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### Advantage

#### Population expansion requires farmland expansion to meet food demand—we are on the brink of prohibitive ecological costs from deforestation

**Tian et al 21**-- Tian, Zhixi [principal investigator, Institute of Genetics and Developmental Biology and former research geneticist at Purdue], et al. "Designing future crops: challenges and strategies for sustainable agriculture." The Plant Journal 105.5 (2021): 1165-1178. (AG DebateDrills)

From the perspective of human evolution, each period of rapid population growth, such as during the Neolithic agricultural revolution, which began at about 8000 BC, the hydro agricultural or irrigation revolutions in the Near East, which began about 3000 BC, and the medieval and modern agricultural periods, which began about 1000 AD, benefited from an advance in agriculture (Taiz, 2013; Wallace et al., 2018). The recent rapid population growth during the past 300 years, in contrast, mainly resulted from the Industrial Revolution, which began in Britain about 1760. **The Industrial Revolution greatly increased the range of human activities and accelerated farmland expansion. In 1700, it was reported that nearly 95% of Earth’s ice-free land consisted of wildlands and semi-natural anthromes; however, by 2000, ~55% of these regions were used as arable land** (Figure 1a, data from https://ourworldindata.org/). The Industrial Revolution also gave birth to new technologies and production systems in agriculture, such as the application of larger irrigation systems, and more fertilizers and pesticides. In the 1960s, semi-dwarf wheat and rice varieties were introduced. These semi-dwarf crops exhibit beneficial characteristics, such as improved response to fertilizer input, lodging resistance and enhanced light utilization (Hedden, 2003; Wallace et al., 2018). Along with the fertilizers, pesticides and irrigation systems made possible by the Industrial Revolution, semi-dwarf crops were quickly adopted and resulted in a significant increase in total grain production globally. This big leap in agriculture was known as the ‘Green Revolution’ (Khush, 2001). Indeed, statistical data have revealed that the average daily food supply per person (in terms of calories) has doubled since the middle of the 19th century (Figure 1b, data from https://ourworld indata.org/). It is estimated that the world population will rise to more than 9 billion by 2050 (Alexandratos, 1999; Cassman, 1999), and at that time we will need at least 60% more food than is consumed by humans today. Moreover, our population will continuously increase, reaching over 11 billion by 2100 (Figure 1a, data from https://ourworldindata.org/). **How to feed the increasing population is a challenge facing the whole world** (Tilman et al., 2001; Godfray et al., 2010; Foley et al., 2011; Wallace et al., 2018). **A simple solution to feed a population of 9 billion is to constantly turn wild habitats into farmland**. However, this type of expansion is unrealistic as most of the world’s icefree and non-barren land area has been exhausted, and much of the rest is unlikely to sustain high yields (Cassman, 1999). More importantly, intact forests have been known to play essential roles in protecting the environment, such as storing fresh water, decreasing flooding and regenerating fertile soils. **Clearing of forests will result in prohibitive ecological costs, such as loss of biodiversity and greenhouse gas emissions. It was reported that, due to agriculture expansion, ~30% of all plant species will become extinct** (Taiz, 2013). The destruction of tropical forests releases about 1.1 9 1012 tons of carbon per year, which accounts for 12% of total anthropogenic CO2 emissions (Friedlingstein et al., 2010).

#### Biod loss causes extinction – outweighs neg disads and is a threat multiplier

**Torres 16** [Phil Biologist, conservationist, science advocate & educator. 2 years based in Amazon rainforest, now exploring science around the world. “[Biodiversity Loss: An Existential Risk Comparable to Climate Change](http://futureoflife.org/2016/05/20/biodiversity-loss/)” <http://futureoflife.org/2016/05/20/biodiversity-loss/>.]

According to the Bulletin of Atomic Scientists, the two greatest existential threats to human civilization stem from climate change and nuclear weapons. Both pose clear and present dangers to the perpetuation of our species, and the increasingly dire climate situation and nuclear arsenal modernizations in the United States and Russia were the most significant reasons why the Bulletin [decided](http://thebulletin.org/press-release/doomsday-clock-hands-remain-unchanged-despite-iran-deal-and-paris-talks9122) to keep the Doomsday Clock set at three minutes before midnight earlier this year.

