## 1ar

**Capitalism is key to solving global warming**

**Whitman, ’08** (Janet, February 19, pg. http://www.financialpost.com/story.html?id=317551)

Global warming may soon get a saviour more effective than Al Gore and his doomsday Power-Point presentations: capitalism. The former U.S. vice-president, who was awarded the Nobel Peace Prize last year for his work on climate change, is credited with bringing widespread attention to the issue. But the huge moneymaking opportunity in going green will be the big driver that leads to the reining in of the release of greenhouse gasses, experts say. Money already is pouring into environmental initiatives and technologies in the United States. Experts expect investment in the area to explode over the next few years if, as anticipated, the government here imposes restrictions on the release of gases believed to be behind climate change. "Capitalism will drive this," said Vinod Khosla, founding chief executive of Sun Microsystems and a longtime venture capitalist. Mr. Khosla, speaking on a panel at a recent investment summit on climate change at United Nations headquarters here, said getting consumers to curb their energy use has never worked -- unless they've had a financial incentive. "If we make it economic, it will happen," he said. The expected government-mandated cap on carbon emissions already is fueling innovation. Venture capitalists, for instance, are investing in new technologies that would make cement -- a major producer of carbon emissions -- actually absorb carbon instead. Cement makers could practically give the product away and reap the financial reward from government carbon credits.

## 1ac

#### Plan text: The United States ought to recognize an unconditional right to strike for agricultural laborers.

#### The plan extends the definition of ‘employee’ in the National Labor Relations Act to include agricultural laborers. Squo NLRA fails to protect farmer’s rights to strike – plan amends the NLRA to give the unconditional right to strike

**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**.

### Advantage 1 - Yield

#### Farmer’s yield is nearing an all-time low – government support doesn’t help the most needy and isn’t a long term solution

**Farm-Aid, 20,** 9/14/20, “Understanding the Economic Crisis Family Farms are Facing”, 2Farm Aid works with local, regional and national organizations to promote fair farm policies and grassroots organizations coordinating campaigns designed to defend and bolster family farm-centered agriculture. RL: <https://www.farmaid.org/blog/fact-sheet/understanding-economic-crisis-family-farms-are-facing/>, KR

**EVEN BEFORE COVID**-19**, FARM FAMILIES HAD NEGATIVE FARM INCOME**

Things have **been bad in farm country for a while. Between 2013 and 2018, farmers experienced a nearly 50% drop in net farm income as the prices for corn, wheat, dairy, beef and other farm products crashed**. While net farm income rose by 3% in 2019, government payments accounted for all of that increase (namely, via the trade bailout program). Without it, 2019 delivered farmers their second lowest income since 2013.[13]

As for 2020, while the U.S. Department of Agriculture (USDA) is forecasting a $19 billion (or 22.7%) increase in net farm income this **year, government payments like trade bailouts and federal COVID-19 relief programs account for 36% of net farm income** — the highest share since 2001 and the eighth highest share since The Great Depression.[14] Without the $22.4 billion provided in government payments, net farm income in 2020 would be well below the sector’s average from 2000 to 2019.[15] What’s more, the vast majority of payments flowed to the very largest farms. CNBC reports that the top 5% of trade bailout recipients received nearly half of all $28 billion paid in 2018 and 2019.[16]

Perhaps more troubling is USDA’s pre-pandemic data. In February, **USDA forecast** 2020 median farm household income at -$1,840 — **meaning that farm households would lose money from the farm.[17] More recent USDA data suggests a slightly better median income level,[18] presumably from high levels of government payments. But even these sector-wide income numbers likely mask severe distress in many parts of farm country, as many farmers who have been squeezed by years of low income did not benefit from federal payments**. Most farmers rely on off-farm jobs to feed their families, secure health insurance, and keep their farms afloat. Given the pandemic’s broader economic impacts, which arrived after farmers have had to dig into their savings for the better part of the last decade, **droves of farms are at risk of going under in the next year.**

FARM CREDIT CONDITIONS WEAKEN

Farmers rely heavily on credit to buy the seeds, fertilizer, machinery, livestock and other inputs that keep their farms running. Because most farmers require operating loans at the start of each season, a critical aspect of a farm’s financial health relates to its ability to make loan payments on time. Economists utilize various solvency measures to measure this, including the debt-to-asset ratio, debt-to-equity ratio and equity-to-asset ratio. All of these measured weakened for the eighth consecutive year in 2020. **As farm debt continues to rise, the sector’s risk of insolvency in 2020 is at its highest level since 2002**.[19] The following trends reveal weakening credit conditions for farmers and ranchers in today’s strained economy:

