# AFF – Cap K

## Cap Good – Impact Turns

### Cap Good/Transition Bad

#### It’s sustainable. Only capitalism can counteract their impact.

Shi-Ling Hsu 21, D'Alemberte Professor of Law at the Florida State University College of Law, “2 How Capitalism Saves the Environment,” Capitalism and the Environment, Cambridge University Press, 10/31/2021, pp. 28–55

2.8 CHOOSING CAPITALISM TO SAVE THE ENVIRONMENT: LARGE-SCALE DEPLOYMENT

Finally, a third reason that capitalism is suited to the job of environmental restoration and protection is its ability to undertake and complete projects at very large scales. In keeping with a major thesis of this book, construction at very large scales should give us a little pause, because of the propensity of capital to metastasize into a source of political resistance to change. But some global problems, especially climate change, may require very large-scale enterprises.

For example, because greenhouse gas emissions may already have passed a threshold for catastrophic climate change, technology is almost certainly needed to chemically capture carbon dioxide from ambient air. But carbon dioxide is only about 0.15% of ambient air by molecular weight, and a tremendous amount of ambient air must be processed just to capture a small amount of carbon dioxide. This technology has often been referred to as "direct air capture," or "carbon removal." Given that inherent limitation, direct air capture technology must be deployed at vast scales in order to make any appreciable difference in greenhouse gas concentrations. There is certainly no guarantee that direct air capture will be a silver bullet. But if it is to be an effectual item on a menu of survival techniques, it will more assuredly be accomplished under the incentives of a capitalist economy.

Capitalism might also help with the looming crisis of climate change by helping to ensure the supply of vital life staples such as food, water, and other basic needs in future shortages caused by climate-change. In a climate-changed future, there is the distinct possibility that supplies of vital life staples may run short, possibly for long periods of time. Droughts are projected to last longer, with water supplies and growing conditions increasingly precarious. Capitalist enterprise could, first of all, provide the impetus to finally reform a dizzying multitude of price distortions that plague water supply and agriculture worldwide. Second, capitalist enterprise can undertake scale production of some emergent technologies that might alleviate shortages. Desalination technology can convert salty seawater into drinkable freshwater.54 A number of environmental and economic issues need to be solved to deploy these technologies at large scales, but in a crisis, solutions will be more likely to present themselves.

A technology that is already being adopted to produce food is the modernized version of old-fashioned greenhouses. The tiny country of the Netherlands, with its 17 million people crowded onto 13,000 square miles, is the second largest food exporter in the world,55 exporting fully three-quarters that of the United States in 2017.56 The secret to Dutch agriculture is its climate-controlled, low-energy green-houses that project solar panel-powered artificial sunlight around the clock. Dutch greenhouses produce lettuce at ten times the yield57 and tomatoes at fifteen times the yield outdoors in the United States58 while using less than one-thirteenth the amount of water,59 very little in the way of synthetic pesticides and, of course, very little fertilizer given its advanced composting techniques. Sustained shortages in a climate-changed future might require that a capitalist take hold of greenhouse growing and expand production to feed the masses that might otherwise revolt.

2.9 CHOOSE CAPITALISM

Clearly, the job in front of humankind is enormous, complex, and many-faceted. The best hope is to be able to identify certain human impacts that are clearly harmful to the global environment, and to disincentivize them. Getting back to notions of institutions in capitalism, what is crucial is aligning the right incentives with profit-making activity. What capitalism does so well — beyond human comprehension — is coordinate activity and send broad signals about scarcity. Information about a wide variety of environmental phenomena is extremely difficult to collect and process. If a set of environmental taxes can help establish a network of environ-mental prices, then an unfathomably large and complex machinery will have been set in motion in the right direction.

Also, because of the need for new scientific solutions to this daunting list of problems, new science and technology is desperately needed. Capitalism is tried and true in terms of producing innovation. Again drawing upon the study of institutions, it is not so much that individuals need a profit-motive in order to tinker, but the prospect of profit-making has to be present in order for institutions, including corporations, to devote resources, attention, and energy towards the development of solutions to environmental problems. Corporations can and should demonstrate social responsibility by attempting to mitigate their impacts on the global environment, but a much more conscious push for new knowledge, new techniques, and new solutions are needed.

Finally, the scale of needed change is profound. Huge networks of infrastructure centered upon a fossil fuel-centered economy must somehow be replaced or adapted to new ways of generating, transmitting, consuming, and storing energy. A global system of feeding seven billion humans (and counting), unsustainable on its face, must be morphed into something else that can fill that huge role. About a billion and a half cars and trucks in the world must, over time, be swapped out for vehicles that must be dramatically different.

This is a daunting to-do list, but look a bit more carefully among the gloomy news. Elon Musk, a freewheeling, pot-smoking entrepreneur shows signs of breaking into not one, but two industries dominated by behemoths with political power. Thanks to California emissions standards, automobile manufacturers have developed cars that emit a fraction of what they did less than a generation ago. Hybrid electric vehicles have thoroughly penetrated an American market that powerful American politicians had tried to cordon off for American manufacturers only. At least two companies have developed meat substitutes that are now widely judged to be indistinguishable from meat, and have established product outposts in the ancient power centers of fast food, McDonald's and Burger King. The tiny country of the Netherlands, about half the size of West Virginia, exports almost as much food as the United States, able to ship fresh produce all the way to Africa. At bottom, all of these accomplishments and thousands more are and were capitalist in nature. While they collectively repre-sent a trifle of what still needs to be accomplished, they were also undertaken without the correct incentives in place, and thus also represent the tremendous promise of capitalism.