But there is another existential threat that the Bulletin overlooked in its Doomsday Clock announcement: biodiversity loss. This phenomenon is often identified as one of the many consequences of climate change, and this is of course correct. But **biodiversity loss is also a contributing factor behind climate change**. For example, deforestation in the Amazon rainforest and elsewhere reduces the amount of carbon dioxide removed from the atmosphere by plants, a natural process that mitigates the effects of climate change. So **the causal relation between climate change and biodiversity loss is bidirectional.**

Furthermore, there are myriad phenomena that are driving biodiversity loss in addition to climate change. Other causes include ecosystem fragmentation, invasive species, pollution, oxygen depletion caused by fertilizers running off into ponds and streams, overfishing, human overpopulation, and overconsumption. All of these phenomena have a direct impact on the health of the biosphere, and all would conceivably persist even if the problem of climate change were somehow immediately solved.

Such considerations warrant decoupling biodiversity loss from climate change, because the former has been consistently subsumed by the latter as a mere effect. Biodiversity loss is a distinct environmental crisis with its own unique syndrome of causes, consequences, and solutions—such as restoring habitats, creating protected areas (“biodiversity parks”), and practicing sustainable agriculture.

Deforestation of the Amazon rainforest decreases natural mitigation of CO2 and destroys the habitats of many endangered species.

The sixth extinction.

The repercussions of biodiversity loss are potentially as severe as those anticipated from climate change, or even a nuclear conflict. For example, according to a 2015 [study](http://www.ncbi.nlm.nih.gov/pubmed/26601195) published in Science Advances, **the best available evidence reveals “an exceptionally rapid loss of biodiversity over the last few centuries, indicating that a sixth mass extinction is already under way.”** This conclusion holds, even on the most optimistic assumptions about the background rate of species losses and the current rate of vertebrate extinctions. The group classified as “vertebrates” includes mammals, birds, reptiles, fish, and all other creatures with a backbone.

The article argues that, using its conservative figures, the average loss of vertebrate species was 100 times higher in the past century relative to the background rate of extinction. (Other scientists have suggested that the current extinction rate could be as much as 10,000 times higher than normal.) As the authors write, “The evidence is incontrovertible that recent extinction rates are unprecedented in human history and highly unusual in Earth’s history.” Perhaps the term “Big Six” should enter the popular lexicon—to add the current extinction to the previous “Big Five,” the last of which wiped out the dinosaurs 66 million years ago.

But the concept of biodiversity encompasses more than just the total number of species on the planet. It also refers to the size of different populations of species. With respect to this phenomenon, multiple studies have confirmed that wild populations around the world are dwindling and disappearing at an alarming rate. For example, the 2010 [Global Biodiversity Outlook](https://www.cbd.int/gbo3) report found that the population of wild vertebrates living in the tropics dropped by 59 percent between 1970 and 2006.

The report also found that the population of farmland birds in Europe has dropped by 50 percent since 1980; bird populations in the grasslands of North America declined by almost 40 percent between 1968 and 2003; and the population of birds in North American arid lands has fallen by almost 30 percent since the 1960s. Similarly, 42 percent of all amphibian species (a type of vertebrate that is sometimes called an “ecological indicator”) are undergoing population declines, and 23 percent of all plant species “are estimated to be threatened with extinction.” [Other studies](http://commondreams.org/views/2016/02/10/biodiversity-loss-and-doomsday-clock-invisible-disaster-almost-no-one-talking-about) have found that some 20 percent of all reptile species, 48 percent of the world’s primates, and 50 percent of freshwater turtles are threatened. Underwater, about 10 percent of all coral reefs are now dead, and another 60 percent are in danger of dying.

Consistent with these data, the 2014 [Living Planet Report](http://bit.ly/1ssxx5m) shows that the global population of wild vertebrates dropped by 52 percent in only four decades—from 1970 to 2010. While biologists often avoid projecting historical trends into the future because of the complexity of ecological systems, it’s tempting to extrapolate this figure to, say, the year 2050, which is four decades from 2010. As it happens, a 2006[study](http://science.sciencemag.org/content/314/5800/787) published in Science does precisely this: It projects past trends of marine biodiversity loss into the 21st century, concluding that, unless significant changes are made to patterns of human activity, there will be virtually no more wild-caught seafood by 2048.

48% of the world’s primates are threatened with extinction.

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](http://www.nature.com/nature/journal/v486/n7401/full/nature11018.html) 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](http://thebulletin.org/climate-change-and-syrian-uprising) to the emergence of ISIS in Syria, and multiple high-ranking US officials, such as former US Defense Secretary [Chuck Hagel](http://www.defense.gov/News-Article-View/Article/603441)and CIA director [John Brennan](http://www.cnsnews.com/news/article/cnsnewscom-staff/cia-director-cites-impact-climate-change-deeper-cause-global), 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.