**Farmers struggle to make loan payments. Farm loan delinquency rates are rising.** The Federal Reserve Bank of Kansas City, which covers Colorado, Kansas, Missouri, Nebraska, New Mexico, Oklahoma and Wyoming, reports that the volume of delinquent farm real estate and operating loans increased by about 17% and 13%, respectively, over the past year.[20] Meanwhile, the Federal Reserve Bank of Chicago, covering Illinois, Indiana, Iowa, Michigan and Wisconsin, reports the share of farm loans with “major” or “severe” repayment problems is now at 8.3% — a level not seen since 1988.[21]

The 1980s all over again? Pre-COVID-19, total farm debt was estimated to hit a record $425 billion, just shy of the 1981 peak of $440 billion.[22] Since 2014, real estate debt has been rising to historic levels, potentially indicating not just rising land values, but farmers refinancing higher-interest loans or other debt into farm real estate. **In a time of persistently low farm income where farmers are defaulting on loans, this trend places a lot of farmland at risk of liquidation.[23]**

Growing demand for credit: **If farmers can’t secure affordable and timely credit, they face an economic uncertainty that threatens the survival of their farms. Several bankers are reporting growing demand for loans**, yet significant decreases in both the number and the size of agricultural loans in their portfolios.[24]

While economists and lenders note that federal relief has helped farmers navigate these conditions, many remain concerned that **without more intervention, a wave of foreclosures will strike farm country. These conditions are challenging for all farmers, but beginning farmers, smaller and midsized farmers, as well as other disadvantaged farmers in particular continue to struggle.**

#### The aff is key to increase incentives to farm: it increases wages, sets safe living conditions, AND helps farmers expand products

**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 rate of pay agricultural laborers earn in return for their work would increase if these workers were able to organize and engage in collective bargaining with their employers.** **Agricultural workers in 2008 made between $8.64 per hour and $13.02 per hou**r.50 The hourly wage is relatively low, especially when **compared to other occupations with the ability to unionize that require similar training and working conditions**. For example**, construction laborers in 2008 earned between $10.80 and $14.95 per hour51 and textile, apparel and furnishing workers earned between $9.14 and $18.15 per hour**.52 While there is a wide range of earnings for anyone entering these three professions, **the two professions that are able to unionize earn more per hour on a national level than the agricultural workers who are exempted form organizing under the NLRA**. The low earnings of agricultural laborers as compared to other laborers supports a finding **that the NLRA would benefit agricultural laborers and are the type of workers that were meant to be extended the right to organize. If agricultural laborers were afforded protection under the NLRA to engage in collective bargaining, the likely result would be that bargaining representatives would be able to negotiate with agricultural employers for higher wages** that would lead to less of an earnings gap between agricultural laborers and laborers in other industries.

There is one major similarity between the construction industry and the agriculture industry that would seem to tip the scales in favor of affording agricultural laborers the right to unionize under the NLRA. **That is that both industries hire seasonally.**53 The seasonal nature of agricultural work is often cited as a reason against unionization, but with the similarity in the construction industry and the ability of those workers to unionize, the seasonal nature of agricultural work should be a factor in considering whether or not to include these workers under the NLRA, but is not itself conclusive. If seasonal workers in other industries are able to unionize, the seasonal nature of agricultural work should not be a major point of opposition to allowing agricultural laborers the right to collectively bargain.

**Agricultural laborers are also subject to harsh conditions because of the work that they perform and should be able to organize under the NLRA in order to bargain with their employers for better working conditions**. Agricultural laborers are **not always provided with access to clean drinking water nor are there typically adequate restroom facilitie**s for these workers to use.**55 Unions can help workers to gain access to sanitary facilities and clean drinking water by bargaining for these necessities with the employers.**56 By making these issues part of **a collective bargaining agreement, unions will be able to hold employers contractually liable to follow such conditions** and will thereby improve the conditions of employment for agricultural laborers who would otherwise be subject to sub-standard facilities.

