different scale and granularity. The models provide mathematical definition, are calibrated to real-world data and enable quantitative simulation of key relationships in the system. The statistical analyses quantitatively examine relationships between a dependent variable and one or more independent variables within the system, which can be used as a mathematical basis for extending modelling capabilities. The collection/ analysis of interview/survey data provides insight into qualitative aspects of human perspective and decision-making that quantitative data sets cannot provide directly. The data-led case study/scenarios combine quantitative data with qualitative expert interpretation to better understand global trends and forecasts. These latter two methods can also be used to inform the development of modelling capabilities, the scenarios analysed by such models and their application in decision-making processes. Collectively, these different data-driven methods can yield useful insights into the nuances of relationships in the system of interest. 4.2 Causal loop diagram of the climate change, food insecurity and societal collapse in contemporary society at global scale and national granularity The main result of this paper is the CLD (the f-CLD from Section 3, Step V), presented in Fig. 5. It structures the relationships between climate change, food insecurity and societal collapse as described in our new empirical evidence base (presented in Fig. 4 and discussed in Section 4.1.). We discuss three key aspects of the CLD, namely insights related to the spread of empirical evidence, the qualitative complex system depicted, and quantitative complex system modelling, below, alongside consideration of well-established benefits and limitations of CLDs. Our CLD is presented in a novel format that documents the spread of our empirical evidence base. We use line thickness and colour, respectively, to depict the density and type of the data-driven methods used by the empirical evidence points to analyse a given link between two variables. Doing this aids comprehension of where existing work has been focused with respect to the climate change, food insecurity and societal collapse causal pathway. It may also help with the identification of gaps in existing analyses. For example, we can see that the link between food insecurity and conflict has been investigated mostly by evidence points using statistical analyses (blue), whereas the links between food insecurity and migration, and food insecurity and natural mortality, have been investigated mostly by evidence points using interviews/ surveys (green). This hints that it may be useful to investigate the former using quantitative statistics, and the latter using qualitative interviews/surveys, to gain further insights offered by the different data-driven methods as described in Section 4.1. It is important to recognise that our CLD may show negligible density for important links or even be missing important variables and/or links, either because they have not yet been studied or because our key word search failed to identify evidence points that have studied them. For example, our study focused on the climate change, food insecurity and societal collapse causal pathway, so the density of our empirical evidence is concentrated along links central to this pathway; whereas, the links between peripheral variables in the system, such as between fertility and births, show a lower density of empirical evidence. Similarly, our use of the population loss set of societal collapse proxies means that the evidence base details natural mortality, conflict mortality and emigration; whereas, the institutional breakdown set are not detailed. In considering this issue, our methodology attempted to maximise the rigour and transparency of our study by documenting the spread of our empirical evidence base to help make the reader aware of exactly how much and what type of evidence was supporting the CLD presented here. Further, we can see that while empirical studies have linked climate change via food insecurity to our societal collapse proxies of natural mortality, conflict mortality and emigration, we found no empirical studies linking these proxies to the explicit term of societal collapse. This was expected given the motivation of this study (Section 1) and is due to the fact that there are no contemporary events of societal collapse, under the same definition as those in the historical studies pre-dating contemporary society, that enable these links to be empirically studied (Beard et al. 2020). Having considered the spread of empirical evidence, we now consider the complex system documented. A key benefit of CLDs is that they simply present a myriad of information in a single diagram; in doing so, CLDs enable comprehension of the structure and behaviour of complex systems, including feedbacks, intervention points and far-reaching interdependencies (Sterman 2011). Our CLD visually depicts a system of 39 variables, 105 links and 32,000 feedback loops,1 integrating information from different fields including climate science, food security, conflict, migration and health research. Walking through the CLD at a high-level, we can see how population growth and lifestyle emissions, influenced by institutional/demographic factors (e.g. emission reduction incentives), combine to directly drive climate change. Similarly, they indirectly drive climate change via consumer demand on food production, which produces emissions directly (e.g. ruminant livestock) and indirectly via industrial capital/output (e.g. processing factories). The environmental risk factors (e.g. extreme weather events) of climate change may cause losses of food production either directly (e.g. plant disease) or indirectly via agricultural input availability (e.g. loss of water source for irrigation). A country’s food availability is influenced by domestic food production and international food trade. Food accessibility is influenced by its food price, which responds to domestic (e.g. cost of food production and distribution) and international (e.g. international food price) markets, and institutional/demographic factors (e.g. food subsidies). Food utilization is influenced by infrastructure/services (e.g. education) and institutional/demographic factors (e.g. cultural traditions). Food insecurity is underpinned by these three pillars of food availability, food accessibility and food utilization. For a given country, food insecurity can drive natural mortality (i.e. starvation), conflict and migration, contributing to population loss, as well as economic shocks and socio-political instability, contributing to institutional breakdown, which exacerbates the risk of societal collapse. Beyond a given country suffering increased natural mortality, famines (i.e. food insecurity) can place pressure on international humanitarian efforts (i.e. institutional risk factors). Conflict may occur domestically or internationally and can feedback to exacerbate food insecurity and institutional fragility (i.e. institutional risk factors). Potential mass emigration can increase pressure on food availability, natural resources and infrastructure/services in the destination nation, which can lead to socio-cultural tensions (i.e. institutional risk factors) that fuel conflict. Food insecurity can also directly contribute to institutional risk factors such as social unrest, political instability and economic inequality, which increase the risk of societal collapse due to institutional breakdown, that may also cascade internationally. While already fragile states are expected to be hit the worst directly, these insights reveal the indirect ramifications of climate change on our globalised society (Kemp 2020), with serious consequences for humanity’s ‘existential security’ (Sears 2020).

#### Breaking up big ag consolidation key to avoiding massive food supply disruption

Rob Larew & Diana L. Moss (Rob Larew is president of National Farmers Union, which represents 200,000 family farmers and ranchers across the country. & Dr. Diana Moss is the president of the American Antitrust Institute, which is devoted to promoting competition that protects consumers, businesses and society.) 2/3/2021 [“Modern Farmer Highlights AAI-NFU Op-Ed: Don’t Stop at Big Tech – We Need to Bust Big Agriculture, Too” online @ <https://www.antitrustinstitute.org/work-product/aai-and-national-farmers-union-opinion-dont-stop-at-big-tech-we-need-to-bust-big-agriculture-too/>, loghry]

But the outsized media, political and social attention paid to the tech industry has diverted focus from other important sectors. There are monopolies and domestic cartels elsewhere—in healthcare, pharmaceuticals, media and communications, as well as food and agriculture. These industries produce goods and services that are essential to the health, safety and well-being of consumers, and even to our national security, which is why antitrust laws must be enforced against violations in these sectors, too. The food system has been particularly fertile ground for rising concentration, the emergence of dominant firms and formation of domestic cartels. Some of the largest players have been allowed to engage in anticompetitive mergers and practices that are as serious, if not more so, than those of which Big Tech stands accused. Much like their counterparts in the tech sector, many of the largest food and agriculture corporations have acquired their way to dominance by gobbling up rival businesses. This has occurred across the food system, including digital farming startups, biotechnology firms, food manufacturers, flour millers, farm machinery manufacturers and grocery store chains. But nowhere has it been more pronounced than agricultural inputs. In acquiring competitors both small and large, the six biggest agricultural biotechnology firms collapsed rapidly into the Big Three—Bayer, DuPont and ChemChina. This wave of consolidation, which was met with little resistance from antitrust authorities, gave these corporations control of proprietary, multi-level systems of traits, seeds, agrochemicals and digital technology that limit farmers’ choices and lock them into limited cropping systems. But some parts of the agricultural sector are rife with other damaging antitrust violations that we haven’t seen in Big Tech. This includes alleged conspiracies to fix prices and allocate markets—practices that are made possible by high levels of consolidation and concentration. One of the most notable examples of this is in beef packing, where the top four firms now control about 85 percent of the national market. Given the market power that the packers possess, it comes as no surprise that they have allegedly abused it: On multiple occasions, these packers have been accused of colluding to pay ranchers less for cattle and charge consumers more for beef. However, this behavior isn’t unique to the beef-packing sector. Similar allegations of price fixing have been leveled against tuna, chicken, turkey, egg, pork and peanut producers, among others. These cartels are especially egregious because processors allegedly collude on both the sell and buy sides, hurting both farmers and consumers—including independent restaurants and grocery stores. Beyond anticompetitive practices, rising concentration has implications for our national food security. Concentration-driven bottlenecks along the supply chain make the entire food system vulnerable to disruption, a fact that has become painfully obvious during the pandemic. Following a rash of COVID-19 outbreaks at meatpacking plants, national meat processing capacity declined by nearly half, resulting in supply chain breakdowns and price gouging that affected millions of Americans—many of whom were already experiencing food insecurity. If disruption in the food supply system weren’t enough, the communities that support our food system are also at risk. Foreign companies now own a non-trivial portion of the United States’ farmland and food system. These entities not only resist food labeling and regulations that protect and inform consumers, they also take jobs and resources out of rural communities, accelerating social and economic decline and suppressing the growth of independent businesses that would contribute to revitalization. Kudos to antitrust enforcers for finally taking aim at Big Tech. Monopolization cases—if they produce meaningful results—will improve the welfare of hundreds of millions of people that engage in online search, social networking and shopping. But we should not stop there. Americans depend on a safe, functional and resilient food system at least as much as they depend on their social media networks or ability to search the internet. Antitrust enforcers must turn their attention there next.