#### The only yet extremely effective solution is innovation that leads to more crop yield—there’s multiple possibilities for innovation

**Tian et al 21**-- Tian, Zhixi [principal investigator, Institute of Genetics and Developmental Biology and former research geneticist at Purdue], et al. "Designing future crops: challenges and strategies for sustainable agriculture." The Plant Journal 105.5 (2021): 1165-1178. (AG DebateDrills)

The first straightforward strategy for designing future crops that meet sustainable agriculture requirements is to improve the following aspects of current well-cultivated crops. **Increasing yield. It is estimated that the yields of major crops need to increase at a rate of 2.4% per year to meet the food supply demand by 2050. However, the current growth rates of the four major crops, maize (Zea mays), rice (Oryza sativa), wheat (Triticum aestivum), and soybeans (Glycine max), are only approximately half of this anticipated rate (Ray et al., 2013).** The development of new varieties with high yield potential that can fill this gap is the foremost mission of the Future Crops Design project. **In fact, in a trial, it was reported that a super-high-yield rice variety could produce one- to threefold more grains under optimal conditions than in normal paddy fields (Liu et al., 2020a). Improving nutritional quality.** Although the amount of food supply has been significantly improved in the last half-century, changes in human lifestyle and food consumption have resulted in a phenomenon called hidden hunger (Nair et al., 2016). For instance, in sub-Saharan Africa and America, about 17–30% of children under the age of 5 years have an inadequate daily intake of Vitamin A (Harjes et al., 2008; Haskell, 2012). **It has been reported that about two billion people are suffering from a chronic deficiency of micronutrients (WHO, 2008), a new threat to human health.** Moreover, the incidence of type-2 diabetes, obesity and colon disease has markedly increased in the past decade (Zhou et al., 2016). **Hence, the second mission of the Future Crops Design project is to generate crops with higher/balanced nutritional quality or specialized metabolites using metabolic engineering and synthetic biology approaches** (Francis et al., 2017; Martin and Li, 2017; Sweetlove et al., 2017; Vasconcelos et al., 2017). **Increasing agricultural resource use efficiency. It was reported that ~17% of arable land has lost productivity since 1945 due to inappropriate agriculture management** (Oldeman, 1994). In fact, nutrient-use efficiencies of today’s crops only reach 30–50% for nitrogen fertilizer (Cassman et al., 2002) and ~45% for phosphorus fertilizer (Smil, 2000). Moreover, fresh water has become a limiting factor for agriculture in many areas in the world. It is estimated that about 2800 km3 of fresh water per year is used for agricultural irrigation, and that crop production decreases by ~20% without irrigation (Siebert and Doll, 2010). **Therefore, to reduce agricultural inputs and environmental burdens, we should aim to develop high nutrient and water-use efficiency crops without yield penalty.**

#### The reason innovation isn’t happening is lack of profit incentive—there needs to be an incentive for risk taking

**Mackenzie 20**—Conway Mackenzie; Harve Light Managing Director; Innovation in Agriculture: Why is it so slow?; Shale Magazine; February 3 2020; <https://shalemag.com/innovation-in-agriculture-why-is-it-so-slow/>. (AG DebateDrills)

**Innovation is not a new concept in the agriculture industry. As an example, self-driving farm equipment has been around for years and well ahead of the auto industry**. This has been a major factor in improving yields and reducing input costs as planting accuracy has improved. **However, further automation is needed to improve operating efficiency along the supply chain.** Both farmers and processors face significant labor cost increases due to minimum wage hikes that will continue for the next several years. These increases have little positive effect as both farmers and processors still struggle to find people willing to do the work. Robotics will play a significant role in addressing this issue. Whether it’s picking crops in the field or automating functions at the processor, business owners are looking for ways to reduce their labor dependence.

Sensor technology via the Internet of Things has also made significant inroads. **These sensors improve farmer visibility into what is going on with their land and crops**. This allows them to focus their resources to address known issues. Sensors also help processors maintain quality standards throughout their facilities. Sensor technology is also a major component in addressing another industry challenge, traceability. Today, consumers want to easily determine where their food came from. They want to know that it came from companies that believe in and use sustainable practices. In addition, regulators want to be able to pinpoint sources when food safety issues arise. Sensor technology collects the data needed to meet this need. The second part of the issue is harnessing all that data.

**There are several efforts in their infancy that work toward a data solution.** One of the most advanced is blockchain technology. In simple terms, blockchain is a technology that allows for collection of data from all market participants in a single, secure repository. It will allow for an end to end supply chain trail of a single item. This technology will allow for better traceability by retailer, consumer and regulator which is being requested by the likes of Walmart. Eventually, it will also allow for better collaboration between all members of a particular supply chain. Today, the biggest hurdles to this innovation are the protocols or data formats. Companies in the industry need to know what data to collect and the form it should take. They will need a lot of help in putting these requirements all together.