Another hazardous working condition that arises for agricultural laborers **is the exposure to pesticides.** Agricultural laborers may be exposed to pesticides that are carcinogens or other pesticides that affect the endocrine and/or hormone systems.57 Agricultural laborers, especially those who apply pesticides, are at a greater risk of acute pesticide poisoning which many times is more prevalent than it needs to be because agricultural employers do not take the kinds of precautions necessary to prevent pesticide poisoning.58 **Unions again can aid agricultural laborers by limiting such exposure through a collective bargaining agreement because unions would be able to bargain for certain safety precautions to be taken** before workers are able to spray pesticides and can also ensure that safety gear is provided before spraying commences. Inadequate facilities and pesticides are two examples of the hazardous conditions that agricultural laborers are exposed to that could be cured through the right to unionize and collectively bargain with employers. Unions would be able to protect workers from such sub-standard conditions which in turn would lead to less illness and disease that agricultural laborers would be subjected to and would increase productivity on farms because field workers will not be slowed by sickness and would be able to work more as a result.

Further, “farmers, planters, ranchmen, dairymen, nut or fruit growers” are able to form associations for the mutual benefit of all members.59 These **associations allow their members to work collectively in preparing their products for market**.60 These producers are also able to form cooperatives to market their products and **maintain the “bargaining position of individual farmers” in order to prevent adverse consequences of overcrowding the market**.61 These agricultural producers are free to engage in concerted activity for the mutual protection of the association’s members, but agricultural laborers are exempt from asserting these same rights.62 **Agricultural producers are therefore able to become even stronger entities, further widening the differences in the bargaining positions between producers and agricultural laborers**. The unionization of agricultural laborers would better equalize the bargaining position on each side affording laborers the protections they need against agricultural employers as they become more powerful through associations.

#### Wages increase consumer spending AND create economic value

**Jayachandran, 20**, 6/18/2020, New York Times, “How a Raise for Workers Can Be a Win for Everybody”, Seema Jayachandran is an economics professor at Northwestern University, URL:<https://www.nytimes.com/2020/06/18/business/coronavirus-minimum-wage-increase.html>, KR

**Two new studies show that giving pay raises to low-wage workers is good for consumers, too**. That finding could add momentum to efforts to help grocery store clerks, nursing home workers and delivery drivers who are being paid a minimum wage despite their efforts being so essential during the current pandemic. The new research shows that **raising the minimum wage improves workers’ productivity, which translates into businesses offering higher-quality service. Because many customers are willing to pay more when quality improves, a company can raise its prices without losing sales volume. That means that profits need not suffer even though employee salaries increase.**

Moreover, **because companies are getting better performance from workers in return for paying them more, a higher minimum wage does not necessarily lead to fewer jobs. With a more productive work force, more economic value is being created and there is more money to go around**, so a higher paycheck for one person does not imply another person’s loss.

The federal minimum wage of $7.25 an hour has not increased since 2009, though Democrats in the House of Representatives have tried to raise it. State and local governments can set their own minimum wage, provided that it is above the federal rate. For example, Ohio’s minimum wage is $8.70 an hour and New York state’s is $11.80. San Francisco’s is $15.59 an hour.

The two new studies, one focused on nursing homes and the other on department stores, looked at the effects of minimum wage changes made at various levels of government. While they are both still working papers and have not appeared in scholarly journals, they were conducted rigorously, by my estimation, and the evidence they offer deserves consideration in the debate on the minimum wage, particularly during our current health and economic crises.

The nursing home study, by the economist Krista Ruffini, a visiting scholar at the Minnesota Federal Reserve, has direct implications in the current pandemic. The improvements in quality it found may be a very a big deal: They imply fewer medical complications and, perhaps, a longer life for patients.

Ms. Ruffini analyzed hundreds of increases in the minimum wage across the United States from 1990 to 2017. In each case, she compared employment in neighboring counties that suddenly had different minimum wage levels.

Her method expands on a landmark study by David Card, an economist at the University of California, Berkeley, and Alan Krueger, the former presidential adviser and Princeton economist, who found no drop in fast-food employment when New Jersey raised its minimum wage in 1992 above the level paid across the state line in Pennsylvania.

Similarly, Ms. Ruffini found little change in employment levels in nursing homes. Many employees were paid the minimum wage or somewhat more than that. Even in cases of the workers — nursing assistants — who had been paid more than the minimum wage, an increase in that base wage rippled through the labor market and still raised their salaries.

Rivian edges closer to an I.P.O., seeking a valuation above $50 billion.

PG&E says it faces a federal inquiry and $1.15 billion in losses over the Dixie fire.

The Biden administration will publish vaccine mandate rules ‘in the coming days.’