### Solvency

#### Plan solves warming, food prices, and soil loss

Tam and Beilskis, 4/1/2021; Kristen Tam, Olivia Bielskis. “Stimulating Antitrust Enforcement to Expand the Regenerative Agriculture Movement.” UCLA: Library. Retrieved from https://escholarship.org/uc/item/0m16g2r5

In order to uphold competition in the marketplace, the Courts and federal regulation agencies must take deliberate action against mergers that will inevitably have profound effects on long-term competition. In order to address prong one, where the Courts have not erred on the side of precaution and have not granted antitrust injury to parties that claim “the threat of loss of profits due to possible price competition,” the Courts should interpret American antitrust laws with Congress’s intent to protect competition, rather than through the lens of consumer welfare, a strategy that has failed to uphold empirical integrity, seeing as consumer prices have risen.110Specifically, they should interpret Section 16 of the Clayton Act to allow for antitrust injury to include the threat of loss of profits due to possible price competition following a merger. Not only will this rightfully decrease the barrier to bringing forth an antitrust injury, but it will bring precedent back into alignment with the purpose and intention of the Clayton Act and prevent further consolidation in the agriculture marketplace. In order to address prong two, where the DOJ and FTC have largely allowed consolidation in the marketplace to transpire with limited regulation, the DOJ and FTC must increase the number of agriculture and meatpacking merger acquisitions that they block by holistically analyzing the scope of the merger’s market power. Additionally, they must reinvestigate current corporations in the market that have unruly market power, such as Tyson, and require divestiture. Tyson is sued on average 2.7 times every month, however, it still holds a substantially large percentage of the meat processing and packingindustry.111 By implementing both of these recommendations, the federal government can truly fulfill their regulatory responsibilities by laying the groundwork for increasing competition by maintaining or increasing the number of farms, distributors and meatpacking businesses. CONCLUSION The growing consolidation of America’s agriculture industry is alarming and poses a continuous threat to the expansion and transition to regenerative farming practices. The DOJ, FTC and the Courts have embraced Robert Bork’s “consumer welfare standard” philosophy and employ stricter standards to prove antitrust injury, allowing more consolidation to occur in the agriculture industry. These conglomerates have increased market prices,112and in the long run, are implementing farming practices that are destroying the soil and security of America to produce its own food. There are more small and medium sized farms that implement regenerative practices such as applying manure and organic fertilizers. In order to expand the implementation of regenerative practices, large operations need to be broken down and further prevented from forming. Ultimately, allowing merges to occur and limiting regulation on the current marketplace by the Courts and federal agencies is harming consumers, farmers, and the government. The principles of fairness and equal opportunity in the United States economy are threatened if we allow the few consolidated corporations to exist in the marketplace. The government, consumers, and farmers rely on these few firms as key suppliers and buyers; such dominance by a handful of corporations gives way to their disproportionate influence on regulatory and political processes meant to hold them accountable. The DOJ, FTC and Courts must utilize their statutory responsibilities to break down this corrupt system and create a more competitive marketplace. This will allow more firms to implement regenerative practices and protect our food systems and environment for generations to come. A failure to act constitutes a dereliction of duty to the people, the planet, and the purpose behind antitrust laws intended to uphold fair and ethical business practices.

#### Small farms improve yields, efficiency, and biodiversity

Ricciardi et. al, 21; Vincent Ricciardi, Zia Mehrabi, Hannah Wittman, Dana James, and Navin Ramankutty. 3-25-2021, peer reviewed meta-analysis “Higher yields and more biodiversity on smaller farms” Nature Sustainability. https://doi.org/10.1038/s41893-021-00699-2

Small farms constitute most of the world’s farms and are a central focus of sustainable agricultural development. However, the relationship between farm size and production, profitability, biodiversity and greenhouse gas emissions remains contested. Here, we synthesize current knowledge through an evidence review and meta-analysis and show that smaller farms, on average, have higher yields and harbour greater crop and non-crop biodiversity at the farm and landscape scales than do larger farms. We find little conclusive evidence for differences in resource-use efficiency, greenhouse gas emission intensity and profits. Our findings highlight the importance of farm size in mediating some environmental and social outcomes relevant to sustainable development. We identify a series of research priorities to inform land- and market-based policies that affect smallholders globally. Farm size has become a key variable of interest in discussions surrounding food security, development, and the environment1 . Most of the world’s farms are small—of the 570million farms in the world, 84% are <2ha in size2 . Smallholders are facing growing pressure on their livelihoods from low prices in global markets and climate change-induced production losses3 . Accordingly, smallholders have been the target of global development policies such as the Sustainable Development Goal (SDG) target 2.3, which seeks to support smallholders by increasing their productivity, incomes, and access to land. Many countries’ Intended Nationally Determined Contributions (INDCs) of the UN Conference of Parties on Climate Change (COP21) also aim to bolster smallholders’ adaptive capacity. Numerous scholars argue that smaller farms perform better than larger farms in terms of production, environmental, and socioeconomic outcomes 4 . On the basis of these arguments, scholars, policy makers, and social movements argue in favour of land reforms to redistribute farmland 5,6 . Although 84% of the world’s farms are <2ha in size, they only constitute 12% of farmland—increasing the proportion of farmland in smaller farms will arguably increase its benefits. At the same time, consumers have increased their willingness to pay for products with labels associated with smaller farms7,8 . Thus, there is a growing call for support for small farms. While this support is important, the performance of small farms in terms of productivity, resource efficiency, biodiversity, and greenhouse gas (GHG) emissions has itself remained highly contested9–14. Here, we synthesize the relationship between farm size and six socioeconomic and environmental outcomes, leveraging the past 50 yr of empirical evidence that directly assessed crop production, environmental performance, and economic outcomes as they relate to farm size. Our systematic assessment of the multidimensional outcomes related to farm size builds on past reviews that focused on single outcomes (for example, yield, economic performance, or biodiversity metrics for specific species)15–18, non-systematic reviews15,16, studies based on indirect measurements of farm size and the outcome variables of interest19–21, and studies with specific regional foci15,17. We present evidence from 118 studies (318 observations) from 51 countries on the relationship between relative farm size (along a continuum) and: (1) yields as value of crop output per area (valueha–1) or total crop production per area (kgha–1), (2) crop diversity at species and varietal levels, (3) non-crop biodiversity at field and landscape levels, (4) resource-use efficiency as measured in terms of technical efficiency22, (5) GHG emissions per unit output, and (6) profit per unit area. Results Our analysis finds that smaller farms have higher yields and harbour greater crop diversity and higher levels of non-crop biodiversity at the field and landscape scales than larger farms (Table 1). We find no conclusive evidence for a relationship between farm size and resource-use efficiency, GHG emissions, or profit. In the remainder of this article, we will address each of these key findings in turn and discuss their implications for policy initiatives and consumer support for small farms globally. Smaller farms have higher yields. Our synthesis shows that, in the literature, when primary studies assess yield across farm sizes, 79% (95% confidence interval, CI=58–100%) of them report that smaller farms have higher yields (in either weightha–1 and valueha–1 terms) (Fig. 1). We also find that yields typically decrease by 5% for each hectare increase in farm size (−5% mean effect; 95% CI=−9 to −1%; Fig. 2a and Fig. 3), within the range of studied observations (mean=7.5ha; s.d.=22.7ha). While the distribution of effects includes deviant cases (Fig. 3 and Supplementary Fig. 1), these new findings show that, on average, the available evidence supports the idea—which originated in the 1920s and has been studied extensively since the 1960s—that smaller farms are higher yielding than larger farms14,23,24. Moreover, we find that controlling for labour removed the effect—our model not controlling for labour has stronger effect size (although not statistically different from zero at the 95% confidence level) than the one that does. This result is in line with Sen’s 1964 prediction24 and subsequent literature25, that suggests that labour markets are an important reason for the inverse farm size–productivity relationship (Fig. 2b). Smaller farms have greater crop diversity. While many field studies have explored in situ crop diversity on small farms26–28, few directly measured the relationship between farm size and crop diversity. In our review, four studies show higher crop diversity on smaller farms, while three found the opposite; much too small a sample for statistical inference. But we previously conducted an in-depth quantitative analysis on the relationship between crop diversity and farm size across 55 countries and 154 crops using a newly harmonized dataset of nationality representative farmer surveys and agricultural censuses29. We found that, except for an unexplained dip in the 2–5ha size range, there is a strong inverse relationship globally between farm size and the number of crop species found across the landscape—with higher species diversity within smaller farms than larger farms when controlling for area (Supplementary Fig. 2). Crop diversity on small farms is selected by farmers for a range of reasons such as improved nutrition30, market diversification31 and mitigation of drought risk32. Smaller farms harbour greater non-crop biodiversity. There are three key pathways by which smaller farms could be beneficial for non-crop biodiversity covered in the literature. The first is through ecological management practices, such as limited insecticide use and use of organic management practices. The second is through increased field edges (increased margin-to-field area ratio); increased field edges can lead to larger available breeding habitats for arthropods33,34, provide refuge for arthropods and smaller species to colonize after escaping recently disturbed fields35,36, increase the number of pollinators and beneficial predators within fields4,34 and act as conservation corridors for arthropods and small mammals37,38. The third is through landscape composition, with small-farm-dominated landscapes harbouring diverse land cover types such as forests and wetlands, fields of different crops or fields in different phenological stages of production39,40. In the studies we reviewed, there is evidence for all of these effects. When combined, 77% of studies (95% CI=61–99%) reported that smaller farms and fields have greater biodiversity at the farm and landscape levels compared to larger farms and fields (Fig. 1).

