# Round 2

## 1AC

### Plan---1AC

#### Plan: The United States federal government should prohibit private sector business practices that violate an effective competition antitrust standard.

### Economy---1AC

#### The advantage is the economy:

#### Antitrust law is failing now---current market consolidation undermines innovation, slows growth, and suppresses productivity. Promoting competition solves.

Fiona M. Scott Morton 20. Theodore Nierenberg Professor of Economics at the Yale University School of Management. “Reforming U.S. antitrust enforcement and competition policy,” https://equitablegrowth.org/reforming-u-s-antitrust-enforcement-and-competition-policy/.

Evidence that antitrust laws are falling short is plentiful. Many cartels go undiscovered, and tacit collusion is probably even more prevalent because it is harder for antitrust enforcers to prosecute and deter.9 Anticompetitive horizontal mergers (between rivals) appear to be underdeterred.10 A variety of clever strategies used by incumbents to exclude entrants, either by purchasing them when they are nascent or using tactics to confine them to a less threatening niche or forcing them to exit have been successfully deployed in recent years, often when antitrust enforcement is late or absent.11

Each of these sources of concern can be critiqued, but together they make a compelling case. Some of the evidence may have benign explanations in part, such as the growing importance of fixed costs, for example, when creating software or pharmaceuticals that leads naturally to higher markups, or the increasing benefit of being on the same platform with other users (known as “network effects” in the case of a social media site). Firms in industries with high fixed costs or large network externalities may exhibit high profits and productivity and low labor shares, and may earn high profits because they had a good idea early and executed well, thereby getting adoption from many consumers.12 Nonetheless, the overall picture is clear that market power has been growing in the United States for decades. Moreover, even where the explanation for growing market power is benign, we must ensure that companies do not use anticompetitive tactics to protect their position.

Firms with market power need not compete aggressively to sell their products, so they tend to raise prices, reduce quality, and/or innovate less. Market power can also contribute to slowed economic growth by, for example, suppressing productivity increases.13 Theoretical and empirical economic studies convincingly show that innovation is harmed by anticompetitive conduct.14

This is why antitrust enforcement is such a terrific policy tool to strengthen competition—it does not come with an efficiency downside, as do most policies that redistribute income. Policies that enhance competition are unambiguously beneficial for efficiency, as well as inclusive prosperity, with minor qualifications.15 Other policies for addressing inequality, in particular, such as labor market and tax policies, may create disincentives or allocative efficiency losses that must be weighed against their distributional benefits. Policies to enhance competition, by contrast, offer what is close to a free lunch.16

#### The plan solves---an effective competition standard reinvigorates antitrust.

Marshall Steinbaum & Maurice E. Stucke 19. Assistant Professor of Economics, University of Utah. Douglas A. Blaze Distinguished Professor of Law, University of Tennessee College of Law. “The Effective Competition Standard: A New Standard for Antitrust.” <https://marshallsteinbaum.org/assets/steinbaum-and-stucke-2020-effective-competition-standard-uchicago-law-review-.pdf>.

America, as legal and economic scholars are increasingly noting, has a market power problem. The emerging evidence points to less competition, higher markups, greater concentration, and widening wealth and income inequality. The current state of competition law benefits the select few—at the expense of nearly everyone else.

Our antitrust laws are supposed to deal with concentrated economic power. The problem is that the laws have been hijacked in two ways. First, ideologues narrowed the substance of antitrust from addressing a variety of goals to focusing solely on the concept of consumer welfare—namely, that harm to competition within the legal meaning of the antitrust laws consists solely of harm to consumers and their welfare, as measured almost exclusively by price and quantity effects in output markets. Second, some courts and enforcers went even further, declining to find antitrust liability in conduct that harms consumers on the theory that it carries other benefits, like long-run economic growth. Recent US Supreme Court decisions, including Ohio v American Express Co, and the US District Court’s decision to allow the AT&T/Time Warner merger illustrate how antitrust, under the prevailing consumer welfare standard, has been weakened and distorted beyond all recognition. Courts have elevated the burden of proof on the government and other antitrust plaintiffs to such an extent that the Sherman and Clayton Antitrust Acts have become unenforceable for many anticompetitive practices, other than cartels.

If the United States continues with a light-if-any-touch antitrust review of mergers and turns a blind eye to abuses by dominant firms, concentration and crony capitalism will likely increase, competition and our well-being will decrease further, and power and profits will continue to fall into fewer hands. Startups, small and midsize firms, and Americans more broadly—as workers, consumers, and democratic citizens—will be left to the beneficence or spite of a few powerful, but arbitrary, corporations.

This trend is reversible if we restore antitrust as a guarantor of effective competition. To tackle today’s market power problem, we offer an effective competition antitrust standard to replace the prevailing consumer welfare standard, which courts and scholars have interpreted differently (and at times inconsistently). The effective competition standard restores the primary aim of the antitrust laws—namely, the dispersion and deconcentration of significant private power wherever in the economy it is to be found, including throughout supply chains and in the labor market.

#### It's enforceable and sufficient.

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The effective competition standard differs from both the consumer welfare standard and the total welfare standard in that it expressly departs from the partial-equilibrium analysis of a single market as the basis for antitrust analysis. The effective competition standard further differs from the consumer welfare standard in four important ways:

• First, a substantial lessening of competition suffices for liability. Enforcers and courts need not demonstrate how the lessening of competition harms consumers, nor balance the harms to one set of stakeholders against the supposed benefits for another. In this respect, the effective competition standard makes antitrust more enforceable.

• Second, it recognizes that competition needs competitors. Thus, it takes a tougher stance on monopolistic, predatory, and exclusionary practices, which often reduce the competitive opportunities for entrants and rivals.

• Third, unlike the consumer welfare standard, which considers the impact only on consumers, the effective competition standard protects market participants throughout the supply chain, including workers and sellers.

• Finally, by eliminating the precarious step of how the lessening of competition will harm consumers’ welfare, the effective competition standard restores the purpose of the Clayton Act to “arrest restraints of trade in their incipiency and before they develop into full-fledged restraints violative of the Sherman Act.” As Congress noted, “A requirement of certainty and actuality of injury to competition is incompatible with any effort to supplement the Sherman Act by reaching incipient restraints.”

To promote competition and innovation in our heavily concentrated markets, the effective competition standard would depart from today’s light-touch antitrust policies in the following areas.

#### Scenario 1 is Growth:

#### Sustained anti-competitive behavior is regressive and makes economic collapse inevitable.

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The direct cost of anti-competitive behavior is high. Many studies estimate this cost by implied price overcharge, typically stemming from identified cartels. A common approach to estimating the price overcharge consists in applying a difference-in-difference technique, that is, by comparing prices in a market before and after an infringement was identified (e.g., a cartel) to a “counterfactual” market in a different location or product market where no infringement was identified.3 The estimated price overcharges in advanced economies are found to be large on average, ranging from 15 to about 50 percent. Ivaldi et al. (2017) extends these estimationsto 20 developing economies, using a database of over 200 major cartel episodes over 1995–2013. They estimate that the harm to the economy in terms of excess profits resulting from price overcharges could reach about 4 percent of GDP, accounting for the probability of undetected cartels. The cost of cartels could extend to overcharges in intermediate goods, ultimately affecting finished products, as well as procurement of public goods, or it could also affect the economy through a reduction in output (World Bank-OECD 2017). Even without cartels, anti-competitive behavior would result in higher prices and lower production.

There is also growing evidence that the lack of competition not only affects more strongly the poorest countries but also hurts the poor more in each country. Higher market power in food, beverages and medicines was shown to be regressive, that is, they hurt more the poorest, as shown using Mexican data (Urzua 2013). Similar results exist in the context of advanced countries (e.g., Creedy and Dixon 1998 and 2000). There is also evidence that prices in sub-Saharan Africa are higher than in other developing regions, controlling for income and other factors. The extra cost of living in this region is negatively correlated with aggregate measures of competition (IMF 2019a). OECD (2017), using a calibrated model on a selected group of advanced countries, finds that market power could be responsible for a sizable increase in the wealth of the richest 10 percent and a large reduction in the income of the poorest 20 percent.

The decline in the labor share has also been interpreted as a sign of rising market power. Labor share has been decreasing in the U.S. and other advanced economies (IMF 2019b). This decline in labor share could be explained to a large extent as a result of the Information Technology (IT) revolution as argued by Aghion and others (2019). This revolution allowed superstar firms to expand into many sectors of the economy. As these firms have higher markups and lower labor shares than non-superstar firms, the decline in aggregate labor share and corresponding increase in aggregate markups reflect a “composition effect”. In other words, it is not the result of a within-firm increase in markup or a decline in labor share. Evidence of the predominance of a “between-firm” (or “composition”) effect over a “within-firm” effect is provided by De Locker and Eeckout (2019) and Baqaae and Farhi (2019). IMF (2019b) shows that the “reallocation” effect is pronounced in the U.S. but less so in other advanced countries. The long-term effect of this increasing hegemony of superstar firms has been to discourage innovation and entry by non-superstar firms, thereby leading to a decrease in aggregate productivity growth, broad-based growth, and business dynamism. This increasing hegemony, in turn, has been facilitated by an insufficient regulation of mergers and acquisitions, in other words by a competition policy, which has not adapted to the digital economy.

#### State-based market interventions are key to sustainable growth. The alternative to well-measured corrections is an unfettered and regressive free market.

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There is a positive correlation between long-term growth and poverty alleviation. More specifically, Lant Pritchett argues, based on cross-country patterns, that “broad-based growth, defined as the process that raises median income, is far and away the most important source of poverty reduction.”9 The sharp decline in poverty rates in China (about 800 million people escaped poverty) amid the two decades of break-neck growth is the starkest illustration. As discussed, innovation-based growth based on Schumpeterian creative destruction is key to productivity gains and sustained growth. The question is how to achieve broad-based, high and sustained growth which means to spur the emergence of good paying jobs. This is perhaps one of the most difficult and debated questions in economics.

The standard view shared by most economists over the last few decades is that “horizontal policies”, that is improvements in education, the quality of institutions, infrastructure, business environment, and regulations are key. Many of these policies tackle what is known as “government failures” as described in Rodrik (2005). In other words, state intervention should limit itself to providing public goods and the provision of a good environment while crucially ensuring an adequate level of competition. In this context, firms would have the incentive to invest and deploy efforts to be competitive through improvements in productivity and innovation to offer new and better-quality goods among others.

However, growth can be harmed by anti-competitive behaviors or distortive policies which can take different and subtle forms and are not always easy to gauge. Among these, imposing barriers to entry or helping non-performing firms remain in business, could have a substantial negative effect. Hsieh and Klenow (2009) emphasize the importance of input reallocation effects. They show that aggregate productivity differentials can be explained by differences in terms of the distribution of firms’ productivity. This means that relatively less productive firms have access to a considerable share of the resources. They argue that it is harder for a more productive firm to grow but also easier for a less productive firm to survive in India than in the U.S. for example. In the same vein, Aghion (2016) suggests that that there is more business dynamism in the U.S. than India, that is more firms enter and exit, which would explain input misallocation and differences in income per capita.

Compared to the U.S., potential constraints in developing economies such as India include more rigid capital markets and labor/product markets, the lower supply of skills, the poorer quality of infrastructure, and the lower quality of institutions to protect property rights and to enforce contracts. However, even if markets are perfectly competitive and an adequate environment is ensured, the economy may still not reach its full potential. This is because of “market failures,” which typically happen in the presence of externalities. They are at play when firms and workers do not fully internalize the effects of their decisions on the broader economy and their dynamic implications. Typically, they are learning externalities, coordination failures, or information asymmetries (Rodrik 2005).

As argued by many, (e.g., Arrow 1962) and Matsuyama 1992) some activities entail higher productivity gains, or more learning potential, for an economy compared to other traditional activities such as non-tradable services or agriculture. Firms may not be fully aware of these productivity gains, leading to lower output in high-productivity sectors and lower relative incomes over time. The coordination failure is based on the idea that a critical size of the modern sector is needed for a firm to enter it. It would be profitable for a firm to invest in a modern sector only if there are enough firms investing simultaneously in other modern sectors. If many firms invest together in modern sectors, described as the “big push,” economy reaches a higher level of productivity and development (Rosenstein-Rodan 1943, Murphy et al. 1989). Lastly, information asymmetries exist if there is imperfect information about new markets and products, and firms underinvest as a result (Hausman and Rodrik 2003). This is clearly seen in firms trying to export and penetrate new geographical markets with their products.

In theory, tackling these externalities would necessitate a state intervention, broadly defined as industrial policy. However, the scope, the tools and whether it could in practice be superior to a more “laissez-faire” approach, leaving the outcome to unfettered competition, is the object of an ongoing debate. At the heart of the debate lies the definition of what constitutes a “modern” sector, which is conducive to productivity gains and spillovers to the rest of the economy. While it is typically associated with manufacturing (Matsuyama 1992 and Krugman 1987) or related to the concept of sophistication (Hausman, Hwang and Rodrik 2007 and Cherif and Hasanov 2019), others argue that service sectors could also play a role (IMF 2018). More important for inclusive growth, if a sector is to be targeted, it should help achieve broad-based growth to contribute to poverty alleviation. In practice it means that it should also generate (directly or indirectly) enough employment, and the level of skills to fill those jobs should be realistically met over the medium term.

The other key question relates to how state intervention to tackle externalities could curtail or distort competition. Indeed, state interventions of the past typically followed the model of import-substitution policies. The main idea was to protect domestic producers from international competition by imposing barriers to trade, such as high tariffs. In many cases, the curtailment of competition went further and encompassed the domestic market as countries relied on one or very few “champions” to achieve import-substitution goals. The many past failed cases in Latin America and the Middle East imply that such policies may be counterproductive in general (Cherif and Hasanov 2019). The comparison of Malaysia’s foray into automotive industry in the 1970s with its champion Proton to the success of Korea’s Hyundai is a case in point (Cherif and Hasanov 2019b). After decades of support and protection from domestic and international competition, Proton depended on imports of critical inputs, including the engine. The high tariffs to protect it also meant that consumers had to pay higher prices for lower quality products. In comparison, although Hyundai benefitted from state support as well, it was also forced early on to compete both on the domestic and international markets. It could be argued that competition provided Hyundai with an incentive to innovate and take advantage of economies of scale.

Moreover, support for firms could be pursued without necessarily implying less competition. Aghion and others (2015) develop a simple model showing that targeted subsidies can be used to induce several firms to operate in the same sector, and that the more competitive the sector is, the more it will induce firms to innovate in order to “escape competition” (Aghion et. al. 2005). Of course, a lot depends upon the design of industrial policy. Such policy should target sectors, not particular firms (Aghion 2016). Using Chinese firm-level panel data, Aghion and others (2015) look at the interaction between state subsidies to a sector and the level of product market competition in that sector. They show that TFP, TFP growth, and product innovation (defined as the ratio between output value generated by new products to total output value) are all positively correlated with the interaction between state aid to the sector and market competition in the sector. In other words, the more competitive the recipient sector is, the more positive the effects of targeted state subsidies to that sector are. Infact, for sectors with low degree of competition the effects are negative, whereas the effects become positive in sectors with sufficiently high degree of competition. Finally, the interaction between state aid and product market competition in the sector is more positive when state aid is less concentrated.

Yet, there are externalities that can be tackled without curtailing competition with the potential to have a sizable contribution to broad-based growth and poverty alleviation. These are typically related to informational asymmetries. Bloom and Van Reenen (2010), f or example, show that interventions to improve management practices in Indian small firms can significantly improve productivity. So did the productivity missions of the Marshall Plan in Europe after the WWII (Giorcelli 2019). In the same vein, Atkin et al. (2017) showed that Egyptian rug producers can be helped to access export markets by tackling informational asymmetries and coordination failures. In other words, they showed that interventions such as export promotion agencies can help SMEs advertise their products in foreign markets and act as a communication channel between them and customers. They also showed that export activities helped small producers improve their quality and value added which confirms the importance of export orientation. This focus on SMEs can help increase productivity and tackle inequality at the same time.

The trade-off between the benefits and costs of state intervention suggests that the way the state intervenes in the economy is crucial. This intervention needs to be cognizant of exacerbating government failures such as rent-seeking and corruption. Moreover, even if these interventions are successful in the sense that they create competitive industries and contribute to growth, they should avoid creating “islands” of relatively advanced sectors. If these sectors are disconnected from the rest of the economy, broad-based growth may not be sustained, and it would exacerbate inequality. For example, thanks to interventions and targeted policies, Costa Rica managed to foster a high-tech sector in electronics and health instruments (Spar 1998). Although it led to higher growth and declining poverty as well as productivity improvements in agricultural sectors, high inequality persisted while growth policies for inclusiveness were missing (Ferreira, Fuentes, and Ferreira 2018).

#### COVID creates an economic brink---recovery is strong now because of effective monetary policy, but we’ve hit the zero-lower bound.

Christopher Rugaber 21. Associated Press. “Federal Reserve keeps key interest rate near zero, signals COVID-19 economic risks receding.” https://www.chicagotribune.com/business/ct-biz-fed-interest-rates-economy-20210428-bumyc3ynpza6ri4ygsntmdsmya-story.html.

WASHINGTON — The Federal Reserve is keeping its ultra-low interest rate policies in place, a sign that it wants to see more evidence of a strengthening economic recovery before it would consider easing its support.

In a statement Wednesday, the Fed expressed a brighter outlook, saying the economy has improved along with the job market. And while the policymakers noted that inflation has risen, they ascribed the increase to temporary factors.

The Fed also signaled its belief that the pandemic’s threat to the economy has diminished, a significant point given Chair Jerome Powell’s long-stated view that the recovery depends on the virus being brought under control. Last month, the Fed had cautioned that the virus posed “considerable risks to the economic outlook.” On Wednesday, it said only that “risks to the economic outlook remain” because of the pandemic.

The central bank left its benchmark short-term rate near zero, where it’s been since the pandemic erupted nearly a year ago, to help keep loan rates down to encourage borrowing and spending. It also said in a statement after its latest policy meeting that it would keep buying $120 billion in bonds each month to try to keep longer-term borrowing rates low.

The U.S. economy has been posting unexpectedly strong gains in recent weeks, with barometers of hiring, spending and manufacturing all surging. Most economists say they detect the early stages of what could be a robust and sustained recovery, with coronavirus case counts declining, vaccinations rising and Americans spending their stimulus-boosted savings.

#### Eroding financial resilience causes war---that overcomes traditional barriers to conflict.

Jomo Kwame Sundaram & Vladimir Popov 19. Former economics professor, was United Nations Assistant Secretary-General for Economic Development, and received the Wassily Leontief Prize for Advancing the Frontiers of Economic Thought in 2007. Former senior economics researcher in the Soviet Union, Russia and the United Nations Secretariat, is now Research Director at the Dialogue of Civilizations Research Institute in Berlin “Economic Crisis Can Trigger World War.” <http://www.ipsnews.net/2019/02/economic-crisis-can-trigger-world-war/>.

Economic recovery efforts since the 2008-2009 global financial crisis have mainly depended on unconventional monetary policies. As fears rise of yet another international financial crisis, there are growing concerns about the increased possibility of large-scale military conflict.

More worryingly, in the current political landscape, prolonged economic crisis, combined with rising economic inequality, chauvinistic ethno-populism as well as aggressive jingoist rhetoric, including threats, could easily spin out of control and ‘morph’ into military conflict, and worse, world war.

Crisis responses limited

The 2008-2009 global financial crisis almost ‘bankrupted’ governments and caused systemic collapse. Policymakers managed to pull the world economy from the brink, but soon switched from counter-cyclical fiscal efforts to unconventional monetary measures, primarily ‘quantitative easing’ and very low, if not negative real interest rates.

But while these monetary interventions averted realization of the worst fears at the time by turning the US economy around, they did little to address underlying economic weaknesses, largely due to the ascendance of finance in recent decades at the expense of the real economy. Since then, despite promising to do so, policymakers have not seriously pursued, let alone achieved, such needed reforms.

Instead, ostensible structural reformers have taken advantage of the crisis to pursue largely irrelevant efforts to further ‘casualize’ labour markets. This lack of structural reform has meant that the unprecedented liquidity central banks injected into economies has not been well allocated to stimulate resurgence of the real economy.

From bust to bubble

Instead, easy credit raised asset prices to levels even higher than those prevailing before 2008. US house prices are now 8% more than at the peak of the property bubble in 2006, while its price-to-earnings ratio in late 2018 was even higher than in 2008 and in 1929, when the Wall Street Crash precipitated the Great Depression.

As monetary tightening checks asset price bubbles, another economic crisis — possibly more severe than the last, as the economy has become less responsive to such blunt monetary interventions — is considered likely. A decade of such unconventional monetary policies, with very low interest rates, has greatly depleted their ability to revive the economy.

The implications beyond the economy of such developments and policy responses are already being seen. Prolonged economic distress has worsened public antipathy towards the culturally alien — not only abroad, but also within. Thus, another round of economic stress is deemed likely to foment unrest, conflict, even war as it is blamed on the foreign.

International trade shrank by two-thirds within half a decade after the US passed the Smoot-Hawley Tariff Act in 1930, at the start of the Great Depression, ostensibly to protect American workers and farmers from foreign competition!

Liberalization’s discontents

Rising economic insecurity, inequalities and deprivation are expected to strengthen ethno-populist and jingoistic nationalist sentiments, and increase social tensions and turmoil, especially among the growing precariat and others who feel vulnerable or threatened.

Thus, ethno-populist inspired chauvinistic nationalism may exacerbate tensions, leading to conflicts and tensions among countries, as in the 1930s. Opportunistic leaders have been blaming such misfortunes on outsiders and may seek to reverse policies associated with the perceived causes, such as ‘globalist’ economic liberalization.

Policies which successfully check such problems may reduce social tensions, as well as the likelihood of social turmoil and conflict, including among countries. However, these may also inadvertently exacerbate problems. The recent spread of anti-globalization sentiment appears correlated to slow, if not negative per capita income growth and increased economic inequality.

To be sure, globalization and liberalization are statistically associated with growing economic inequality and rising ethno-populism. Declining real incomes and growing economic insecurity have apparently strengthened ethno-populism and nationalistic chauvinism, threatening economic liberalization itself, both within and among countries.

Insecurity, populism, conflict

Thomas Piketty has argued that a sudden increase in income inequality is often followed by a great crisis. Although causality is difficult to prove, with wealth and income inequality now at historical highs, this should give cause for concern.

Of course, other factors also contribute to or exacerbate civil and international tensions, with some due to policies intended for other purposes. Nevertheless, even if unintended, such developments could inadvertently catalyse future crises and conflicts.

Publics often have good reason to be restless, if not angry, but the emotional appeals of ethno-populism and jingoistic nationalism are leading to chauvinistic policy measures which only make things worse.