Ms. Ruffini’s most startling finding was that higher minimum wages reduced mortality significantly among nursing home residents. Her research suggests that if every county increased its minimum wage by 10 percent, there could be 15,000 fewer deaths in nursing homes each year, or about a 3 percent reduction.

How did pay increases translate into better patient health and longer lives? It appears that with better pay, jobs in nursing homes became more attractive, so employee turnover decreased. Patients benefited from more continuity in their care.

In addition, **the better paid employees may have simply worked harder, perhaps because they cared more about holding onto their jobs. Economists say they have been paid an “efficiency wage”: Employees become more productive when their wages are higher.**

The higher wage may also have **attracted more skilled or industrious people to the job,** but this seems to account for at most a small portion of the improvements in patient health.

#### That drives economic confidence – Increased productivity drives farm growth which creates a chain of investment.

**Wang et. al, 19**, “How Farmers Make Investment Decisions: Evidence from a Farmer Survey in China”, Sustainability, Shuangjin Wang 1, Yuan Tian 2,\*ORCID, Xiaowei Liu 3 and Maggie Foley 4, 1: School of Management, Tianjin University of Commerce, Tianjin 300134, China, 2: School of Economics and Management, Beijing Jiaotong University, Beijing 100044, China, 3: College of Business, St. Ambrose University, Davenport, IA 52803, USA, 4: Davis Business School, Jacksonville University, Jacksonville, FL 32211, USA, URL: <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwii17vKue7zAhVdJjQIHUr3D7YQFnoECAUQAQ&url=https%3A%2F%2Fwww.mdpi.com%2F2071-1050%2F12%2F1%2F247%2Fpdf&usg=AOvVaw1RMvM-hGadn_uoetBxebDi>, KR

**A variety of research methods were used in previous research to study farmers’ investment adjustment behavior from different perspectives**. For example, Factor Analysis [3,7], Multinomial Logit Model [8,10,11], Deterministic Discrete Event Model [9], Mixed Logit Model with Flexible Mixing Distribution [12], Tobit Model [13,14], Probit Model [15–17], and Structural Equation Modeling [18,19].

It is widely accepted **that farmers’ investment adjustment behavior is affected by** many factors, but different literature has different opinions on key influencing factors that affect farmers’ investment behavior. Adimassu et al. [20] have found that farmers’ investments are limited by their capabilities. Okello et al. [21] have revealed that **economic benefits, such as higher yields and income, can affect farmers’ investment in seed selection.** Also, the cropped area, scale of the farmland, and agricultural income significantly influence farmers’ willingness to invest [10]. **The government’s support and favorable policies can positively promote the agriculture investment of farmers** [22,23]. Adimassu et al. [2] finds that farmers’ investment behavior is affected by five major factors: households’ resource endowments, knowledge, and experience of farming, access to information, social capital, and availability of family labor.

Moreover, some economic studies focus on specific factors that affect investment choice, such as state subsidies [24], the impact of agricultural cooperatives [25], risk preferences [26,27], the mode of communal land acquisition [28], government policies [29], and the presence of a price floor [13]. Besides, Ullah and Anad [30] examine the factors that influence the level of agricultural mechanization**: economic condition of farmers, the land tenure system, scale of farmland, cost of fuel, and the cost of renting agricultural machinery. Konrad et al. [15] have found that the scale of farm operations, environmental concerns, and innovation readiness are important for farmers’ technology investments.**

Factors such as the effect of planting structure adjustment and the output elasticity of capital can affect the investment adjustment behavior of farmers, and have been investigated by some studies. Ji et al. [31] have found that **the shortage of a labor force can be supplemented by increasing capital input**. In addition, other reasons may also lead to investment adjustment behavior such **as attitudes toward capital input [4], the amount of agricultural income [32], expected financial benefits from capital input [33], and differences in adjustment capabilities [34].**

#### Increasing yield prevents food shortages and nutrient deficiencies

**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.**

#### Food shortages cause messed up interventions that destroy biodiversity

**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).

#### Biodiversity loss causes extinction

**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.

### Fw

#### The standard is maximizing expected wellbeing.

#### Prefer it:

#### 1] Actor specificity - every policy benefits some and harms others, which also means side constraints freeze action.