**So, what’s holding innovation back? While there has been improvement, technological innovation remains slow compared to other industries. Two of the major causes are lack of connectivity and insufficient investment returns**. Lack of connectivity is an issue based on the nature of the industry. Farming takes place in rural areas where internet access is spotty at best. This lack of connectivity hampers farmers from collecting data in the field. This results in an inability to make decisions in time to make a difference. Innovation is also inhibited by a lack of investment. **Entrepreneurs and startups do not want to invest in developing solutions where they can’t see a clear path to a return on their capital.** In agriculture, they can’t see an exit strategy which typically includes the sale of the company to a large industry supplier. **For many years, the agriculture industry has been dominated by a few large input suppliers. These suppliers have been making good profits years and see no reason to take on innovation investment risk.** Without these large players, startups have no incentive to risk their capital on new solutions. This has led to a very slow rate of development and innovation.

## Plan

#### Plan text: The United States ought to recognize an unconditional right to strike for agricultural laborers by amending the National Labor Relations Act to extend the definition of ‘employee’ to include agricultural laborers.

#### Squo NLRA fails to protect farmer’s rights to strike – plan amends the NLRA to collectively bargain

**Reilly, 11**, Penn State Law, “Agricultural Laborers: Their Inability to Unionize Under the National Labor Relations Act”, Penn State: Masters of Science, JD Law, URL: <https://pennstatelaw.psu.edu/_file/aglaw/Publications_Library/Agricultural_Laborers.pdf>, 2011 + since most recent citation is from then, KR

**The NLRA gives workers “freedom of association, self-organization, and designation of representatives of their own choosing” in order to equalize the bargaining power** between employers and employees in the hopes of limiting the interruptions to the free flow of commerce.10 **The statute covers a large number of workers based on the broad definition of “employee,”11 but excludes from coverage all agricultural laborers**.12 The NLRA does not define who these agricultural laborers are that are excluded from the right to organize, but rather Congress has instructed the National Labor Relations Boards (NLRB)13 in the annual Appropriations Act that in determining who is an agricultural laborer excluded from the NLRA, to rely on the definition of “agriculture” **found in the Fair Labor Standards Act (FLSA).14 Agriculture in the FLSA is defined as “farming in all its branches ... and any practices ...** performed by a farmer or on a farm as an incident to or in conjunction with such farming operations...”15 The definition also lists specific activities to further define what would specifically be considered agricultural work.16 Therefore, workers whose responsibilities are contained in the FLSA’s definition of “agriculture” are excluded from the right to organize and form unions under the NLRA.

The reasoning behind this exclusion is somewhat vague, especially considering that the bill originally proposed in the Senate did not exclude agricultural laborers from the definition of “employee.”17 There is not much mentioned about the agricultural exclusion because of the statute’s primary focus on addressing problems in the industrial sector. There is, however, a debate from in the House addressing the agricultural laborer exemption,18 where an argument was made that **agricultural laborers should be included because they needed the same protections as industrial** workers. Agricultural labor issues were brought to light in 1935 after governmental investigations into child labor issues and the lack of clean water provided for such workers.19

In response, **two possible reasons were briefly mentioned that may explain why agricultural laborers were excluded: first, in regions like the Midwest, farms are mostly family farms and should not be within the scope of the NLRA,** and second there was a concern that Congress did not have jurisdiction over agricultural workers because it was questionable whether such workers were engaged in interstate commerce.20 Many commentators believe that it was the former argument that led to the exclusion of agricultural workers from protection under the NLRA. Another possible reason for this exclusion as presented by some commentators is that the larger farms lobbied to have their workers excluded from the NLRA.21 While not expressly stated, the most likely explanation is that Congress wanted to protect the family farmer from having to pay higher wages that unions would inevitably demand of the employers.22 Realizing that agriculture was important to the entire nation, Congress wanted to shield this industry from unionization, and wanted to protect the family farmer from having to pay what they could not afford. Congress did not think it necessary to equate the family farmer with big business.