At the international level, despite the world’s unprecedented and still growing interconnectedness, multilateralism is increasingly being eschewed as the US increasingly resorts to unilateral, sovereigntist policies without bothering to even build coalitions with its usual allies.

Avoiding Thucydides’ iceberg

Thus, protracted economic distress, economic conflicts or another financial crisis could lead to military confrontation by the protagonists, even if unintended. Less than a decade after the Great Depression started, the Second World War had begun as the Axis powers challenged the earlier entrenched colonial powers.

They patently ignored Thucydides’ warning, in chronicling the Peloponnesian wars over two millennia before, when the rise of Athens threatened the established dominance of Sparta!

Anticipating and addressing such possibilities may well serve to help avoid otherwise imminent disasters by undertaking pre-emptive collective action, as difficult as that may be.

#### Those wars draw-in great powers---that outweighs.

Lawrence H. Summers 17. US Secretary of the Treasury (1999-2001) and Director of the US National Economic Council (2009-2010), former president of Harvard University, where he is currently University Professor. “Will the Center Hold?” <https://www.project-syndicate.org/onpoint/recession-or-financial-crisis-political-fallout-by-lawrence-h--summers-2017-12?a_la=english&a_d=5a37edac78b6c709b8d260dd&a_m=&a_a=click&a_s=&a_p=%2Fsection%2Feconomics&a_li=recession-or-financial-crisis-political-fallout-by-lawrence-h--summers-2017-12&a_pa=section-commentaries&a_ps>=.

The risk from a purely economic point of view is that the traditional strategy for battling recession – a reduction of 500 basis points in the federal funds rate – will be unavailable this year, given the zero lower bound on interest rates. Nor is it clear that the will or the room for fiscal expansion will exist.

This means that the next recession, like the last, may well be protracted and deep, with severe global consequences. And the political capacity for a global response, like that on display at the London G-20 Summit in 2009, appears to be absent as well. Just compare the global visions of US President Barack Obama and UK Prime Minister Gordon Brown back then with those of Trump and Prime Minister Theresa May today.

I shudder to think what a serious recession will mean for politics and policy. It is hard to imagine avoiding a resurgence of protectionism, populism, and scapegoating. In such a scenario, as with another financial crisis, the center will not hold.

But the greatest risk in the next few years, I believe, is neither a market meltdown nor a recession. It is instead a political doom loop in which voters’ conclusion that government does not work effectively for them becomes a self-fulfilling prophecy. Candidates elected on platforms of resentment delegitimize the governments they lead, fueling further resentment and even more problematic new leaders. Cynicism pervades.

How else can one explain how the candidacy of Roy Moore for a US Senate seat? Moore, who was twice dismissed for cause from his post on the Alabama Supreme Court, and who is credibly charged with sexually assaulting teenage girls when he was in his 30s, could enter the US Senate as many of his colleagues look the other way.

If a country’s citizens lose confidence in their government’s ability to improve their lives, the government has an incentive to rally popular support by focusing attention on threats that only it can address. That is why in societies pervaded by anger and uncertainty about the future, the temptation to stigmatize minority groups increases. And it is why there is a tendency for officials to magnify foreign threats.

We are seeing this phenomenon all over the world. Russian President Vladimir Putin, Turkish President Recep Tayyip Erdoğan, and Chinese President Xi Jinping have all made nationalism a central part of their governing strategy. So, too, has Trump, who has explicitly rejected the international community in favor of the idea that there is only a ceaseless struggle among nation-states for competitive advantage.

When the world’s preeminent power, having upheld the idea of international community for nearly 75 years, rejects it in favor of ad hoc deal making, others have no choice but to follow suit. Countries that can no longer rely on the US feel pressure to provide for their own security. America’s adversaries inevitably will seek to fill the voids left behind as the US retrenches.

#### Even if growth is imperfect, the transition away fails.

Hubert Buch-Hansen 18. Associate Professor, Department of Business and Politics, Copenhagen Business School. “The Prerequisites for a Degrowth Paradigm Shift: Insights from Critical Political Economy.” *Ecological Economics* 146: 157-63. Emory Libraries.

Still, the degrowth project is nowhere near enjoying the degree and type of support it needs if its policies are to be implemented through democratic processes. The number of political parties, labour unions, business associations and international organisations that have so far embraced degrowth is modest to say the least. Economic and political elites, including social democratic parties and most of the trade union movement, are united in the belief that economic growth is necessary and desirable. This consensus finds support in the prevailing type of economic theory and underpins the main contenders in the neoliberal project, such as centre-left and nationalist projects. In spite of the world's multidimensional crisis, a pro-growth discourse in other words continues to be hegemonic: it is widely considered a matter of common sense that continued economic growth is required.

It is also noteworthy that economic and political elites, to a large extent, continue to support the neoliberal project, even in the face of its evident shortcomings. Indeed, the 2008 financial crisis did not result in the weakening of transnational financial capital that could have paved the way for a paradigm shift. Instead of coming to an end, neoliberal capitalism has arguably entered a more authoritarian phase (Bruff, 2014). The main reason the power of the pre-crisis coalition remains intact is that governments stepped in and saved the dominant fraction by means of massive bailouts. It is a foregone conclusion that this fraction and the wider coalition behind the neoliberal paradigm (transnational industrial capital, the middle classes and segments of organized labour) will consider the degrowth paradigm unattractive and that such social forces will vehemently oppose the implementation of degrowth policies (see also Rees, 2014: 97).

While degrowth advocates envision a future in which market forces play a less prominent role than they do today, degrowth is not an antimarket project. As such, it can attract support from certain types of market actors. In particular, it is worth noting that social enterprises, such as cooperatives (Restakis, 2010), play a major role in the degrowth vision. Such enterprises are defined by being ‘organisations involved at least to some extent in the market, with a clear social, cultural and/or environmental purpose, rooted in and serving primarily the local community and ideally having a local and/or democratic ownership structure’ (Johanisova et al., 2013: 11). Social enterprises currently exist at the margins of a system, in which the dominant type of business entity is profit-oriented, shareholder-owned corporations. The further dissemination of social enterprises, which is crucial to the transitions to degrowth societies, is – in many cases – blocked or delayed as a result of the centrifugal forces of global competition (Wigger and Buch-Hansen, 2013). Overall, social enterprises thus (still) constitute a social force with modest power.

Ougaard (2016: 467) notes that one of the major dividing lines in the contemporary transnational capitalist class is between capitalists who have a material interest in the carbon-based economy and capitalists who have a material interest in decarbonisation. The latter group, for instance, includes manufacturers of equipment for the production of renewable energy (ibid.: 467). As mentioned above, degrowth advocates have singled out renewable energy as one of the sectors that needs to grow in the future. As such, it seems likely that the owners of national and transnational companies operating in this sector would be more positively inclined towards the degrowth project than would capitalists with a stake in the carbon-based economy. Still, the prospect of the “green sector” emerging as a driving force behind degrowth currently appears meagre. Being under the control of transnational capital (Harris, 2010), such companies generally embrace the “green growth” discourse, which ‘is deeply embedded in neoliberal capitalism’ and indeed serves to adjust this form of capitalism ‘to crises arising from contradictions within itself’ (Wanner, 2015: 23).

In addition to support from the social forces engendered by the production process, a political project ‘also needs the political ability to mobilize majorities in parliamentary democracies, and a sufficient measure of at least passive consent’ (van Apeldoorn and Overbeek, 2012: 5–6) if it is to become hegemonic. As mentioned, degrowth enjoys little support in parliaments, and certainly the pro-growth discourse is hegemonic among parties in government.5 With capital accumulation being the most important driving force in capitalist societies, political decision-makers are generally eager to create conditions conducive to production and the accumulation of capital (Lindblom, 1977: 172). Capitalist states and international organisations are thus “programmed” to facilitate capital accumulation, and do as such constitute a strategically selective terrain that works to the disadvantage of the degrowth project.

The main advocates of the degrowth project are grassroots, small fractions of left-wing parties and labour unions as well as academics and other citizens who are concerned about social injustice and the environmentally unsustainable nature of societies in the rich parts of the world. The project is thus ideationally driven in the sense that support for it is not so much rooted in the material circumstances or short-term self-interests of specific groups or classes as it is rooted in the conviction that degrowth is necessary if current and future generations across the globe are to be able to lead a good life. While there is no shortage of enthusiasts and creative ideas in the degrowth movement, it has only modest resources compared to other political projects. To put it bluntly, the advocates of degrowth do not possess instruments that enable them to force political decision-makers to listen to – let alone comply with – their views. As such, they are in a weaker position than the labour union movement was in its heyday, and they are in a far weaker position than the owners and managers of large corporations are today (on the structural power of transnational corporations, see Gill and Law, 1989).

6. Consent

It is also safe to say that degrowth enjoys no “passive consent” from the majority of the population. For the time being, degrowth remains unknown to most people. Yet, if it were to become generally known, most people would probably not find the vision of a smaller economic system appealing. This is not just a matter of degrowth being ‘a missile word that backfires’ because it triggers negative feelings in people when they first hear it (Drews and Antal, 2016). It is also a matter of the actual content of the degrowth project.

Two issues in particular should be mentioned in this context. First, for many, the anti-capitalist sentiments embodied in the degrowth project will inevitably be a difficult pill to swallow. Today, the vast majority of people find it almost impossible to conceive of a world without capitalism. There is a ‘widespread sense that not only is capitalism the only viable political and economic system, but also that it is now impossible to even imagine a coherent alternative to it’ (Fisher, 2009: 2). As Jameson (2003) famously observed, it is, in a sense, easier to imagine the end of the world than it is to imagine the end of capitalism. However, not only is degrowth – like other anti-capitalist projects – up against the challenge that most people consider capitalism the only system that can function; it is also up against the additional challenge that it speaks against economic growth in a world where the desirability of growth is considered common sense.

Second, degrowth is incompatible with the lifestyles to which many of us who live in rich countries have become accustomed. Economic growth in the Western world is, to no small extent, premised on the existence of consumer societies and an associated consumer culture most of us find it difficult to completely escape. In this culture, social status, happiness, well-being and identity are linked to consumption (Jackson, 2009). Indeed, it is widely considered a natural right to lead an environmentally unsustainable lifestyle – a lifestyle that includes car ownership, air travel, spacious accommodations, fashionable clothing, an omnivorous diet and all sorts of electronic gadgets. This Western norm of consumption has increasingly been exported to other parts of the world, the result being that never before have so many people taken part in consumption patterns that used to be reserved for elites (Koch, 2012). If degrowth were to be institutionalised, many citizens in the rich countries would have to adapt to a materially lower standard of living. That is, while the basic needs of the global population can be met in a non-growing economy, not all wants and preferences can be fulfilled (Koch et al., 2017). Undoubtedly, many people in the rich countries would experience various limitations on their consumption opportunities as a violent encroachment on their personal freedom. Indeed, whereas many recognize that contemporary consumer societies are environmentally unsustainable, fewer are prepared to actually change their own lifestyles to reverse/address this.

At present, then, the degrowth project is in its “deconstructive phase”, i.e., the phase in which its advocates are able to present a powerful critique of the prevailing neoliberal project and point to alternative solutions to crisis. At this stage, not enough support has been mobilised behind the degrowth project for it to be elevated to the phases of “construction” and “consolidation”. It is conceivable that at some point, enough people will become sufficiently discontent with the existing economic system and push for something radically different. Reasons for doing so could be the failure of the system to satisfy human needs and/or its inability to resolve the multidimensional crisis confronting humanity. Yet, various material and ideational path-dependencies currently stand in the way of such a development, particularly in countries with large middle-classes. Even if it were to happen that the majority wanted a break with the current system, it is far from given that a system based on the ideas of degrowth is what they would demand.

#### Scenario 2 is Innovation:

#### Increased competition aligns innovation with profit motive and drives technological breakthroughs in every sector of the economy.

Giulio Federico 20. Head of the Unit at the Chief Economist Team (CET) of DG Competition, European Commission, et al., 2020. “Antitrust and Innovation: Welcoming and Protecting Disruption.” https://www.law.berkeley.edu/wp-content/uploads/2020/08/Shapiro-Carl-Antitrust-and-Innovation-Welcoming-and-Protecting-Disruption.pdf.

The goal of antitrust policy is to protect and promote a vigorous competitive process. Effective rivalry spurs firms to introduce new and innovative products, as they seek to capture profitable sales from their competitors and to protect their existing sales from future challengers. In this fundamental way, competition promotes innovation. We apply this basic insight to the antitrust treatment of horizontal mergers and of exclusionary conduct by dominant firms. A merger between rivals internalizes business-stealing effects arising from their parallel innovation efforts and thus tends to depress innovation incentives. Merger-specific synergies, such as the internalization of involuntary spillovers or an increase in the productivity of R&D, may offset the adverse effect of a merger on innovation. We describe the possible effects of a merger on innovation by developing a taxonomy of cases, with reference to recent US and EU examples. A dominant firm may engage in exclusionary conduct to eliminate the threat from disruptive firms. This suppresses innovation by foreclosing disruptive rivals and by reducing the pressure to innovative on the incumbent. We apply this broad principle to possible exclusionary strategies by dominant firms.

I. Introduction

We write in praise of market disrupters—firms that shake up the status quo, threaten incumbent firms, and sometimes transform entire industries. Through this process, which Joseph Schumpeter famously called “creative destruction,” disruptive firms promote economic growth and bring the benefits of new technologies and new business practices and business models to consumers.

We focus on the impact of antitrust policy—known globally as competition policy—on innovation.1 Competition policy seeks to protect and promote a vigorous competitive process by which new ideas are transformed into realized consumer benefits. In this fundamental way, competition spurs innovation. The productivity and growth literature teach us that innovation is the primary driver of rising standards of living over time, so promoting innovation through effective competition policy is likely to be very consequential for economic growth and welfare.

Disruptive firms drive a significant amount of innovation.2 They do not use the same technology or business model as incumbents. They offer consumers a distinct value proposition, not simply lower prices. By making its offer to customers attractive in a new way, a disruptive firm can destroy a great deal of incumbent profit while creating a large amount of consumer surplus. The resulting churn in products and market shares, as new products enter and old ones exit, and as newer business methods and business models supplant older ones, represents a healthy competitive process. If that competitive process is slowed or biased by mergers or by exclusionary conduct, innovation is lessened and consumers are harmed. This same competitive process promotes the development and diffusion of best practices, including what might be termed reductions in X-inefficiency. The trade and productivity literature both convincingly demonstrate that firms vary significantly in their productivity levels and that stiffer competition reallocates sales to more productive firms. The diffusion of best practices also is promoted if sales are contestable, going to the better-performing firms.

Competition policy seeks to protect the competitive process by which disruptive firms challenge the status quo. Competition policy is agnostic regarding the type of firm or the type of innovation involved. Start-ups that grow rapidly can certainly be disruptive. Uber and Airbnb are prominent recent examples. But large established firms can also be disruptive, especially when they attack adjacent markets. Think of Walmart entering local retail markets, Microsoft Bing challenging Google in search, or Netflix producing its own video content.

In contrast, the role played by successful incumbent firms in their own core markets is deeply conflicted. On the one hand, process innovations that lower costs can be most valuable at the largest firms, and market leaders often invest substantial sums to introduce new generations of products. Examples abound: Intel developing a new generation of technology and building new fabs to manufacture microprocessors; Boeing developing a new generation of large commercial aircraft; and Verizon investing to build its 5G wireless network. In many industries experiencing rapid technological change, the biggest firms are also some of the most impressive innovators, as Schumpeter observed 75 years ago.3 This should not be surprising, given the economies of scale associated with R&D, especially in industries where developing the next-generation product or process requires investments of hundreds of millions of dollars and/or extensive experience with the current technology.4 On the other hand, a successful incumbent firm that is profiting greatly from the status quo has a powerful incentive to preserve those profits, and this can mean slowing down or blocking disruptive threats. Successful incumbents also may find it very difficult organizationally to invest in disruptive technologies. 5 Competition valuably increases the diversity of approaches taken to the development of new technology.

We stress in this article that innovation is best promoted when market leaders are allowed to exploit their competitive advantages while also facing pressure to perform coming from both conventional rivals and from disruptive entrants. These labels depend on context: the same firm can be a market leader in one area and a disruptive upstart in another. Market leaders may face competitive pressures to innovate coming from (a) other large firms in the same market, (b) other large firms in adjacent spaces, or (c) smaller, pesky disruptive firms. Casual empiricism indicates that all of these sources of competition are important in different settings. All have historically been protected using competition policy.

The central theme animating our analysis is that a market leader is best motivated to innovate if it fears losing its leadership position to a disruptive rival.6 Even a dominant incumbent will feel pressure to innovate if the bulk of tomorrow’s sales will be won by the firm that is most innovative, be that the incumbent or a disruptive challenger, and if other firms are in a position to leapfrog the current incumbent. Once one properly understands the dynamic nature of the competitive process, it becomes clear that greater rivalry—meaning greater contestability of tomorrow’s sales—leads to more innovation.7 The critical role of competition policy is thus to prevent today’s market leaders from using their market power to disable disruptive threats, either by acquiring would-be rivals or by using anticompetitive tactics to exclude them. Sections II and III discuss the treatment of horizontal mergers that may harm innovation. Section IV discusses the antitrust limits on the business conduct of dominant incumbent firms.

#### Expanding antitrust is necessary to sustain creative destruction. Only that preserves innovation leadership.

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The goal underpinning U.S. antitrust law is to promote competition that leads to lower prices and enhanced consumer welfare.

For years, antitrust agencies have approached this goal by focusing on short-term, static competition, which emphasizes achieving low prices in the here and now.

This narrow focus, however, has resulted in unnecessary conflict between the static competitive analysis deployed by antitrust regulators and the dynamic issues raised by intellectual property.

Fortunately, over the last few decades, a growing recognition has emerged among economists that antitrust laws must be recalibrated to preserve the incentive to innovate and promote the U.S. innovation economy.

These economists are calling for an antitrust framework that prioritizes dynamic over static competition — placing less weight on market concentration in the assessment of market power and more weight on assessing technological opportunity, innovation-driven competition and appropriate enterprise-level capabilities.

At the heart of this movement is the foundational principle, dating back to Joseph Schumpeter and Nobel Laureate economist Robert Solow, that innovation is the main driver of economic growth.

Indeed, given the strong economic evidence that innovation drives productivity, sharpens competition and creates new products, a serious consumer-oriented antitrust policy, with an intermediate-to-long-term orientation, necessarily must focus primarily on supporting and advancing innovation.

However, although antitrust agencies routinely claim to favor both innovation and competition, this has not always been the case.

For instance, during the previous administration, some agency heads unnecessarily generated tension between static competitive analysis — with its undue emphasis on achieving low prices in the short term — and the dynamic issues implicated by intellectual property and associated royalty payments.

Royalties, in the short run, raise prices of licensed goods relative to the prices that would prevail absent payments.

However, payments to licensors also support innovation by helping innovators achieve the economic returns necessary to draw forth the critical investment dollars needed to support research and development (R&D) and continuing innovation.

This model produces a continuous cycle of innovation in which innovators are properly incentivized to invent and reinvest their royalties into more R&D, which leads to new innovations and restarts the cycle.

A prime example of the dynamic benefits flowing from such an innovation ecosystem is 5G. This revolutionary technology promises the ability to connect to and control cities, automobiles, objects and devices, transforming a broad range of industries in the process.

Thanks to its private-sector top performers, the United States currently leads the world in 5G — a distinction that comes with an extraordinary opportunity for massive economic growth and increased consumer welfare.

However, the rigid application of an antitrust framework focused on short-term pricing, rather than on innovation as a critical driver of competition, could cause the United States to forfeit its 5G leadership position.

This would not only reduce consumer welfare but would pose a clear risk to U.S. national security — a fact recognized by U.S. national defense agencies in prohibiting a foreign company from acquiring Qualcomm, a U.S. technology company, because the proposed transaction imperiled Qualcomm’s 5G leadership position.

Recently, the U.S. Department of Justice (DOJ) has indicated that a course correction may be underway. In a series of speeches, Assistant Attorney General Makan Delrahim, head of the DOJ’s Antitrust Division, signaled that the focus of a sound antitrust analysis must be less on short-term pricing and more on the innovation and growth that delivers value to consumers over the longer term.

For example, in his speech before the U.S. Embassy in Beijing, Delrahim invoked “promoting dynamic competition” as a normative goal of competition regulators.

He also declared that “competition law enforcers around the world must give careful consideration to the interests that drive innovation, including by allowing innovators to reap the full rewards of their investment in research and development.” It appears that Delrahim correctly recognizes that innovation is the critical driver of competition.

While Delrahim’s leadership on this issue is admirable, officials at the Federal Trade Commission (FTC) regrettably have yet to follow the DOJ’s lead. The FTC continues to endorse outdated modes of competition regulation and policies that are not properly calibrated to promote dynamic competition and advance innovation.

In order to truly enhance consumer welfare over the long term, I hope the FTC soon will join hands with the DOJ and help move the United States toward a pro-innovation policy founded upon a dynamic competition paradigm.

For over 30 years, a small group of economists has been calling for a pivot in antitrust in favor of dynamic over static competition. With Delrahim at the helm of the DOJ’s Antitrust Division, we may soon witness such a pivot.

U.S. antitrust policy needs to adopt a deeper understanding of innovation processes and competition over the long run, and there needs to be greater policy coherence among antitrust, industrial and technology policies.

The dynamic competition paradigm is both the easiest and the best intellectual paradigm for the competition agencies and the courts to employ to free antitrust from its current outmoded framework. Indeed, prioritizing dynamic competition over its weaker sibling will enhance not just consumer welfare, but economic welfare, too.

#### Regulated capitalism is key---alternative systems fail to innovate sufficiently.

Philippe Aghion, Céline Antonin, & Simon Bunel 21. Professor at the Collège de France, INSEAD, and the London School of Economics and Political Science and was previously Professor of Economics at Harvard. Senior Researcher at OFCE, the French Economic Observatory at Sciences Po in Paris, and Research Associate in the Innovation Lab at the Collège de France. Senior Economist at INSEE, the French National Institute of Statistics and Economic Studies, and at the Bank of France. “The Power of Creative Destruction: Economic Upheaval and the Wealth of Nations.” Harvard University Press.