#### 2] Lexical pre-requisite: threats to bodily security preclude the ability for moral actors to effectively act upon other moral theories since they are in a constant state of crisis that inhibits the ideal moral conditions which other theories presuppose

#### 3] Only consequentialism explains degrees of wrongness—if I break a promise to meet up for lunch, that is not as bad as breaking a promise to take a dying person to the hospital. Only the consequences of breaking the promise explain why the second one is much worse than the first. Intuitions outweigh—they’re the foundational basis for any argument and theories that contradict our intuitions are most likely false even if we can’t deductively determine why.

#### 4] Use epistemic modesty for evaluating the framework debate:

#### A] Substantively true since it maximizes the probability of achieving net most moral value—beating a framework acts as mitigation to their impacts but the strength of that mitigation is contingent.

#### B] Clash—disincentives debaters from going all in for framework which means we get the ideal balance between topic ed and phil ed—it’s important to talk about contention-level offense

### 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

#### 2) speccing a government is good – a) it allows more nuanced debates about the specificities within a country b) stable advocacy - anything else leads to unnecessary debates about what is a just government in whole rez

#### 3] Capitalism is comparatively the most ethical system - greed is innate - capitalism prevents it from getting out of hand because all exchanges are inevitable

Bast and Walberg 3 (Joseph, Fellow @ The American Association for the Advancement of Science and Founder @ The International Academy of Education, Herbert, Distinguished Visiting Fellow @ Hoover, “Education and Capitalism,” Chapter 6, <http://media.hoover.org/sites/default/files/documents/0817939717_137.pdf>)

Recognizing the challenge capitalism presents to some of our traditional notions of morality does not mean that capitalism is an immoral way to organize an economy. The most common error made by critics of capitalism is failing to recognize that greed or ambition (the desire to gain power or distinction without regard to its effects on others) long predates capitalism. Greed, Max Weber wrote in 1904, “exists and has existed among waiters, physicians, coachmen, artists, prostitutes, dishonest officials, soldiers, nobles, crusaders, gamblers, and beggars. One may say that it has been common to all sorts and conditions of men at all times and in all countries of the earth, wherever the objective possibility of it is or has been given.” 6 All political and economic systems must cope with greed. Societies that rely on tradition to shape their economies allow some people—usually those with inherited status or willingness to use force against others—to express their greed by imposing their will on others. Sociologist Orlando Patterson calls this sovereignal freedom, or the freedom to rule others. 7 Nietzsche termed it “Will to Power.” Although it may fulfill the material and psychological needs of those who exercise it, this is the freedom that led to the slave societies of ancient Rome, the nationalism of Nazism, and the tribal societies of much of impoverished Africa today. Socialism, as it was formulated by Karl Marx, Frederick Engels, and the British Fabians, assumed greed to be a social phenomenon conjured by man’s alienation from his work and the rest of society, allegedly caused by the institutions of capitalism. Greed could be extinguished, they thought, if social institutions were organized along collectivist lines, such as those described in the 1962 Program of the Communist Party of the Soviet Union: Joint planned labor by the members of society, their daily participation in the management of state and public affairs, and the development of communist relations of comradely cooperation and mutual support, recast the minds of people in a spirit of collectivism, industry, and humanism. Increased communist consciousness of the people furthers the ideological and political unity of the workers, collective farmers, and intellectuals and promotes their gradual fusion in the single collective of the working people of communist society. 8 The New Soviet Man, as he was called, never emerged. Repression of the most severe type was justified in the spirit of collectivism, and the result was a criminal society. Socialists are quick to deny that the collapse of the Soviet Union reflects in any way on the tenets of their faith. But the passage of time has revealed that the rot that destroyed the footings of the Soviet Union began in the denial of individual liberty, especially the denial of property rights that stands at the core of socialist thinking. 9 Unlike its alternatives, capitalism does a remarkably good job of constraining greed and ambition. The most basic rule of capitalism—that all exchanges are voluntary—is a formidable check on the pursuit of selfish interest at the expense of others. In a capitalist society, attaining wealth, respect, and status requires appealing to the self-interest of others, specifically by discovering, creating, and delivering goods and services that others are willing to buy. Getting around this requirement— attempting to live at other people’s expense by using force or fraud to take things from them or enslave them—violates the laws of property, exchange, and voluntary contract. Assuming government is performing its proper role, those who would break the rules are stopped and punished. Capitalism goes beyond simply checking greed and ambition by yoking the pursuit of self-interest to the advancement of the public good. Once we learn the use of force is forbidden, we discover that the more effectively we serve others the greater the rewards we receive. As explained in Chapter 4, markets tend to place control over goods and property in the hands of those who value them most and who make decisions that produce the most benefit to others. Competition makes the ban on the use of coercion self-enforcing because others will refuse to trade or contract with us if we violate the rules.