#### US is key—no other country can stimulate the global change.

Dernbach 9—Professor of Law @ Widener University Law School [John C. Dernbach, “Chapter 1: Sustainable Developme and the United States,” Agenda for a Sustainable America, Edited By: John C. Dernbach, January 2009] \*Modified for language\*

The Rio agreements also make clear that ~~developed~~ [Industrial] countries must lead the effort to achieve sustainability; they have the most resources, the most sophisticated technologies, the greatest know-how—and also the greatest responsibility for causing many of the environmental problems that sustainable development addresses. While all countries have a role to play, developed countries have the greatest responsibility. And among the developed countries, the dominant nation—in economic, military, educational, scientific, and technological terms—is the United States. This country thus has a major role to play. Our nation’s global energy, ecological, and economic footprint is so large that it is difficult to imagine how the world can achieve sustainability unlessless the United States also does. We can lead or follow, but we are too big to get out of the way. What we do within our own borders, moreover, can influence other countries, both positively and negatively. We can create models of sustainability that are so attractive that other countries will want to emulate or improve on them. Or, by appearing fearful or indifferent in spite of our wealth and power, we can dissuade less wealthy and powerful countries from doing what they also need to do. For better and for worse, the success or failure of the United States in moving toward sustainability will influence and perhaps determine whether the rest of the world succeeds in the project of sustainable development. The ancient Greek mathematician Archimedes famously said, “If I had a lever big enough, I could move the world.” The United States could be that lever for sustainable development. This book is going to press as the United States is in its sixth year of the war in Iraq, which has undermined America’s standing in the eyes of many. In addition, our status as the “one great superpower” is likely to change with the growth of Chinese and Indian economic and political power and the continuing integration of Europe. Because of America’s global footprint and its history of international leadership on other issues, however, the United States could—and should—take a leadership role on sustainable development. Pg. 3-4

#### No war- assumes COVID

Walt 20 – [Stephen M. Walt is an American professor of international affairs at Harvard University's John F. Kennedy School of Government, 5/13/2020, “Will a Global Depression Trigger Another World War?” <https://foreignpolicy.com/2020/05/13/coronavirus-pandemic-depression-economy-world-war/>] GBN-PK

By many measures, 2020 is looking to be the worst year that humankind has faced in many decades. We’re in the midst of a pandemic that has already claimed more than 280,000 lives, sickened millions of people, and is certain to afflict millions more before it ends. The world economy is in free fall, with unemployment rising dramatically, trade and output plummeting, and no hopeful end in sight. A plague of locusts is back for a second time in Africa, and last week we learned about murderous killer wasps threatening the bee population in the United States. Americans have a head-in-the-sand president who prescribes potentially lethal nostrums and ignores the advice of his scientific advisors. Even if all those things magically disappeared tomorrow—and they won’t—we still face the looming long-term danger from climate change. Given all that, what could possibly make things worse? Here’s one possibility: war. It is therefore worth asking whether the combination of a pandemic and a major economic depression is making war more or less likely. What does history and theory tell us about that question? For starters, we know neither plague nor depression make war impossible. World War I ended just as the 1918-1919 influenza was beginning to devastate the world, but that pandemic didn’t stop the Russian Civil War, the Russo-Polish War, or several other serious conflicts. The Great Depression that began in 1929 didn’t prevent Japan from invading Manchuria in 1931, and it helped fuel the rise of fascism in the 1930s and made World War II more likely. So if you think major war simply can’t happen during COVID-19 and the accompanying global recession, think again. But war could still be much less likely. The Massachusetts Institute of Technology’s Barry Posen has already considered the likely impact of the current pandemic on the probability of war, and he believes COVID-19 is more likely to promote peace instead. He argues that the current pandemic is affecting all the major powers adversely, which means it isn’t creating tempting windows of opportunity for unaffected states while leaving others weaker and therefore vulnerable. Instead, it is making all governments more pessimistic about their short- to medium-term prospects. Because states often go to war out of sense of overconfidence (however misplaced it sometimes turns out to be), pandemic-induced pessimism should be conducive to peace. Moreover, by its very nature war requires states to assemble lots of people in close proximity—at training camps, military bases, mobilization areas, ships at sea, etc.—and that’s not something you want to do in the middle of a pandemic. For the moment at least, beleaguered governments of all types are focusing on convincing their citizens they are doing everything in their power to protect the public from the disease. Taken together, these considerations might explain why even an impulsive and headstrong warmaker like Saudi Arabia’s Mohammed bin Salman has gotten more interested in winding down his brutal and unsuccessful military campaign in Yemen. Posen adds that COVID-19 is also likely to reduce international trade in the short to medium term. Those who believe economic interdependence is a powerful barrier to war might be alarmed by this development, but he points out that trade issues have been a source of considerable friction in recent years—especially between the United States and China—and a degree of decoupling might reduce tensions somewhat and cause the odds of war to recede. For these reasons, the pandemic itself may be conducive to peace. But what about the relationship between broader economic conditions and the likelihood of war? Might a few leaders still convince themselves that provoking a crisis and going to war could still advance either long-term national interests or their own political fortunes? Are the other paths by which a deep and sustained economic downturn might make serious global conflict more likely? One familiar argument is the so-called diversionary (or “scapegoat”) theory of war. It suggests that leaders who are worried about their popularity at home will try to divert attention from their failures by provoking a crisis with a foreign power and maybe even using force against it. Drawing on this logic, some Americans now worry that President Donald Trump will decide to attack a country like Iran or Venezuela in the run-up to the presidential election and especially if he thinks he’s likely to lose. This outcome strikes me as unlikely, even if one ignores the logical and empirical flaws in the theory itself. War is always a gamble, and should things go badly—even a little bit—it would hammer the last nail in the coffin of Trump’s declining fortunes. Moreover, none of the countries Trump might consider going after pose an imminent threat to U.S. security, and even his staunchest supporters may wonder why he is wasting time and money going after Iran or Venezuela at a moment when thousands of Americans are dying preventable deaths at home. Even a successful military action won’t put Americans back to work, create the sort of testing-and-tracing regime that competent governments around the world have been able to implement already, or hasten the development of a vaccine. The same logic is likely to guide the decisions of other world leaders too. Another familiar folk theory is “military Keynesianism.” War generates a lot of economic demand, and it can sometimes lift depressed economies out of the doldrums and back toward prosperity and full employment. The obvious case in point here is World War II, which did help the U.S economy finally escape the quicksand of the Great Depression. Those who are convinced that great powers go to war primarily to keep Big Business (or the arms industry) happy are naturally drawn to this sort of argument, and they might worry that governments looking at bleak economic forecasts will try to restart their economies through some sort of military adventure. I doubt it. It takes a really big war to generate a significant stimulus, and it is hard to imagine any country launching a large-scale war—with all its attendant risks—at a moment when debt levels are already soaring. More importantly, there are lots of easier and more direct ways to stimulate the economy—infrastructure spending, unemployment insurance, even “helicopter payments”—and launching a war has to be one of the least efficient methods available. The threat of war usually spooks investors too, which any politician with their eye on the stock market would be loath to do. Economic downturns can encourage war in some special circumstances, especially when a war would enable a country facing severe hardships to capture something of immediate and significant value. Saddam Hussein’s decision to seize Kuwait in 1990 fits this model perfectly: The Iraqi economy was in terrible shape after its long war with Iran; unemployment was threatening Saddam’s domestic position; Kuwait’s vast oil riches were a considerable prize; and seizing the lightly armed emirate was exceedingly easy to do. Iraq also owed Kuwait a lot of money, and a hostile takeover by Baghdad would wipe those debts off the books overnight. In this case, Iraq’s parlous economic condition clearly made war more likely. Yet I cannot think of any country in similar circumstances today. Now is hardly the time for Russia to try to grab more of Ukraine—if it even wanted to—or for China to make a play for Taiwan, because the costs of doing so would clearly outweigh the economic benefits. Even conquering an oil-rich country—the sort of greedy acquisitiveness that Trump occasionally hints at—doesn’t look attractive when there’s a vast glut on the market. I might be worried if some weak and defenseless country somehow came to possess the entire global stock of a successful coronavirus vaccine, but that scenario is not even remotely possible. If one takes a longer-term perspective, however, a sustained economic depression could make war more likely by strengthening fascist or xenophobic political movements, fueling protectionism and hypernationalism, and making it more difficult for countries to reach mutually acceptable bargains with each other. The history of the 1930s shows where such trends can lead, although the economic effects of the Depression are hardly the only reason world politics took such a deadly turn in the 1930s. Nationalism, xenophobia, and authoritarian rule were making a comeback well before COVID-19 struck, but the economic misery now occurring in every corner of the world could intensify these trends and leave us in a more war-prone condition when fear of the virus has diminished. On balance, however, I do not think that even the extraordinary economic conditions we are witnessing today are going to have much impact on the likelihood of war. Why? First of all, if depressions were a powerful cause of war, there would be a lot more of the latter. To take one example, the United States has suffered 40 or more recessions since the country was founded, yet it has fought perhaps 20 interstate wars, most of them unrelated to the state of the economy. To paraphrase the economist Paul Samuelson’s famous quip about the stock market, if recessions were a powerful cause of war, they would have predicted “nine out of the last five (or fewer).” Second, states do not start wars unless they believe they will win a quick and relatively cheap victory. As John Mearsheimer showed in his classic book Conventional Deterrence, national leaders avoid war when they are convinced it will be long, bloody, costly, and uncertain. To choose war, political leaders have to convince themselves they can either win a quick, cheap, and decisive victory or achieve some limited objective at low cost. Europe went to war in 1914 with each side believing it would win a rapid and easy victory, and Nazi Germany developed the strategy of blitzkrieg in order to subdue its foes as quickly and cheaply as possible. Iraq attacked Iran in 1980 because Saddam believed the Islamic Republic was in disarray and would be easy to defeat, and George W. Bush invaded Iraq in 2003 convinced the war would be short, successful, and pay for itself. The fact that each of these leaders miscalculated badly does not alter the main point: No matter what a country’s economic condition might be, its leaders will not go to war unless they think they can do so quickly, cheaply, and with a reasonable probability of success. Third, and most important, the primary motivation for most wars is the desire for security, not economic gain. For this reason, the odds of war increase when states believe the long-term balance of power may be shifting against them, when they are convinced that adversaries are unalterably hostile and cannot be accommodated, and when they are confident they can reverse the unfavorable trends and establish a secure position if they act now. The historian A.J.P. Taylor once observed that “every war between Great Powers [between 1848 and 1918] … started as a preventive war, not as a war of conquest,” and that remains true of most wars fought since then. The bottom line: Economic conditions (i.e., a depression) may affect the broader political environment in which decisions for war or peace are made, but they are only one factor among many and rarely the most significant. Even if the COVID-19 pandemic has large, lasting, and negative effects on the world economy—as seems quite likely—it is not likely to affect the probability of war very much, especially in the short term.