Nonetheless, the abolition of capitalism is not the solution. The last century witnessed a large-scale experiment with an alternative system—a system of central planning in the Soviet Union and other communist countries of Central and Eastern Europe. This system failed to offer individuals the freedom and economic incentives necessary for frontier innovation, and so these nations were unable to get beyond an intermediate level of development. Henri Weber, a well-known figure of the French movement of May 1968, was a former Trotskyist leader in the 1960s and 1970s but later became a leader of the French Socialist Party and Socialist member of the European Parliament. He explained his personal conversion to the free market economy and social democracy, looking to the Scandinavian experience: “Having witnessed from a front-row seat the disaster of collectivization of agriculture and firms in the Soviet Union, the Scandinavian Socialists were the first to break with the dogma of socializing means of production and managing the economy by a central planning committee. To control and humanize the economy, it is altogether unnecessary to expropriate management, to nationalize firms, or to eradicate the market . . . altogether unnecessary to deprive society of the creativity, knowhow, and dynamism of entrepreneurs. Under certain conditions, entrepreneurial talent can be mobilized to serve the common good.” A market economy, because it induces creative destruction, is inherently disruptive. But historically it has proved to be a formidable engine of prosperity, hoisting our societies to levels of development unimaginable two centuries ago. Must we therefore resign ourselves to the serious pitfalls and defects of capitalism as the necessary price to pay to generate prosperity and overcome poverty?

In this book, we have sought to better understand how growth through creative destruction interacts with competition, inequality, the environment, finance, unemployment, health, happiness, and industrialization, and how poor countries catch up to rich ones. We have analyzed to what degree the state, with appropriate control of the executive, can stimulate the creation of wealth while at the same time tackling the problems mentioned above. We have seen how, by moving from laissez-faire capitalism, with market forces given free rein, to a form of capitalism in which the state and civil society play their full role, it is possible to stimulate social mobility and reduce inequality without discouraging innovation. We have also seen how appropriate competition policies can curb the decline of growth and how we can redirect innovation toward green technologies to combat global warming. We have seen that, without forgoing globalization, a country can improve its competitiveness through innovative investments and put in place effective safety nets to protect individuals who lose their jobs. Lastly, we have seen how, with the indispensable support of civil society, it is possible to prevent yesterday’s innovators, in collusion with public officials, from pulling up the ladder behind themselves to block the path of tomorrow’s innovators.

#### Failure to sustain innovation leadership makes a China war inevitable.

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The global economy has become more integrated, with China’s economy growing strongly—poised to soon take over the United States at market exchange rates and having already done so in terms of purchasing power parity. More importantly, China has become the top trading partner and creditor/investor for many countries. The size and penetration of the Chinese economy have rendered a strategy of containing China impractical and costly to all sides, and makes the US-China contention more protracted and difficult.

The West thus faces a dilemma: Efforts to decouple from China in order to limit its influence would hurt not only China but also Western countries and the global economy more broadly, but striking a trade deal with China to reduce tensions will likely help the Chinese economy perform better, making the strategic competition with Beijing more intractable.

The rivalry has slowly led to a bifurcation of the global economy, most discernible in high-tech areas such as the tension between digital authoritarianism and digital liberalism, artificial intelligence and surveillance technologies, satellite-based navigation for civilian and military uses, and 5G/6G telecommunications.

A balanced assessment

It’s important to remember that China has many weaknesses, including an aging population with a shrunken labor force, a secular decline in labor productivity, high levels of debt, environmental degradation, and social and economic inequalities. It is still an open question whether China can graduate from its old and trusted development model of mobilizing massive investment for exports to one driven by innovation—a model that tends not to thrive under political control.

However, it is equally important not to underestimate the domestic challenges facing the United States and several European countries. Confronted by aging populations and declining productivity, many affluent Western countries have been beset by populist backlashes against economic inequalities and social problems. Especially in the United States, the division has deepened to the extent that there is no shared perception of reality, let alone common ground for debate. This makes it difficult for the United States to build political consensus behind any sustained actions needed to deal with its challenges—even though the country has managed to overcome difficulties in the past and could do so again.

With or without the label “cold war,” the United States and China are locked in a protracted conflict over core national values, including economic and geopolitical interests. The fact that the Chinese economy is stronger than the Soviet Union’s decrepit economy, playing a key role in integrated global supply chains, while many Western countries suffer from internal divisions, makes the strategic competition more challenging for the West than the Cold War of the late twentieth century was. Of particular concern is the fact that the United States has suffered a steep fall in its Freedom House “Freedom in the World” score since 2010, denting much of its soft power. Consequently, the contestants in today’s conflict appear to be more evenly matched, making for a difficult struggle ahead—whatever you want to call it.

#### US-China competition isn’t defined by military strength, but relative innovation capacity. Outpacing China is the only way to prevent a war.

James Lewis 18. Senior vice president at the Center for Strategic and International Studies. “Technological Competition and China.” <https://www.csis.org/analysis/technological-competition-and-china>.

The United States and China are in a growing competition, perhaps verging on conflict, but it is not a nineteenth century competition between empires for control of territory and resources. Unlike great power competition in previous centuries, the focal point is not military strength or territorial expansion. This conflict is over control of the modern levers of power—global rules and institutions, standards, trade, and technology. The ability to create new technologies, particularly digital technologies (given their importance for politics, security, and economic growth) have become key factors in the U.S.-China relationship, which is marked by close commercial cooperation and deep governmental distrust. This disparity creates unavoidable tensions.

The link between technology, innovation, national security, and international power is now widely recognized. When Vladimir Putin says that the country that leads in artificial intelligence (AI) “will be the ruler of the world,” it is hyperbole, but hyperbole that confirms that political leaders recognize that the ability to innovate is a potent source of national power. In the digital age, national security and national power have different requirements shaped by technological change and cyberspace.

Innovation has become a central element of its international influence. This is not new—the U.S.-Soviet space race was a contest of the ability of different systems to produce new technologies, but those were unique government programs. Technological competition today is as much between companies as states. A country’s ability to innovate and produce advanced technologies provides economic strength, military power, and an intangible benefit of perceived leadership.

Both China and the United States have advantages and disadvantages in this contest, and while it is usual to focus on quantitative aspects—such as the number of engineers or patents and spending on research and development (R&D)—these are not the key determinants of technological competition between states. This competition is a contest of ideas on governance for investment, innovation, and the internet. The internet and global connectivity not only reshape the environment for competition but also create political and market forces that both nations find difficult to control.

#### That goes nuclear.

Graham Allison 17. American political scientist and professor at the John F. Kennedy School of Government at Harvard. “Destined for War: Can America and China Escape Thucydides's Trap?” Scribe Publications Pty Limited.

Two centuries ago, Napoleon warned, "Let China sleep; when she wakes, she will shake the world." Today China has awakened, and the world is beginning to shake. Yet many Americans are still in denial about what China's transfor- mation from agrarian backwater to "the biggest player in the history of the world" means for the United States. What is this book's Big Idea? In a phrase. Thucydidess Trap; When rising power threatens to displace a ruling power, alarm bells should sound: danger ahead. China and the United States are currently on a collision course for war-unless both parties take difficult and painful actions to avert it. As a rapidly ascending China challenges America's accustomed pre- dominance, these two nations risk falling into a deadly trap first identified the 'ancient' Greek historian Thucydides. Writing about a war that devastated the two leading city-states of classical Greece two and a half. millennia ago, he explained: "It was the rise of Athens and the fear that this instilled in Sparta that made war inevitable." That primal insight describes :1 perilous historical pattern. Reviewing the record of the past five hundred years, the Thucydides's Trap Project I direct at Harvard has found sixteen cases in which a major nation's rise has disrupted the position of a dominant state. In the most infamous example, an industrial Germany rattled Britain's established position at the top of the pecking order a century ago. The catastrophic outcome of their competition necessitated a new category of violent conflict: world war. Our research finds that twelve of these rivalries ended in war and four did not - not a comforting ratio for the twenty- first century's most important geopolitical contest. This is not a book about China. It is about the *impact* of a rising China on the US and the global order. For seven decades since World War II, a rules-based framework led by Washington has defined world order, producing an era without war among great powers. Most people now think of this as normal. Historians call it a rare "Long Peace." To- day, an increasingly powerful China is unraveling this order, throwing into question the peace generations have taken for granted. In 2015, the Atlantic published "The Thucydides Trap: Are the US and China headed for War?" In that essay I argued that this histori- cal metaphor provides the best lens available for illuminating relations between China and the US today. Since then, the concept has ignited considerable debate. Rather than face the evidence and reflect on the uncomfortable but necessary adjustments both sides might make, pol- icy wonlts and presidents alike have constructed a straw man around Thucydides's claim about "inevitability." They have then put a torch to it -arguing that war between Washington and Beijing is not predetermined. At their 2015 summit, Presidents Barack Obama and Xijinping discussed the Trap at length. Obama emphasized that despite the structural stress created by China's rise. "the two countries are capable of managing their disagreements." At the same time, they acknowledged that. in Xi's words. "should major countries time and again make the mistakes of strategic miscalculation, they might create such traps for themselves." I concur: war between the US and China is not inevitable. Indeed, Thucydides would agree that neither was war between Athens and Sparta. Read in context. it is clear that he meant his claim about inevitability as hyperbole: exaggeration for the purpose of emphasis. The point of Thucydides's Trap is neither fatalism nor pessimism. Instead. it points us beyond the headlines and regime rhetoric to recognize the tectonic structural stress that Beijing and Washington must master to construct a peaceful relationship. If Hollywood were making a movie pitting China against the United States on the path to war. central casting could not find two better leading actors than Xi jinping and Donald Trump. Each personifies his country's deep aspirations of national greatness. Much as Xi's appointment as leader (if China in 2012 accentuated the role of the rising power, America': election of Donald Trump in a campaign that vilified China promises a more vigorous response from the ruling power. As personalities, Trump and Xi could not be more different. As protagonists in a struggle to be number one. however, they share por- tentous similarities. Both - Are driven by .1 common ambition: to malte their nation great again. - Identify the nation ruled by the other as the principal obstacle to their dream. - Take pride in their own unique leadership capabilities. ' See themselves playing a central role in revitalizing their nation. ° Have announced daunting domestic agendas that call for radical changes. - Have fired up populist nationalist support to "drain the swamp" of corruption at home and confront attempts by each other to thwart their nation's historic mission. Will the impending clash between these two great nations lead to war? Will Presidents Trump and Xi, or their successors. follow in the tragic footsteps of the leaders of Athens and Sparta or Britain and Ger- many? Or will they find a way to avoid war as effectively as Britain and the US did a century ago or the US and the Soviet Union did through four decades of Cold War? Obviously, no one knows. We can be cer- tain, however, that the dynamic Thucydides identified will intensify in the years ahead. Denying Thucydides’s Trap does not make it less real. Recognizing it does not mean just accepting whatever happens. We owe it to future generations to face one of history’s most brutal tendencies head on and then do everything we can to defy the odds. h, if we only knew." That was the best the Gemian chancellor could offer. Even when a colleague pressed Theobald von Beth- mann Hollweg. he could not explain how his choices. and those of other European statesmen, had led to the most devastating war the world had seen to that point. By the time the slaughter of the Great War finally ended in 1918, the key players had lost all they fought for: the Austro-Hungarian Empire dissolved. the German kaiser ousted, the Russian tsar overthrown, France bled for a generation, and England shorn of its treasure and youth. And for what? If we only knew. Bethmann Hollweg's phrase haunted the president of the United States nearly half a century later. In 1962.]ohn F. Kennedy was forty- five years old and in his second year in oï¬‚ice, but still struggling to get his mind around his responsibilities commander in chief. He knew that his finger was on the button of a nuclear arsenal that could ltill hundreds of millions of human beings in a matter of minutes. But for what? A slogan at the time declared. "Better dead than red." Kennedy rejected that dichotomy as not just facile, but false. "Our goal," as he put it, had to be "not peace at the expense of freedom, but both peace and freedom." The question was how he and his administration could achieve both. As he vacationecl at the family compound on Cape Cod in the sum- mer of 1902, Kennedy found himself reading The Gun: q/'August, Bar- bara Tuchman's compelling account of the outbrealt of war in 1914. Tuclnnan traced the thoughts and actions of Germany's Kaiser Wil- helm and his chancellor Bethmann Hollweg. Britain's King George and his foreign secretary Edward Grey, Tsar Nicholas, Austro-Hungarian emperor Franz Joseph. and others as they sleepwalked into the abyss. Tuchman argued that none of these men understood the danger they faced. None wanted the war they got. Given the opportunity for a do- -mwm he made. Reflecting on his own responsibilities, Kennedy pledged that if he ever found himself facing his own responsibilities, Kennedy pledged that if ever found himself facing choices that could make the difference between catastrophic war and peace, he would be able to give history a better answer than Bethmann Holloweg’s. Kennedy had no inkling of what lay ahead. In October 1962, just two months after he read Tuchman's book, he faced off against Soviet leader Nikita Khrushchev in the most dangerous confrontation in hu- man history. The Cuban Missile Crisis began when the United States discovered the Soviets attempting to sneak nuclear-tipped missiles into Cuba, a mere ninety miles from Florida. The situation quickly esca- lated from diplomatic threats to an American blockade of the island, military mobilizations in both the US and USSR, and several high- stakes clashes. including the shooting down of an American U-2 spy plane over Cuba. At the height of the crisis, which lasted for a tense thirteen days. Kennedy confided to his brother Robert that he believed the chances it would end in nuclear war were "between one-in-three and even." Nothing historians have discovered since has lengthened ' those odds. Although he appreciated the dangers of his predicament. Kennedy repeatedly made choices he knew actually increased the risk of war, in- cluding nuclear war. He chose to confront Khrushchev publicly (rather than my to resolve the issue privately through diplomatic channels); to draw an unambiguous red line requiring the removal of Soviet missiles (rather than leave himself more wiggle room); to threaten air strikes to destroy the missiles (knowing this could trigger Soviet retaliation against Berlin); and finally, on the penultimate day of the crisis. to give Khrushchev a time-limited ultimatum (that. if rejected. would have re- quired the US to fire the first shot). In each of these choices, Kennedy understood that he was raising the risk that further events and choices by others beyond his control could lead to nuclear bombs destroying American cities. including Washing- ton, DC (where his family stayed throughout the ordeal). For example, when Kennedy elevated the alert level of the American nuclear arse- nal to Defcon II. he made US weapons less vulnerable to a preemptive Soviet attack but simultaneously relaxed a score of safety catches. At Defcon ll. German and Turkish pilots took their seats in NATO fighter bombers loaded with armed nuclear weapons less than two hours away from their targets in the Soviet Union. Since electronic locks on nu- clm weapons had not yet been invented, there was no physical or tech- nica barrier preventing a pilot from deciding to ï¬‚y to Moscow, drop a mic ar bomb, and start World War III. ith no way to wish away these "risks of the uncontrollable," Ken- ned ' and his secretary of defense, Robert McNamara, reached deeply into organizational procedures to minimize accidents or mistakes. De- spit those efforts, historians have identified more than a dozen close calls outside Kennedy's span of control that could have sparked a war. A US ntisubmarine campaign, For example, dropped explosives around Soviet submarines to force them to surface, leading a Soviet captain to believe he was under attack and almost fire his nuclear-armed torpe- does. In another incident, the pilot of a U-2 spy craft mistakenly ï¬‚ew over the Soviet Union, causing Khrushchev to fear that Washington was refining coordinates for a preemptive nuclear attack. If one of these actions had sparked a nuclear World War III. could\_]FK explain how his choices contributed to it? Could he give a better answer to an inquisi- tor's question than Bethmann Hollweg did? The complexity of causation in human affairs has vexed philoso- phers, jurists, and social scientists. In analyzing how wars break out, historians focus primarily on proximate or immediate causes. In the case of World War I, these include the assassination of the Hapsburg archduke Franz Ferdinand and the decision by Tsar Nicholas II to mo- bilize Russian forces against the Central Powers. If the Cuban Missile Crisis had resulted in war, the proximate causes could have been the Soviet submarine captain's decision to fire his torpedoes rather than al- low his submarine to sink, or a Turkish pilot's errant choice to fly his nuclear payload to Moscow. Proximate causes for war are undeniably important. But the founder of history believed that the most obvious causes for bloodshed mask even more significant ones. More import- ant than the sparks that lead to war, Thucydides teaches us, are the structural factors that lay its foundations: conditions in which other- wise manageable events can escalate with unforeseeable severity and produce unimaginable consequences. Tl-IUCYDIDES'S TRAP In the most frequently cited one-liner in the study of international re- lations, the ancient Greek historian Thucydides explained, "It was the rise of Athens and the fear that this instilled in Sparta that made war a} . I I .99 Tliucydides wrote about the Peloponnesian War, a conflict that en- gulfcd his homeland, the city-state of Athens, in the fifth century BCB, and which in time came to consume almost the entirety of ancient Greece. A former soldier. Thucydides watched as Athens challenged the dominant Greek power of the day, the martial city-state of Sparta. He observed the outbreak of armed hostilities between the two powers and detailed the fighting's horrific toll. He did not live to see its bitter end. when a weakened Sparta finally vanquished Athens. but it is just as well for him. While others identified an array of contributing causes of the Pelo- ponncsian War. Thucydides went to the heart of the matter. When he turned the spotlight on "the rise of Athens and the fear that this in- stilled in Sparta." he identified a primary driver at the root of some of history's most catastrophic and puzzling wars. Intentions aside, when a rising power threatens to displace a ruling power, the resulting structural stress makes a violent clash the rule, not the exception. It happened between Athens and Sparta in the fifth century ncia, between Germany and Britain a century ago. and almost led to war between the Soviet Union and the United States in the 1950s and 19605. Like so many others. Athens believed its advance to be benign. Over the half century that preceded the conï¬‚ict, it had emerged as a steeple of civilization. Philosophy, drama. architecture, democracy. history, and naval prowess-Athens had it all. beyond anything previously -s'eel'I'Imder the sun. Its rapid development began to threaten Sparta, which had grown accustomed to its position as the dominant power on the Peloponnese. As Athenian confidence and pride grew, so too did its demands for respect and expectations that arrangements be revised to reflect new realities of power. These were, Thucydides tells us, natural reactions to its changing station. How could Athenians not believe that their interests deserved more weight? How could Athenians not expect that they should have greater inï¬‚uence in resolving differences? But it was also natural. Thucydides explained. that Spartans should see the Athenian claims as unreasonable, and even ungrateful. Who, Spartans rightly asked. provided the security environment that allowed Athens to ï¬‚ourish? As Athens swelled with a growing sense of its own importance, and felt entitled to greater say and sway, Sparta reacted with insecurity. fear. and a determination to defend the status quo. Similar dynamics can be found in a host of other settings, indeed even in families. When a young man's adolescent surge poses the prospect that he will overshadow his older sibling (or even his father), what do we expect? Should the allocation of bedrooms. or closet space, or seat- ing be adjusted to reflect relative size as well as age? In alpha-dominated species like gorillas, as a potential successor grows larger and stronger, both the pack leader and the wannabe prepare for a showdown. In businesses, when disruptive technologies allow upstart companies like Apple. Google. or Uber to break quickly into new industries. the re- sult is often a bitter competition that forces established companies like : ifliiexpvlett-Packard, Microsoft. or taxi operators to adapt their business models -or perish. Thucydides's Trap refers to the natural, inevitable discombobulation that occurs when a rising power threatens to displace a ruling power. This can happen in any sphere. But its implications are most dangerous in international affairs. For just as the original instance of Thucydides's Trap resulted in a war that brought ancient Greece to its knees, this phenomenon has haunted diplomacy in the millennia since. Today it has set the world's two biggest powers on a path to a cataclysm nobody wants, bud which they may prove unable to avoid. ARE THE US AND CHINA DESTINED FOR WAR? The world has never seen anything like the rapid, tectonic shift in the global balance of power created by the rise of China. If the US were a corporation. it would have accounted for 50 percent of the global eco- nomic market in the years immediately after World War II. By 1980, that had declined to 22 percent. Three decades of double-digit Chi- nese growth has reduced that US share to 16 percent today. If current trends continue, the US share of global economic output will decline further over the next three decades to 'ust ll rcent. Over this same J P' criod, China's share of the global economy will have soared from 2 P 8 Y percent in 1980 to 18 percent in 2016, well on its way to 30 percent in 2040. China's economic development is transforming it into a formida- ble political and military competitor. During the Cold War. as the US mounted clumsy responses to Soviet provocations, a sign in the Penta- gon said: "lf we ever faced a real enemy, we would be in deep trouble." China is a serious potential enemy. The possibility that the United States and China could find them- selves at war appears as unlikely as it would be unwise. The centennials recalling World War l, however, have reminded us of man's capacity for folly. When we say that war is "inconceivable." is this a statement about what is possible in the world-or only about what our limited minds can conceive? As far ahead as the eye can see. the defining question about global order is whether China and the US can escape Thucydides's Trap. Most contests that fit this pattern have ended badly. Over the past five hun- drcd years, in sixteen cases a major rising power has threatened to dis- place a ruling power. In twelve of those, the result was war. The four cases that avoided this outcome did so only because of huge, painful adjustments in attitudes and actions on the part of challenger and chal- lenged alilte. The United States and China can likewise avoid war, but only if they can internalize two difficult truths. First. on the current trajectory. war between the US and China in the decades ahead is not just possible, but much more likely than currently recognized. Indeed. on the historical record. war lS IUOT? add to they h tainly major likely than not. By underestimating the danger, moreover, we the risk. If leaders in Beijing and Washington keep doing what ave done for the past decade. the US and China will almost cer- wind up at war. Second, war is not inevitable. History shows that ruling powers can manage relations with rivals. even those that threaten to overtake them, without triggering a war. The record of those successes, as well as the failures. offers many lessons for statesmen today. As George Santayana noted, only those who fail to study history are condemned to repeat it. The chapters that follow describe the origins of Thucydides's Trap, explore its dynamics. and explain its implications for the present con- test between the US and China. Part One provides a succinct summary of the rise of China. Everyone knows about China's growth but few have realized its magnitude or its consequences. To paraphrase former Czech president Vaclav Havel. it has happened so quickly that we have not yet had time to be astonished. Part Two locates recent developments in US-China relations on the broader canvas of history. This not only helps us understand current events. but also provides clues about where events are trending. Our review stretches back 2,500 years, to the time when the rapid growth of Athens shocked a dominant martial Sparta and led to the Pelopon- nesian War. Key examples from the past 500 years also provide insights into the ways in which the tension between rising and ruling powers can tilt the chessboard toward war. The closest analogue to the current standoff--Germany's challenge to Britain's ruling global empire be- fore World War I--should give us all pause. Part Three asks whether we should see current trends in America's relations with China as a gathering storm of similar proportions. Daily media reports of China's "aggressive" behavior and unwillingness to accept the "intemational rules-based order" established by the US af- -!El"W6l'l'd War I] describe incidents and accidents reminiscent of 1914. At the same time. a dose of self-awareness is due. If China were "just lilte us" when the US burst into the twentieth century brimming with confidence that the hundred years ahead would be an American era. the rivalry would be even more severe, and war even harder to avoid. If it actually followed in America's footsteps, we should expect to see Chi- nese troops enforcing Beijing's will from Mongolia to Australia, just as Theodore Roosevelt molded "our hemisphere" to his China is following a different trajectory than did the United States during its own surge to primacy. But in many aspects of China's rise, we can hear echoes. What does President Xi\_|inping's China want? In one line: to make China great again. The deepest aspiration of over a billion Chinese citizens is to make their nation not only rich, but also pow- erful. Indeed, their goal is a China so rich and so powerful that other nations will have no choice but to recognize its interests and give it the respect that it deserves. The sheer scale and ambition of this "China Dream" should disabuse us of any notion that the contest between (jliina and the United States will naturally subside as China becomes a "responsible stakeholder." This is especially so given what my former colleague Sam Huntington famously called a "clash of civilizations," a historical disjunction in which fundamentally different Chinese and American values and traditions make rapprochement between the two powers even more elusive. While resolution of the present rivalry may seem difficult to foresee. actual armed conflict appears distant. But is it? In truth, the paths to war are more varied and plausible (and even mundane) than we want to believe. From current confrontations in the South China Sea, the East China Sea, and cyberspace, to a trade conflict that spirals out of control, it is frighteningly easy to develop scenarios in which Ameri- can and Chinese soldiers are killing each other. Though none of these scenarios seem likely, when we recall the unintended consequences of the assassination of the Hapsburg archdulte or of l(hrushchev's nuclear adventure in Cuba, we are reminded of just how narrow the gap is be- tween "unlikely" and "impossible." Part Four explains why war is not inevitable. Most of the policy community and general public are naively complacent about the possi- bility of war. Fatalists. meanwhile, see an irresistible force rapidly ap- proaching an immovable object. Neither side has it right. If leaders in both societies will study the successes and failures of the past, they will find a rich source of clues from which to fashion a strategy that can meet each nation's essential interests without war. The return to prominence of a 5,000-year-old civilization with 1.4 billion people is not a problem to be fixed. It is a condin'on-a chronic condition that will have to be managed over a generation. Success will require not just a new slogan, more frequent presidential summits. or additional meetings of departmental working groups. Managing this relationship without war will demand sustained attention, week by Wcclc. at the highest levels in both governments. It will require a depth of mutual understanding not seen since the Henry Kissinger-Zhou En- lai conversations that reestablished US-China relations in the 19705. Most significant, it will mean more radical changes in attitudes and ac- tions by leaders and the public alilte than anyone has yet undertaken. To escape Thucydides's Trap. we must be willing to think the unthinkable -:md imagine the unimaginable. Avoiding Thucydides's Trap in this case will require nothing less than bending the arc of history.