#### 4] Capitalism is self-correcting and sustainable – war and environmental destruction are not profitable and innovation solves their impacts

Kaletsky ’11 (Anatole, editor-at-large of *The Times* of London, where he writes weekly columns on economics, politics, and international relationsand on the governing board of the New York-based Institute for New Economic Theory (INET), a nonprofit created after the 2007-2009 crisis to promote and finance academic research in economics, Capitalism 4.0: The Birth of a New Economy in the Aftermath of Crisis, p. 19-21)

Democratic capitalism is a system built for survival. It has adapted successfully to shocks of every kind, to upheavals in technology and economics, to political revolutions and world wars. Capitalism has been able to do this because, unlike communism or socialism or feudalism, it has an inner dynamic akin to a living thing. It can adapt and refine itself in response to the changing environment. And it will evolve into a new species of the same capitalist genus if that is what it takes to survive. In the panic of 2008—09, many politicians, businesses, and pundits forgot about the astonishing adaptability of the capitalist system. Predictions of global collapse were based on static views of the world that extrapolated a few months of admittedly terrifying financial chaos into the indefinite future. The self-correcting mechanisms that market economies and democratic societies have evolved over several centuries were either forgotten or assumed defunct. The language of biology has been applied to politics and economics, but rarely to the way they interact. Democratic capitalism’s equivalent of the biological survival instinct is a built-in capacity for solving social problems and meeting material needs. This capacity stems from the principle of competition, which drives both democratic politics and capitalist markets. Because market forces generally reward the creation of wealth rather than its destruction, they direct the independent efforts and ambitions of millions of individuals toward satisfying material demands, even if these demands sometimes create unwelcome by-products. Because voters generally reward politicians for making their lives better and safer, rather than worse and more dangerous, democratic competition directs political institutions toward solving rather than aggravating society’s problems, even if these solutions sometimes create new problems of their own. Political competition is slower and less decisive than market competition, so its self-stabilizing qualities play out over decades or even generations, not months or years. But regardless of the difference in timescale, capitalism and democracy have one crucial feature in common: Both are mechanisms that encourage individuals to channel their creativity, efforts, and competitive spirit into finding solutions for material and social problems. And in the long run, these mechanisms work very well. If we consider democratic capitalism as a successful problem-solving machine, the implications of this view are very relevant to the 2007-09 economic crisis, but diametrically opposed to the conventional wisdom that prevailed in its aftermath. Governments all over the world were ridiculed for trying to resolve a crisis caused by too much borrowing by borrowing even more. Alan Greenspan was accused of trying to delay an inevitable "day of reckoning” by creating ever-bigger financial bubbles. Regulators were attacked for letting half-dead, “zombie” banks stagger on instead of putting them to death. But these charges missed the point of what the democratic capitalist system is designed to achieve. In a capitalist democracy whose raison d’etre is to devise new solutions to long-standing social and material demands, a problem postponed is effectively a problem solved. To be more exact, a problem whose solution can be deferred long enough is a problem that is likely to be solved in ways that are hardly imaginable today. Once the self-healing nature of the capitalist system is recognized, the charge of “passing on our problems to our grand-children”—whether made about budget deficits by conservatives or about global warming by liberals—becomes morally unconvincing. Our grand-children will almost certainly be much richer than we are and will have more powerful technologies at their disposal. It is far from obvious, therefore, why we should make economic sacrifices on their behalf. Sounder morality, as well as economics, than the Victorians ever imagined is in the wistful refrain of the proverbially optimistic Mr. Micawber: "Something will turn up."

#### 5] The world is complex, and you should reject totalizing theories of liberalism and capitalism --- it’s possible to condemn the failures of capitalism while recognizing benefits that should be preserved

**Gopnik, 19 -** American [writer](https://en.wikipedia.org/wiki/Writer) and [essayist](https://en.wikipedia.org/wiki/Essayist) best known as a staff writer for [The New Yorker](https://en.wikipedia.org/wiki/The_New_Yorker)—to which he has contributed non-fiction, fiction, memoir and criticism

Adam Gopnik, “A Thousand Small Sanities: The Moral Adventure of Liberalism,” Basic Books New York, 2019

And to this add the truth that in the real world it will be impossible to separate government preferences from entrepreneurial energies, self-organizing market forces. The Internet grew up with enormous help from the U.S. Defense Department, and almost all of the American free market is shaped by, and for, big businesses through government intervention. We can be in favor of humanizing work by putting workers on company boards without being in favor of command economies and five-year plans.