#### Cap is sustainable – innovation is key to solve the climate and the alt can’t solve

Karlsson 21 – Associate Professor in political science at Umea University (Rasmus, "Learning in the Anthropocene" Soc. Sci. 10, no. 6: 233. <https://doi.org/10.3390/socsci10060233> 18 June 2021)

Unpacking this argument, it is perhaps useful to first recognize that, stable as the Holocene may have seemed from a human perspective, life was always vulnerable to a number of cosmic risks, such as bolide collisions, risks that only advanced technologies can mitigate. Similarly, the Black Death of the 14th century should serve as a powerful reminder of the extreme vulnerability of pre-industrial societies at a microbiological level. Nevertheless, it is reasonable to think of the Holocene as providing a relatively stable baseline against which the ecological effects of technological interventions could hypothetically be evaluated. With most human activities being distinctively local, nature would for the most part “bounce back” (even if the deforestation of the Mediterranean basin during the Roman period is an example of that not always being the case) while larger geophysical processes, such as the carbon cycle, remained entirely beyond human intentional control. Even if there has been some debate about what influence human activities had on the preindustrial climate (Ruddiman 2007), anthropogenic forcing was in any case both marginal and gradual. All this changed with the onset of the Great Acceleration by which humans came to overwhelm the great forces of nature, causing untold damage to fragile ecosystems and habitats everywhere, forever altering the trajectory of life on the planet (Steffen et al. 2011b). In a grander perspective, humanity may one day become an interplanetary species and thus instrumental in safeguarding the long-term existence of biological life, but for the moment, its impact is ethically dubious at best as the glaciers melt, the oceans fill up with plastics, and vast number of species are driven to extinction. Faced with these grim realities, it is of course not surprising that the first impulse is to seek to restore some kind primordial harmony and restrain human activities. Yet, it is important to acknowledge that, even if their aggregate impact may have been within the pattern of Holocene variability, pre-modern Western agricultural societies were hardly “sustainable” in any meaningful sense. Experiencing permanent scarcity, violent conflict was endemic (Gat 2013), and as much as some contemporary academics like to attribute all evils to “capitalism” (Malm 2016), pre-capitalist societies exhibited no shortage of religious intolerance and other forms of social domination. It is thus not surprising that some have argued the need to reverse the civilizational arc further yet and return to a preliterate hunter-gather existence (Zerzan 2008) even if this, obviously, has very little to do with existing political realities and social formations. Under Holocene conditions, the short-term human tragedy may have been the same, but it did not undermine the long-term ability of the planet to support life. In a world of eight billion people, already accumulated emissions in the atmosphere have committed the planet to significant warming under the coming centuries, with an increasing probability that committed warming already exceeds the 1.5-degree target of the Paris Agreement even if all fossil-fuel emissions were to stop today (Mauritsen and Pincus 2017). This means that sustained negative emissions, presumably in combination with SRM, will most likely be needed just to stabilize global temperatures, not to mentioning countering the flow of future emissions. According to the Intergovernmental Panel on Climate Change (IPCC), assuming that all the pledges submitted under the Paris Agreement are fulfilled, limiting warming to 1.5 degrees will still require negative emissions in the range of 100—1000 gigatons of CO2 (Hilaire et al. 2019, p. 190). The removal of carbon dioxide at gigaton scales from the atmosphere will presumably require the existence of an advanced industrial society since low-tech options, such as afforestation, will be of limited use (Gundersen et al. 2021; Seddon et al. 2020), especially in a future of competing land-uses. It is against this backdrop of worsening climate harms that the limits of “precaution”, at least as conventionally understood, become apparent. While degrowth advocates tend to insist that behavioral change, even explicitly betting on a “social miracle” (Kallis 2019, p. 195), is always preferable to any technological risk-taking (Heikkurinen 2018), that overlooks both the scope of the sustainability challenge and the lack of public consent to any sufficiently radical political project (Buch-Hansen 2018). While there may be growing willingness to pay for, say, an electric vehicle (Hulshof and Mulder 2020), giving up private automobile use altogether is obviously a different animal, to say nothing about a more fundamental rematerialization of the economy (Hausknost 2020). Again, the problem is one in which change either (a) remains marginal yet ecologically insufficient or (b) becomes sufficiently radical yet provokes a strong political counterreaction. A similar dynamic can be expected to play out at the international level where countries that remain committed to growth would quickly gain a military advantage. To make matters worse, there is also a temporal element to this dynamic since any regime of frugality and localism would have to be policed indefinitely in order to prevent new unsustainable patterns of development from re-emerging later on. All this begs the obvious question, if the political and economic enforcement of the planetary boundaries are fraught with such political and social difficulties, would it not be better to instead try to transcend them through technological innovation? Surprisingly, any high-energy future would most likely be subject to many of the same motivational and psychological constraints that hinder a low-energy future. While history shows that existing nuclear technologies could in theory displace all fossil fuels and meet the most stringent climate targets (Qvist and Brook 2015), it seems extremely unlikely, to put it mildly, that thousands of new reactors will be built over the course of the coming decades in response to climate change. Outside the world of abstract computer modelling, real world psychological and cultural inertia tends to ensure that political decision-making, at least for the most part, gravitates to what is considered “reasonable” and “common sense”—such as medium emissions electricity grids in which wind and solar are backed by biomass and gas—rather than what any utilitarian optimization scenario may suggest. Even if the global benefits of climate stabilization would be immense, the standards by which local nuclear risks are assessed, as clearly illustrated