#### Extinction outweighs.

Seth D. Baum & Anthony M. Barrett 18. Global Catastrophic Risk Institute. 2018. “Global Catastrophes: The Most Extreme Risks.” Risk in Extreme Environments: Preparing, Avoiding, Mitigating, and Managing, edited by Vicki Bier, Routledge, pp. 174–184.

2. What Is GCR And Why Is It Important? Taken literally, a global catastrophe can be any event that is in some way catastrophic across the globe. This suggests a rather low threshold for what counts as a global catastrophe. An event causing just one death on each continent (say, from a jet-setting assassin) could rate as a global catastrophe, because surely these deaths would be catastrophic for the deceased and their loved ones. However, in common usage, a global catastrophe would be catastrophic for a significant portion of the globe. Minimum thresholds have variously been set around ten thousand to ten million deaths or $10 billion to $10 trillion in damages (Bostrom and Ćirković 2008), or death of one quarter of the human population (Atkinson 1999; Hempsell 2004). Others have emphasized catastrophes that cause long-term declines in the trajectory of human civilization (Beckstead 2013), that human civilization does not recover from (Maher and Baum 2013), that drastically reduce humanity’s potential for future achievements (Bostrom 2002, using the term “existential risk”), or that result in human extinction (Matheny 2007; Posner 2004). A common theme across all these treatments of GCR is that some catastrophes are vastly more important than others. Carl Sagan was perhaps the first to recognize this, in his commentary on nuclear winter (Sagan 1983). Without nuclear winter, a global nuclear war might kill several hundred million people. This is obviously a major catastrophe, but humanity would presumably carry on. However, with nuclear winter, per Sagan, humanity could go extinct. The loss would be not just an additional four billion or so deaths, but the loss of all future generations. To paraphrase Sagan, the loss would be billions and billions of lives, or even more. Sagan estimated 500 trillion lives, assuming humanity would continue for ten million more years, which he cited as typical for a successful species. Sagan’s 500 trillion number may even be an underestimate. The analysis here takes an adventurous turn, hinging on the evolution of the human species and the long-term fate of the universe. On these long time scales, the descendants of contemporary humans may no longer be recognizably “human”. The issue then is whether the descendants are still worth caring about, whatever they are. If they are, then it begs the question of how many of them there will be. Barring major global catastrophe, Earth will remain habitable for about one billion more years 2 until the Sun gets too warm and large. The rest of the Solar System, Milky Way galaxy, universe, and (if it exists) the multiverse will remain habitable for a lot longer than that (Adams and Laughlin 1997), should our descendants gain the capacity to migrate there. An open question in astronomy is whether it is possible for the descendants of humanity to continue living for an infinite length of time or instead merely an astronomically large but finite length of time (see e.g. Ćirković 2002; Kaku 2005). Either way, the stakes with global catastrophes could be much larger than the loss of 500 trillion lives. Debates about the infinite vs. the merely astronomical are of theoretical interest (Ng 1991; Bossert et al. 2007), but they have limited practical significance. This can be seen when evaluating GCRs from a standard risk-equals-probability-times-magnitude framework. Using Sagan’s 500 trillion lives estimate, it follows that reducing the probability of global catastrophe by a mere one-in-500-trillion chance is of the same significance as saving one human life. Phrased differently, society should try 500 trillion times harder to prevent a global catastrophe than it should to save a person’s life. Or, preventing one million deaths is equivalent to a one-in500-million reduction in the probability of global catastrophe. This suggests society should make extremely large investment in GCR reduction, at the expense of virtually all other objectives. Judge and legal scholar Richard Posner made a similar point in monetary terms (Posner 2004). Posner used $50,000 as the value of a statistical human life (VSL) and 12 billion humans as the total loss of life (double the 2004 world population); he describes both figures as significant underestimates. Multiplying them gives $600 trillion as an underestimate of the value of preventing global catastrophe. For comparison, the United States government typically uses a VSL of around one to ten million dollars (Robinson 2007). Multiplying a $10 million VSL with 500 trillion lives gives $5x1021 as the value of preventing global catastrophe. But even using “just" $600 trillion, society should be willing to spend at least that much to prevent a global catastrophe, which converts to being willing to spend at least $1 million for a one-in-500-million reduction in the probability of global catastrophe. Thus while reasonable disagreement exists on how large of a VSL to use and how much to count future generations, even low-end positions suggest vast resource allocations should be redirected to reducing GCR. This conclusion is only strengthened when considering the astronomical size of the stakes, but the same point holds either way. The bottom line is that, as long as something along the lines of the standard riskequals-probability-times-magnitude framework is being used, then even tiny GCR reductions merit significant effort. This point holds especially strongly for risks of catastrophes that would cause permanent harm to global human civilization. The discussion thus far has assumed that all human lives are valued equally. This assumption is not universally held. People often value some people more than others, favoring themselves, their family and friends, their compatriots, their generation, or others whom they identify with. Great debates rage on across moral philosophy, economics, and other fields about how much people should value others who are distant in space, time, or social relation, as well as the unborn members of future generations. This debate is crucial for all valuations of risk, including GCR. Indeed, if each of us only cares about our immediate selves, then global catastrophes may not be especially important, and we probably have better things to do with our time than worry about them. While everyone has the right to their own views and feelings, we find that the strongest arguments are for the widely held position that all human lives should be valued equally. This position is succinctly stated in the United States Declaration of Independence, updated in the 1848 Declaration of Sentiments: “We hold these truths to be self-evident: that all men and 3 women are created equal”. Philosophers speak of an agent-neutral, objective “view from nowhere” (Nagel 1986) or a “veil of ignorance” (Rawls 1971) in which each person considers what is best for society irrespective of which member of society they happen to be. Such a perspective suggests valuing everyone equally, regardless of who they are or where or when they live. This in turn suggests a very high value for reducing GCR, or a high degree of priority for GCR reduction efforts.

#### Absent US leadership, China will fill-in the innovation vacuum---that causes an expansion of technology that undermines human rights, expands repression of minorities, and cements dangerous bioethics.

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Since the early days of the Cold War, the United States has led the world in technology. Over the course of the so-called American century, the country conquered space, spearheaded the Internet, and brought the world the iPhone. In recent years, however, China has undertaken an impressive effort to claim the mantle of technological leadership, investing hundreds of billions of dollars in robotics, artificial intelligence, microelectronics, green energy, and much more. Washington has tended to view Beijing’s massive technology investments primarily in military terms, but defense capabilities are merely one aspect of great-power competition today—little more than table stakes. Beijing is playing a more sophisticated game, using technological innovation as a way of advancing its goals without having to resort to war. Chinese companies are selling 5G wireless infrastructure around the world, harnessing synthetic biology to bolster food supplies, and racing to build smaller and faster microchips, all in a bid to grow China’s power.

In the face of China’s technological drive, U.S. policymakers have called for greater government action to protect the United States’ lead. Much of the conventional wisdom is sensible: boost R & D spending, ease visa restrictions and develop more domestic talent, and build new partnerships with industry at home and with friends and allies abroad. But the real problem for the United States is much deeper: a flawed understanding of which technologies matter and of how to foster their development. As national security assumes new dimensions and great-power competition moves into different domains, the government’s thinking and policies have not kept pace. Nor is the private sector on its own likely to meet every technological need that bears on the country’s security.

In such an environment, Washington needs to broaden its horizons and support a wider range of technologies. It needs to back not only those technologies that have obvious military applications, such as hypersonic flight, quantum computing, and artificial intelligence, but also those traditionally thought of as civilian in nature, such as microelectronics and biotechnology. Washington also needs to help vital nonmilitary technologies make the transition to commercial success, stepping in with financing where the private sector will not.

AMERICA’S INNOVATION CHALLENGE

In the early decades of the Cold War, the United States spent billions of dollars dramatically expanding its scientific infrastructure. The Atomic Energy Commission, formed in 1946, assumed responsibility for the wartime labs that had pioneered nuclear weapons, such as the Oak Ridge National Laboratory, the headquarters of the Manhattan Project, and went on to fund academic research centers, such as the Lawrence Livermore National Laboratory. The Department of Defense, founded in 1947, was given its own massive research budget, as was the National Science Foundation, established in 1950. After the Soviets launched the Sputnik satellite, in 1957, Washington created the National Aeronautics and Space Administration, or NASA, to win the space race, as well as what would become the Defense Advanced Research Projects Agency, which was tasked with preventing a future technological surprise. By 1964, research and development accounted for 17 percent of all discretionary federal spending.

Partnering closely with academia and companies, the government funded a large variety of basic research—that is, research without a specific end use in mind. The goal was to build a technological foundation, defined primarily as conventional and nuclear defense capabilities, to ensure the country’s security. The research proved astonishingly successful. Government investment spawned cutting-edge capabilities that undergirded the United States’ military superiority, from supersonic jets to nuclear-powered submarines to guided missiles. The private sector, for its part, got to capitalize on the underlying intellectual property, turning capabilities into products and products into companies. GPS-enabled technologies, airbags, lithium batteries, touchscreens, voice recognition—all got their start thanks to government investment.

Yet over time, the government lost its lead in innovation. In 1964, the U.S. government was spending 1.86 percent of GDP on R & D, but by 1994, that share had fallen to 0.83 percent. During that same period, U.S. corporate R & D investment as a percentage of GDP nearly doubled. The numbers tell only half the story. Whereas much of the government’s R & D investment was aimed at finding new, game-changing discoveries, corporate R & D was mostly devoted to incremental innovation. The formula for growing revenue, the private sector realized, was to expand on existing products, adding functionality or making something faster, smaller, or more energy efficient. Companies focused on nearer-term technologies with commercial promise, rather than broad areas of inquiry that might take decades to bear fruit.

Increasingly, the most innovative R & D was taking place not in the labs of large corporations but at nimbler, privately funded startups, where venture capital investors were willing to tolerate more risk. Modern venture capital firms—partnerships that invest in early-stage companies—first arose in the 1970s, leading to early successes such as Apple and Microsoft, but it wasn’t until the dot-com bubble of the 1990s that this style of investment really took off. If the first phase of R & D outsourcing was from government labs to corporate America, this was the second phase: away from big businesses and toward small startups. Large companies began to spend less on internal R & D and more on what they called “corporate development,” or acquiring smaller, venture-backed companies with promising technologies.

The rise of venture capitalism created a great deal of wealth, but it didn’t necessarily further U.S. interests. Venture capital firms were judged by their ability to generate outsize returns within a ten-year window. That made them less interested in things such as microelectronics, a capital-intensive sector where profitability arrives in decades more so than years, and more interested in software companies, which need less capital to get going. The problem is that the companies receiving the most venture capital funding have been less likely to pursue national security priorities. When the American venture capital firm Accel hit the jackpot by investing early in Rovio Entertainment, the Finnish video game company behind the mobile app Angry Birds, it may have been a triumph for the firm, but in no way did it further U.S. interests.

Meanwhile, government funding of research continued its decline relative both to GDP and to R & D spending in the private sector. The Department of Defense retained the single biggest pot of federal research funding, but there was less money overall, and it became more dispersed across various agencies and departments, each pursuing its own priorities in the absence of a national strategy. As the best researchers were lured to the private sector, the government’s in-house scientific expertise atrophied. Once close relationships between private companies and Washington also suffered, as the federal government was no longer a major customer for many of the most innovative firms. U.S. agencies were rarely the first to buy advanced technology, and smaller startups generally lacked the lobbyists and lawyers needed to sell it to them anyway.

Globalization also drove a wedge between corporations and the government. The American market came to look less dominant in an international context, with the huge Chinese consumer market exerting a particularly powerful pull. Corporations now had to think of how their actions might look to customers outside the United States. Apple, for example, famously refused to unlock iPhones for the FBI, a decision that probably enhanced its brand internationally.

Further complicating matters, innovation itself was upending the traditional understanding of national security technology. More and more, technology was becoming “dual use,” meaning that both the civilian and the military sectors relied on it. That created new vulnerabilities, such as concerns about the security of microelectronic supply chains and telecommunications networks. Yet even though civilian technologies were increasingly relevant for national security, the U.S. government wasn’t responsible for them. The private sector was, and it was innovating at a rapid clip with which the government could barely keep pace. Taken together, all these trends have led to a concerning state of affairs: the interests of the private sector and the government are further apart than ever.

THE CHINESE JUGGERNAUT

The changes in American innovation would matter less if the world had remained unipolar. Instead, they occurred alongside the rise of a geopolitical rival. Over the past two decades, China has evolved from a country that largely steals and imitates technology to one that now also improves and even pioneers it. This is no accident; it is the result of the state’s deliberate, long-term focus. China has invested massively in R & D, with its share of global technology spending growing from under five percent in 2000 to over 23 percent in 2020. If current trends continue, China is expected to overtake the United States in such spending by 2025.

Central to China’s drive has been a strategy of “military-civil fusion,” a coordinated effort to ensure cooperation between the private sector and the defense industry. At the national, provincial, and local levels, the state backs the efforts of military organizations, state-owned enterprises, and private companies and entrepreneurs. Support might come in the form of research grants, shared data, government-backed loans, or training programs. It might even be as simple as the provision of land or office space; the government is creating whole new cities dedicated solely to innovation.

China’s investment in 5G technology shows how the process works in practice. Equipment for 5G makes up the backbone of a country’s cellular network infrastructure, and the Chinese company Huawei has emerged as a world leader in engineering and selling it—offering high-quality products at a lower price than its Finnish and South Korean competitors. The company has been buoyed by massive state support—by The Wall Street Journal’s count, some $75 billion in tax breaks, grants, loans, and discounts on land. Huawei has also benefited from China’s Belt and Road Initiative, which provides generous loans to countries and Chinese companies to finance infrastructure construction.

Massive state investments in artificial intelligence have also paid off. Chinese researchers now publish more scientific papers in that field than American ones do. Part of this success is the result of funding, but something else plays a big role: access to enormous amounts of data. Beijing has fueled the rise of powerhouse companies that sweep up endless information about their users. These include Alibaba, an e-commerce giant; Tencent, which developed the all-purpose WeChat app; Baidu, which began as a search engine but now offers a range of online products; DJI, which dominates the consumer drone market; and SenseTime, which provides facial recognition technology for China’s video surveillance network and is said to be the world’s most valuable artificial intelligence company. As a matter of law, these companies are required to cooperate with the state for intelligence purposes, a broad mandate that is almost certainly used to force companies to share data for many other reasons.

That information increasingly involves people living outside China. Chinese companies have woven a global web of data-gathering apps that collect foreigners’ private information about their finances, their search history, their location, and more. Those who make a mobile payment through a Chinese app, for example, could have their personal data routed through Shanghai and added to China’s growing trove of knowledge about foreign nationals. Such information no doubt makes it easier for the Chinese government to track, say, an indebted Western bureaucrat who could be convinced to spy for Beijing or a Tibetan activist who has taken refuge abroad.

China’s hunger for data extends to some of the most personal information imaginable: our own DNA. Since the COVID-19 pandemic began, BGI—a Chinese genome-sequencing company that began as a government-funded research group—has broken ground on some 50 new laboratories abroad designed to help governments test for the virus. China has legitimate reasons to build these labs, but it also has an ugly record of forcibly collecting DNA data from Tibetans and Uighurs as part of its efforts to monitor these minorities. Given that BGI runs China’s national library of genomics data, it is conceivable that through BGI testing, foreigners’ biological data might end up in that repository.

Indeed, China has shown great interest in biotechnology, even if it has yet to catch up to the United States. Combined with massive computing power and artificial intelligence, innovations in biotechnology could help solve some of humanity’s most vexing challenges, from disease and famine to energy production and climate change. Researchers have mastered the gene-editing tool CRISPR, allowing them to grow wheat that resists disease, and have managed to encode video in the DNA of bacteria, raising the possibility of a new, cost-effective method of data storage. Specialists in synthetic biology have invented a new way of producing nylon—with genetically engineered microorganisms instead of petrochemicals. The economic implications of the coming biotechnology revolution are staggering: the McKinsey Global Institute has estimated the value of biotechnology’s many potential applications at up to $4 trillion over the next ten to 20 years.

Like all powerful technologies, however, biotechnology has a dark side. It is not inconceivable, for example, that some malicious actor could create a biological weapon that targeted a specific ethnic group. On controversial questions—such as how much manipulation of the human genome is acceptable—countries will accept different degrees of risk in the name of progress and take different ethical positions. The country that leads biotechnology’s development will be the one that most profoundly shapes the norms and standards around its use. And there is reason to worry if that country is China. In 2018, the Chinese scientist He Jiankui genetically engineered the DNA of twin babies, prompting an international uproar. Beijing portrayed him as a rogue researcher and punished him. Yet the Chinese government’s disdain for human rights, coupled with its quest for technological supremacy, suggests that it could embrace a lax, even dangerous approach to bioethics.

THINKING BIGGER

Washington has monitored China’s technological progress through a military lens, worrying about how it contributes to Chinese defense capabilities. But the challenge is much broader. China’s push for technological supremacy is not simply aimed at gaining a battlefield advantage; Beijing is changing the battlefield itself. Although commercial technologies such as 5G, artificial intelligence, quantum computing, and biotechnology will undoubtedly have military applications, China envisions a world of great-power competition in which no shots need to be fired. Technological supremacy promises the ability to dominate the civilian infrastructure on which others depend, providing enormous influence. That is a major motivation behind Beijing’s support for high-tech civilian infrastructure exports. The countries buying Chinese systems may think they are merely receiving electric grids, health-care technology, or online payment systems, but in reality, they may also be placing critical national infrastructure and citizens’ data in Beijing’s hands. Such exports are China’s Trojan horse.

Despite the changing nature of geopolitical competition, the United States still tends to equate security with traditional defense capabilities. Consider microelectronics. They are critical components not only for a range of commercial products but also for virtually every major defense system, from aircraft to warships. Because they will power advances in artificial intelligence, they will also shape the United States’ future economic competitiveness. Yet investment in microelectronics has fallen through the cracks. Neither the private sector nor the government is adequately funding innovation—the former due to the large capital requirements and long time horizons involved and the latter because it has focused more on securing current supplies than on innovating. Although China has had a hard time catching up to the United States in this area, it is only a matter of time before it moves up the microelectronics value chain.

Another casualty of the United States’ overly narrow conception of security and innovation is 5G technology. By dominating this market, China has built a global telecommunications network that can serve geopolitical purposes. One fear is that Beijing could help itself to data running on 5G networks. Another is the possibility that China might sabotage or disrupt adversaries’ communications networks in a crisis. Most U.S. policymakers failed to predict the threat posed by Chinese 5G infrastructure. It wasn’t until 2019 that Washington sounded the alarm about Huawei, but by then, there was little it could do. U.S. companies had never offered an end-to-end wireless network, instead focusing on manufacturing individual components, such as handsets and routers. Nor had any developed its own radio access network, a system for sending signals across network devices that is needed to build an end-to-end 5G system like that offered by Huawei and a few other companies. As a result, the United States found itself in an absurd situation: threatening to end intelligence cooperation if close allies adopted Huawei’s 5G technology without having an attractive alternative to offer.

Digital infrastructure may be today’s battle, but biotechnology will likely be the next. Unfortunately, it, too, is not considered a priority within the U.S. government. The Department of Defense has understandably shown little interest in it. Part of the explanation for that lies in the fact that the United States, like many other countries, has signed a treaty renouncing biological weapons. Still, biotechnology has other implications for the Pentagon, from changing manufacturing to improving the health of service personnel. More important, any comprehensive assessment of the national interest must recognize biotechnology’s implications for ethics, the economy, health, and planetary survival.

Because so many of the gaps in U.S. innovation can be traced back to a narrow view of the national interest and which technologies are needed to support it, the Biden administration’s first step should be to expand that understanding. Officials need to appreciate both the threats and the opportunities of the latest technologies: the havoc that could be wreaked by a paralyzed 5G network or unscrupulous genetic engineering, as well as the benefits that could come from sustainable energy sources and better and more efficient health care.

The Biden administration’s second step should be to create a process for aligning government investments with national priorities. Today, federal funding is skewed toward military capabilities. This reflects a political reality: the Pentagon is the rare part of the government that reliably receives bipartisan budgetary support. Fighter jets and missile defense, for example, are well funded, whereas pandemic preparedness and clean energy get short shrift. But setting the right national technological priorities raises questions that can be answered only by making judgments about the full range of national needs. What are the most important problems that technology can help solve? Which technologies have the power to solve only one problem, and which might solve multiple problems? Getting the answers to such questions right requires taking a truly national perspective. The current method doesn’t do so.