# 2ac

### Subsets

#### Core antitrust laws are Sherman, Clayton, and FTC – prefer the FTC itself precision and predictability

**FTC 8/26**/21 . “**The Antitrust Laws**” <https://www.ftc.gov/tips-advice/competition-guidance/guide-antitrust-laws/antitrust-laws>, Accessed 8/26/21

Congress passed the first antitrust law, the Sherman Act, in 1890 as a "comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade." In 1914, Congress passed two additional antitrust laws: the Federal Trade Commission Act, which created the FTC, and the Clayton Act. With some revisions, these are the three core federal antitrust laws still in effect today.

### Scope

#### The scope is what antitrust law deals with.

Macmillan dictionary. "SCOPE (noun) American English definition and synonyms". https://www.macmillandictionary.com/us/dictionary/american/scope\_1

DEFINITIONS2

1the things that a particular activity, organization, subject, etc. deals with

in scope: The new law is limited in scope.

beyond/outside the scope of someone/something: These issues are beyond the scope of this book.

within the scope of someone/something: Responsibility for office services is not within the scope of the department.

### Prohibit

#### We meet: The prohibit agricultural mergers in which companies have not previously affirmatively proved their benefits to society---that’s not meaningfully different from per se prohibitions

Royce Zeisler 14, J.D. Candidate 2014, Columbia Law School, “Chevron Deference and the FTC: How and Why the FTC Should Use Chevron to Improve Antitrust Enforcement Note,” Columbia Business Law Review, vol. 2014, no. 1, 2014, pp. 266–312

B. The Expertise-Driven Nature of Antitrust Jurisprudence Further Justifies the FTC's Use of Chevron

The above limitations take on particular salience within antitrust jurisprudence. Courts often decide antitrust cases not based on certainty, but by referring to a legal presumption about market structure. The advantage of these presumptions is that they obviate the need for an extended analysis.1 28 Some of these presumptions are simply about the likelihood of particular conduct actually occurring. For example, "predatory pricing schemes are rarely tried, and even more rarely successful. 129 Others are fundamental presumptions regarding the merit of the conduct: e.g., the standard for per se liability.1 30 [FOOTNOTE 130 BEGINS] 130 Per se rules are for conduct "that would always or almost always tend to restrict competition and decrease output." Business Elecs. Corp. v. Sharp Elecs. Corp., 485 U.S. 717, 723 (1988). [FOOTNOTE 130 ENDS] While it makes sense to use these presumptions, the basis on which courts actually form these broad determinations is unclear. Are courts limited to information provided by litigants? Or do they leverage a wider scope of judicial understanding.

### Meat PIC

#### Antitrust’s exemptions cause Establishment Clause creep

Barak Richman 12. Professor of Law and Business Administration, Duke University. "Organizational Values, Neutral Principles, and Economic Power". Law and Religion Forum. 10-9-2012. <https://lawandreligionforum.org/2012/10/09/organizational-values-neutral-principles-and-economic-power/>

-Religious org’s have legal exemptions that applies to other tort’s and other areas of antitrust.

-Broadly these types of exemptions applied to other areas of

Dan Crane, again with great eloquence, concludes his insightful and personal post by asking, “So where does it leave us if bargaining over money is an unavoidable aspect of much religious hiring but that rivalry over finances is contrary to the principles and self-understanding of many religious organizations?” This is indeed a foundational problem in nations (like ours) that do not rely on state support for religious activity, but I respectfully submit that this is not a new problem. Indeed, as I wrote in my earlier posts, the suggestion that religious and nonprofit organizations pursue non-pecuniary objectives — as they clearly do — has often been invoked to shield them from antitrust and regulatory scrutiny, which has led to both economic harm and legal confusion. It has also led to a mistaken expansion of First Amendment defenses. Some commentators have spread the mistaken fear that applying neutral principles of law to religious organizations requires, as Dan suggests, an inquiry into “the values of each organization.” Michael Helfand, a rising star in the field, has called this fear “Establishment Clause creep” and has contributed to a growing immunity for religious organizations from general laws. The Supreme Court’s endorsement of the Ministerial Exception this past year codified this immunity from employment and other discrimination laws, which is a decision I support (disclosure: I authored an amicus brief for Hosanna Tabor that articulated a position that did not contradict with either the petitioner or the respondent in the case). But if Dan means to extend this immunity to protection from the antitrust laws, would he also extend it to other economic torts? Or contract actions? Without doubt, religious organizations and committed religious individuals do an enormous amount of social good. Dan’s parents are paradigmatic cases in point. But there needs to be a realistic appreciation that the road to good intentions often strays from the beneficent path, and the law is designed to protect the parties injured from actions motivated by these otherwise well-intended actions. If a pastor who signed an employment contract that included a severance package is dismissed (perhaps the pastor’s and the congregation’s ideologies parted ways), the church is obligated to pay severance. If they refuse and the pastor sues, there is no need for a court to inquire into the values underlying the religious motivations or values of either the congregation or the pastor. Applying neutral principles, the court should enforce the contract. If a church becomes so popular that its members, to gain entrance to the church, pass over a neighbor’s yard and cause damage, the church would be subject to a tort and should pay compensation. Again, no need to inquire into the church’s mission. These situations extend, especially, to intra-denominational disputes between large and small parties. What if the neighbor to the large church is a small church? The smaller congregation relies on neutral law for protection, otherwise an expansive First Amendment could allow an “entanglement” defense to preclude a court’s intervention into the trespass dispute. The same logic applies to the antitrust laws. Neutral principles can and should take a court a long way to resolving a dispute over what essentially is an economic tort. It is true that the Rabbinical Assembly’s control over the labor market infringes upon a congregation’s Free Exercise rights, but a court need not inquire into either those rights nor the Free Exercise interests of the Rabbinical Assembly as it implements its cartel. Neutral principles works very well here, and a court that proceeds along this path would succeed in not interfering with religious organizational values much better than a court that refuses to intervene. Refusing to intervene would allow the economically powerful to infringe on the mission of the weak.