The broad definition of “agriculture” under the FLSA would seem to exclude from the NLRA any worker who is employed by any agricultural entity. This is not the case, however, because **the Supreme Court has adopted a two-part test to determine if an employee is in fact an agricultural laborer excluded from the NLR**A.23 An agricultural employee will be excluded from the right to organize if he or she is engaged in either primary or secondary farming. The Supreme Court has taken the FLSA definition of agriculture and essentially limited its application based on a strict application of the statutory language. Primary farming are those tasks specifically referred to in the statutory definition of “agriculture” such as “cultivation and tillage of the soil [and] dairying.”24 The rest of the definition is considered secondary farming, and therefore a worker is an agricultural laborer if the work performed is of the type that would be performed “by a farmer or on a farm as an incident to or in conjunction with such farming operations.”25

In one of the more recent cases to address the question of who is considered an agricultural employee, the Supreme Court in Holly Farms Corp. v. N.L.R.B. upheld the determination made by the NLRB that workers on live-haul chicken crews do not engage in agricultural labor and therefore are not subject to the agricultural exception from the NLRA.26 The responsibility of the live-haul crew is to enter the farms of independent contractors who raise chickens supplied by Holly Farms; the chickens are then caught and caged by nine chicken catchers, moved by a forklift operator onto a truck to be transported by a truck driver to the processing plant.27 These live-haul crews were not engaged in primary farming because primary farming would have been the actual raising of the poultry, which was the responsibility of the independent contractors, not the live- haul crews.28

The court then focused on whether these live-haul crews were engaged in secondary farming. In doing so, the court immediately found that that the work performed by the live-haul crews were not of the kind “performed by a farmer” because Holly Farms gave up its farmer status as soon as the chicks were delivered to independent contractors for raising.29 As a result of this determination, the truck drivers were not considered agricultural laborers and were therefore not part of the agricultural exception to the NLRA and were able to unionize.30

The court then looked to whether the chicken catchers and forklift operators were engaged in work “on a farm as an incident to or in conjunction with” raising poultry.31 The Supreme Court found that neither the chicken catchers nor the forklift operators “worked on a farm” because the work these employees performed were part of Holly Farms’ poultry processing operations and was not of the type of work contemplated to be included in the statutory definition of “farming.”32 The Supreme Court adopted the reasoning of the NLRB in deciding that the catchers and forklift operators were not performing work “incident to or in conjunction with” the farming operations of the independent contractors.33 In doing so, the Supreme Court decided that it was more important to look at the status of the employer as a farmer rather than where the laborer carried out the responsibilities of the job he or she was hired to perform. Because, as previously determined, Holly Farms was not considered a farmer by the time the live- haul crews went in to catch the chickens, the catchers and the forklift operators were not engaged in secondary farming as defined in the FLSA.34 This meant that all the members of the live-haul crews were not agricultural laborers and therefore all had the right to organize under the NLRA.

The Supreme Court limited the applicability of the definition of “agriculture” in Holly Farms and in doing so opened up the possibility that more workers employed by large, vertically integrated employers would be able to organize.35 By taking the approach to look at the status of the employer rather than where the work is performed, the Supreme Court broadened the already broad definition of “employee” under the NLRA. More employees working for these vertically integrated employers will be able to experience the protection of the NLRA that has been open to industrial workers since the act was first passed in 1935. The impact of the Holly Farms decision is for courts to engage in an in depth analysis before deciding whether a worker is an agricultural laborer not protected by the NLRA. Switching the focus to the status of the employer rather than where the employees are performing their responsibilities will ensure greater protection for workers and a broader reach of the NLRA.

While the definition of “employee” has expanded to include some employees who are employed by agricultural employers, **there is still the exception for agricultural laborers included in the statute and therefore there are still many workers who are unable to form unions.** These may be the **workers that need the most protection because they are the field workers who are subjected to abuse, poverty and hazardous working conditions.36** Many commentators would like to see **the NLRA extended to include agricultural laborers**. The main advantage to **extending the definition of “employee” to include agricultural laborers under the NLRA is that the statute has been in existence for many years, and most of the challenges that would be brought up with respect to agricultural laborers attempting to unionize have most likely already been resolved in other employment sectors allowing the NLRB and courts to rely on precedent. This will make application of the statue to the agricultural laborers consistent with other employment sectors. Reliance on precedent would lead to predictable outcomes when labor disputes arise.** Agricultural laborers still have a ways to go before they will be able to reap the benefits of the NLRA; but, if this were to happen, **agricultural laborers would be able not only to unionize and have their association protected, but also would have the advantage of being able to rely on others with experience and knowledge of the NLRA and its intricacies**.