A properly run process would begin with what national security professionals call a “net assessment”—in this case, an analysis of the state of global technological progress and market trends to give policymakers the information necessary to work from a shared baseline. To be actionable, the process would establish a handful of near- and long-term priorities. A compelling candidate for long-term investment, for instance, might be microelectronics, which are foundations for both military and civilian innovation but have difficulty attracting private investment dollars. Another long-term priority might be biotechnology, given its importance for the economy and the future of humanity. As for short-term priorities, the U.S. government might consider launching an international effort to combat disinformation operations or to promote 5G innovation. Whatever the specific priorities chosen, the important thing is that they be deliberate and clear, guiding the United States’ decisions and signaling its aspirations.

A MARKET MINDSET

Supporting those priorities is another matter altogether. The current approach—with the government funding only limited research and the private sector taking care of commercializing the results—isn’t working. Too much government-funded research remains locked in the lab, unable to make the leap to commercial viability. Worse, when it manages to leave U.S. government labs, it often ends up in foreign hands, depriving the United States of taxpayer-financed intellectual property.

The U.S. government will need to take a more active role in helping research make it to the market. Many universities have created offices that focus on commercializing academic research, but most federal research institutions have not. That must change. In the same spirit, the U.S. government should develop so-called sandboxes—public-private research facilities where industry, the academy, and the government can work together. In 2014, Congress did just that when it established Manufacturing USA, a network of facilities that conduct research into advanced manufacturing technologies. A similar initiative for microelectronics has been proposed, and there is no reason not to create additional sandboxes in other areas, too.

The U.S. government could also help with commercialization by building national data sets for research purposes, along with improved privacy protections to reassure the people whose information ends up in them. Such data sets would be particularly useful in accelerating progress in the field of artificial intelligence, which feeds off massive quantities of data—something that only the government and a handful of big technology companies currently possess. Success in synthetic biology, along with wider medical research, will also depend on data. Thus, the U.S. government should increase the quantity and diversity of the data in the National Institutes of Health’s genome library and curate and label that information so that it can be used more easily.

All this help with commercialization will be for naught, however, if the startups with the most promising technologies for national security cannot attract enough capital. Some of them run into difficulties at the early and late stages of growth: in the beginning, they have a hard time courting investors willing to make high-risk bets, and later on, when they are ready to expand, they find it difficult to attract investors willing to write large checks. To fill the gaps at both stages, the U.S. government needs its own investment vehicles.

We work at the parent company of In-Q-Tel, which offers a promising model for early-stage investment. Created in 1999 by the CIA, In-Q-Tel is an independent, not-for-profit firm that invests in technology startups that serve the national interest. (One early recipient of In-Q-Tel’s investment was Keyhole, which became the platform for Google Earth.) Now also funded by the Department of Homeland Security, the Department of Defense, and other U.S. agencies, In-Q-Tel identifies and adapts innovative technologies for its government customers. Compared with a federal agency, a private, not-for-profit firm can more easily attract the investment and technology talent required to make informed investments. There is every reason to take this model and apply it to broader priorities. Even just $100 million to $500 million of early-stage funding per year—a drop in the bucket of the federal budget—could help fill the gap between what the private sector is providing and what the nation needs.

For the later stage, policymakers could draw inspiration from the U.S. International Development Finance Corporation, the federal agency responsible for investing in development projects abroad, which in 2018 was first authorized to make equity investments. A late-stage investment fund could be structured as an arm of that agency or as a fully independent, not-for-profit private entity funded by the government. Either way, it would provide badly needed capital to companies ready to scale up their operations. Compared with early-stage government support, late-stage government support would have to be greater, in the range of $1 billion to $5 billion annually. To expand the impact of this government investment, both the early- and the late-stage funds should encourage “sidecar” investments, which would allow profit-seeking firms and individuals to join the government in making, and potentially profiting from, technology bets.

Government-sponsored investment funds like these would not only fill critical gaps in private-sector investment; they would also allow taxpayers to share in the success of research their money has funded. Currently, most government funding for technology comes in the form of grants, such as the Small Business Innovation Research grants administered by the Small Business Administration; this is true even of some programs that are billed as investment funds. This means that taxpayers foot the bill for failures but cannot share in the success if a company makes it big. As the economist Mariana Mazzucato has pointed out in these pages, “governments have socialized risks but privatized rewards.”

Not-for-profit investment vehicles working on behalf of the government would have another benefit: they would allow the United States to play offense when it comes to technological competition. For too long, it has played defense. For example, it has banned the export of sensitive technology and restricted foreign investment that might pose a national security risk—even though these actions can harm U.S. businesses and do nothing to promote innovation. Supporting commercialization with government-sponsored equity investment will not be cheap, but some of the upfront costs would likely be regained and could be reinvested. There are also nonmonetary returns: investing in national priorities, including infrastructure that could be exported to U.S. allies, would enhance the United States’ soft power.

INNOVATION EVER AFTER

President Joe Biden has pledged to “build back better” and restore the United States’ global leadership. On the campaign trial, he laid out promising proposals to promote American innovation. He called for dramatically boosting federal R & D spending, including some $300 billion to be focused on breakthrough technologies to enhance U.S. competitiveness. That is a good start, but he could make this drive far more effective if he first created a rigorous process for identifying top technological priorities. Biden said he supports “a scaled-up version” of the Small Business Innovation Research grants and has backed “infrastructure for educational institutions and partners to expand research.” Even greater opportunity lies in filling the gaps in private-sector investment and undertaking a long-overdue expansion of government support for commercialization.

On innovation, if the United States opts for just more of the same, its economy, its security, and its citizens’ well-being will all suffer. The United States will thus further the end of its global leadership and the unfettered rise of China. Biden has the right instincts. Yet in order to sustain its technological dominance, the country will have to fundamentally reenvision the why and how of innovation. Biden will no doubt be consumed with addressing domestic challenges, but he has spent much of his career promoting the United States’ global leadership. By revamping American technological innovation, he could do both.

# 2AC Round 2

## Case

#### 3. Considering alternative futures is key.

Marina Favaro and Sara Z. Kutchesfahani 21. \*\*Marina Favaro is a Research Fellow at the Institute for Peace Research and Security Policy at the University of Hamburg. \*\*Sara Z. Kutchesfahani is the Director of the N Square DC Hub. N Square is a funders collaborative created in 2014 to introduce innovation and creative thinking into the nuclear risk reduction space. “We can’t prevent tomorrow’s nuclear wars unless we imagine them today” Bulletin of the Atomic Scientists. 08-26-21. https://thebulletin.org/2021/08/we-cant-prevent-tomorrows-nuclear-wars-unless-we-imagine-them-today/

The desire to anticipate what the future holds is not new. The Delphic oracle in the eighth century BC held a prestigious and authoritative position in the Greek world, providing predictions and guidance to both city-states and individuals. In 1555, Nostradamus’ Les Propheties attracted an enthusiastic following, and even today many credit him with predicting many major world events. During the Cold War, techniques designed to anticipate the future were instrumental in informing strategic decisions. Analysts at the RAND Corporation, for example, pioneered the development of foresight methods such as scenario development to predict the Soviet Union’s nuclear strategy during the Cold War in their seminal 1988 report, “How Nuclear War Might Start”. However, just as the Cold War ended, so too did the close relationship between foresight and nuclear weapons. Other sectors utilized and expanded upon futures methods in their work. The most well-known example is the use of scenario planning at Royal Dutch Shell, which has been in use since the 1970s to better prepare for an eventful decade of oil crises and economic turmoil. The objective of Shell-style scenario planning is **breaking** the habit of **assuming that the future will look much like the present.** Today, many parts of the private and public sectors increasingly use strategic foresight to explore the future as part of their decision-making process. In comparison, futures methods are no longer in the mainstream of nuclear policy making, **even though nuclear risks are rising**. This dearth of strategic foresight in nuclear policy making is **dangerous**, but fortunately there are some easy remedies. A fundamental challenge faces nuclear policy makers and scholars today: It is now **more important than ever** to anticipate what the future might hold due to the **uncertainty surrounding tomorrow’s strategic environment.** Moreover, the inherent—and growing—complexity of systems and new actors has made it increasingly difficult to predict the future simply by extrapolating from the past. Futures methods provide the tools to address this challenge, along with a good dose of humility about how much we can control our world. These methods can help **develop foresight**—insight into how and why the future could be different than today—which, in turn, helps to **improve policy, planning, and decision making**, all of which play an integral part in a world with nuclear weapons. We talk about futures in the plural because the objective is not to predict a single future, but to explore alternative futures. By **envisioning alternative futures**, we can **better sense, shape, and adapt** to the one that is emerging. Singapore’s foresight practice is an excellent example of how foresight readies us for change. For over 40 years, foresight has helped the Singapore government go beyond prevailing assumptions, better manage risk and uncertainty, and develop greater resilience to possible shocks. Futures methods also help to **engender ‘knowledge humility’**, where instead of seeking to deny or eliminate uncertainty, we learn to **live with it through reflexive governance.**

#### Financial stability is improving. Ignore fear mongering.

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There are good news: near-term financial stability risks are lower, driven by a decline in macroeconomic and emerging market risks.

As outlined in the IMF’s most recent World Economic Outlook, the upswing in global activity has gained further steam, with global growth projected to rise to 3.6 percent in 2017 and 3.7 percent in 2018—in both cases 0.1 percentage point above our previous forecasts, and well above the global growth rate of 3.2 percent in 2016. This is laying hopes for a sustained recovery and should allow for the eventual normalization of monetary policies.

The core of the global financial system is stronger. Systemically important banks and insurers continue to enhance their resilience by raising capital and liquidity, addressing legacy issues, and adapting their business models to the evolving regulatory and market environment.

In emerging markets, capital flows are rebounding, driven in part by stronger fundamentals. Portfolio inflows to emerging market economies are on track to reach $285 billion in 2017, more than twice the total over the past two years. The cost of financing is low, and their currencies and equity prices have strongly appreciated this year.

Globally, supportive monetary and financial conditions and buoyant financial markets have helped foster growth and repair balance sheets.

#### 4. We don’t ignore structural oppression---preventing existential risk and framing it as a “we” claim is good.

Coles and Susen 18—Research Professor at the Institute for Social Justice at Australian Catholic University AND Reader in Sociology at the School of Arts and Social Sciences of City, University of London (Romand and Simon, “The Pragmatic Vision of Visionary Pragmatism: The Challenge of Radical Democracy in a Neoliberal World Order,” Contemporary Political Theory May 2018, Volume 17, Issue 2, pp 250–262)

Visionary pragmatism is driven by a political ethos that accents radical receptivity and a sense that a greater degree of wildness in our efforts is indispensable for transformative democratic movements. While some of my earlier works accented the ethical character of receptive generosity in political life, Visionary Pragmatism argues that receptivity is indispensable for generating democratic power – precisely because receptivity involves vulnerability, relationship formation, capacities to modulate, and learning in unexpected ways amidst difficult differences. Drawing on my engagements with the movement for democratic action research in Northern Arizona, I argue that receptive practices engender remarkable capacities for fostering grassroots critique and alternatives, powerful political assemblages across differences, and transformative dynamics in the face of what otherwise appear to be intractable problems. Our best and most powerful possibilities for co-creating urgent democratic change almost always advance along pathways engendered partly through relationships of careful attentiveness to what we initially took to be oblique, unintelligible – or, perhaps, even odious.

For these reasons, my political, theoretical, and pedagogical engagements move across many different configurations and a wider range of situations, ideologies, modes, and commitments than most. Eschewing a single subject position, in Visionary Pragmatism, I experiment with first-person plurals in which the ‘we’ morphs in relation to the different loci of initiative that animate my reflections. Sometimes ‘we’ refers to proponents of radical and ecological democracy very broadly, sometimes to scholars in higher education, sometimes to political theorists, sometimes to the action research movement that formed among people at Northern Arizona University and its community partners, sometimes to a specific action research team, sometimes to all people facing the possibility of planetary ecological collapse. Among the many things I find compelling about the writing of James Baldwin is how he shifts his pronouns without notice – for example, sometimes using ‘we’ to represent black people, sometimes as an uncanny member of the white-majority United States. This rhetorical shiftiness encroaches upon and pulls his readers – especially white readers – beyond the ‘innocence that constitutes the crime’ of their assumed individual and collective white subjectivities in ways that work in visceral, relational, and conceptual registers (Baldwin, 1992, p. 6). Such uncertainty has significant capacity to erode habits and defences, as one finds oneself unexpectedly drawn into perspectives, locations, energies, and tendencies that unsettle and reorient one’s own subjectivity. Much of my work has theorized ‘moving democracy’, and my rhetorical shifting of the first-person plural is a textual practice that aims to enhance this in ways that facilitate reflection.

Throughout Visionary Pragmatism, I argue that there are powerful reasons for active hope. At the same time, we do not live far from tipping points beyond which planetary ecological collapse, globalizing neoliberal fascism, and violent chaos may overwhelm our efforts. I do not think so much in terms of pessimism or optimism as I do about seizing and co-creating opportunities for catalysing dynamic changes in theory and practice that foster a powerful movement of receptive democracy, for complex democratic commonwealth and ecological flourishing. In one sense, as Walter Benjamin’s discussion of Paul Klee’s ‘Angelus Novus’ makes poignantly clear, it is always ‘too late’ for so much and so many, as catastrophic history keeps piling wreckage at our feet. At the same time, there are what Benjamin (1968) calls ‘weak messianic powers’ that emerge as the retroactive force of salvaged aspects of past struggles ignite sparks with emerging struggles to explode the continuum of progress. In this sense, up to our day, it is never altogether too late. With the language of ‘game-transformative practice’, I argue that a visionary-pragmatic movement of radical democracy must do something analogous in response to the fierce urgency of now, to avoid a sixth extinction in which this possibility could well become a casualty.

#### 2. Neg sustainability claims are a Malthusian trap---innovation solves.

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In Chapter 2, we discussed the Malthusian trap: long-term growth is impossible in this model because every gain in productivity generates a demographic expansion that brings GDP per capita back to subsistence level. This paradigm may seem extreme but in reality many of our fellow citizens are Malthusians without realizing it, like Monsieur Jourdain of Molière’s Le Bourgeois gentilhomme [The Middle-Class Gentleman], who speaks in prose without knowing it. This is in any case true of those who advocate for “antigrowth” as the only possible response to the constraints of limited natural resources and the urgency of climate change. Their viewpoint can be expressed as follows.

Consider an economy whose growth comes entirely from capital accumulation, in which the final production of consumer goods (known as final production) requires both capital and the extraction of natural resources. The accumulation of capital—investment—is equal to savings, and savings represents part of final production, the remainder being devoted to consumption.3 Suppose that the stock of natural resources is limited. We can prove two propositions that remain valid whether returns to capital accumulation increase or decrease with the amount of accumulated capital. First, the economy is bound to stagnate in the very long term; second, a slowdown of growth in the short term will prolong the economy’s lifespan.

To prove that the economy is bound to stagnate in the very long term, one reasons by contradiction. Suppose that the economy were to continue to grow indefinitely at a positive rate. It follows that final production would not converge toward zero over time. For this to be the case, the flow extraction of natural resources must continue above a certain level. But then the stock of natural resources will end up being depleted in a finite time. Once the stock is depleted, final production falls to zero, which contradicts the initial assumption of ever-increasing final production. Therefore, the only possible rate of growth over the long term is zero.

The second proposition—that slowing growth in the short term prolongs the lifespan of the economy—results directly from the fact that any slowdown of the economy in the short run saves natural resources, thereby making it possible to extract those resources over a longer period, which prolongs the time during which final goods can be produced.

It was this very logical and persuasive reasoning that inspired the champions of zero growth in the 1970s. The same reasoning drives the advocates of antigrowth. Can we escape this logic? Just as in the case of the Malthusian trap, the answer can be summed up in a single word: innovation. Only innovation can push back the limits of what is possible. Only innovation has the potential to improve quality of life while using fewer and fewer of our natural resources and emitting less and less carbon dioxide. Only innovation will enable us to discover new and cleaner sources of energy. For example, the introduction of nuclear power plants enabled France to reduce its CO2 emissions, and the development of renewable energies amplified this movement.

Creative destruction is a very powerful engine of change. Not only does it enable a new technology to replace an older one, it can also open the path to a radical change in production processes. And environmental urgency calls for radical change in some fields; for example, modifying the mix of energy sources to rely more on renewables requires the entire energy industry to change models. A critical question is whether innovation will be directed spontaneously toward less polluting technologies or toward technologies that use fewer natural resources, or whether, on the contrary, governmental intervention is necessary. We now turn our attention to this question.

#### 3. Causes mass death---only capitalism enables a peaceful solution to poverty.

Rainer Zitelmann 21. German historian and author of “The Rich in Public Opinion.” "Violence Is History’s Great Economic Leveler." National Interest. 6-30-2021. https://nationalinterest.org/feature/violence-history%E2%80%99s-great-economic-leveler-188974

Another question that is all too rarely asked is: What would be the price of eliminating inequality? In 2017, the renowned Stanford historian and scholar of ancient history Walter Scheidel presented an impressive historical analysis of this question: The Great Leveler: Violence and the History of Inequality from the Stone Age to the Twenty-First Century. He concludes that societies that have been spared mass violence and catastrophes have never experienced substantial reductions in inequality.

Substantial reductions in inequality have only ever been achieved as the result of violent shocks, primarily consisting of war, revolution, state failure and systems collapse, and plague.

According to Scheidel, the greatest levelers of the twentieth century did not include peaceful social reforms, they were the two world wars and the communist revolutions. More than 100 million people died in each of the two world wars and in the communist social experiments.

Total War as a Great Leveler

World War II serves as Scheidel’s strongest example of “total war” leveling. Take Japan: In 1938, the wealthiest 1 percent of the population received 19.9 percent of all reported income before taxes and transfers. Within the next seven years, their share dropped by two-thirds, all the way down to 6.4 percent. More than half of this loss was incurred by the richest tenth of that top bracket: their income share collapsed from 9.2 percent to 1.9 percent in the same period, a decline by almost four-fifths. The declared real value of the income of the largest 1 percent of estates in Japan’s population fell by 90 percent between 1936 and 1945 and by almost 97 percent between 1936 to 1949. The top 0.1 percent of all estates lost even more during this period, 93 and 98 percent, respectively. During this period, the Japanese economic system was transformed as state intervention gradually created a planned economy that preserved only a facade of free-market capitalism. Executive bonuses were capped, rental income was fixed by the authorities, and between 1935 and 1943 the top income tax rate in Japan doubled.

Significant leveling also took place in other countries during wartime. According to Scheidel’s analysis, the two world wars were among the greatest levelers in history. The average percentage drop of top income shares in countries that actively fought in World War II as frontline states was 31 percent of the prewar level. This is a robust finding because the sample consists of a dozen countries. The only two countries in which inequality increased during this period were also those farthest from the major theaters of war (Argentina and South Africa).

Low savings rates and depressed asset prices, physical destruction and the loss of foreign assets, inflation and progressive taxation, rent and price controls, and nationalization all contributed in varying degrees to equalization. The wealth of the rich was dramatically reduced in the two world wars, whether countries lost or won, suffered occupation during or after the war, were democracies or run by autocratic regimes.

The economic consequences of the two world wars were, therefore, devastating for the rich—a fact that stands in direct opposition to the thesis that it was capitalists that instigated the wars in pursuit of their own economic interests. Contrary to the popular perception that the lower classes suffered most in the wars, in economic terms it was the capitalists who were the biggest losers.

Incidentally, the left-wing economist Thomas Piketty comes to a similar conclusion. In his book Capital in the Twenty-First Century, he argues that progressive taxation in the twentieth century was primarily a product of the two world wars and not of democracy.

Poverty is Eliminated Peacefully

The price of reducing inequality has thus usually involved violent shocks and catastrophes, whose victims have been not only the rich but millions and millions of people. Neither nonviolent land reforms nor economic crises nor democratization has had as great a leveling effect throughout recorded history as these violent upheavals. If the goal is to distribute income and wealth more equally, says historian Scheidel, then we simply cannot close our eyes to the violent ruptures that have so often proved necessary to achieve that goal. We must ask ourselves whether humanity has ever succeeded in equalizing the distribution of wealth without considerable violence. Analyzing thousands of years of human history, Scheidel’s answer is no. This may be a depressing finding for many adherents of egalitarian ideas.

However, if we shift perspective, and ask not “How do we reduce inequality?” but “How do we reduce poverty?” then we can provide an optimistic answer: Not violent ruptures of the kind that led to reductions of inequality, but very peaceful mechanisms, namely innovations and growth, brought about by the forces of capitalism, have led to the greatest declines in poverty. Or, to put it another way: The greatest “levelers” in history have been violent events such as wars, revolutions, state and systems collapses, and pandemics, but the greatest poverty reducer in history has been capitalism. Before capitalism came into being, most of the world’s population was living in extreme poverty—in 1820, the rate stood at 90 percent. Today, it’s down to less than 10 percent. And the most remarkable aspect of all this progress is that, in the recent decades since the end of communism in China and other countries, the decline in poverty has accelerated to a pace unmatched in any previous period of human history. In 1981, the rate was still 42.7 percent; by 2000, it had fallen to 27.8 percent, and in 2021 it was only 9.3 percent.

#### 1. Regulated capitalism solves war, environment, and quality of life---alternatives increase degradation and poverty. Prefer empirical and measurable indicators.

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Discourse on food ethics often advocates the anti-capitalist idea that we need less capitalism, less growth, and less globalization if we want to make the world a better and more equitable place, with arguments focused on applications to food, globalization, and a just society. For example, arguments for this anti-capitalist view are at the core of some chapters in nearly every handbook and edited volume in the rapidly expanding subdiscipline of food ethics. None of these volumes (or any article published in this subdiscipline broadly construed) focuses on a defense of globalized capitalism.1

More generally, discourse on global ethics, environment, and political theory in much of academia—and in society—increasingly features this anti-capitalist idea as well.2 The idea is especially prominent in discourse surrounding the environment, climate, and global poverty, where we face a nexus of problems of which capitalism is a key driver, including climate change, air and water pollution, the challenge of feeding the world, ensuring sustainable development for the world's poorest, and other interrelated challenges.

It is therefore important to ask whether this anti-capitalist idea is justified by reason and evidence that is as strong as the degree of confidence placed in it by activists and many commentators on food ethics, global ethics, and political theory, more generally.