#### Plan is key to cell ag distribution

Robbins 2020 [Ocean, CEO, Food Revolution Network, “Is Lab-Grown Food the Future? — Pros and Cons to Consider”, https://foodrevolution.org/blog/is-lab-grown-food-the-future/]

Eventually, at least in theory, lab-grown meat and other proteins could become less expensive than those produced from traditional farming. But will that ever come to pass? What about food ownership and centralized control? There are already patents in place for lab-grown or in vitro meat — US6835390B1 and US7270829B2. So will clean meat ultimately turn into a power grab from a few companies that seek to control the world’s food supply (much like Monsanto-Bayer’s impact on the seed industry)? There’s little doubt that if in vitro meat and cultivated proteins catch on and achieve widespread adaptation, somebody will seek to have as much control, and to make as much money, as possible in the process. And if history is any indication, the power that comes with any monopoly is not likely to be democratically distributed. Because of this, antitrust laws need to be in place so that the biotechnology can be managed in ways that at least have the potential to alleviate world hunger rather than increasing it.

### Regs CP

#### Giving bureaucracies or congress any kind of agency makes capture inevitable

Pat Mooney et al. 17, founder of the ETC group, October 2017, TOO BIG TO FEED, http://www.ipes-food.org/\_img/upload/files/Concentration\_FullReport.pdf

IMPACT 8 Setting the terms of debate and shaping policies and practices Ultimately, consolidation not only enables dominant companies to increase their market share and potentially their profits, but also provides them with the means to set the terms of debate and thus to defend the status quo. Indeed, dominant firms have succeeded in shaping the innovation climate, convincing the public and regulators alike that scale is necessary for innovation and technological progress, and making themselves synonymous with innovation. They have also normalized the shifting of costs onto - and value away from - farmers and small-scale operators. In other words, they have succeeded in shaping dominant worldviews in “politics, society and culture” (Di Muzio, 2013, p.6). A November 2016 report by ProPublica revealed that, in the US, university-affiliated economists specializing in anti-trust are frequently hired by corporations to convince government regulators that proposed mega-mergers do not threaten competition. However, their recommendations are offered as independent expertise rather than as lobbying work. The scholars use complex economic forecasts to predict the effects of mergers. But the reports are not made public, and after a merger is approved, the U.S government no longer has access to the companies’ proprietary data, making it ever more difficult to verify these forecasts. As mentioned by Seth Bloom, former general counsel of the US Senate Anti-trust Subcommittee, “there are few government functions outside the CIA that are so secretive as the merger review process” (Eisinger & Elliott, 2016). However, the power and influence of corporate actors in shaping government policies is long-standing, and goes far beyond lobbying against anti-trust measures. Agribusiness interests are well represented not only in the G7 capitals but throughout the G20 and beyond, while also using discourse (e.g. public relations campaigns, media, etc.) to influence public views more broadly (see Clapp & Fuchs, 2009; Corporate Europe Observatory & Friends of the Earth, 2017). Since 1979, the number of employees in the US government responsible for giving legislators unbiased fact-based evidence has declined by 40% (The Economist, 2017b). Incoming policy-makers in particular are heavily reliant on lobbyists for information, grossly diminishing the possibility for independent, unbiased, decision-making (Drutman & Teles, 2015). In 2015, the combined spending for all agribusiness lobbying in Washington reached $130 million, exceeding the lobbying expenditure of the defense industry (Open Secrets, 2016). Lobbying power is also brought to bear at the state and local levels. Since 2013, US and foreign-owned food, farming, and biotech industries have spent over $192.8 million to influence GMO labelling legislation, statebased referenda on GMO labelling laws, and other issues relating to consumer access to information (EWG, 2016). Yet, numerous polls show that Americans are in favor of mandatory GMO labelling. The top six contributors, Coca-Cola, PepsiCo, Kellogg’s, Kraft Heinz Co., Land O’Lakes and General Mills, spent over $20.6 million in 2015 just to lobby against GMO labelling, helping to contribute to the narrow defeat of bills in three states (ibid). Agribusiness consolidation also paves the way for extending political influence to new regions of the world. For example, the ChemChina-Syngenta deal may have major implications for the future of Africa’s agricultural development. Already, ChemChina has major operations in South Africa through its subsidiary company, Adama/Makhteshim-Agan – the largest agrochemical supplier in the state. In some cases, excessive power has paved the way for long-term collusive relationships between dominant firms and regulators. For example, the recent release of the ‘Poison Papers’ revealed 50 years of scientific studies, internal memos, testimonies and correspondence between the US chemical industry and US federal agencies dating back to the 1920s. The papers demonstrated decades of erroneous scientific data used to approve the use of certain chemicals and pesticides on the market, despite understanding of its hazards (Poison Papers, 2017). More recently, the world’s largest meat processor, JBS, and the world’s largest poultry exporter, Brasil Foods/BRF (both Brazilian), were among 21 companies immersed in a tainted meat scandal. In 2017, Brazil charged meat exporters for bribing 1,829 politicians, regulators and inspection authorities and accessing state regulators’ computers to grant themselves export licenses without inspection (Leahy, 2017). Brazil exports $12.6 billion worth of meat to countries including Japan, China, Canada, Chile, the EU and Egypt. The scandal sparked temporary bans on Brazilian meat by a number of major importers including China, the European Union, Chile, Egypt, Saudi Arabia and South Korea (ibid). Brazil’s agriculture minister attributed JBS’s ability to bribe officials to its dominant size in the Brazilian marketplace, criticizing BNDES, Brazil’s state development bank and major financing agent for national development, in particular for facilitating high levels of industry concentration in the country (Mano, 2017). Concentration of power also allows corporations to exert major influence on the global governance of food systems - and particularly international trade policies and agreements (McNeill et al., 2017; Murphy et al., 2012). The investor-state dispute settlement systems (ISDS) written into bilateral investment treaties have allowed companies to sue foreign governments should changes in national policies affect company profits, including future profits. Investor-state trials most frequently benefit large businesses. While there were only three cases fled for ISDS in 1995, by January 2016 there had been over 700 lawsuits, with a record of 70 fled in 2015 alone. To date, 72% of ISDS cases have been fled against developing and emerging economies (Corporate Europe Observatory, 2016). By the end of 2015, 72 % of the decisions on jurisdiction, and 60 % of cases decided on the merits were won by investors (Mann, 2015). This is alleged to reflect the small number of arbitrators of ISDS cases, predominantly private practice lawyers, who just as frequently serve as corporate counsels (EPRS, 2014; Corporate Europe Observatory, 2012). Foreign companies have also been able to leverage investment protection chapters of trade agreements, when regulations represent obstacles to their growth. For instance, in 2009, the Corn Products International (US) vs. Mexico trial awarded $58.4 million to the American company for a government tax levied on beverages sweetened with high fructose corn syrup (HFCS), by invoking clauses within NAFTA to claim that the tax proved a hidden form of protectionism. The same year, Cargill (US) was awarded $90.7 million by Mexico after challenging the same tax (Government of Mexico, 2009). In some cases, the threat of a lawsuit may be sufficient to exact favourable outcomes for businesses. The specter of legal action is seen to have played a role in sparking shifts in the legislative agenda, including Canada dropping anti-smoking policies following threats of dispute from major tobacco companies (Greider, 2001) or the dilution of German environmental standards following an investment treaty claim made by Vatttenfall, a leading Swedish energy company (Bernasconi, 2009). In other cases, government priorities are alleged to have been shaped by powerful and increasingly consolidated corporate interests. A political economy analysis found that Thailand, like many countries in the global South, has internalized the priorities set by corporate actors and international regulators like the WTO to support further industrialization of food systems, becoming complicit in the dispossession of their farmers and rural communities and ignoring the long-term costs (Chiengkul, 2017). Intellectual property rules have been identified as a key entry point for this reprioritization of national interests, namely through the national application of the WTO’s Agreement on Trade-Related Aspects of Intellectual Property Rights. These place mounting pressures on governments in the global South to develop both IPR and nonIPR regulations (e.g. standards for seed marketing and exchange). Though farmers’ rights were established under the FAO International Treaty on Plant Genetic Resources for Food and Agriculture in 2004, IP rules have often worked in contradiction to them – putting local, traditional, and indigenous seed systems at risk (Wattnem, 2016).  Major agri-food industry players have also sought to influence the international climate agenda, often via public private partnerships with large but not diversified membership (see Box 8). In brief, consolidation is shifting the locus of food system governance away from local and national governments and into the hands of a limited number of increasingly dominant multinational firms, allowing imperatives to be aligned with private proft-driven interests, fundamentally undermining decision-making for the public good.