### Solvency

#### First is creation of unions

#### Agricultural unions, in particular, are necessary for restoring competition—it’s in the interest of unions to do so

**IATP 2000**—Institute for Agriculture and Trade Policy; Farmers Union Tells Congress to Restore Competition in Agriculture; Oct 4 2000; <https://www.iatp.org/news/farmers-union-tells-congress-to-restore-competition-in-agriculture>. (AG DebateDrills)

**National Farmers Union (NFU) President Leland Swenson today requested that Congress act immediately to restore competition in agriculture.** He did so before the Senate Judiciary Subcommittee on Antitrust, Business Rights, and Competition in testimony on the current state of agricultural industry concentration, antitrust activity and enforcement, and its implications. **"Besides price, competition in the agriculture industry is the issue of greatest concern to family farmers and ranchers," said Swenson. "We need stronger enforcement and greater authority for those charged with fighting antitrust violations."** Farmers Union called on Congress to enact legislation to improve market competition and promoted higher levels of enforcement and greater authority for the U.S. Departments of Agriculture and Justice and the Federal Trade Commission to fight anti-competitive behavior. **The family farmer and rancher organization also called on Congress to increase antitrust oversight of the retail sector where a few large chains not only exert the market power to independently set food prices, but are also exerting market pressure that affects the price that producers receive.** "Competition in the agriculture sector is rapidly diminishing," added Swenson. "Congress and the administration must act quickly before it is too late."

#### Second is increased worker costs meaning more investment in capital

#### Migrant workers make up the bulk of farm workers— right now they face extreme treatment in the status quo because of their vulnerable position

**LeRoy 99**-- LeRoy, Michael H. [Professor, School of Labor and Employment Relations, at University of Illinois], Should 'Agricultural Laborers' Continue to Be Excluded from the National Labor Relations Act?. Emory Law Journal, Vol. 48, No. 3, 1999, U Illinois Law & Economics Research Paper No. LE07-023, Available at SSRN: <https://ssrn.com/abstract=992923>

**At least part of this labor market competition appears to be coming from 600,000 of farm**

**workers who currently are illegal aliens**.29 **By one estimate, 57% of all migrant farm workers in the U.S. are illegal aliens**30 A recent report by the Department of Labor’s Inspector General suggests that agricultural producers prefer to hire illegal aliens.31 **Thus, many farm workers are in one of two binds: they are legal immigrants who are passed over in favor illegal aliens in an already crowded labor market; or, they are illegal aliens who, because of their unlawful presence in the U.S., are exposed to extraordinary potential for employer over-reaching.** Current labor market statistics suggest, therefore, that the slow progress that farm workers experienced over the past two decades is giving way to more exploitation. **In recent cases of extreme treatment, migrant farm workers were enslaved by a labor contractor,**32 **coerced into field work against their will,**33 **or connected to forced prostitution.**34 As these abuses have suggested a growing pattern, the U.S. Attorney General has responded by forming a task force to propose suitable solutions.35 Even if coercion happens only rarely to migrant farm workers, they nevertheless are vulnerable to more mundane forms of employer over-reaching. **Their itinerant work, combined with their poverty, often means that they depend on employer-provided housing**. Housing for migrants, while improved over a generation ago,36 is still sub-standard.37 **Ironically, since migrant housing is regulated by federal38 and state law,39 many producers provide no housing and, as a result, migrant workers set up shanty-camps.**40

#### The cause of worker exploitation is lack of collective bargaining so right to strike drastically improves conditions and wages—other industries prove

**Perea 11**—Juan Perea [Professor of Law at Loyola University Chicago]; The Echoes of Slavery: Recognizing the Racist Origins of the Agricultural and Domestic Worker Exclusion from the National Labor Relations Act; 72 OHIO ST. L.J. l 95 (2011).; https://lawecommons.luc.edu/cgi/viewcontent.cgi?article=1150&context=facpubs

**There is a direct relationship between this modem slavery and contemporary labor law.** Advocates for migrant farm workers express that relationship: **"Modem-day slavery cases don't happen in a vacuum. They only occur in degraded labor environments, ones that are fundamentally, systematically exploitive.** In industries where the labor force is conti[n]gent, day-haul, with subpoverty wages, no benefits, no right to overtime, no fight to organize-that's where you see slavery taking root. ' 13 **Slavery does not exist in labor environments that offer adequate worker protections like collective bargaining and other federally protected rights. A huge disparity exists between the exploitation and vulnerability lived by agricultural and domestic workers and the more reasonable and humane labor conditions existing in most other occupations.**

#### \*\*Since conditions are so bad and demand is so constrained in agriculture, increase in wages will drastically increase capital investment in areas like R&D