In fact, many experts argue that this anti-capitalist idea is not supported by reason and argument and is actually wrong. The main contribution of this essay is to explain the structure of the leading arguments against the anti-capitalist idea, and in favor of the opposite conclusion. I begin by focusing on the general argument in favor of well-regulated globalized capitalism as the key to a just, flourishing, and environmentally healthy world. This is the most important of all of the arguments in terms of its consequences for health, wellbeing, and justice, and it is endorsed by experts in the empirically minded disciplines best placed to analyze the issue, including experts in long-run global development, human health, wellbeing, economics, law, public policy, and other related disciplines. On the basis of the arguments outlined below, well-regulated capitalism has been endorsed by recent Democratic presidents of the United States such as Barack Obama, and by progressive Nobel laureates who have devoted their lives to human development and more equitable societies, as well as by a wide range of experts in government and leading nongovernmental organizations.

The goal of this essay is to make the structure and importance of these arguments clear, and thereby highlight that discourse on global ethics and political theory should engage carefully with them. The goal is not to endorse them as necessarily sound and correct. The essay will begin by examining general arguments for and against capitalism, and then turn to implications for food, the environment, climate change, and beyond.

Arguments for and against Forms of Capitalism

The Argument against Capitalism

Capitalism is often argued to be a key driver of many of society's ills: inequalities, pollution, land use changes, and incentives that cause people to live differently than in their ideal dreams. Capitalism can sometimes deepen injustices. These negative consequences are easy to see—resting, as they do, at the center of many of society's greatest challenges.3

And at the same time, it is often difficult to see the positive consequences of capitalism.4 What are the positive consequences of allowing private interests to clear-cut forests and plant crops, especially if those private interests are rich multinational corporations and the forests are in poor, developing countries whose citizens do not receive the profits from deforestation? Why give private companies the right to exploit resources at all, since exploitation almost always has some negative consequences such as those listed above? These are the right questions to ask, and they highlight genuine challenges to capitalism. And in light of these challenges, it is reasonable to consider the possibility that perhaps a different economic system altogether would be more equitable and beneficial to the global population.

The Argument for Well-Regulated Capitalism

However, things are more complicated than the arguments above would suggest, and the benefits of capitalism, especially for the world's poorest and most vulnerable people, are in fact myriad and significant. In addition, as we will see in this section, many experts argue that capitalism is not the fundamental cause of the previously described problems but rather an essential component of the best solutions to them and of the best methods for promoting our goals of health, well-being, and justice.

To see where the defenders of capitalism are coming from, consider an analogy involving a response to a pandemic: if a country administered a rushed and untested vaccine to its population that ended up killing people, we would not say that vaccines were the problem. Instead, the problem would be the flawed and sloppy policies of vaccine implementation. Vaccines might easily remain absolutely essential to the correct response to such a pandemic and could also be essential to promoting health and flourishing, more generally.

The argument is similar with capitalism according to the leading mainstream arguments in favor of it: Capitalism is an essential part of the best society we could have, just like vaccines are an essential part of the best response to a pandemic such as COVID-19. But of course both capitalism and vaccines can be implemented poorly, and can even do harm, especially when combined with other incorrect policy decisions. But that does not mean that we should turn against them—quite the opposite. Instead, we should embrace them as essential to the best and most just outcomes for society, and educate ourselves and others on their importance and on how they must be properly designed and implemented with other policies in order to best help us all. In fact, the argument in favor of capitalism is even more dramatic because it claims that much more is at stake than even what is at stake in response to a global pandemic—what is at stake with capitalism is nothing less than whether the world's poorest and most vulnerable billion people will remain in conditions of poverty and oppression, or if they will instead finally gain access to what is minimally necessary for basic health and wellbeing and become increasingly affluent and empowered. The argument in favor of capitalism proceeds as follows:

Premise 1. Development and the past. Over the course of recorded human history, the majority of historical increases in health, wellbeing, and justice have occurred in the last two centuries, largely as a result of societies adopting or moving toward capitalism. Capitalism is a relevant cause of these improvements, in the sense that they could not have happened to such a degree if it were not for capitalism and would not have happened to the same degree under any alternative noncapitalist approach to structuring society. The argument in support of this premise relies on observed relationships across societies and centuries between indicators of degree of capitalism, wealth, investments in public goods, and outcomes for health, wellbeing, and justice, together with econometric analysis in support of the conclusion that the best explanation of these correlations and the underlying mechanism is that large increases in health, wellbeing, and justice are largely driven by increasing investments in public goods. The scale of increased wealth necessary to maximize these investments requires capitalism. Thus, as capitalist societies have become dramatically wealthier over the past hundred years (and wealthier than societies with alternative systems), this has allowed larger investments in public goods, which simply has not been possible in a sustained way in societies without the greater wealth that capitalism makes possible. Important investments in public goods include investments in basic medical knowledge, in health and nutrition programs, and in the institutional capacity and know-how to regulate society and capitalism itself. As a result, capitalism is a primary driver of positive outcomes in health and wellbeing (such as increased life expectancy, lowered child and maternal mortality, adequate calories per day, minimized infectious disease rates, a lower percentage and number of people in poverty, and more reported happiness);5 and in justice (such as reduced deaths from war and homicide; higher rankings in human rights indices; the reduced prevalence of racist, sexist, homophobic opinions in surveys; and higher literacy rates).6 These quantifiable positive consequences of global capitalism dramatically outweigh the negative consequences (such as deaths from pollution in the course of development), with the result that the net benefits from capitalism in terms of health, wellbeing, and justice have been greater than they would have been under any known noncapitalist approach to structuring society.7

Premise 2. Economics, ethics, and policy. Although capitalism has often been ill-regulated and therefore failed to maximize net benefits for health, wellbeing, and justice, it can become well-regulated so that it maximizes these societal goals, by including mechanisms identified by economists and other policy experts that do the following:

* optimally8 regulate negative effects such as pollution and monopoly power, and invest in public goods such as education, basic healthcare, and fundamental research including biomedical knowledge (more generally, policies that correct the failures of free markets that economists have long recognized will arise from “externalities” in the absence of regulation);9
* ensure equity and distributive justice (for example, via wealth redistribution);10
* ensure basic rights, justice, and the rule of law independent of the market (for example, by an independent judiciary, bill of rights, property rights, and redistribution and other legislation to correct historical injustices due to colonialism, racism, and correct current and historical distortions that have prevented markets from being fair);11 and
* ensure that there is no alternative way of structuring society that is more efficient or better promotes the equity, justice, and fairness goals outlined above (by allowing free exchange given the regulations mentioned).12

To summarize the implication of the first two premises, well-regulated capitalism is essential to best achieving our ethical goals—which is true even though capitalism has certainly not always been well regulated historically. Society can still do much better and remove the large deficits in terms of health, wellbeing, and justice that exist under the current inferior and imperfect versions of capitalism.

Premise 3. Development and the future. If the global spread of capitalism is allowed to continue, desperate poverty can be essentially eliminated in our lifetimes. Furthermore, this can be accomplished faster and in a more just way via well-regulated global capitalism than by any alternatives. If we instead opt for less capitalism, less growth, and less globalization, then desperate poverty will continue to exist for a significant portion of the world's population into the further future, and the world will be a worse and less equitable place than it would have been with more capitalism. For example, in a world with less capitalism, there would be more overpopulation, food insecurity, air pollution, ill health, injustice, and other problems. In part, this is because of the factors identified by premise 1, which connect a turn away from capitalism with a turn away from continuing improvements in health, wellbeing, and justice, especially for the developing world. In addition, fertility declines are also a consequence of increased wealth, and the size of the population is a primary determinant of food demand and other environmental stressors.13 Finally, as discussed at length in the next section of the essay, capitalism can be naturally combined with optimal environmental regulations.14 Even bracketing anything like optimal regulation, it remains true that sufficiently wealthy nations reduce environmental degradation as they become wealthier, whereas developing nations that are nearing peak degradation will remain stuck at the worst levels of degradation if we stall growth, rather than allowing them to transition to less and less degradation in the future via capitalism and economic growth.15 In contrast, well-regulated capitalism is a key part of the best way of coping with these problems, as well as a key part of dealing with climate change, global food production, and other specific challenges, as argued at length in the next section. Here it is important to stress that we should favor well-regulated capitalism that includes correct investments in public goods over other capitalist systems such as the neoliberalism of the recent past that promoted inadequately regulated capitalism with inadequate concern for externalities, equity, and background distortions and injustices.16

Conclusion. Therefore, we should be in favor of capitalism over noncapitalism, and we should especially favor well-regulated capitalism, which is the ethically optimal economic system and is essential to any just basic structure for society.

This argument is impressive because, as stated earlier in the essay, it is based on evidence that is so striking that it leads a bipartisan range of open-minded thinkers and activists to endorse well-regulated capitalism, including many of those who were not initially attracted to the view because of a reasonable concern for the societal ills with which we began. To better understand why such a range of thinkers could agree that well-regulated capitalism is best, it may help to clarify some things that are not assumed or implied by the argument for it, which could be invoked by other bad arguments for capitalism.

One thing the argument above does not assume is that health, wellbeing, or justice are the same thing as wealth, because, in fact, they are not. Instead, the argument above relies on well-accepted, measurable indicators of health and wellbeing, such as increased lifespan; decreased early childhood mortality; adequate nutrition; and other empirically measurable leading indicators of health, wellbeing, and justice.17 Similarly, the argument that capitalism promotes justice, peace, freedom, human rights, and tolerance relies on empirical metrics for each of these.18

Furthermore, the argument does not assume that because these indicators of health, wellbeing, and justice are highly correlated with high degrees of capitalism, that therefore capitalism is the direct cause of these good outcomes. Rather, the analyses suggest instead that something other than capitalism is the direct cause of societal improvements (such as improvements in knowledge and technology, public infrastructure, and good governance), and that capitalism is simply a necessary condition for these improvements to happen.19 In other words, the richer a society is, the more it is able to invest in all of these and other things that are the direct causes of health, wellbeing, and justice. But, to maximize investment in these things societies need well-regulated capitalism.

As part of these analyses, it is often stressed that current forms of capitalism around the world are highly defective and must be reformed in the direction of well-regulated capitalism because they lack investments in public goods, such as basic knowledge, healthcare, nutrition, other safety nets, and good governance.20 In this way, an argument for a particular kind of progressive reformism is an essential part of the analyses that lead many to endorse the more general argument for well-regulated capitalism.

Although these analyses are nuanced, and appropriately so, it remains the case that the things that directly lead to health, wellbeing, and justice require resources, and the best path toward generating those resources is well-regulated capitalism. And on the flip side, according to the analyses behind premise 1 described above, an anti-capitalist system would not produce the resources that are needed, and would thus be a disaster, especially for the poorest billion people who are most desperately in need of the resources that capitalism can create and direct, to escape from extreme poverty.21

#### 2. Growth solves better.

Tejvan Pettinger 19. Economic teacher and graduate with a degree from Oxford University. "Benefits of economic growth." Economics Help. 12-14-2019. https://www.economicshelp.org/macroeconomics/economic-growth/benefits-growth/

Economic growth means an increase in real GDP – an increase in the value of national output, income and expenditure. Essentially the benefit of economic growth is higher living standards – higher real incomes and the ability to devote more resources to areas like health care and education.

[Chart Omitted]

real-gdp-1955

UK real GDP since 1955. Shows the magnitude of increased national output.

The benefits of economic growth include

benefits-growth

Higher average incomes. Economic growth enables consumers to consume more goods and services and enjoy better standards of living. Economic growth during the Twentieth Century was a major factor in reducing absolute levels of poverty and enabling a rise in life expectancy.

Lower unemployment. With higher output and positive economic growth, firms tend to employ more workers creating more employment.

[Chart Omitted]

unemployment-total

UK unemployment rises during a recession – falls during periods of economic growth.

Lower government borrowing. Economic growth creates higher tax revenues, and there is less need to spend money on benefits such as unemployment benefit. Therefore economic growth helps to reduce government borrowing. Economic growth also plays a role in reducing debt to GDP ratios.

[Chart Omitted]

uk-national-debt

A long period of economic growth in the post-war period helped reduce the UK debt to GDP ratio.

Improved public services. Higher economic growth leads to higher tax revenues and this enables the government can spend more on public services, such as health care and education e.t.c. This can enable higher living standards, such as increased life expectancy, higher rates of literacy and a greater understanding of civic and political issues.

Money can be spent on protecting the environment. With higher economic growth a society can devote more resources to promoting recycling and the use of renewable resources

Investment. Economic growth encourages firms to invest, in order to meet future demand. Higher investment increases the scope for future economic growth – creating a virtuous cycle of economic growth/investment.

Increased research and development. High economic growth leads to increased profitability for firms, enabling more spending on research and development. Also, sustained economic growth increases confidence and encourages firms to take risks and innovate.

Economic development. The biggest factor for promoting economic development is sustained economic growth. Economic growth in south-east Asia over the past few decades has played a major role in reducing absolute levels of poverty – increasing life expectancy.

More choice. In less developed economies, a large proportion of the population work in agriculture/subsistence farming, economic growth enables a more diverse economy with people able to work in service sector, manufacturing and having a greater choice of lifestyles.

#### 3. Redistribute within regulated capitalism solves.

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Using the Argument for Well-Regulated Capitalism to Diagnose the Problems with Neoliberalism

The literature on political theory, ethics, and society generally, and on food ethics specifically, often includes critiques of neoliberalism as the alleged root of many problems, often as a synonym for the root of problems with capitalism.31 However, the argument previously made for well-regulated capitalism can help focus our attention on what the important problems are with neoliberalism (as well as with crony capitalism and other suboptimal forms of capitalism), and thus on what reforms and progress are genuinely needed. Recall that premise 2 defines well-regulated capitalism in terms of the conditions that are necessary (as well as sufficient, given assumptions like perfect information and complete markets),32 according to mainstream public and welfare economics, to generate ethically optimal outcomes; summarizing premise 2, these conditions are the following:

1. Regulation of externalities and public goods: optimal regulation of positive and negative externalities, including investments in public goods;

2. Distributive justice: redistribution to achieve equity and distributive justice;

3. Rule of law: rule of law, clearly defined property rights, basic rights as side constraints, and equitable redistribution for historical rights violations;

4. Free exchange: free exchange subject to the constraints of conditions 1, 2, and 3.

With this definition in hand, we can make a number of observations relevant to evaluating neoliberalism.

First, well-regulated capitalism need not ignore equity and justice. It is consistent with disagreement about what redistribution should happen for purposes of equity; some proponents favor large-scale redistribution, while others endorse a conception of equity that favors only minimal redistribution. What all proponents agree on is that whatever form of redistribution we need, it should happen within the structural framework of well-regulated capitalism. Similarly, proponents might disagree about the empirical reasons for how big the externality is associated with GHG emissions, but they agree on the basic framework of how they should be addressed within the theory of externalities and within this structure of well-regulated capitalism, more generally. Neither a concern for equity nor a concern for externalities such as environmental pollution provides a reason to reject capitalism per se, as we saw above.

Indeed, well-regulated capitalism is consistent with radical redistribution. If, for example, large reparations are required due to the historical injustices of colonialism, slavery, and resulting inequities, then well-regulated capitalism implies that large redistributions and corrections should happen as a matter of distributive justice (condition 2) and rule of law (condition 3). The argument for well-regulated capitalism does not itself take a stand on such specific issues, but rather argues that insofar as a correction of inequity and injustice is required, it should happen within this structural framework of well-regulated capitalism.

Second, the word “neoliberalism” is often used to refer to a particular undesirable form of capitalism that falls far short of well-regulated capitalism. Note that in ordinary language, economic systems that depart from the ideal of well-regulated capitalism are still regarded as forms of capitalism, insofar as they involve free exchange, the rule of law, and clearly defined property rights (in other words, the nonnormative parts of free exchange (condition 4) and the procedural justice components of the rule of law (condition 3)).33 Neoliberalism is often used to refer to forms of capitalism that incorporate only these limited features and none of the others. This brings into clear focus why such a form of capitalism is undesirable—because ignoring pollution, inequity, injustice, and failing to provide public goods in such a way leads to much worse outcomes for society than are possible, and outcomes that are highly unjust. However, proponents of capitalism would insist that the best solution is to adopt a better form of capitalism closer to the ideal that includes concerns for the regulation of externalities and public goods (condition 1), distributive justice (condition 2), and all aspects of the rule of law (condition 3).

#### Slower growth increases populist conflict---140 years of data proves.

James Pethokoukis 6/4/21. The DeWitt Wallace Fellow at the American Enterprise Institute where he runs the AEIdeas blog. "Biden's budget predicts the Roaring Twenties will end in 2022. Uh oh.". https://theweek.com/politics/1001118/the-populist-political-warning-in-the-biden-budget

But there's a big non-economic reason to hope for growth faster than the pace predicted in the Biden budget. The historically slow recovery out of the Great Recession coincided with a rise of nativist populism, both here and in other rich countries. When economic growth falters, bad things often happen. In the study "Going to extremes: Politics after financial crises, 1870 – 2014," researchers found after a severe financial crisis, "voters seem to be particularly attracted to the political rhetoric of the extreme right, which often attributes blame to minorities or foreigners." This reaction equates to a 30 percent increase, on average, in the vote share going to far-right parties. A similar cause-and-effect is suggested in "Populist psychology: economics, culture, and emotions," which finds that economic crises "cause emotional reactions that activate cultural discontent. This, in turn, activates populist attitudes."

#### The trial is the remedy. Antitrust interventions into the free market send a powerful signal that enhance competition, even if the legal outcomes aren’t perfect.

David Dayen 17. Executive Editor at The Prospect, Journalism degree from University of Michigan. “Big Tech: The New Predatory Capitalism.” <https://prospect.org/health/big-tech-new-predatory-capitalism/>.

Skeptics of an antitrust approach to Big Tech use two main arguments. First, they worry about the length of cases. “It would be a multimillion-dollar venture that could take ten years,” says Hal Singer. “It’s like redirecting a cruise liner.” By the time you’ve reached a resolution, Singer adds, innovators who could benefit from it would all be out of business. He doesn’t oppose bringing a case, but sees it as an aspirational goal. What this misses is Gary Reback’s famous construction that “the trial is the remedy.” Reback’s legal work led to the U.S. antitrust case against Microsoft bundling its computers with its web browser and software. “It was a high-profile trial covered by the press, which does a better job of explaining than lawyers do,” says Reback. “People loved tech, but then they saw what Microsoft was doing, they saw the emails.” Even though the ultimate resolution was weakened by the Bush administration, public sentiment (and some additional European fines) led Microsoft to soften its aggressive strategy against rivals. “Microsoft ran Netscape out of business, so the only way to get to Google (at the time) was the Microsoft browser,” says Reback. “They could have killed Google in the cradle, but they didn’t, and the reason why, according to Microsoft people, was they had this public trial.” Microsoft’s later move into search with Bing happened too late. Franklin Foer calls the Microsoft case “one of the most important developments in American political economy over the last 20 years. It created space for the platforms.” You could re-run the Microsoft case against Google now, over the bundling it does in Android phones or its bias in search. “Elements of the Google business model seem written into the DNA of the Microsoft settlement,” says Marshall Steinbaum. But this speaks to the second half of the skepticism on antitrust: Will a court rule favorably? For the past 40 years, antitrust jurisprudence has followed the convictions of Robert Bork and the University of Chicago, which dictates that mergers are beneficial unless they harm consumer welfare. It also generally blesses vertical combination for its economic efficiency and benefits to consumers. Even since the Microsoft trial, this straitjacket has gotten tighter, with stricter evidentiary standards and endless interpretations among economists on what constitutes anti-competitive behavior. Bork himself wrote a Google-funded study arguing that effective search benefits consumers, who can switch to any competing search engine “at zero cost.” This myopic and self-serving perversion of antitrust frustrates efforts to break up the tech giants. Regulators would need to show concrete harms to consumers from sites like Facebook and Google that are nominally free. Even questions of bias against rivals aren’t clear-cut. “Google doesn’t tell Yelp you can’t get to the customer, it just puts them on page 2 [of search],” says Hal Singer. And the impact of lost innovation from startups that choose not to compete because they know Facebook or Amazon will bury them is impossible to quantify. Reformers respond to this by arguing that the consumer-welfare standard cannot encompass the harms presented by these firms. “There’s growing evidence that [the] consumer welfare [test] has failed on its own terms,” says Lina Khan, pointing to research showing that prices rise after mergers. “The tech sector shows that failure with particular elegance. Companies can monopolize the economy without breaking anti-monopoly laws.” She believes that set standards to promote competition and give rivals the right to access the market, sometimes called per se rules, would solve the platform problem better than the open-ended inquiries of today. “We should move away from consumer welfare to a broader appreciation of corporate power and simpler legal standards,” says Sandeep Vaheesan. The Justice Department and the FTC could make these guideline shifts without going through Congress. They could refashion antitrust to better take into account the impact of tech monopolies on consumers, suppliers, workers, and the broader economy.

#### 3. AI doesn’t cause war.

Michael Shermer 17. Publisher of Skeptic magazine, a monthly columnist for Scientific American, and a Presidential Fellow at Chapman University. “Why Artificial Intelligence Is Not an Existential Threat” April 2017. Skeptic. Vol. 22, no. 2, pp. 29-35.