### Exports DA

#### China will model American agribusiness---the industrial model ensures rural poverty and resistance to the CCP---BUT, a transition to sustainable agriculture can solve food supply problems

Ben Reynolds 16, foreign policy analyst and author of The Coming Revolution: Capitalism in the 21st Century, 03/16/16, China’s Agricultural Policy and the Urban Labor Shortage, https://www.chinausfocus.com/society-culture/chinas-agricultural-policy-and-the-urban-labor-shortage

The recent announcement of China’s 13th Five Year Plan has generated widespread interest in some proposed reforms, such as the end of the one child policy. However, the new Five Year Plan contains an important proposal that has largely been overlooked: the ‘professionalization and modernization’ of agriculture. Despite its apparent modesty, this goal is actually a critical component of the Chinese government’s economic development plans. Chinese policymakers likely see agricultural modernization as a means to address labor pressures in urban areas. Despite this, the history of agricultural development in countries like the United States suggests that a transition to American-style agribusiness may have destabilizing consequences in the Chinese countryside. Chinese agriculture is still relatively traditional. Many farmers work small plots, often around the size of an American football field, and have a limited ability to invest in farm machinery and new seed varieties. Chinese farmers do not own their land. Instead, they are granted usage rights as part of a collective ownership system guaranteed by the state. These are legacies of the Chinese Communist Party’s land reform efforts, which purged the country of large landholders. In addition to these conditions, Chinese farmers have to contend with a shortage of arable land, rampant pollution, and over-usage of chemical fertilizers. As a result of the factors listed above, farm productivity in China is very low. For example, the per-hectare yield of U.S. soybeans and corn is double that of Chinese farms. Chinese policymakers thus perceive a serious need to boost farm output and productivity. China still cannot produce enough food to feed its own population. It appears that China is looking to American agribusiness as a source of inspiration for agricultural modernization. American-style agriculture is virtually the opposite of current Chinese practice. Farms are very large, often focusing on growing a few cash crops. Most farms use extremely little labor and invest heavily in highly-automated machinery. The remaining farmers have little autonomy, as contracts with large agricultural processing companies and GMO seed providers precisely stipulate what they can and cannot do with their land. This style of agriculture is good at one thing: producing large amounts of staple crops at an extremely low cost of production. China’s new Five Year Plan proposes creating “new-style professional farmers” and reforming the land ownership system. A new land ownership system will make it easier to consolidate small plots, eventually reaching a size that can support industrial-scale agribusiness. These proposals are consistent with China’s desire to boost its agricultural productivity and build an independent capacity to grow its own food. However, there are reasons to suspect that other issues may be involved. In recent years, many firms in manufacturing and other industries in China’s urban areas have reported labor shortages. The stream of both skilled and unskilled workers appears to be drying up, and frequent strikes and other industrial actions by brave Chinese workers continue to drive wage increases. China’s productivity-adjusted labor costs are now $14.60 an hour on the coast, as compared to $22.68 an hour in the United States. Compare this to 2002, when Chinese labor costs were as low as 60 cents an hour in some cases. It then seemed that an endless supply of cheap labor could be found, as many Chinese workers migrated from the farms to the cities in search of work. The rate of growth in China’s urban labor force has been falling with relative consistency since 2007. In 2015, that rate reached its lowest point in over twenty years. The demand for labor is rising faster than its supply. When one cannot easily be replaced by competing unemployed workers – as is currently the case in Europe and the United States – it is much easier for workers to demand wage increases. As Chinese workers continue to claim a higher share of their total product, firms have a greater difficulty competing with other firms operating in low-wage areas. In response, firms attempt to automate production, move facilities to low-wage areas, or find a new source of workers. Some commentators argue that China’s one child policy and the antiquated household registration system – which restricts access to basic services for many rural migrants – are to blame for the present labor shortage. Reforming the hukuo system will certainly help to incentivize farmers to move to the cities, but it will also strain China’s social infrastructure. Ending the one child policy may promote population growth, but the effects of this change will take at least two decades to be felt. If Chinese policymakers want to address the labor shortage, the obvious place to look is the same as it has been for decades: farmers in the countryside. If the history of agriculture throughout the world is any clue, China’s agricultural modernization plans will create a lot of dislocation. In the United States, the growing use of mechanization and the consolidation of smaller farms made it nearly impossible for family farms to compete with agribusiness. Farmers went into debt as they attempted to keep up, often going bankrupt during periods of low crop prices. Their farms would then be sold to larger farmers, furthering the process of consolidation. Now-landless farmers moved to the cities to find work and make a living. This process – which is why American agriculture is what it is today – created serious unrest among farmers throughout the late 19th century, and even into the Great Depression. Modernizing Chinese agriculture in line with American-style agribusiness will ultimately force smallholders off of their land and into the cities. Combined with other parts of the 13th Five Year Plan – including increased vocational education – this could help to alleviate the urban labor shortage. It is hard to imagine that small Chinese farmers will quietly accept the gradual loss of their land to industrial-scale competitors. Rural unrest and resistance, often spurred by land sales orchestrated by corrupt local officials, is already relatively widespread and common. A large-scale plan to modernize agriculture will likely add fuel to this fire. There may be an emerging tension between the perceived need to address the urban labor shortage and the need to maintain social stability in the countryside. There are ways to address China’s food production problems without following the model of American agribusiness. Bio-intensive agriculture and permaculture techniques, pioneered by farmers like John Jeavons, can produce more food than conventional industrial agriculture with less land, water, fertilizer, and energy. These methods are labor-intensive and are optimal for farmers with small plots, but China still has a large rural labor force. If Chinese policymakers were to pursue this alternative, they could likely solve China’s food supply problem with a moderate investment in education and farm equipment. This would require policymakers to look for solutions other than cheap migrant labor to address the labor shortage. China is already the world’s largest market for industrial robotics, but enlightened policies could speed up the pace of automation. Chinese firms could be encouraged to adapt to a world of high wages and decent working conditions, rather than hoping that the era of cheap labor will continue without end. These shifts would be consistent with China’s development goals, including its stated commitment to environmental sustainability and improving the standard of living. If China follows the American example, it will trade short-term benefits for long-term costs in ecological and social stability. If China wants a sustainable, productive agricultural system, there are certainly better places to look than American agribusiness.