It’s a muddle. Liberals like muddles. Liberalism ought to be agnostic about these modes, investing no religious significance in any one. To deny that capitalism left to its own devices produces bubbles, busts, and brutal human inequalities is to deny the achingly obvious truth of modern history; to deny that free-market economies have produced prosperity unparalleled in human history—and continue to lift more people out of poverty than any other model known to man—is to deny the thunderously plain. Two things can often be true at once. Two things are always true at once. Indeed, if you know only two true things “about a social phenomenon, you’re not looking, or counting, closely enough.

A New Yorker need only look at his city now to see the ugliness of capitalism, with the oligarch’s erection rising in the mid-distance; a New Yorker need only look at his city through time to recognize the miraculous effect of self-organizing forces making streets and corners and the beautiful unpredictable bumping-into of city life. Coming home on a summer morning, we see both. To see one or the other alone is not to see at all. As Montaigne wrote, we must accept that we are double in ourselves and be able to count to two.

What modern liberalism seeks—and needs to be seen to seek—is not a middle way but a distinct way, one in which some parts of social life are safely sealed off from the market and other parts are market centered, and these choices are made by us all through democratic means. This is not some utopian nostrum or pious hope. It’s a real path, already largely accomplished for millions of people, and capable of being accomplished again. It is a positive path to be positively enjoined, not a middle way to be weakly gestured toward.

#### 6] Capitalism is sustainable – regulations will solve environmental problems

Fleisher 2009 [Chris, Valley News Business Writer, “Is Capitalism Sustainable?” http://www.vnews.com/01182009/5326844.htm]