**Bhaskar 92**-- Venkataraman Bhaskar [Researcher at Delhi School of Economics]; The Effect of Wages on Investment and Employment in a Vintage Model with Uncertain Demand; The Scandinavian Journal of Economics , Mar., 1992, Vol. 94, No. 1 (Mar., 1992), pp. 123-129; <https://www.jstor.org/stable/3440473>. (AG DebateDrills)

This note investigates the effect of an increase in the wage on investment and employment when demand is uncertain, and when incentives to factor substitution arise from the existence of different vintages of capital equipment. **It is shown that the effect on investment is nonmonotonic and depends on the relative likelihood of demand and supply constraints.** Moreover, a wage increase can have an ambiguous effect on employment, raising it in some states while reducing it in others. The effect on the expectation of employment may be positive. The model of investment presented here relates most closely to the work of Albrecht and Hart (1983), Artus and Muet (1984), Lambert and Mulkay (1987) and Moene (1985), who assume a putty-clay technology, a fixed output price, and stochastic demand. The innovation in this note is that incentives to factor substitution arise from the existence of different vintages of installed capital equipment, rather than ex ante substitutability. **Investment is undertaken to economize on labour costs by replacing older equipment and to meet additional demand.** Higher wages reduce the return to incremental investment in supply-constrained states, by reducing the absolute profit margin. **However, a wage increase raises the return to incremental investment in demand-constrained states. Since additional output cannot be sold, new equipment can only be used for replacing older vintages and economizing on labour costs. This return depends on the difference in labour costs between old and new equipment, which is greater with higher wages.** Hence a wage increase reduces the return to incre- mental investment if supply-constrained states are more likely, but raises investment if the probability of being demand constrained is high. For a given distribution of future demand, I show that there is a critical level of the wage above which the probability of being supply-constrained becomes dominant. Investment is increasing in the wage if it is below this critical level, but decreasing thereafter. The possible positive effect of wage increases on employment may seem surprising and contrary to standard comparative statics under certainty, but it follows from the effects on investment and demand uncertainty. If higher wages reduce investment, this increases employment in demand- constrained states since the firm must use older equipment. This could more than offset the reduced employment in supply-constrained states, thereby increasing expected employment

## FW

#### The standard is maximizing expected well-being

#### If there’s even a risk of ethical uncertainty, we should always prioritize the survival of the human race to ensure future value.

Bostrom [Nick Bostrom. Faculty of Philosophy & Oxford Martin School University of Oxford. “Existential Risk Prevention as Global Priority.” Global Policy (2012)]These reflections on moral uncertainty suggest an alternative, complementary way of looking at existential risk; they also suggest a new way of thinking about the ideal of sustainability. Let me elaborate.¶ Our present understanding of axiology might well be confused. We may not now know — at least not in concrete detail — what outcomes would count as a big win for humanity; we might not even yet be able to imagine the best ends of our journey. If we are indeed profoundly uncertain about our ultimate aims, then we should recognize that there is a great option value in preserving — and ideally improving — our ability to recognize value and to steer the future accordingly. Ensuring that there will be a future version of humanity with great powers and a propensity to use them wisely is plausibly the best way available to us to increase the probability that the future will contain a lot of value. To do this, we must prevent any existential catastrophe

#### 1] Util is a lexical pre-requisite to any other framework: Threats to bodily security and life preclude the ability for moral actors to effectively utilize and act upon other moral theories since they are in a constant state of crisis that inhibit the ideal moral conditions which other theories presupose

#### The role of the ballot is to evaluate the projected consequences of the aff against a competitive post-fiat policy option or advocacy or you can presume aff.

#### Realists dominate the argumentative frame – only this framework teaches debaters how to speak in the language of real-world people and experts which solves cession of science and politics.