### CWS DA

#### Europe’s pivoting to holistic protection of competition---the US needs to synchronize.

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2. Effective competition structure In addition to the core focus on consumer welfare, European jurisprudence has emphasised the goal of maintaining an effective competitive structure. While the two goals often overlap, the focus on competition structure provides a supplementary nuanced prism. The European Courts have long held that competition law ‘is not only aimed at practices which may cause damage to consumers directly, but also at those which are detrimental to them through their impact on an effective competition structure.’31 In T-Mobile, the Court of Justice elaborated that European competition law ‘is designed to protect not only the immediate interests of individual competitors or consumers but also to protect the structure of the market and thus competition as such.’32 The Court added that a ‘concerted practice may be regarded as having an anti-competitive object even though there is no direct connection between that practice and consumer prices.33 Similarly, in her opinion in this case, Advocate General Kokott noted that the protection of the structure of the market indirectly also protects consumers ‘[b]ecause where competition as such is damaged, disadvantages for consumers are also to be feared.’34 Likewise, in Glaxo Smith Kline Services Unlimited v Commission,35 the Court of Justice held that Article 101 TFEU ‘aims to protect not only the interests of competitors or of consumers, but also the structure of the market and, in so doing, competition as such.’36 In Konkurrensverket v TeliaSonera Sverige, the Court highlighted the significance of preventing ‘competition from being distorted to the detriment of the public interest, individual undertakings and consumers, thereby ensuring the well-being of the European Union.’37 In line with this approach, the General Court noted in Intel v Commission, that ‘the Commission is not required to prove either direct damage to consumers or a causal link between such damage and the practices at issue in the contested decision... [Article 102 TFEU] is aimed not only at practices which may cause damage to consumers directly, but also at those which are detrimental to them through their impact on an effective competition structure.’38 The protection of an ‘effective competition structure’ provides for a wider prism than that reflected by the consumer welfare benchmark. It draws attention to the competitive process as such and has led to the condemnation of conducts that impair genuine undistorted competition.39 In the context of Article 102 TFEU, the protection of the effective competition structure has resulted in the imposition of a special responsibility on dominant firms not to distort competition on the market,40 limit the buyer’s freedom as regards choice of sources of supply, or bar competitors from access to the market.41 In the context of Article 101 TFEU, the protection of the effective competition supports the view that ‘in order to find that a concerted practice has an anti-competitive object, there does not need to be a direct link between that practice and consumer prices.’42 Flowing from the protection of an ‘effective competition structure’ is the protection of input providers. Article 102 TFEU unambiguously indicates that an unlawful abuse may result from, among other things, the direct or indirect imposition of unfair purchase prices, or other unfair trading conditions. Similarly, Article 101(1) TFEU refers to the direct or indirect fixing of purchase or selling prices. In its decisional practice,43 the Commission noted that the purchase price is a fundamental aspect of competitive conduct.44 The focus on the supply side of the market was also noted by Advocate General Jacobs in AOK Bundesverband v Ichthyol-Gesellschaft Cordes,45 where he pointed to the fact that buyer cartels may ‘suppress the price of purchased products to below the competitive level, with negative consequences for the supply side of the relevant market.’46 Overall, the explicit reference to purchase prices has served as a backbone to the assertion that European competition law is also concerned with upstream effects. In the context of the digital economy, the wider prism offered by the protection of an ‘effective competition structure’ has significant implications. First, it offers an independent mandate for intervention, detached from direct effect on consumers. It enables the competition agency and courts to pre-empt by challenging actions that distort competition on digital markets. This does not necessarily imply more aggressive enforcement, rather a wider, and arguably more effective, consideration of effects on the digital landscape. Second, is the focus on the effects online platforms, intermediaries and other economic actors have on the process of competition. Of particular significance is the subrogation of the dominant firm’s economic self-interests to its responsibility not to distort competition. While it is widely accepted that ‘not every exclusionary effect is necessarily detrimental to competition’,47 unjustified distortions may trigger intervention. Third, the focus on the competitive process draws attention to the potential use of networks, platforms or data pools as possible barriers to entry or expansion or as a mechanism to raise rivals’ costs. The increased significance of data in shaping markets and influencing their development, highlight it being a relevant parameter in the assessment of markets and possible distortion of competition.48 Fourth, ‘effective competition structure’ draws attention to the consideration of choice in the digital world. It may be used to appraise dominant players’ ability to increase friction and use manipulation to limit consumer choice while maintaining a façade of abundance.49 Similarly, it provides a relevant intervention benchmarks when dominant firms limit access of competitors through tying practices,50 or reduced interoperability. Fifth, the consideration of upstream effects could offer a fresh perspective on how bottleneck digital players can impact the viability of input providers through practices that may negatively affect upstream, but also downstream markets and thus end consumers.

#### Failure causes digital protectionism---now is key

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IV. The Way Ahead: Convergence or Divergence? So far, this article presented how the differences between the American and European approaches to data protection provide EU regulators with motivation to strengthen antitrust enforcement in data markets. Moreover, it argued that once this process starts, the unique features of European antitrust policy will prove a perfect incubator, so that antitrust cases against US tech companies for dominance violations should grow. Americans do not share and may not understand neither the motivation nor the antitrust tools employed in the EU. 110 As the Atlantic divide on antitrust enforcement widens (and given that actual protectionist policies are on the rise) 111 calls of digital protectionism should afloat. Tensions run both ways, as Europeans may also be startled by American complaints against what they see as a regular application of the rule of law. 112 With a trade war between the EU and the US looming after a series of trade sanctions, 113 increased strains between two of the world’s leading trade and security partners can do little good. 114 The digital economy is a sensitive area and the EU/US safe harbour for data transfer is proof of the damage that may arise from disputes. The first Safe Harbor came after a major trade conflict between the EU and the US over personal data. 115 By striking it down, EU Courts’ placed thousands of American and European companies in disarray, 116 reason why business leaders in both jurisdictions welcomed the swift conclusion of the Privacy Shield. 117 The challenge remains, however, on whether it is desirable or possible to bridge such significant cultural differences, or at least develop clear mechanisms that prevents tensions arising from pure misunderstanding. This remains a contingent question. On one side, convergence may never be necessary. It is perfectly reasonable and may even be optimal that different legal systems will provide different solutions to challenges of a new internet era, forcing agents to adapt to the norms of a given jurisdiction. 118 Lack of convergence is burdensome and may increase the cost of doing business across the Atlantic, 119 but the so far successful implementation of the ‘right to be forgotten’ experience in Europe demonstrates that both markets are large enough to justify companies adopting different solutions. The risk is that shifts in market behaviour may lead to the ‘Brussels’ effect’ and the export of stricter standards, 120 something that may trigger unpredictable reactions by US authorities facing loss of sovereignty. On the other, the safe harbour demonstrates how convergence is possible if parties move to bridge differences. As there is more to explore from an academic perspective in this second scenario, this section will focus on that. Bringing together such disparate regimes will require both political motivation and a coherent framework. This part argues that: (i) convergence efforts will require a balancing of the role that economics plays in antitrust enforcement on internet markets on both sides of the Atlantic; and (ii) that recent EU reforms open a window of opportunity for this to happen. In addition, it presents data portability as a mitigating measure that companies may explore to decrease tensions while and if converge does not take place.