And there is the physical melting of the polar ice caps amid rising temperatures, leading to warnings of global peril if climate change is not addressed immediately. The two problems are related, according to many who attended a conference at Dartmouth's Tuck School of Business last week. In fact, the health of capitalism and the environment are intertwined, and must be managed together if either is going to survive. “Capitalism is sustainable in every sense of the term,” said Anant Sundaram, a professor of business administration at Tuck, during the opening chat last week. “With extremely important caveats.” The conference, which ran Thursday and Friday, posed the question of whether capitalism is sustainable, as an economic system and force on the environment. In panel discussions, professors, consultants, investment analysts and other corporate leaders considered the question and did their best to offer a way forward. Even if the economic circumstances surrounding the question are not pleasant, most of the panelists agreed with Sundaram that capitalism could function without destroying the natural world. But it might not be sustainable in its current form. If it is going to survive as a system of production and exchange, it would have to change, become much more forward thinking and acknowledge new restrictions to keep from gobbling itself whole. The question is more than a conversation topic for a Tuck-sponsored salon. It is being considered by plenty of people in the Upper Valley every day. “One thing that comes immediately to mind when you talk about the topic is our whole floodplain on 12A is covered with buildings,” said Judy Macnab, chairwoman of the Lebanon Conservation Commission, in reference to the Upper Valley's most notorious commercial strip. That development along the Connecticut River is what happens when capitalist impulses are given unchecked access to the natural environment, and a testament to the need for strong zoning laws, she said. Commercial interests are at stake, too. Poor design and heavy traffic have made West Lebanon's Route 12A an unpleasant place to visit, she said, driving shoppers away whenever possible. A better approach would be the path two other developers have taken in Lebanon. One is David Clem of Lyme Timber Co., she said, who has solicited feedback from residents in redeveloping the former Bailey Brothers building on Route 10. Another is a project planned near the crest of Route 120. The landowner, L-A Suncook LLC, owns 289 acres off the eastern side of Route 120, behind the former Wilson Tire building. Suncook, a Philadelphia-based private equity firm, intends to set aside 223 acres for preservation and develop the rest for offices and a hotel. “Both of those are much appreciated for their willingness to work with us, instead of push things down our throats,” Macnab said of the two projects. The incentive to do something that the community wants has some real economic value, according to P.K. Knights, local operating partner of L-A Suncook. The company might realize a higher profit if it were to pack all 289 acres with single-family homes, but there is also value in avoiding a long fight with the city by doing something the community wants. “It might be better to create something the community accepts and move forward in the near future,” Knights said. Going Green More than proper land use, however, there are the buildings themselves. Sustainable development, as it relates to so-called “green building,” was the subject of one Friday morning panel at Tuck. Environmentally sustainable construction is yet another area where profit motives and environmental concerns are becoming increasingly aligned, even during a recession, according to the panelists. “Growth (in the industry) is unbelievable,” said Jim Boyle, founder and CEO of Sustainability Roundtable Inc., a sustainable real estate consultant. The value of green building construction was estimated at $12.3 billion in 2008, according to the U.S. Green Building Council, and projected to be $60 billion in 2010. Dartmouth College has supported a number of sustainable projects and has three buildings on campus certified under the U.S. Green Building Council's LEED program, a benchmark for green buildings. There are different certification levels that consider a building's energy efficiency, use of native materials and other initiatives to reduce its environmental impact. LEED certification has become attractive to companies that want to advertise sensitivity to the environment. But beyond the marketing opportunities, it doesn't always make sense to get certified, said Paul Olsen, of Dartmouth's Real Estate office, who was one of the panelists. Getting certified is expensive, costing as much as $100,000 for a project. “In order to be a green building, it doesn't have to get certified,” Olsen said. “That money could be better spent.” The financial advantages of going green are something Wayne Bonhag considers every day as a principal of Bonhag Associates. His Lebanon-based engineering firm is working on several LEED projects for Southern New Hampshire University, which is watching its bottom line carefully amid the recession. “We are very much aware that we don't want to spend any more money on the capital side of things that won't be coming back to us in the short term,” Bonhag said. Sometimes it doesn't make sense, he said. One industrial client in New Hampshire wanted to line its roof with solar panels. But when Bonhag crunched the numbers, solar just didn't seem to make sense. It was too expensive. However, he was able to find another renewable energy option. “In this particular case, I was able to negotiate a wind purchase,” Bonhag said. “It's still green, and yet we were able to do this so they can buy power.” Not every problem is so neatly resolved. Especially in the financial sector. Socially responsible investing has grown in popularity in the past few years, but has been tested in this recession. The Wilderhill New Energy Global Innovation Index -- a benchmark for green investing -- is down 56 percent since June 30. By comparison, the S&P 500 was down 31 percent over the same six months. Carey Callaghan manages the Energy Alternatives Fund, a mutual fund through American Trust Co. in Lebanon. As its name suggests, the fund invests in companies that, in one way or another, address the twin concerns of climate change and energy supply shortages. Since it was launched last June, the fund has declined 44 percent, Callaghan said. The financial crisis has hurt short-term prospects for some of his companies, as addressing climate change takes a back seat to other pressing concerns. The collapse in energy prices has also affected perceptions about the need to develop alternative fuel. Still, he believes the need for solar technology and alternative fuel sources will not go away. And new regulations that result from this crisis -- for fuel standards, emissions and energy consumption -- could play to his advantage. If the crisis has resulted in anything, he said, it is a healthy skepticism of unbridled capitalism and calls for tighter regulation. “The blind faith of many adherents to capitalism has been put to the test because it's clear capitalism has flaws,” he said. “You need to impose some limits on capitalism.” Impure Capitalism The panelists at Tuck largely agreed. One speaker -- Greg Hintz of the consulting company McKinsey & Co. -- began his introduction with a couple straw polls. First, he asked the audience of about 60 whether capitalism -- simply as a system of exchanging goods -- was sustainable. Most raised their hands in agreement. Then, he wondered whether capitalism, in its pure form -- an open-market free-for-all, with no regulation -- was sustainable in terms of social and environmental needs, able to regenerate the resources upon which it fed. The other panelists wouldn't let him get that far. “No regulation?” Sundaram asked. Pure capitalism, Hintz repeated. The discussion broke down into a series of qualifying questions. No regulation at all? No contracts? Nothing? The question never made it to a vote, and Hintz moved on with his talk. But the provocative suggestion of “pure capitalism” never went away. Later, regulation came up again, and Hintz suggested that if capitalism relied so much on rules and law, then the answer to the conference's question was “no.” Capitalism wasn't sustainable. “I completely disagree,” Sundaram said. It is a system that needs regulation to function, even to establish a clearinghouse where trade can happen, the other panelists suggested. It requires policing to keep its practitioners' safe from their own worst impulses. The economic system upon which our modern world relies would be unworkable otherwise. “I won't accept a definition of capitalism that doesn't have a regulatory component,” said Michael Dworkin, a professor at Vermont Law School. “It becomes meaningless.”