Why AI is not an Existential Threat First, most AI doomsday prophecies are grounded in the false analogy between human nature and computer nature, or natural intelligence and artificial intelligence. We are thinking machines, but natural selection also designed into us emotions to shortcut the thinking process because natural intelligences are limited in speed and capacity by the number of neurons that can be crammed into a skull that has to pass through a pelvic opening at birth, whereas artificial intelligence need not be so restricted. We don't need to compute the caloric value of foods, for example, we just feel hungry. We don't need to calculate the waist-to-hip ratio of women or the shoulder-to-waist ratio of men in our quest for genetically healthy potential mates; we just feel attracted to someone and mate with them. We don't need to work out the genetic cost of raising someone else's offspring if our mate is unfaithful; we just feel jealous. We don't need to figure the damage of an unfair or non-reciprocal exchange with someone else; we just feel injustice and desire revenge. Emotions are proxies for getting us to act in ways that lead to an increase in reproductive success, particularly in response to threats faced by our Paleolithic ancestors. Anger leads us to strike out, fight back, and defend ourselves against danger. Fear causes us to pull back, retreat, and escape from risks. Disgust directs us to push out, eject, and expel that which is bad for us. Computing the odds of danger in any given situation takes too long. We need to react instantly. Emotions shortcut the information processing power needed by brains that would otherwise become bogged down with all the computations necessary for survival. Their purpose, in an ultimate causal sense, is to drive behaviors toward goals selected by evolution to enhance survival and reproduction. AIs -- even AGIs and ASIs -- will have no need of such emotions and so there would be no reason to program them in unless, say, terrorists chose to do so for their own evil purposes. But that's a human nature problem, not a computer nature issue. To believe that an ASI would be "evil" in any emotional sense is to assume a computer cognition that includes such psychological traits as acquisitiveness, competitiveness, vengeance, and bellicosity, which seem to be projections coming from the mostly male writers who concoct such dystopias, not features any programmer would bother including, assuming that it could even be done. What would it mean to program an emotion into a computer? When IBM's Deep Blue defeated chess master Garry Kasparov in 1997, did it feel triumphant, vengeful, or bellicose? Of course not. It wasn't even "aware" -- in the human sense of self-conscious knowledge -- that it was playing chess, much less feeling nervous about possibly losing to the reigning world champion (which it did in the first tournament played in 1996). In fact, toward the end of the first game of the second tournament, on the 44th move, Deep Blue made a legal but incomprehensible move of pushing its rook all the way to the last row of the opposition side. It accomplished nothing offensively or defensively, leading Kasparov to puzzle over it out of concern that he was missing something in the computer's strategy. It turned out to be an error in Deep Blue's programming that led to this fail-safe default move. It was a bug that Kasparov mistook as a feature, and as a result some chess experts contend it led him to be less confident in his strategizing and to second-guess his responses in the subsequent games. It even led him to suspect foul play and human intervention behind Deep Blue, and this paranoia ultimately cost him the tournamentt.[ 13] Computers don't get paranoid, the HAL 9000 computer in 2001 notwithstanding. Or consider Watson, the IBM computer built by David Ferrucci and his team of IBM research scientists tasked with designing an AI that could rival human champions at the game of Jeopardy! This was a far more formidable challenge than Deep Blue faced because of the prerequisite to understand language and the often multiple meanings of words, not to mention needing an encyclopedic knowledge of trivia (Watson had access to Wikipedia for this). After beating the all-time greatest Jeopardy! champions Ken Jennings and Brad Rutter in 2011, did Watson feel flushed with pride after its victory? Did Watson even know that it won Jeopardy!? I put the question to none other than Ferrucci himself at a dinner party in New York in conjunction with the 2011 Singularity Summit. His answer surprised me: "Yes, Watson knows it won Jeopardy!" I was skeptical. How could that be, since such self-awareness is not yet possible in computers? "Because I told it that it won," he replied with a wry smile. Sure, and you could even program Watson or Deep Blue to vocalize a Howard Dean-like victory scream when it wins, but that is still a far cry from a computer feeling triumphant. This brings to mind the "hard problem" of consciousness -- if we don't understand how this happens in humans, how could we program it into computers? As Steven Pinker elucidated in his answer to the 2015 Edge Question on what to think about machines that think, "AI dystopias project a parochial alpha-male psychology onto the concept of intelligence. They assume that superhumanly intelligent robots would develop goals like deposing their masters or taking over the world." It is equally possible, Pinker suggests, that "artificial intelligence will naturally develop along female lines: fully capable of solving problems, but with no desire to annihilate innocents or dominate the civilization."[ 14] So the fear that computers will become emotionally evil are unfounded, because without the suite of these evolved emotions it will never occur to AIs to take such actions against us. What about an ASI inadvertently causing our extinction by turning us into paperclips, or tiling the entire Earth's surface with solar panels? Such scenarios imply yet another emotion -- the feeling of valuing or wanting something. As the science writer Michael Chorost adroitly notes, when humans resist an AI from undertaking any form of global tiling, it "will have to be able to imagine counteractions and want to carry them out." Yet, "until an AI has feelings, it's going to be unable to want to do anything at all, let alone act counter to humanity's interests and fight off human resistance." Further, Chorost notes, "the minute an A.I. wants anything, it will live in a universe with rewards and punishments -- including punishments from us for behaving badly. In order to survive in a world dominated by humans, a nascent A.I. will have to develop a humanlike moral sense that certain things are right and others are wrong. By the time it's in a position to imagine tiling the Earth with solar panels, it'll know that it would be morally wrong to do so."[ 15] From here Chorost builds on an argument made by Peter Singer in The Expanding Circle (and Steven Pinker in The Better Angels of Our Nature[ 16] that I also developed in The Moral Arc[ 17] and Robert Wright explored in Nonzero[ 18]), and that is the propensity for natural intelligence to evolve moral emotions that include reciprocity, cooperativeness, and even altruism. Natural intelligences such as ours also includes the capacity to reason, and once you are on Singer's metaphor of the "escalator of reason" it can carry you upward to genuine morality and concerns about harming others. "Reasoning is inherently expansionist. It seeks universal application," Singer notes.[ 19] Chorost draws the implication: "AIs will have to step on the escalator of reason just like humans have, because they will need to bargain for goods in a human-dominated economy and they will face human resistance to bad behavior."[ 20] Finally, for an AI to get around this problem it would need to evolve emotions on its own, but the only way for this to happen in a world dominated by the natural intelligence called humans would be for us to allow it to happen, which we wouldn't because there's time enough to see it coming. Bostrom's "treacherous turn" will come with road signs ahead warning us that there's a sharp bend in the highway with enough time for us to grab the wheel. Incremental progress is what we see in most technologies, including and especially AI, which will continue to serve us in the manner we desire and need. Instead of Great Leap Forward or Giant Fall Backward, think Small Steps Upward. As I proposed in The Moral Arc, instead of Utopia or dystopia, think protopia, a term coined by the futurist Kevin Kelly, who described it in an Edge conversation this way: "I call myself a protopian, not a Utopian. I believe in progress in an incremental way where every year it's better than the year before but not by very much -- just a micro amount."[ 21] Almost all progress in science and technology, including computers and AI, is of a protopian nature. Rarely, if ever, do technologies lead to either Utopian or dystopian societies. Pinker agrees that there is plenty of time to plan for all conceivable contingencies and build safeguards into our AI systems. "They would not need any ponderous 'rules of robotics' or some newfangled moral philosophy to do this, just the same common sense that went into the design of food processors, table saws, space heaters, and automobiles." Sure, an ASI would be many orders of magnitude smarter than these machines, but Pinker reminds us of the AI hyperbole we've been fed for decades: "The worry that an AI system would be so clever at attaining one of the goals programmed into it (like commandeering energy) that it would run roughshod over the others (like human safety) assumes that AI will descend upon us faster than we can design fail-safe precautions. The reality is that progress in AI is hype-defyingly slow, and there will be plenty of time for feedback from incremental implementations, with humans wielding the screwdriver at every stage."[ 22] Former Google CEO Eric Schmidt agrees, responding to the fears expressed by Hawking and Musk this way: "Don't you think the humans would notice this, and start turning off the computers?" He also noted the irony in the fact that Musk has invested $1 billion into a company called OpenAI that is "promoting precisely AI of the kind we are describing."[ 23] Google's own DeepMind has developed the concept of an AI off-switch, playfully described as a "big red button" to be pushed in the event of an attempted AI takeover. "We have proposed a framework to allow a human operator to repeatedly safely interrupt a reinforcement learning agent while making sure the agent will not learn to prevent or induce these interruptions," write the authors Laurent Orseau from DeepMind and Stuart Armstrong from the Future of Humanity Institute, in a paper titled "Safely Interruptible Agents." They even suggest a precautionary scheduled shutdown every night at 2 AM for an hour so that both humans and AI are accustomed to the idea. "Safe interruptibility can be useful to take control of a robot that is misbehaving and may lead to irreversible consequences, or to take it out of a delicate situation, or even to temporarily use it to achieve a task it did not learn to perform or would not normally receive rewards for this."[ 24] As well, it is good to keep in mind that artificial intelligence is not the same as artificial consciousness. Thinking machines may not be sentient machines. Finally, Andrew Ng of Baidu responded to Elon Musk's ASI concerns by noting (in a jab at the entrepreneur's ambitions for colonizing the red planet) it would be "like worrying about overpopulation on Mars when we have not even set foot on the planet yet."[ 25] Both Utopian and dystopian visions of AI are based on a projection of the future quite unlike anything history has given us. Yet, even Ray Kurzweil's "law of accelerating returns," as remarkable as it has been has nevertheless advanced at a pace that has allowed for considerable ethical deliberation with appropriate checks and balances applied to various technologies along the way. With time, even if an unforeseen motive somehow began to emerge in an AI we would have the time to reprogram it before it got out of control. That is also the judgment of Alan Winfield, an engineering professor and co-author of the Principles of Robotics, a list of rules for regulating robots in the real world that goes far beyond Isaac Asimov's famous three laws of robotics (which were, in any case, designed to fail as plot devices for science fictional narratives).26 Winfield points out that all of these doomsday scenarios depend on a long sequence of big ifs to unroll sequentially: "If we succeed in building human equivalent AI and if that AI acquires a full understanding of how it works, and if it then succeeds in improving itself to produce super-intelligent AI, and if that super-AI, accidentally or maliciously, starts to consume resources, and if we fail to pull the plug, then, yes, we may well have a problem. The risk, while not impossible, is improbable."[ 27]

#### Boycotts fail and actively enable monopolies---only legislative action solves.

Zephyr **Teachout 20**. An associate professor of law at Fordham Law School. She is the author of Break ’Em Up: Recovering Our Freedom From Big Ag, Big Tech, and Big Money. “Boycotts Can’t Be a Test of Moral Purity” The Atlantic. 08-03-20. <https://www.theatlantic.com/ideas/archive/2020/08/boycotts-cant-be-a-test-of-moral-purity/614821/>

For some people, when they hear about some bad corporate practice, their first reaction is to consider cutting ties to the company. So it is not surprising that each time I discuss the democratic dangers of Facebook, Amazon, or Google, people always bring up personal consumer choice. Instead of policy (antitrust, data rules, outlawing arbitration), the conversation veers quickly into pride or guilt. One woman worries she can’t leave Facebook without leaving her social life. One man sheepishly says he quit Facebook for a few weeks and crept back when he missed his friends. At the heart of this conversation is a thesis: Using a service is an endorsement of its business model. Or more pointedly: If someone is not strong enough to boycott, she lacks standing to object to the behavior of lawmakers and petition them for change. This belief is wrong, bad strategy, and dangerous for democracy. It is based on a confused idea of our obligations as consumers.This belief does not lead to more boycotts, but radically dampens activism: **Guilt gets in the way of protest**, and complicated chains of self-justification take the place of simple chains of democratic demand. This consumer model is most problematic when it comes to the **biggest monopolies**. Most **people can’t boycott them**, precisely because they are governmental and provide infrastructure services. We don’t ask people to boycott libraries in order to change library rules; we don’t ask people to boycott highways to ask for them to be safer; we don’t demand that you buy only bottled water while protesting water-utility governance. Of course, a strategic, organized, well-thought-through boycott with **political goals** can be transformational. And there is nothing wrong with people personally quitting products when they can. However, ethical consumerism has taken too central a role in progressive thinking, and **we shouldn’t require people to boycott essential communications infrastructure** such as Facebook and Google in order to demand that they be broken up. The railroads were regulated by anti-monopoly protesters who depended on the railroads, and the same can be true for the next generation of trust-busters. Boycotts can play a crucial role in political change, but not when they serve only as tests of individual integrity. Franklin Foer: The tech giants are dangerous, and Congress knows it The reason for this is that boycotts replace tension in the political sphere with **tension in the private sphere**, putting the central axis of tension between the firm and the activists. Will they or won’t they change practices? As such, boycotts can lead to small changes, or tangential promises to provide other kinds of community support that are not in line with the initial purpose of the boycott. As author Nicole Aschoff recently argued in Jacobin magazine, “When consumers and environmental NGOs channel their desire for environmental justice through the firm, their desires get absorbed into business strategies for growth and expansion.” In this way, ethical consumerism relies too heavily on partnerships with corporations to make change rather than challenging the leverage they have in our monopolized economy. This post was excerpted from Teachout’s recent book. Boycotts do have widespread appeal. The Vox columnist Matthew Yglesias has taken a look at why, writing, “Consumer brands are a leverage point for progressive politics because there’s no gerrymandering & marketers care more about young people. Consumer marketing is almost the exact opposite of voting and a younger, more urbanized, and more female demographic carries more weight.” This logic may lead to a short-term sense of empowerment, but to **longer-term disempowerment**—the more progressives lean into their consumer power as the key point of leverage, the **less they focus on exercising their political power**, the less long-term collective power they will amass. In other words, boycotts allow people to import virtuousness into their life **without the struggle of organizing and building a coalition.**Additionally, consumer politics is certainly less complicated than actually wielding power. The University of North Carolina sociology professor and Atlantic contributing writer Zeynep Tufekci argues that people “want to stay out of politics because they fear corruption and co-optation. They have a point. Modern representative democracies are being strangled in many countries by powerful interests.” But, she points out, the long-term impact of dropping out of politics may be to make individuals cleaner and **the system dirtier.**David Dayen: America’s monopoly problem goes way beyond the tech giants Today, there are hundreds of boycotts every year, and most do not have any appreciable impact. **People lose interest**, don’t maintain a public presence around a boycott, and the number of people involved is typically **too small to make a market difference**. What difference is made typically revolves around “the more modest goal of attracting media attention,” not the loss of income, the University of Pennsylvania professor Maurice Schweitzer says. The Chick-fil-A boycott, one of the largest in recent memory, came about when the Chick-fil-A CEO made anti-gay marriage comments. Organizers staged kiss-ins, and mayors said Chick-fil-A was not welcome in their towns. But Chick-fil-A ignored the protests, people forgot the comments after a few years, and little changed. As one commentator put it, “It is hard to stay mad at a ubiquitous and powerful brand.” While, in theory, people did commit to stop eating at Chick-fil-A until it changed its posture on marriage equality, the company outlasted the protest; it still rates a zero on the Human Rights Campaign’s Buyers Guide, and LGBTQ people are not included in its nondiscrimination policy. Ethical consumerism—and its close relatives corporate accountability and corporate social responsibility—is especially **poorly suited** to monopolized economies, and a tragic misfit for disciplining companies that play a quasi-governmental role. By accepting big corporations as partners, and not challenging their legitimacy as our rulers, the consumer-boycott model allows for short-term victories that appear to be progressive, while the partner corporation is building sufficient power to become boycott-proof. If Chick-fil-A was hard to boycott, think about what boycotting Google would mean. First, imagine a one-person boycott, someone angry about, say, Google-enabled job discrimination. He would have to get rid of his Android phone and switch from Gmail. He’d have to stop using Google Search and Google Maps. He’d have to refuse to watch anything on YouTube. He’d have to get rid of Nest. If he owned a business, he’d have to avoid Google ads, which he might rely on to reach customers. He’d have to refuse to use municipal Wi-Fi in cities where Google is behind “free” Wi-Fi. If he had children, he would have to tell them to refuse to use the technology required to interact with their teachers. And even if he succeeds in doing all these things, Google will not boycott him. If he uses the internet, he will necessarily see Google-served ads, and his responses and nonresponses to those ads will feed into Google’s data bank. Google will still collect information about him when he walks by a LinkNYC kiosk. Google will still collect his tax dollars in subsidies. Read: The tech companies already won Now try imagining an effective organized boycott of Google, large enough to actually dent the company’s profits. There are more than **5 billion Google searches a day.** Can we really imagine enough people switching to an alternate search engine or going without asking their question? Google will continue collecting information on those people regardless, and Search is just one part of the Google behemoth. As if that weren’t **daunting enough**, imagine a **sector-based boycott** of the data-collection practices of all the big tech companies—Facebook, Google, Amazon—for their shared behaviors. In a comic New York Times article, one reporter chronicled the social-media accounts that pushed boycotts using products from the companies they were boycotting. A quarter of the people who tweeted #boycottGoogle (a campaign organized to protest Google’s firing of the engineer James Damore) did so from Android phones. And people boycotting Amazon kept shopping at Amazon-owned Whole Foods. Cher protested Facebook’s role in the Cambridge Analytica scandal by leaving Facebook but remaining active on Facebook-owned Instagram. “I don’t know if I can get out of the ecosystem,” said one activist. “Where am I supposed to go?” said another. “I wish there was something else.” In 2019, the city of Richmond, California, ended its contract with Vigilant Solutions, a data-analytics company that does business with Immigration and Customs Enforcement. The city of Berkeley, following suit, debated boycotting all companies that provided services to ICE and Customs and Border Protection, including Amazon, because these federal agencies rely on Amazon Web Services. The Berkeley city manager, Dee Williams-Ridley, argued against boycotting Amazon, because it “would have a huge negative impact to the citywide operations.” Amazon helps manage city documents, and hosts housing and mental-health programs, and Amazon servers host many other tech companies that provide services to the city. People unwittingly using the thing they are supposedly boycotting to advertise their boycott can seem funny. But the lack of choicefacing all boycotters actually represents a serious **narrowing of the window of moral political behavior.**The change in effectiveness can be confusing for people who remember the successful boycotts in the 1980s and ’90s of companies such as Nike, which came under fire for using sweatshops. Companies have reorganized their supply chains in a way that insulates them from liability and protest. Garment manufacturers no longer have direct relationships with big companies, who build systems of deliberate ignorance into their purchasing. According to Professor Richard Locke’s research on Nike, workplace conditions in almost 80 percent of its root suppliers remained either the same or worsened between 2001 and 2005, though the company’s records may appear better on paper. Most important, every part of Nike’s supply chain is monopolized, with just a few major players, so boycotters have nowhere else to go. A serious boycott would involve buying no foreign-manufactured garments, rather than targeting particular companies. Growing consolidation of power interacts with the rise of social media, leading to more boycotts that are less effective and shorter-lasting. As Tufekci has argued, these actions tend to the **ephemeral and episodic**, instead of the **effective and persistent**. The result is a combination of hyperactivity online and decreased power. Boycotts gin up social-media presence on an almost daily basis. **Unlike a demand for legislative action**—where inaction by a lawmaker grows in meaning over time—the longer a company does not change in the face of protests, **the more powerful it gets.**The lawmaker becomes vulnerable to a primary challenger; the company has proved that it is strong.

#### Thousands of years off, if possible

Daniel C. Dennett 19. University Professor and Austin B. Fletcher Professor of Philosophy and director of the Center for Cognitive Studies at Tufts University. “Is Superintelligence Impossible? On Possible Minds: Philosophy and AI.” The Edge. 4-10-2019. https://www.edge.org/conversation/david\_chalmers-daniel\_c\_dennett-is-superintelligence-impossible

Let’s talk about "possible" for the moment. There are lots of things that are possible, and philosophers love to talk about what’s possible, but many things that are obviously possible are never going to be actual. It’s possible to build a bridge across the Atlantic. We’re not going to do it, not now, not in a hundred years, not in a thousand years. It would cost too much money and would be a foolish endeavor. A lot of the imagined AI projects that are perfectly possible in principle are not worth doing. In fact, some of them are definitely things that we shouldn’t do because they’ll make more problems for us than they'll solve. Just bear that in mind. Somebody said that the philosopher is the one who says, "We know it’s possible in practice, we’re trying to figure out if it’s possible in principle." Unfortunately, philosophers sometimes spend too much time worrying about logical possibilities that are importantly negligible in every other regard. So, let me go on the record as saying, yes, I think that conscious AI is possible because, after all, what are we? We’re conscious. We’re robots made of robots made of robots. We’re actual. In principle, you could make us out of other materials. Some of your best friends in the future could be robots. Possible in principle, absolutely no secret ingredients, but we’re not going to see it. We’re not going to see it for various reasons. One is, if you want a conscious agent, we’ve got plenty of them around and they’re quite wonderful, whereas the ones that we would make would be not so wonderful.

#### Alt fails---capitalism is human nature.

James Pethokoukis 21. Senior Fellow @ AEI; Editor, AEIdeas Blog; and DeWitt Wallace Chair "The 21st-century degrowth movement makes the same mistake about human nature as 20th-century socialists". American Enterprise Institute - AEI. 6-28-2021. https://www.aei.org/economics/the-21st-century-degrowth-movement-makes-the-same-mistake-about-human-nature-as-20th-century-socialists/

After the collapse of the Soviet Empire, Harvard University history professor Richard Pipes wrote in the essay “Human Nature and the Fall of Communism” that “a government that monopolizes a nation’s wealth and prohibits its citizens from accumulating any property beyond mere personal effects ensures its own destruction — if not from social or political explosion, then from chronic apathy, the sociopolitical equivalent of pernicious anemia.”

In other words, the Marxist-Leninist socialist notion that humanity was a blank slate upon which the Communist Party would write and thus create a New Soviet Man was doomed to failure. It ignored both the reality of human nature and its resilience. Indeed, the result in Soviet Russia was an economy marked by apathy and stagnation, and a society marked by corruption and repression. Again, Pipes:

The Communists wanted their citizens to give up, along with private property, personal ambitions, and to dedicate themselves wholly to the collective good. This aspiration has proven very difficult to realize, even in small utopian communities composed of idealistic volunteers. It was utterly unattainable in a vast empire held together by force. Rather than devote themselves 100 percent to the good of all, the vast majority of Soviet citizens dedicated themselves 100 percent to their private welfare. To members of the elite, the regime was an inexhaustible cornucopia that they skimmed mercilessly. Ordinary citizens interpreted the nationalization of all assets to mean that they had no stake in the country, since it belonged to someone else: since “they” owned it, let “them” take care of it. As a Soviet joke had it, “They pretend to pay us; we pretend to work.” Such attitudes resulted in a progressive alienation of the citizenry from the body politic.

Another anti-capitalist movement also suffers from a misunderstanding of human nature: the degrowthers who decry economic growth as environmentally unsustainable and beneficial only to a sliver of humanity. Of course, this view ignores the billions of still quite impoverished humans who would like to live like those in OECD countries. And then there’s those of us who currently live in rich countries and also would like higher incomes to acquire new goods, services, experiences, and opportunities. But don’t we in rich countries already have enough? Wouldn’t we be fine with stagnation or even a bit less? Certainly anyone having lived through the slow post-financial crisis economy should know better than to even pose such questions. I would also point to this telling example from economist Branko Milanovic’s newsletter:

I think that it could be reasonably argued that no group of people in the history of the world has lived as pleasant lives as today’s Italians. The advantages are well-known: lots of wealth, peace, moderate working hours, strong family and friendship bonds, nice weather, beautiful historical and natural sights, excellent and healthy food. Who then needs to grow? And Italy did not. It has by now stagnated for a generation and while in 1999, its GDP per capita was 3.5 times the world average, it is today 2.5 times. One could say, “it does not matter if people are happy”. But the problem is that, while superficially people may be happy this Summer as they congregate on the beaches and drink aperol, there is a deep malaise induced precisely by the absence of growth. The young are not happy because of lack of opportunities, the middle-aged people are not happy by non-challenging jobs, the old are not happy because their pensions are stagnant. So even if you have achieved a stagnant Arcadia, you cannot be happy and stop running because others are overtaking you and the fundamental features of capitalism, in Italy and elsewhere, are as I have described them above.