by the Fukushima accident which led to a worldwide retreat from nuclear energy despite only causing one confirmed death (which, though obviously regrettable, has to be put in relation to the hundred and thousands of people dying every year from the use of fossil fuels), underscores the uneven distribution of perceived local risks versus global benefits and the associated problem of socio-political learning across spatial scales. Almost two decades ago, Ingolfur Blühdorn identified “simulative eco-politics” as a key strategy by which liberal democracies reconcile an ever-heightened rhetoric of environmental crisis with their simultaneous defense of the core principles of consumer capitalism (Blühdorn 2007). Since then, declarations that we only have “ten years to save the planet” have proliferated, and so have seemingly bold investments in renewable energy, most recently in the form of US President Joseph Biden’s USD 2.25 trillion climate and infrastructure plan. Still, without a meaningful commitment to either radical innovation or effective degrowth, it is difficult to see how the deployment of yet more wind turbines or the building of new highways will in any way be qualitatively different from what Blühdorn pertinently described as sustaining “what is known to be unsustainable” (Blühdorn 2007, p. 253). However, all is not lost in lieu of more authentic forms of eco-politics. Independent of political interventions, accelerating technological change, in particular with regard to computing and intelligent machine labor, may one day make large-scale precision manipulation of the physical world possible in ways that may solve many problems that today seem intractable (Dorr 2016). Similarly, breakthroughs in synthetic biology may hold the key to environmentally benign biofuels and carbon utilization technologies. Yet, all such progress remains hypothetical and uncertain for now. Given what is at stake, there is an obvious danger in submitting to naïve technological optimism. What is less commonly recognized is that naïve optimism with regard to the prospects of behavioral change may be equally dangerous. While late-capitalist affluence has enabled many postmaterial identities and behaviors, such as bicycling, hobby farming, and other forms of emancipatory self-expression, a collapsing economy could quickly lead to a reversal back to survivalist values, traditional hierarchical forms of domination, and violence (Quilley 2011, p. 77). As such, it is far from obvious what actions would actually take the world as a whole closer to long-term sustainability. If sustainability could be achieved by a relatively modest reduction in consumption rates or behavioral changes, such as a ban on all leisure flights, then there would be a strong moral case for embracing degrowth. Yet, recognizing how farreaching measures in terms of population control and consumption restrictions that would be needed, the case quickly becomes more ambiguous. While traditional environmentalism may suggest that retreating from the global economy and adopting a low-tech lifestyle would increase resilience (Alexander and Yacoumis 2018), it may do very much the opposite by further fragmenting global efforts and slowing the pace of technological innovation. Without an orderly and functioning world trade system, local resources scarcities would be exacerbated, as seen most recently with the different disruptions to vaccine supply chains. In essence, given the lack of a stable Holocene baseline to revert to, it becomes more difficult to distinguish proactionary “risk-taking” from “precaution”, especially as many ecosystems have already been damaged beyond natural recovery. In this context, it is noteworthy that many of the technologies that can be expected to be most crucial for managing a period of prolonged overshoot (such as next-generation nuclear, engineering biology, large-scale carbon capture and SRM) are also ones that traditional environmentalism is most strongly opposed to. 3. Finding Indicators From the vantage point of the far-future, at least the kind depicted in the fictional universe of Star Trek, human evolution is a fairly straightforward affair along an Enlightenment trajectory by which ever greater instrumental capacity is matched by similar leaps in psychological maturity and expanding circles of moral concern. With the risk of sounding Panglossian, one may argue that the waning of interstate war in general and the fact that there has not been any major nuclear exchange in particular, does vindicate such an optimistic reading of history. While there will always be ups and downs, as long as the most disastrous outcomes are avoided, there will still be room for learning and gradual political accommodation. Taking such a longer view, it would nevertheless be strange if development was simply linear, that former oppressors would just accept moral responsibility or that calls for gender or racial justice would not lead to self-reinforcing cycles of conservative backlash and increasingly polarizing claims. Still, over the last couple of centuries, there is little doubt that human civilization has advanced significantly, both technologically and ethically (Pinker 2011), at least from a liberal and secular perspective. However, unless one subscribes to teleology, there is nothing inexorable with this development and, it may be that the ecological, social, and political obstacles are simply too great to ever allow for the creation of a Wellsian borderless world (Pedersen 2015) that would allow everyone to live a life free from material want and political domination. On the other hand, much environmental discourse tends to rush ahead in the opposite direction and treat the c limate crisis as ultimate evidence of humanity’s fallen nature when the counter-factual case, that it would be possible for a technological civilization to emerge without at some point endangering its biophysical foundations, would presumably be much less plausible. From an astrobiological perspective, it is easy to imagine how the atmospheric chemistry of a different planet would be more volatile and thus more vulnerable to the effects of industrial processes (Haqq-Misra and Baum 2009), leaving a shorter time window for mitigation. Nick Bostrom has explored this possibility of greater climate sensitivity further in his “vulnerable world hypothesis” (Bostrom 2019) and it begs to reason that mitigation efforts would be more focused in such a world. However, since climate response times are longer and sensitivity less pronounced, climate mitigation policies have become mired in culture and media politics (Newman et al. 2018) but also a statist logic (Karlsson 2018) by which it has become more important for states to focus on their own marginal emission reductions in the present rather than asking what technologies would be needed to stabilize the climate in a future where all people can live a modern life.