Hoppe 99 Robert Hoppe is Professor of Policy and knowledge in the Faculty of Management and Governance at Twente University, the Netherlands. "Argumentative Turn" Science and Public Policy, volume 26, number 3, June 1999, pages 201–210 works.bepress.comACCORDING TO LASSWELL (1971),policy science is about the production and application of knowledge of and in policy. Policy-makers who desire to tackle problemson the political agendasuccessfully, should be able to mobilise the best available knowledge. This requires high-quality knowledge in policy. Policy-makers and, in a democracy, citizens, **also** need to know how policy processes really evolve**.** This demands precise knowledge of policy. There is an obvious link between the two:the more and better the knowledge of policy, the easier it is to mobilise knowledge in policy**.** Lasswell expresses this interdependence by defining the policy scientist's operational task as eliciting the maximum rational judgement of all those involved in policy-making. For the applied policy scientist or policy analyst this implies the development of two skills. First, for the sake of mobilising the best available knowledge in policy**,** he/she should be able to mediate between different scientific disciplines.Second, to optimise the interdependence between science in and of policy, she/he should be able to mediate between science and politics. Hence Dunn's(1994, page 84**)** formal definition of policy analysis as an applied social science discipline that uses multiple research methods in a context of argumentation, public debate[and political struggle]to create, evaluate critically, and communicate policy-relevant knowledge**.** Historically, the differentiation and successful institutionalisation of policy science can be interpreted as the spread of the functions of knowledge organisation, storage, dissemination and application in the knowledge system (Dunn and Holzner, 1988; van de Graaf and Hoppe, 1989, page 29). Moreover, this scientification of hitherto 'unscientised' functions, by including science of policy explicitly, aimed to gear them to the political system. In that sense, Lerner and Lasswell's (1951) call for policy sciences anticipated, and probably helped bring about, the scientification of politics. Peter Weingart(1999) sees the development of the science-policy nexus as a dialectical process of the scientification of politics/policy and the politicisation of science. Numerous studies of political controversies indeed show that science advisors behave like any other self-interested actor(Nelkin, 1995).Yet science somehow managed to maintain its functional cognitive authority in politics**.** This may be because of its changing shape, which has been characterised as the emergence of a post-parliamentary and post-national network democracy (Andersen and Burns, 1996, pages 227-251).National political developments are put in the background by ideas about uncontrollable**,** but apparently inevitable, internationaldevelopments**;** in Europe**,** national state authority and power in public policy-making is leaking away to a new political and administrative elite, situated in the institutional ensemble of the European Union. National representation is in the hands of political parties which no longer control ideological debate. The authority and policy-making power of national governments isalsoleaking away towards increasingly powerful policy-issue networks, dominated by functional representation by interest groups and practical experts**.** In this situation, public debate has become even more fragile than it was. It has become diluted by the predominance of purely pragmatic, managerial and administrative argument, and under-articulated as a result of an explosion of new political schemata that crowd out the more conventional ideologies. The new schemata do feed on the ideologies; but in larger part they consist of a random and unarticulated 'mish-mash' of attitudes and images derived from ethnic, local-cultural, professional, religious, social movement and personal political experiences**.** The market-place of political ideas and arguments is thriving; buton the other hand, politicians and citizens are at a loss to judge its nature and quality. Neither political parties, nor public officials, interest groups, nor social movements and citizen groups, nor even the public media show any inclination, let alone competency, in ordering this inchoate field**.** In such conditions, scientific debateprovides a much needed minimal amount of orderand articulation ofconcepts**,** arguments and ideas**.** Although frequently more in rhetoric than substance,reference to scientific 'validation' does provide politicians, public officials and citizens alike with some sort of compass in an ideological universe in disarray**.** For policy analysis to have any political impact under such conditions, it should be able somehow to continue 'speaking truth' to political eliteswho areideologically uprooted, but cling to power; to the elites of administrators, managers, professionals and experts who vie for power in the jungle of organisations populating the functional

## Underview

#### 1] 1AR theory –

#### a) AFF gets it because otherwise the neg can engage in infinite abuse, making debate impossible,

#### b) reject the debater – the 1AR is too short for theory and substance so ballot implications are key to check abuse,

#### c) no RVIs – they can stick me with 6min of answers to a short arg and make the 2AR impossible,

#### d) competing interps – 1AR interps aren’t bidirectional and the neg should have to defend their norm since they have more time,

#### e) no 2NR theory – 2-to-1 time tradeoff makes it devastating for the 2AR,

#### f) comes first – it’s a bigger percentage of the 1AR than 1NC which means there’s more abuse if I’m devoting a larger fraction of time and only the 2N has time to win multiple layers, g) voters – fairness because debate’s a game that needs rules to evaluate it and education since it gives us portable skills for life like research and thinking.

#### 3] Aff RVIs—

#### 1] Reciprocity – if they can win on a shell I should also be able to win on it – key to equal ballot access which o/w since it’s a structural question

#### 2] Time skew – RVIs compensate for time I spent responding to theory – o/w since time is key to being able to make any args

#### 3] Competing interps justifies an RVI since you should vote for the debater with the better model for debate

#### 4] Reading bad theory is proactively abusive so they deserve the punishment they tried to impose

#### Speccing a state is good—a) All governments is a bad model since the neg won’t be able to read country specific offense and each one is different—leads to non-specific debates and no good ground b) stable advocacy—their interp means the aff can shift definitions of governments i.e. only democracies are just vs. smth else c) applying generics to spec affs helps you think on your feet and adapt which is key to utilizing real world skills in new situations.