#### That cedes to Chinese internet governance AND desynchs emerging tech responses

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Sitting atop resounding commercial success in the domestic as well as the global marketplace, the CEOs of four U.S. digital behemoths appeared last week before the House of Representatives to respond to public and congressional concerns about market domination. The size and success of these champions, under fire for lack of transparency and anticompetitive practices, have triggered similar, more exaggerated concerns in Europe, which are playing out in a frenzy of proposed rulemaking at both the Commission and member-state level. As Congress probes the market behavior of U.S. digital companies, it is important for U.S. legislators to consider parallel rising pressure for digital and industrial protectionism in Europe, particularly in Germany and France. This flurry of regulatory activity endangers transatlantic data transfers—the lifeblood of many innovative U.S. firms—and will hurt U.S. business success globally while simultaneously distracting both Europe and the United States from the broader threat posed by China’s authoritarian state capitalist system. Many Europeans are deeply worried about the continent’s ability to compete long term in the global digital economy, given its challenges in developing competitors to the U.S. and Chinese tech giants. Yet European economies have tremendous strengths—highly educated workforces, depth in engineering, advanced technologies, and a leadership role in a host of industries that are rapidly digitizing, such as agriculture, infrastructure, transportation, logistics, manufacturing, and knowledge-intensive services, for example, financial, business, environmental, and engineering services. Constructing new European regulations for the digital era should be guided first by the do no harm warning. The United States and Europe share an interest in piloting, investing in, and leveraging disruptive technologies like artificial intelligence (AI), blockchain, and the Internet of Things in these key industries, and liberalizing market access for services in emerging markets. The United States and Europe can also work together to ensure firms and workers in more underserved and remote regions are able to apply technologies, access educational and training opportunities, and increase productivity. But improved transatlantic cooperation in supporting innovation, productivity, consumer welfare, and sustainable job creation in a flourishing transatlantic digital economy, under an open and free internet architecture, seems all the more remote in light of where European regulators say they are headed. The Commission released a series of documents earlier this year outlining Europe’s regulatory future, including a White Paper on Artificial Intelligence, a Communication on European Strategy for Data, and a framing paper related to Shaping Europe’s Digital Future. These documents and many more speak to the European desire to achieve “digital autonomy” and “tech sovereignty” through an array of regulatory and tax changes aimed at nurturing indigenous tech firms, developing independent European data pools, and tamping down on large, innovative foreign firms offering attractive digital services to European consumers. Artificial Intelligence Following the General Data Protection Regulation (GDPR) model of being the first mover with comprehensive regulation, the Commission is taking aggressive aim at being the preeminent “global standards setter” in AI. The European Union’s heavy-handed preliminary proposal for AI regulation diverges sharply from the U.S. approach. In its white paper on AI, the Commission has proposed ex ante conformity assessments to control access to the EU market for AI applications originating outside of the EU. That would likely require a new framework with criteria, benchmarks, and standards that European authorities will use to determine if an AI product is “trustworthy, secure and in respect of European values and rules” before it is allowed entry into the European market. This approach could include a pre-market review by EU authorities of algorithms, training data, documentation on programming, and how the system was built, as well as accuracy tests and other requirements. Also under consideration are data quality and traceability requirements that would require non-EU firms to train AI applications on GDPR compliant data, an extraterritorial regulation that seemingly would burden U.S. firms with requirements to completely retrain many proprietary algorithms developed in the United States with new data sets as a condition of market access in the European Union. Unlike its inaction in the area of federal privacy regulation, which has allowed Europe to set a de facto global standard, the United States has led an international, cooperative effort through the G7 to reach common standards in the challenging area of AI research and development. A coordinated interagency team in the United States focused on AI regulation and emerging issues makes transatlantic collaboration is this new regulatory space a possibility. New Activist Competition Measures In a February 4, 2020, letter to Commission Executive Vice-President Vestager calling for more activist competition policy, France, Germany, Poland, and Italy describe their two overarching goals: (1) moderating competition emanating from “state-backed and subsidized” foreign competitors (e.g., China); and (2) controlling “emergence of large players in the digital economy relying on the accumulation of data and unparalleled network effects resulting in . . . excessive market power.” (e.g., large U.S. and Chinese tech companies.) The four European governments advocate for policies to tackle the “digital platforms with paramount importance for competition,” saying that these firms should be subject to “specific scrutiny” in Europe and an enhanced regulatory framework. In different EU jurisdictions, competition authorities are increasingly weaving the precautionary principle into regulation of technology markets with the idea that new ex ante rules should be imposed ahead of any actual anticompetitive behavioral violation. Legislation pending in the German Bundestag is in this vein. For its part, the French government has put forward a legislative proposal to regulate “systemic platforms.” Under the French plan, competition regulators would be authorized to surveil and block planned acquisitions of European tech startups of almost any size. Also, there is pressure on Vestager to address Europe’s long-term industrial challenges in other sectors. Member states are pressing for a revamp of competition, merger control, and state aid rules through the adoption of new guidelines governing horizontal mergers and updated definitions of relevant market concepts. Details of these proposals are still forthcoming. Describing her guidelines for the European Commission, President von der Leyen has instructed Thierry Breton, the commissioner for internal market, to put into place the right framework to allow Europe to enhance its “technological sovereignty.” In her program, she writes, “we will invest in blockchain, high-performance computing, quantum computing, algorithms and tools to allow data sharing and data.” She has directed him to define standards for 5G networks and other new generation technologies and has given him authority to lead a European approach to artificial intelligence and a strategy on data. Digital Services Act The Commission is drafting a new Digital Services Act (DSA) to update the landmark e-Commerce Directive from 2000, which set rules for online safety and liability of online intermediaries for third party content. Addressing all digital services, as well as digital platforms, the DSA is expected to address difficult questions regarding hate speech, disinformation, certain advertising on social networks, and election tampering. In addition to major changes to the EU’s intermediate liability framework, the DSA is expected to include new rules on use of data by online platforms, new transparency requirements for algorithms, and possibly the establishment of a regulatory body to monitor the activities of online firms. Many member states are also increasing liability risks and imposing content monitoring requirements for online communications. Gauging the potential impact of these proposals on U.S. business interests has so far not been of perceptible concern to Congress or the administration who are enmeshed in the domestic debate on similar themes. Going Forward European Commission officials are clear about their goals for achieving “tech sovereignty” through a new regulatory framework for the European digital economy. But these aspirations, couched in protectionist rhetoric, should be balanced against the need to avoid a balkanization of the internet and a further dampening of the environment for innovation in Europe. Fragmentation of the internet is not good for European companies, not good for U.S. companies, not good for governments on either side of the Atlantic, not good for economic growth generally, and not good for the internet. The recent decision by the Court of Justice of the European Union (CJEU) to invalidate the 2006 U.S.- EU Privacy Shield has thrown transatlantic data flows once again into an unnerving state of regulatory uncertainty. But the decision is a reminder that the United States and the European Union can reach negotiated understandings on sensitive digital economy issues and have done so in the past, with the Privacy Shield and the Safe Harbor before that, even as negotiators appeared oceans apart and faced multiple setbacks, including several previous rulings by the CJEU. Bilateral negotiations will be necessary to once again resolve the transatlantic impasse on privacy, but they offer the chance to hammer out a better transatlantic partnership in the commercial digital space that can be geared toward aiding a climate for innovation in Europe. When strategic considerations are taken into account, a partnership based on the principles of democracy, transparency, privacy, and individual liberty, which Europe and the United States share, would stand as a healthy contrast to China’s approach to privacy, AI regulation, competition policy, and free speech on the internet. Although not the topic of last week’s headline grabbing congressional hearing, any active reset of U.S. antitrust policy should take into account the aggressive regulatory trends in Europe that threaten to stifle innovation there while unfairly targeting U.S. national champions.

#### Ag sector listening forums thump every link

Caitlin F. **Saladrigas et. Al** (William N. Shepherd, David C. Kully, & Kenneth Racowski: Partners, Holland & Knight) **3/31**/2022 [“FTC Focuses on M&A in the Agricultural and Food Industry” online @ <https://www.hklaw.com/en/insights/publications/2022/03/ftc-focuses-on-manda-in-the-agricultural-and-food-industry>, loghry]

Federal **antitrust enforcement** **in** the **ag**ricultural industry **had been** little more than **a whisper** **for decades**. The Obama Administration announced it was making agricultural antitrust enforcement a priority and then held workshops on the topic. During the Trump Administration, there was some throat clearing, including notable antitrust enforcement activity in the cattle and poultry industries. But **there can be** **no question** **that the federal government** **rediscovered its voice** **during the Biden Administration as exemplified by the Ex**ecutive **O**rder **on Promoting Competition in the American Economy** on July 9, 2021, **proclaiming the administration's policy to** **"enforce** the **antitrust laws** to combat the excessive concentration of industry, the abuses of market power, and the harmful effects of monopoly and monopsony – especially as these issues arise **in** [among other industries] **ag**ricultural **markets**." **In response to this** **broad directive**, **the** Federal Trade Commission (**FTC**) **and** the Antitrust Division of the U.S. Department of Justice (**DOJ**) **launched a series of programs**, "Listening Forum on Firsthand Effect of Mergers and Acquisitions," aimed at **obtaining feedback from stakeholders who** have **experienced** the firsthand **effects of mergers and acquisitions** in the industries addressed by the July 2021 Executive Order. Each of the listening forums will cover concerns in a specific industry. The stated goal of these listening forums is to supplement the FTC's and DOJ's request for comments on merger enforcement guidelines. Listening Forums **The first** listening **forum was held on March 28**, 2022, **and focused on** the food and **ag**riculture industry. FTC Chair Lina M. Khan led the discussion, which drew anecdotal commentary from farmers, independent grocers and other food and agricultural market participants. Kahn was joined by Assistant Attorney General of the DOJ Antitrust Division Jonathan Kanter. The thrust of the discussion came as no surprise: the participating constituents – mostly small producers and retailers – painted a picture of market pressure in sourcing products and materials, processing the commodities they produce, supplying their products to institutional markets, scalability and in-competing against significantly larger market participants. Complaints regarding mislabeling and false advertising also surfaced from some of the participants. Each of the participants attributed these challenges to a purported anticompetitive market driven in large part by a lack of enforcement. Although Kahn made no prognostications on future enforcement action by the FTC, she reiterated commentary from the participants, including "how consolidation in any single market can have effect for direct participants in that market, but also can have cascading ramifications across the supply chain and across even seemingly unrelated markets," which she emphasized as something the FTC will keep in mind going forward. Kanter echoed Kahn's sentiments describing the participants' concerns as "the vicious cycle of consolidation." While the overall commentary was neither earthshattering in its novelty nor a clear harbinger of things to come, agency dialogues like these are often the precursor not only to increased enforcement actions – which are all but expected from this administration – but also increased private litigation. Conclusion and Takeaways **The main takeaway from the first listening forum for organizations in** the food and **ag**riculture industry, and indeed any industry addressed by the July 2021 Executive Order, **is that** the **Biden** Administration **intends to take action on its full-throated call for a** **revival of antitrust enforcement**. **If organizations with potential antitrust risk were not listening in July** 2021, **they should be listening now**.