#### Capitalism is sustainable – solves climate impacts

Hausfather 21 – a climate scientist and energy systems analyst whose research focuses on observational temperature records, climate models, and mitigation technologies. He spent 10 years working as a data scientist and entrepreneur in the cleantech sector, where he was the lead data scientist at Essess, the chief scientist at C3.ai, and the cofounder and chief scientist of Efficiency 2.0. He also worked as a research scientist with Berkeley Earth, was the senior climate analyst at Project Drawdown, and the US analyst for Carbon Brief. He has masters degrees in environmental science from Yale University and Vrije Universiteit Amsterdam and a PhD in climate science from the University of California, Berkeley. (Zeke, "Absolute Decoupling of Economic Growth and Emissions in 32 Countries," Breakthrough Institute, 4-6-2021, https://thebreakthrough.org/issues/energy/absolute-decoupling-of-economic-growth-and-emissions-in-32-countries)

The past 30 years have seen immense progress in improving the quality of life for much of humanity. Extreme poverty — the number of people living on less than $1.90 per day — has fallen by nearly two-thirds, from 1.9 billion to around 650 million. Life expectancy has risen in most of the world, along with literacy and access to education, while infant mortality has fallen. Despite perceptions to the contrary, the average person born today is likely to have access to more opportunities and have a better quality of life than at any other point in human history. Much of this increase in human wellbeing has been propelled by rapid economic growth driven largely by state-led industrial policy, particularly in poor-to-middle income countries. However, this growth has come at a cost: between 1990 and 2019, global emissions of CO2 increased by 56%. Historically, economic growth has been closely linked to increased energy consumption — and increased CO2 emissions in particular — leading some to argue that a more prosperous world is one that necessarily has more impacts on our natural environment and climate. There is a lively academic debate about our ability to “absolutely decouple” emissions and growth — that is, the extent to which the adoption of clean energy technology can allow emissions to decline while economic growth continues. Over the past 15 years, however, something has begun to change. Rather than a 21st century dominated by coal that energy modelers foresaw, global coal use peaked in 2013 and is now in structural decline. We have succeeded in making clean energy cheap, with solar power and battery storage costs falling 10-fold since 2009. The world produced more electricity from clean energy — solar, wind, hydro, and nuclear — than from coal over the past two years. And, according to some major oil companies, peak oil is upon us — not because we have run out of cheap oil to produce, but because demand is falling and companies expect further decline as consumers increasingly shift to electric vehicles. The world has long been experiencing a relative decoupling between economic growth and CO2 emissions, with the emissions per unit of GDP falling for the past 60 years. This is the case even in countries like India and China that have been undergoing rapid economic growth. But relative decoupling alone is inadequate in a world where global CO2 emissions need to peak and decline in the next decade to give us any chance at limiting warming to well below 2℃, in line with Paris Agreement targets. Thankfully, there is increasing evidence that the world is on track to absolutely decouple CO2 emissions and economic growth — with global CO2 emissions potentially having peaked in 2019 and unlikely to increase substantially in the coming decade. While an emissions peak is just the first and easiest step towards eventually reaching the net-zero emissions required to stop the world from continuing to warm, it demonstrates that linkages between emissions and economic activity are not an immutable law, but rather simply a result of our current means of energy production. In recent years we have seen more and more examples of absolute decoupling — economic growth accompanied by falling CO2 emissions. Since 2005, 32 countries with a population of at least one million people have absolutely decoupled emissions from economic growth, both for terrestrial emissions (those within national borders) and consumption emissions (emissions embodied in the goods consumed in a country). This includes the United States, Japan, Mexico, Germany, United Kingdom, France, Spain, Poland, Romania, Netherlands, Belgium, Portugal, Sweden, Hungary, Belarus, Austria, Bulgaria, El Salvador, Singapore, Denmark, Finland, Slovakia, Norway, Ireland, New Zealand, Croatia, Jamaica, Lithuania, Slovenia, Latvia, Estonia, and Cyprus. Figure 1, below, shows the declines in territorial emissions (blue) and increases in GDP (red). To qualify as having experienced absolute decoupling, we require countries included in this analysis to pass four separate filters: a population of at least one million (to focus the analysis on more representative cases), declining territorial emissions over the 2005-2019 period (based on a linear regression), declining consumption emissions, and increasing real GDP (on a purchasing power parity basis, using constant 2017 international $USD). We chose not to include 2020 in this analysis because it is not particularly representative of longer-term trends, and consumption and territorial emissions estimates are not yet available for many countries. There is a wide range of rates of economic growth between 2005-2019 among countries experiencing absolute decoupling. Somewhat counterintuitively, there is no significant relationship between the rate of economic growth and the magnitude of emissions reductions within the group. While it is unlikely that there is not at least some linkage between the two factors, there are plenty of examples of countries (e.g., Singapore, Romania, and Ireland) experiencing both extremely rapid economic growth and large reductions in CO2 emissions. One of the primary criticisms of some prior analyses of absolute decoupling is that they ignore leakage. Specifically, the offshoring of manufacturing from high-income countries over the past three decades to countries like China has led to “illusory” drops in emissions, where the emissions associated with high-income country consumption are simply shipped overseas and no longer show up in territorial emissions accounting. There is some truth in this critique, as there was a large increase in emissions embodied in imports from developing countries between 1990 and 2005. After 2005, however, structural changes in China and a growing domestic market led to a reversal of these trends; the amount of emissions “exported” from developed countries to developing countries has actually declined over the past 15 years. This means that, for many countries, both territorial emissions and consumption emissions (which include any emissions “exported” to other countries) have jointly declined. In fact, on average, consumption emissions have been declining slightly faster than territorial emissions since 2005 in the 32 countries we identify as experiencing absolute decoupling. Figure 2, below, shows the change in consumption emissions (teal) and GDP (red) between 2005 and 2019. There is a pretty wide variation in the extent to which these countries have reduced their territorial and consumption emissions since 2005. Some countries — such as the UK, Denmark, Finland, and Singapore – have seen territorial emissions fall faster than consumption emissions, while the US, Japan, Germany, and Spain (among others) have seen consumption emissions fall faster. Figure 3 shows reductions in consumption and territorial emissions for each country, with the size of the dot representing the size of the population in 2019. Absolute decoupling is possible. There is no physical law requiring economic growth — and broader increases in human wellbeing — to necessarily be linked to CO2 emissions. All of the services that we rely on today that emit fossil fuels — electricity, transportation, heating, food — can in principle be replaced by near-zero carbon alternatives, though these are more mature in some sectors (electricity, transportation, buildings) than in others (industrial processes, agriculture).

#### Here's the math

Hausfather 21 – a climate scientist and energy systems analyst whose research focuses on observational temperature records, climate models, and mitigation technologies. He spent 10 years working as a data scientist and entrepreneur in the cleantech sector, where he was the lead data scientist at Essess, the chief scientist at C3.ai, and the cofounder and chief scientist of Efficiency 2.0. He also worked as a research scientist with Berkeley Earth, was the senior climate analyst at Project Drawdown, and the US analyst for Carbon Brief. He has masters degrees in environmental science from Yale University and Vrije Universiteit Amsterdam and a PhD in climate science from the University of California, Berkeley. (Zeke, "Absolute Decoupling of Economic Growth and Emissions in 32 Countries," Breakthrough Institute, 4-6-2021, https://thebreakthrough.org/issues/energy/absolute-decoupling-of-economic-growth-and-emissions-in-32-countries, Accessed 4-11-2021, LASA-SC)

Chart, line chart

Description automatically generated

Emissions reductions in the US have been a result of a wide variety of factors; this includes the switch from coal generation to lower-carbon natural gas, the rapid expansion of wind and solar generation, reduced industrial energy consumption, reduced electricity use in buildings, and reductions in transportation emissions — particularly as a result of increased vehicle fuel economy and reduced miles driven per-capita. Since 2005, US territorial emissions have fallen around 15%, with consumption emissions falling around 18% (much larger reductions were seen in 2020, and some of this is expected to persist). At the same time, GDP has increased by around 29%.