Those excellent points are ones that advocates of universal basic income should keep in mind.

#### The alt fails.

Epstein 14 (Barbara, author, former Professor Emerita in the Humanities Division @ UC Santa Cruz, “Prospects for a Resurgence of the U.S. Left”, Tikkun, Volume 29, Number 2, Spring 2014, Project Muse)

The United States has no coherent, effective Left. Over the last four decades, since the movements of the sixties and seventies went into decline, the problem of the degradation of the environment has reached a level that threatens the existence of humans and other species on the planet. The neoliberal form of capitalism that has taken hold globally has caused the gap between the wealth and power of those at the top and the rest of us to widen dramatically, undermining the quality of life of the majority and threatening the public arena itself. Despite the depth of the economic crisis of 2008, there is no substantial movement for the abandonment of neoliberalism, the regulation of industry, or the creation of a more egalitarian economy. The environmental movement has grown, but not to the point of having the capacity to reverse environmental degradation. There are undoubtedly more people and projects devoted to economic and social justice—and to environmental sustainability—than there were in the sixties and seventies. The problem has to do with collective impact. No movements of the Left have emerged capable of making a real difference in the conditions that we face. Why is this? And what can be done about it?¶ A Fatalistic Approach to Gradual Crises¶ The weakness of the Left is partly due to the fact that these problems have come upon us gradually, allowing us to accommodate ourselves to them. The widening of the gap in wealth and power has been for the most part incremental; it is only in retrospect that one can see how dramatic the effect has been. The same is true of the working day, which has been lengthened, for most people, bit by bit, but at no point by enough to lead to a widespread revolt. Something similar could be said about the environment. Environmental crises for the most part take place somewhere other than where one lives. Such crises are increasingly severe and increasingly common, and there is widespread awareness that at some point in the future we are all likely to be directly affected. But a future crisis does not have the mobilizing capacity of a crisis that confronts one in the present. Most people, including those who are aware of the depths of these problems, go about their business, doing what they—we—have always done, though with increasing apprehension about the future.¶ “The environmental movement has grown, but not to the point of having the capacity to reverse environmental degradation,” Epstein writes. Environmental activists march in Detroit to protest its air-polluting incinerator.¶ “The environmental movement has grown, but not to the point of having the capacity to reverse environmental degradation,” Epstein writes. Environmental activists march in Detroit to protest its air-polluting incinerator.¶ A widespread sense that nothing can be done is probably an even more significant obstacle to effective, collective action than the gradual character of these changes. Mobilization against a system, an institution, or a ruling elite is most likely to take place when it seems not only oppressive but also outmoded, on the way out, or at least on the defensive. The Civil Rights Movement had existed since World War II but gained momentum in the late fifties and early sixties, when the international aspirations of the United States made racism at home a serious embarrassment. Feminism likewise took hold on a mass basis when the entry of women into the labor force on a large scale placed patriarchal authority in question and gave women the leverage to demand equality. Movements for change are most likely to take hold when change seems possible, when there are levers that can be grasped, as when oppressive institutions seem ready to collapse or are widely seen as illegitimate. It helps when some of those in positions of power agree that the existing system is not working and support change. The depression of the 1930s affected the corporate class as well as the rest of society, though not nearly as badly; fear of a continuing downward economic spiral led some among the elite to agree that changes of some sort were necessary. In the wake of 2008, while most people have suffered economic reverses, corporate profits have more than recovered. Neoliberal capitalism is thriving, at least if measured by corporate profits.¶ The Left is weakened by its deep generational divide and by the fact that “white leftists tend to know little about movements of the Left among people of color,” Epstein writes. Here, members of a Latina immigrant organization participate in a May Day rally in San Francisco.¶ Click for larger view¶ The Left is weakened by its deep generational divide and by the fact that “white leftists tend to know little about movements of the Left among people of color,” Epstein writes. Here, members of a Latina immigrant organization participate in a May Day rally in San Francisco.¶ This is not to argue that movements of the Left take shape and grow only when conditions are propitious. Left-led resistance movements formed in the major ghettos of German-occupied Central and Eastern Europe, despite the fact that the deaths of those involved seemed the most likely outcome. Slave revolts took place in the West Indies and the American South under similar circumstances. But when circumstances are difficult, oppositional movements are most likely to take hold when there are stable organizations that provide a sustained, reliable framework for action, and when such movements have compelling goals and a clear conception of how to achieve these goals—that is, a strategic perspective. The current U.S. Left has none of these.¶ Fragmentation and Generational Divides¶ The major organizations of the Left that once provided the framework for ongoing collective action and strategic discussion either no longer exist or have atrophied. There are large numbers of progressive nonprofits but few organizations that those who want to make a difference, but lack special skills or expertise, can join and work with. Among young people, leftist activist projects thrive, but they tend to come and go. The most stable and influential institutions of the Left are its media outlets: published and online journals, radio stations, a few left-wing presses, and books with a left-wing perspective published by mainstream presses. The central role of media leads to a Left that is defined more by what people read and what opinions they hold than by their associations or their practical activity.¶ We have a fragmented Left held together by a vague commitment to a more just, egalitarian, and sustainable world, but in practical terms lacking a common focus or basis for coordinated action. The fragmented and fluid character of the Left reflects the fragmentation and fluidity of contemporary society: there is probably no going back to the structured and stable organizations of the past (the Socialist Party, the Communist Party, or even the Students for a Democratic Society) consisting of members who were likely to remain active and engaged for many years. But a Left based on individuals with leftist views and a plethora of frequently ephemeral projects has little ability to consider its collective direction and less influence than its numbers would warrant.¶ The Left is weakened especially by the deep divide between the older generation, veterans of the movements of the sixties and seventies, now in their sixties or older, and the younger generation, in their early forties or younger. The outlook and vocabulary of the older generation, shaped for the most part by perspectives ranging from Marxism to social democracy, tends to clash with the outlook of the younger generation, among whom anarchism has been a major influence. The result is little contact and less cooperation between activists of the two generations. In addition, white leftists tend to know little about (and have little contact with) movements of the Left among people of color. And the sector of the Left that consists largely of professionals and intellectuals has little contact with the labor Left.¶ The most promising sector of the U.S. Left is the arena of youth activism that tilts toward anarchism and that was at the center of the Occupy movement. Activists in this arena share an opposition to all forms of oppression (racism, sexism, homophobia, and others), a dislike of hierarchy and a deep suspicion of the state, a vision of an egalitarian, cooperative, and decentralized society, and a desire to model that society in their political practice. Many would include an explicit opposition to capitalism.¶ The Occupy movement was shaped by the idealism, energy, and commitment of a politics influenced by what some call anarchism and others call anti-authoritarianism. Occupy’s protest against the consolidation of wealth and power among the few plus the utopian quality of Occupy communities led to explosive growth of the movement and massive public support. But when police closed the encampments, the movement, as a mass movement, soon collapsed. Valuable organizing projects spun off, but these are quite different from Occupy. One may criticize Occupy activists for not having given much thought to what form the movement would take after the inevitable police closures. But the episodic, fleeting character of Occupy is shared by movements around the world: an incident sets off protest over long-standing grievances, protest mushrooms into a mass movement, the protest is repressed, and the movement collapses, having altered public discourse but leaving no organization or institution capable of bringing about social change. This is the weakness of the ascendant form of leftist or protest politics that emphasizes spontaneity and avoids organizational forms able to last.

# 1AR

## Case

#### Past the tipping point and the alt is dictatorship and genocide---only tech can solve and renewables are good.

Eric Levitz 5/17/21. Senior Writer at New York Magazine. MA Johns Hopkins. "We’ll Innovate Our Way Out of the Climate Crisis or Die Trying". Intelligencer. 5-17-2021. https://nymag.com/intelligencer/2021/05/climate-biden-green-tech-innovation.html

Today’s best-case ecological scenario was a horror story just three decades ago. In 1993, Bill Clinton declared that global warming presented such a profound threat to civilization that the U.S. would have to bring its “emissions of greenhouse gases to their 1990 levels by the year 2000.” Instead, we waited until 2020 to do so; in the interim, humanity burned more carbon than it had since the advent of agriculture. Now, it will take a historically unprecedented, worldwide economic transformation to freeze warming at “only” 2 degrees — a level of temperature rise that will turn “once in a century” storms into annual events, drown entire island nations, and render major cities in the Middle East uninhabitable in summertime (at least for those whose lifestyles involve “walking outdoors without dying of heatstroke”). This is what passes for a utopian vision in 2021. If we confine ourselves to mere optimism — and assume that every Paris Agreement signatory meets its current pledged target for decarbonization — then warming will hit 2.4 degrees by century’s end.

The reality of our ecological predicament invites denial of our political one. Put simply, it is hard to reconcile the scale of the climate crisis with the limits of contemporary American politics. Delusions rush in to fill the gap. Among these is the fantasy of national autonomy; the notion that the United States can save the planet or destroy it, depending on the precise timeline of its domestic decarbonization. A rapid energy transition in the U.S. is a vital cause, not least for its potential to expedite similar transformations abroad. But the battle for a sustainable planet will be won or lost in the developing world. Although American consumption played a central role in the history of the climate crisis, it is peripheral to the planet’s future: Over the coming century, U.S. emissions are expected to account for only 5 percent of the global total.

There is also the delusion of “de-growth’s” viability. The fact that there is no plausible path for global economic expansion that won’t entail climate-induced death and displacement has led some environmentalists to insist on global stagnation. Yet there is neither a mass constituency for this project, nor any reason to believe that there will be any time soon. Freeze the status-quo economy in amber, and you’ll condemn nearly half of humanity to permanent poverty. Divide existing GDP into perfectly even slices, and every person on the planet will live on about $5,500 a year. American voters may express a generalized concern about the climate in surveys, but they don’t seem willing to accept even a modest rise in gas prices — let alone a total collapse in living standards — to address the issue. Meanwhile, any Chinese or Indian leader who attempted to stymy income growth in the name of sustainability would be ousted in short order. It’s conceivable that one could radically reorder advanced economies in a manner that enabled living standards to rise even as GDP fell; Americans might well find themselves happier and more secure in an ultra-low-carbon communal economy in which individual car ownership is heavily restricted, and housing, healthcare, and myriad low-carbon leisure activities are social rights. But nothing short of an absolute dictatorship could affect such a transformation at the necessary speed. And the specter of eco-Bolshevism does not haunt the Global North. Humanity is going to find a way to get rich sustainably, or die trying.

Thus, the chasm between the ecologically necessary and the politically possible can only be bridged by technological advance. And on that front, the U.S. actually has the resources to make a decisive contribution to global decarbonization — and some political will to leverage those resources. Unfortunately, due to some combination of fiscal superstitions and misplaced priorities, the Biden administration’s proposed investments in green innovation remain paltry. An American Jobs Plan with much higher funding for green R&D is both imminently winnable and environmentally imperative. U.S. climate hawks should make securing such legislation a top priority.

The choice before us is techno-optimism or barbarism.

If governments are forced to choose between increasing income growth in the present, and mitigating temperature rise in the future, they are going to pick the former. We’ll get cheap, lab-grown Kobe beef before we get a U.S. Senate willing to tax meat, and steel plants powered by “green hydrogen” before we get anarcho-primitivism with Chinese characteristics.

The question is whether we’ll get such breakthroughs before it’s too late.

Techno-optimism has its hazards, but the progress we’ve made toward decarbonization has come largely through technological innovation. When India canceled plans to construct 14 gigawatts of new coal-fired power stations in 2019, it did not do so in deference to international pressure or domestic environmental movements, but rather to the cost-competitiveness of solar energy. The same story holds across Asia’s developing countries: Thanks to a ninefold reduction in the cost of solar energy over the past decade, the number of new coal plants slated for construction in the region has fallen by 80 percent. Meanwhile, the road to an electric-car revolution was cleared by a collapse in the cost of lithium batteries, the challenge of powering cities with solar energy on cloudy days was eased by a 70 percent drop in the price of utility-scale batteries, and wind power grew 40 percent cheaper. Our species remains lackluster at solidarity and self-government, but we’ve got a real knack for building cool shit.

The technological progress of the past decade was not sufficient to compensate for tepid climate policy. But real techno-utopianism has never been tried: As of 2019, global spending on clean energy R&D totaled $22 billion a year, or 3 percent of the Pentagon’s annual budget. Increasing spending on such research — while expediting cost-reductions in existing technologies by deploying them en masse — should be twin priorities of American climate policy.

The preconditions for green industrialization can be made in America.

The United States has more fiscal capacity and better-financed research universities than any nation on the planet. And, for all the pathologies of our politics, public investment in green tech inspires far weaker opposition than many less-indispensable climate policies. In fact, late last year, with Republicans controlling the Senate and Donald Trump in the White House, the U.S. increased funding for zero-emission technology R&D by $35 billion. America does not have sovereignty over enough humans to save the planet by slashing our domestic emissions. But we just might have the resources and political economy necessary to help the developing world save us all.

Although progress on renewables has exceeded optimistic expectations, the technical obstacles to global decarbonization remain immense. In the most optimistic scenario, scaling up existing, cost-competitive technologies can get us about 16 percent of the emissions reductions necessary for achieving net-zero by 2050, according to the International Energy Agency. Driving down the price of tech we already have will get us another 39 percent. The rest must come from technologies that have yet to be fully developed. We need electrified cement, hydrogen-powered steel plants, and evaporative cooling. We need utility-scale energy storage, electric airplanes, and ultra-high voltage transmission lines. And we’d be remiss to not toss a bit of our collective wealth at game-changing hail marys like nuclear fusion.

#### Capitalism solves war on a massive scale – it creates lock-in mechanisms that bind countries together and economically dampens conflict – robust studies

Dafoe 14 (Allan Dafoe & Nina Kelsey; assistant professor in political science at Yale & research associate in international economics at Berkeley; Journal of Peace Research, “Observing the capitalist peace: Examining market-mediated signaling and other mechanisms,” http://jpr.sagepub.com.proxy.lib.umich.edu/content/51/5/619.full)

Countries with liberal political and economic systems rarely use military force against each other. This anomalous peace has been most prominently attributed to the ‘democratic peace’ – the apparent tendency for democratic countries to avoid militarized conflict with each other (Maoz & Russett, 1993; Ray, 1995; Dafoe, Oneal & Russett, 2013).More recently, however, scholars have proposed that the liberal peace could be partly (Russett & Oneal, 2001) or primarily (Gartzke, 2007; but see Dafoe, 2011) attributed to liberal economic factors, such as commercial and financial interdependence. In particular, Erik Gartzke, Quan Li & Charles Boehmer (2001), henceforth referred to as GLB, have demonstrated that measures of capital openness have a substantial and statistically significant association with peaceful dyadic relations. Gartzke (2007) confirms that this association is robust to a large variety of model specifications. To explain this correlation, GLB propose that countries with open capital markets are more able to credibly signal their resolve through the bearing of greater economic costs prior to the outbreak of militarized conflict. This explanation is novel and plausible, and resonates with the rationalist view of asymmetric information as a cause of conflict (Fearon, 1995). Moreover, it implies clear testable predictions on evidential domains different from those examined by GLB. In this article we exploit this opportunity by constructing a confirmatory test of GLB’s theory of market-mediated signaling. We first develop an innovative quantitative case selection technique to identify crucial cases where the mechanism of market-mediated signaling should be most easily observed. Specifically, we employ quantitative data and the statistical models used to support the theory we are probing to create an impartial and transparentmeans of selecting cases in which the theory – as specified by the theory’s creators –makes its most confident predictions.We implement three different case selection rules to select cases that optimize on two criteria: (1) maximizing the inferential leverage of our cases, and (2) minimizing selection bias. We examine these cases for a necessary implication of market-mediated signaling: that key participants drew a connection between conflictual events and adverse market movements. Such an inference is a necessary step in the process by which market-mediated costs can signal resolve. For evidence of this we examine news media, government documents, memoirs, historical works, and other sources. We additionally examine other sources, such as market data, for evidence that economic costs were caused by escalatory events. Based on this analysis, we assess the evidence for GLB’s theory of market mediated costly signaling. Our article then considers a more complex heterogeneous effects version of market-mediated signaling in which unspecified scope conditions are required for the mechanism to operate. Our design has the feature of selecting cases in which scope conditions are most likely to be absent. This allows us to perform an exploratory analysis of these cases, looking for possible scope conditions. We also consider alternative potential mechanisms. Our cases are reviewed in more detail in the online appendix.1 To summarize our results, our confirmatory test finds that while market-mediated signaling may be operative in the most serious disputes, it was largely absent in the less serious disputes that characterize most of the sample of militarized interstate disputes (MIDs). This suggests either that other mechanisms account for the correlation between capital openness and peace, or that the scope conditions for market-mediated signaling are restrictive. Of the signals that we observed, strategic market-mediated signals were relatively more important than automatic market-mediated signals in the most serious conflicts. We identify a number of potential scope conditions, such as that (1) the conflict must be driven by bargaining failure arising from uncertainty and (2) the economic costs need to escalate gradually and need to be substantial, but less than the expected military costs of conflict. Finally, there were a number of other explanations that seemed present in the cases we examined and could account for the capitalist peace: capital openness is associated with greater anticipated economic costs of conflict; capital openness leads third parties to have a greater stake in the conflict and therefore be more willing to intervene; a dyadic acceptance of the status quo could promote both peace and capital openness; and countries seeking to institutionalize a regional peace might instrumentally harness the pacifying effects of liberal markets. The correlation: Open capital markets and peace The empirical puzzle at the core of this article is the significant and robust correlation noted by GLB between high levels of capital openness in both members of a dyad and the infrequent incidence of militarized interstate disputes (MIDs) and wars between the members of this dyad (Gartzke, Li & Boehmer, 2001). The index of capital openness (CAPOPEN) is intended to capture the ‘difficulty states face in seeking to impose restrictions on capital flows (the degree of lost policy autonomy due to globalization)’ (Gartzke & Li, 2003: 575). CAPOPEN is constructed from data drawn from the widely used IMF’s Annual Reports on Exchange Arrangements and Exchange Controls; it is a combination of eight binary variables that measure different types of government restrictions on capital and currency flow (Gartzke, Li & Boehmer, 2001: 407). The measure of CAPOPEN starts in 1966 and is defined for many countries (increasingly more over time). Most of the countries that do not have a measure of CAPOPEN are communist.2 GLB implement this variable in a dyadic framework by creating a new variable, CAPOPENL, which is the smaller of the two dyadic values of CAPOPEN. This operationalization is sometimes referred to as the ‘weak-link’ specification since the functional form is consonant with a model of war in which the ‘weakest link’ in a dyad determines the probability of war. CAPOPENL has a negative monotonic association with the incidence of MIDs, fatal MIDs, and wars (see Figure 1).3 The strength of the estimated empirical association between peace and CAPOPENL, using a modified version of the dataset and model from Gartzke (2007), is comparable to that between peace and, respectively, joint democracy, log of distance, or the GDP of a contiguous dyad (Gartzke, 2007: 179; Gartzke, Li & Boehmer, 2001: 412). In summary, CAPOPENL seems to be an important and robust correlate of peace. The question of why specifically this correlation exists, however, remains to be answered. The mechanism: Market-mediated signaling? Gartzke, Li & Boehmer (2001) argue that the classic liberal account for the pacific effect of economic interdependence – that interdependence increases the expected costs of war – is not consistent with the bargaining theory of war (see also Morrow, 1999). GLB argue that ‘conventional descriptions of interdependence see war as less likely because states face additional opportunity costs for fighting. The problem with such an account is that it ignores incentives to capitalize on an opponent’s reticence to fight’ (Gartzke, Li & Boehmer, 2001: 400.)4 Instead, GLB (see also Gartzke, 2003; Gartzke & Li, 2003) argue that financial interdependence could promote peace by facilitating the sending of costly signals. As the probability of militarized conflict increases, states incur a variety of automatic and strategically imposed economic costs as a consequence of escalation toward conflict. Those states that persist in a dispute despite these costs will reveal their willingness to tolerate them, and hence signal resolve. The greater the degree of economic interdependence, the more a resolved country could demonstrate its willingness to suffer costs ex ante to militarized conflict. Gartzke, Li & Boehmer’s mechanism implies a commonly perceived costly signal before militarized conflict breaks out or escalates: if market-mediated signaling is to account for the correlation between CAPOPENL and the absence of MIDs, then visible market-mediated costs should occur prior to or during periods of real or potential conflict (Gartzke, Li & Boehmer, 2001). Thus, the proposed mechanism should leave many visible footprints in the historical record. This theory predicts that these visible signals must arise in any escalating conflict, involving countries with high capital openness, in which this mechanism is operative Clarifying the signaling mechanism Gartzke, Li & Boehmer’s signaling mechanism is mostly conceptualized on an abstract, game-theoretic level (Gartzke, Li & Boehmer, 2001). In order to elucidate the types of observations that could inform this theory’s validity, we discuss with greater specificity the possible ways in which such signaling might occur. A conceptual classification of costly signals The term signaling connotes an intentional communicative act by one party directed towards another. Because the term signaling thus suggests a willful act, and a signal of resolve is only credible if it is costly, scholars have sometimes concluded that states involved in bargaining under incomplete information could advance their interests by imposing costs on themselves and thereby signaling their resolve (e.g. Lektzian & Sprecher, 2007). However, the game-theoretic concept of signaling refers more generally to any situation in which an actor’s behavior reveals information about her private information. In fact, states frequently adopt sanctions with low costs to themselves and high costs to their rivals because doing so is often a rational bargaining tactic on other grounds: they are trying to coerce their rival to concede the issue. Bargaining encounters of this type can be conceptualized as a type of war-of-attrition game in which each actor attempts to coerce the other through the imposition of escalating costs. Such encounters also provide the opportunity for signaling: when states resist the costs imposed by their rivals, they ‘signal’ their resolve. If at some point one party perceives the conflict to have become too costly and steps back, that party ‘signals’ a lack of resolve. Thus, this kind of signaling arises as a by-product of another’s coercive attempts. In other words, costly signals come in two forms: self-inflicted (information about a leader arising from a leader’s intentional or incidental infliction of costs on himself) or imposed (information about a leader that arises from a leader’s response to a rival’s imposition of costs). Additionally, costs may arise as an automatic byproduct of escalation towards military conflict or may be a tool of statecraft that is strategically employed during a conflict. The automatic mechanism stipulates that as the probability of conflict increases, various economic assets will lose value due to the risk of conflict and investor flight. However, the occurrence of these costs may also be intentional outcomes of specific escalatory decisions of the states, as in the case of deliberate sanctions; in this case they are strategic. Finally, at a practical level, we identify three different potential kinds of economic costs of militarized conflict that may be mediated by open capital markets: capital costs from political risk, monetary coercion, and business sanctions.