Chart, line chart

Description automatically generated

In the UK, territorial emissions have fallen by nearly 40% and consumption emissions have fallen by around 30%, while GDP has increased by 22%. Similar to the US, there are a wide variety of drivers of UK emissions reductions, though renewable energy generation, reductions in electricity use, and reductions in industrial and residential energy use are the largest contributors.

Chart, line chart

Description automatically generated

In Germany, territorial emissions have fallen around 15%, and consumption emissions have fallen by around 20%, while GDP has increased by 24%

Chart, line chart

Description automatically generated

In France, territorial emissions have fallen by around 25%, and consumption emissions have fallen by a similar amount, while GDP has increased by 16%. It is a bit notable that France has seen larger emission reductions — as a percentage of total emissions — than Germany over this period, likely due in part to Germany’s choice to prioritize shutting down nuclear power plants over coal ones.

#### Growth is sustainable, degrowth fails, and the alt collapses global living standards.

Noah Smith 9/6/21. Assistant Professor of finance @ SUNY Stony Brook, an economics PhD student at the University of Michigan, an academic editor in Japan, and a physics major at Stanford. “People are realizing that degrowth is bad.” https://noahpinion.substack.com/p/people-are-realizing-that-degrowth

I was going to write a lengthy post explaining why “degrowth” — the idea that we need to halt economic growth in order to save the planet — is a very bad idea. But in the meantime, other people have written that post, or recorded that podcast, and done it well. These include Branko Milanovic, Kelsey Piper, and Ezra Klein. So instead I’ll write a shorter post trying to catalog and boil down the arguments against degrowth.

But first, let’s go over the standard argument, so we can see why these new arguments are necessary.

The standard argument against degrowth

First, note that the typical argument against degrowth, which I laid out in a Bloomberg post a while back, is that we don’t need it; we can raise human living standards without exhausting the planet. This argument was capably put forward by Andy McAfee, in his excellent book More From Less, which you should buy and read. Essentially, the idea that economic growth requires growth in resource use is false; rich countries have started to grow while using less and less of the planet’s most important resources. For example, here is U.S. use of fresh water and various metals, as well as trade-adjusted carbon emissions:

[Chart, bar chart

Description automatically generated](https://cdn.substack.com/image/fetch/f_auto,q_auto:good,fl_progressive:steep/https%3A%2F%2Fbucketeer-e05bbc84-baa3-437e-9518-adb32be77984.s3.amazonaws.com%2Fpublic%2Fimages%2F333353cd-c549-4514-88f7-0b9d06348059_820x530.png)

[Chart, line chart

Description automatically generated](https://cdn.substack.com/image/fetch/f_auto,q_auto:good,fl_progressive:steep/https%3A%2F%2Fbucketeer-e05bbc84-baa3-437e-9518-adb32be77984.s3.amazonaws.com%2Fpublic%2Fimages%2F0cb2e493-5be6-4022-a9b5-dcbf5c993cda_803x546.png)

[Chart, line chart

Description automatically generated](https://cdn.substack.com/image/fetch/f_auto,q_auto:good,fl_progressive:steep/https%3A%2F%2Fbucketeer-e05bbc84-baa3-437e-9518-adb32be77984.s3.amazonaws.com%2Fpublic%2Fimages%2Fcf2b6be4-6bb0-40db-a7c3-d8579288ce44_3400x2400.png)

So the idea here is that we don’t need degrowth; instead, we can keep raising everyone’s standard of living without exhausting the planet’s resources. Because growth doesn’t just mean using more and more stuff; instead, it can mean finding more efficient ways to use the stuff we have.

Degrowthers have two counters to this. Their first counter, typically, is to show a graph of resource use for the entire world, and show that it’s correlated with global growth. This is a weak response, for two reasons:

1. Degrowthers have no idea how to combine various resources into an overall measure of resource use, so they typically go with gross weight. This is absurd, since some materials are recyclable and others are not — if you “use” a ton of copper you still have the copper, whereas if you “use” a ton of oil, your oil is gone. It’s also absurd because it doesn’t take into account the relative abundance of resources — if you figure out how to substitute 2 tons of sand for 1 ton of oil, you’re getting more efficient, since sand is much more plentiful than oil (and doesn’t pollute as much when you use it). A lot of growth is figuring out how to substitute plentiful resources for rare ones, and simply adding up gross tonnage ignores this.
2. Past trends are no guarantee of future trends. Until the 70s, for instance, U.S. economic growth was closely correlated with both energy use and carbon emissions; after the 70s, this correlation broke down completely and the lines started moving in opposite directions. Degrowthers present historical curves as if these are laws of nature, but we know that they are not. The trend is your friend only til the bend at the end. And the fact that rich countries have hit an inflection point where economic growth no longer depends on growing resource use is a strong indicator that industrializing countries like China will also hit this point as well. (And no, falling use in rich countries is mostly not due to outsourcing, as the emissions graph above illustrates.)

So this degrowther argument is just wrong. But degrowthers have a second, far better counter to McAfee’s notion that we can have our cake and eat it too: Decoupling isn’t happening fast enough. If we wait for China and India and all the countries of Africa to industrialize in a resource-intensive way like today’s developed countries did, and then to dematerialize their growth like today’s developed countries are doing now, it will be far too late and the planet will suffer ecological catastrophe.

This argument isn’t as strong as it sounds — China and India and the rest will be able to take advantage of the efficiency-inducing technologies created by the developed countries, like solar power (indeed, they are already doing so). And they will be able to embrace “dematerialized” goods and services like social networks and video games (sorry, Xi Jinping) very early in their growth path. So these countries’ resource use trajectories won’t look quite like the U.S.’ or Europe’s.

But this degrowther argument does contain a nugget of truth: Global resource use is currently on an unsustainable trajectory. Here, via Zeke Hausfather, are the current projections for global warming by century’s end, even with the advances in techologies like solar:

[CHART OMITTED]

Any one of these scenarios represents utter global catastrophe.

So even if there is a sustainable growth path, we are not currently on it. About this, degrowthers are right; a gentle, natural transition to green growth is possible, but is an unaffordable luxury. But degrowthers’ prescription is the wrong one.

The reason, in a word, is politics. The kind of massive intention reordering of global production and consumption that degrowthers fantasize about is not just pragmatically impossible to implement, it’s the kind of thing that essentially everyone in the world except for a few very shouty people in Northern Europe and the occasional Twitter activist is going to reject. To see why, let us turn to the excellent articles/podcasts by Milanovic, Piper, and Klein.

The political argument against degrowth

Milanovic actually has two excellent posts on the topic of degrowth. In the first one, he lays out why forcing developing countries to stay in poverty would be bad:

Let us suppose, for the sake of the argument, that we interpret “degrowth” as the decision to fix global GDP at its current level…Then, unless we change the distribution of income, we are condemning to permanent abject poverty some 15 percent of world population that currently earn less than $1.90 per day and some quarter of humankind who earn less than $2.50 per day…Keeping so many people in abject poverty so that the rich can continue to enjoy their current standard of living is obviously something that the proponents of degrowth would not condone.

Enforcing global degrowth would require freezing world income at about $17,000/year. That means that most people in the world would never even come close to current rich-world living standards — instead, they would at best only be able to reach the level currently enjoyed in China or Botswana. Perhaps that’s not such a horrible fate, but as Milanovic notes, this would require impoverishing most of the population of developed countries. He elaborates on this point in his new post, pulling no punches:

[In order to avoid keeping most of the world in poverty, degrowthers must] introduce a different [income] distribution (B) where everybody who is above the current mean world income ($PPP 16 per day) is driven down to this mean, and the poor countries and people are, at least for a while, allowed to continue growing until they too achieve the level of $PPP 16 per day. But the problem with that approach is that one would have to engage in a massive reduction of incomes for…practically all of the Western population. Only 14% of the population in Western countries live at the level of income less than the global mean…Degrowers thus need to convince 86% of the population living in rich countries that their incomes are too high and need to be reduced….It is quite obvious that such a proposition is a political suicide.

Milanovic quite rightly waves away degrowthers’ protestations that GDP is not a good measure of human welfare. GDP isn’t perfect, he notes, but it’s close enough where the basic point stands.

Demanding that people in rich countries accept absolutely catastrophic declines in their living standards is a political non-starter. Klein, on his podcast, tries to point this out as gently as possible:

I think that if the political demand of the [degrowth] movement becomes you don’t get to eat beef, you will set climate politics back so far, so fast, it would be disastrous. Same thing with S.U.V.s. I don’t like S.U.V.s. I don’t drive one. But if you are telling people in rich countries that the climate movement is for them not having the cars they want to have, you are just going to lose. You are going to lose fast…This is where the politics of [degrowth] for me fall apart…

I just don’t see the argument for degrowth as being anything but an extraordinarily slower way of approaching the politics, probably counterproductive compared to what we’re doing, which is I think you can make tremendous strides on climate change by deploying renewable energy technologies and giving people the opportunity to have a more materially fulfilling life atop those technologies.

Milanovic is less gentle, calling this “outright magical thinking”. He is correct. When you look at how much people in America are willing to sacrifice in terms of their material well-being in order to fight climate change, it’s far less than what Klein is talking about. And Klein is really softballing it here — it’s not just giving up beef and SUVs, it’s a dramatic reduction in the size of housing and the amount of food and the ease of transportation and the quality of medical care that people in rich countries enjoy. It is, frankly, not happening.

But even this vastly understates the political and practical difficulties of degrowth. Piper adds several key points. First of all, she notes, because developed countries have been decoupling resource use and growth for a while now, curbing resource use will actually cause a lot more restrictions on developing countries than Milanovic’s simple calculations would suggest:

From a climate change perspective, though, there’s a problem [with simply reducing rich-world living standards]. First, it means that degrowth would do nothing about the bulk of emissions, which are occurring in developing countries.

This is an incredibly important point. For example, China now produces more CO2 emissions than the U.S., the EU, and Japan combined:

[Chart, line chart

Description automatically generated](https://cdn.substack.com/image/fetch/f_auto,q_auto:good,fl_progressive:steep/https%3A%2F%2Fbucketeer-e05bbc84-baa3-437e-9518-adb32be77984.s3.amazonaws.com%2Fpublic%2Fimages%2Fe734c720-51e9-4c6d-a92f-827a27921382_3400x2400.png)

(And no, this is not because of outsourcing, as you can see by looking at the trade-adjusted emissions numbers.)

Another way of looking at this is that China’s CO2 emissions per dollar of GDP are more than twice America’s, and about five times that of the EU. Any global degrowth plan that actually reduces resource use is going to entail more pain for China than its GDP numbers would suggest, simply because China is at a more resource-intensive stage of growth.

Do you think China will accept a substantial diminution of its living standards, in order to satisfy the environmental-economic diktats of activists in Northern Europe? If so, you need to rethink a great many things.

Anyway, Piper makes a second crucially important point. So far we’ve been waving our hands and talking about lowering rich-world GDP while raising GDP for poor countries. In fact, economies don’t work like that:

Second, the global economy is more interconnected than Hickel implies. When Covid-19 hit, poor countries were devastated not just by the virus but by the aftershocks of virus-induced slowdowns in consumption in rich countries.

There’s some genuine appeal to the idea of an end to “consumerism,” but the pandemic offered a taste of how a sudden drop in rich-world consumption would actually affect the developing world. Covid-19 dramatically curtailed Western imports and tourism for a time. The consequences in poor countries were devastating. Hunger rose, and child mortality followed.

Degrowth would thus require deep changes in the entire way that the global economy works. Change happens, but not like that; implementing the kind of reallocation schemes that degrowthers throw around with abandon would require global economic planning that would put Gosplan to shame. Klein points this out, again rather gently:

Degrowth is, as its advocates understand it, a act of global economic planning really without equal anywhere in human history. It is an act of extraordinary central planning.

In other words, it is abject fantasy.

Taken together, these criticisms are utterly devastating to the entire degrowth project. In its current form, it will not advance beyond a media fad. No matter how shrilly degrowthers quote apocalyptic projections, the things they call for simply will not happen.

### Sustainable – Dematerialization

#### Capitalism causes dematerialization which solves sustainability

Zitelmann 21 – studied history and political sciences, graduating with a doctorate “summa cum laude” in 1986. His dissertation was published in both German and English: Hitler. The Policies of Seduction. Rainer Zitelmann began his career lecturing history at the Freie Universität Berlin from 1987 to 1992. He then became chief editor at one of the leading and most prestigious publishing houses in Germany, Ullstein-Propyläen. He followed this with the role of section editor at the major German daily newspaper “Die Welt”, which he held until 2000. (Rainer, "Consumption Presumption: Are Human Beings Destroying the World?," National Interest, 2-12-2021, https://nationalinterest.org/feature/consumption-presumption-are-human-beings-destroying-world-178114)

Some people claim that we need to cut our consumption or there will be no hope for the planet. Such claims are based on the thesis that continued growth increases the rate at which the earth’s finite resources are consumed and, moreover, leads to irreversible climate change. And such warnings are by no means new. In 1970, for instance, the Club of Rome attracted a great deal of attention with the publication of The Limits to Growth. A Report for the Club of Rome’s Project on the Predicament of Mankind, which has to date sold more than thirty million copies in thirty languages. The book warned people to change their ways and had a clear message: the world’s raw materials, and in particular, oil would soon be used up. In twenty years, the scientists predicted, we would have used the very last drop of oil. Of course, the Club of Rome’s models for the depletion of oil—and almost all other major raw materials—were wrong. According to the scenarios presented in The Limits to Growth, we should now be living on a planet that has been devoid of natural gas, copper, lead, aluminum and tungsten for decades. And we were supposed to have run out of silver in 1985. Despite the bleak forecasts, as of January 2020, the United States Geological Survey estimated silver reserves worldwide at 560,000 tons. Employing an extensive array of data, the American scientist Andrew McAfee proves in his book More from Less that economic growth is no longer coupled to the consumption of raw materials. Data for the United States, for example, show that of seventy-two resources, from aluminum to zinc, only six are not yet post-peak. Nevertheless, despite the fact that the U.S. economy has grown strongly in recent years, consumption of many commodities is actually decreasing. Back in 2015, the American environmental scientist Jesse Ausubel wrote an essay, “The Return of Nature: How Technology Liberates the Environment,” showing that Americans are consuming fewer and fewer raw materials per capita. Total consumption of steel, copper, fertilizer, wood and paper, which had previously always risen in line with economic growth, had plateaued and was now in constant decline. Such across-the-board reductions in natural resource consumption are only possible because of much-maligned capitalism: companies are constantly developing more efficient production methods and reducing the amount of raw materials they consume. Of course, they are not doing this primarily to protect the environment but to cut costs. What's more, a constant stream of innovations has promoted the trend of miniaturization or dematerialization. Just think of your smartphone. How many devices has your smartphone replaced and how many raw materials did they use to consume? Nowadays, many people no longer have a fax machine or street atlas because they have everything they need on their smartphone. Some even use their phones instead of a wristwatch. You used to need four separate microphones in your telephone, cassette recorder, Dictaphone and video camera, today you just need one—in your smartphone. The finite nature of the world’s natural resources is one argument against growth, climate change is another. Let’s take China as an example: China currently emits more CO2 than any other country in the world and is building a number of new nuclear power plants in order to achieve carbon neutrality by 2060. With the new build program well underway, China’s first new-generation nuclear power plant recently went into operation. In the very near future, China intends to start exporting power plants. The latest generation of nuclear power plants is much safer than earlier models—and can play a pivotal role in the fight against climate change. In the United States, Joe Biden is already evaluating the advantages of small modular reactor (SMR) nuclear power plants. As the name suggests, SMRs are smaller than traditional nuclear fission reactors and offer a maximum capacity of three hundred megawatts. In the United Kingdom, for example, a consortium led by Rolls-Royce has announced plans to build up to sixteen SMR power plants. So far, two reactors of this type are in operation, both onboard the floating nuclear power plant “Akademik Lomonosov, which supplies heat and electricity to the Siberian city of Pevec and its one hundred thousand inhabitants. Anticapitalists blame capitalism for resource consumption and climate change. But political decisions—such as Germany’s decision to phase out nuclear energy—frequently have a negative impact on climate change. Telling people to cut their consumption must seem like pure mockery to the hundreds of millions of people around the world who are still living in extreme poverty. What they need is more capitalism and economic growth. Just like in China, where the number of people living in extreme poverty has fallen from 88 percent in 1981 to less than 1 percent today. Andrew McAfee’s book has an optimistic message about how we don't have to turn back the clocks and cut our consumption: capitalism and technological progress are allowing us to steward the world’s resources, rather than stripping them bare.

### Tech Inev

#### The technology age is inevitable. Global capitalism, political momentum, and militarism prove.

Kelly ’16 (Kevin; 2016; Awarded author, founder of Wired Magazine, citing data from the past thirty years; Book*, The Inevitable: Understanding the 12 Technological Forces That Will Shape Our Future*)

In the three decades since then, this technological convergence between communication and computation has spread, sped up, blossomed, and evolved. The internet/ web/ mobile system has moved from the fringes of society (where it was pretty much ignored in 1981) to the center stage of our modern global society. In the past 30 years the social economy based on this technology has had its ups and downs and seen its heroes come and go, but it is very clear there have been large-scale trends governing what has happened. These broad historical trends are crucial because the underlying conditions that birthed them are still active and developing, which strongly suggests that these trends will continue to increase in the next few decades. There is nothing on the horizon to decrease them. Even the forces we might think could derail them, like crime, war, or our own excesses, also follow these emerging patterns. In this book I describe a dozen of these inevitable technological forces that will shape the next 30 years. “Inevitable” is a strong word. It sends up red flags for some people because they object that nothing is inevitable. They claim that human willpower and purpose can— and should!— deflect, overpower, and control any mechanical trend. In their view, “inevitability” is a free will cop-out we surrender to. When the notion of the inevitable is forged with fancy technology, as I do here, the objections to a preordained destiny are even more fierce and passionate. One definition of “inevitable” is the final outcome in the classic rewinding thought experiment. If we rewound the tape of history back to the beginning of time and reran our civilization from the start again and again, a strong version of inevitability says that, no matter how many times we reran it, every time we end up with teenagers tweeting every five minutes in 2016. That’s not what I mean. I mean inevitable in a different way. There is bias in the nature of technology that tilts it in certain directions and not others. All things being equal, the physics and mathematics that rule the dynamics of technology tend to favor certain behaviors. These tendencies exist primarily in the aggregate forces that shape the general contours of technological forms and do not govern specifics or particular instances. For example, the form of an internet— a network of networks spanning the globe— was inevitable, but the specific kind of internet we chose to have was not. The internet could have been commercial rather than nonprofit, or a national system instead of international, or it could have been secret instead of public. Telephony— long-distance electrically transmitted voice messages— was inevitable, but the iPhone was not. The generic form of a four-wheeled vehicle was inevitable, but SUVs were not. Instant messaging was inevitable, but tweeting every five minutes was not. Tweeting every five minutes is not inevitable in another way. We are morphing so fast that our ability to invent new things outpaces the rate we can civilize them. These days it takes us a decade after a technology appears to develop a social consensus on what it means and what etiquette we need to tame it. In another five years we’ll find a polite place for twittering, just as we figured out what to do with cell phones ringing everywhere. (Use silent vibrators.) Just like that, this initial response will disappear quickly and we’ll see it was neither essential nor inevitable. The kind of inevitability I am speaking of here in the digital realm is the result of momentum. The momentum of an ongoing technological shift. The strong tides that shaped digital technologies for the past 30 years will continue to expand and harden in the next 30 years. These apply to not just North America, but to the entire world. Throughout this book I use examples from the United States because readers will be more familiar with them, but for each I could have easily found a corresponding example in India, Mali, Peru, or Estonia. The true leaders in digital money, for example, are in Africa and Afghanistan, where e-money is sometimes the only functioning currency. China is way ahead of everyone else in developing sharing applications on mobile. But while culture can advance or retard the expression, the **underlying forces** are universal.

### Cap Solves War

#### Solves Nuclear War

Bedell, ‘21 (Denise Bedell has an Honors BA in Psychology at the University of Windsor and wrote a thesis, Peace Through Profit: How Capitalism Helps Restore and Revive Former Warzones, This is Capitalism presented by Stephens Inc., <https://www.thisiscapitalism.com/peace-through-profit-how-capitalism-helps-restore-and-revive-former-warzones/>, 2021)

Meet and Greet Looking more closely at the experiences of recent war zones makes clear how capitalism can bring together former opponents. By improving citizens’ quality of life through economic development, and by creating interdependency through trade, this can reduce the incentive for nations to take up arms against their neighbors. Take the Balkans. The Balkan peninsula is made up of Croatia, Bosnia and Herzegovina, Slovenia, Serbia, Montenegro, Kosovo, Macedonia, Romania, Bulgaria, Albania, Greece and the European part of Turkey. This region was a hotbed of conflict when the former Yugoslavia broke up at the end of the cold war (and, in fact the region has a long history of armed conflict). The Kosovo War in 1998-1999, for example, was fought between the Serbian Yugoslav authority (by then, Yugoslavia was made up of Serbia and Macedonia) — which controlled Kosovo — and the rebel Kosovo Liberation Army (backed by NATO air support). The deadly conflict saw thousands massacred in what a U.N. court would later deem a “systematic campaign of terror.” Those dark days are far gone, however, and these neighbors now work together in a virtuous economic cycle. Early in 2018, Pristina, the capital of Kosovo, hosted a four-day trade fair — at which 70 of the 174 companies present were Serbian. “I hope we will send the signal that the cooperation is already there,” noted Marko Cadez of Serbia’s Chamber of Commerce and Industry. “The people are working, the people are employing, making products, making profits — and that is most important for our country.” Or consider relations between India and Pakistan — strategic and military rivals that have threatened nuclear war on numerous occasions. Despite these tensions, bilateral trade between the two countries was worth around $2.6 billion in 2016, according to Indian government figures. Unofficial estimates suggest that it is twice that amount — and that the potential for trade is many times greater yet. “Peace building and peacemaking will always be subject to the larger political issues between India and Pakistan,” according to a report in 2017 from the independent and non-partisan federally mandated United States Institute of Peace (USIP). But, according to USIP, economic and trade cooperation can offers a path toward greater stability and peace between the countries — and across South Asia as a whole. A research report titled “Pakistan-India Relations: Peace Through bilateral Trade” — by Muhammad Ali, Noreen Mujahid and Aziz ur Rehman of the University of Karachi — determined that by increasing bilateral trade, it can help resolve political issues between the two countries — and reduce poverty. The report, published in the European Scientific Journal, noted: “If Pakistan and India normalize their economic relations, it will enhance the formal trade — and as a result, both the countries will earn significant revenue, which is lost due to informal trade.” The authors stated that as formal trade volumes rise, “both governments will be compelled to normalize their political relations and resolve their border disputes in an amicable manner.” Hence — as trade increases, pressure mounts on the authorities to ensure nothing interferes with those economic ties. Internal Strength Capitalism not only facilitates peace between nations, but also within them. Rwanda experienced a horrific genocide in the 1990s. But since then, the country has undergone a dramatic transformation — in part, because of the hard work of companies that have partnered with the government and outside agencies to create sustainable businesses and industries that are building a stable and growing economy. One of the many companies that has helped engender peace and create stability since Rwanda’s darkest days is Westrock Coffee. CEO Scott Ford’s pioneering work has helped to build a sustainable, free-market system for independent coffee producers in the country. Ford espoused a direct trade model — paying local smallholder farmers a fair market value for their coffee beans. He also built an agricultural training institute for local farmers, many of whom are women. As Ford explained: “What we are trying to do in Rwanda is be the engine that helps them create their own [economic] ecosystem.” (read more of his story here). Another example in Rwanda is Africa Improved Foods, which specializes in fortified foods to combat malnutrition. At an event earlier this year to mark the genocide, AIF’s chief executive, Amar Ali, outlined how business can help prevent the divisions that lead to conflict. “At Africa Improved Foods, we want to be a flagship for Rwanda — not only in what we build and the products we produce, but also the way we treat each other,” he said. “Everybody is a human being first, and should be treated as such — irrespective of gender, race, religion, tribe, or any other categorization.” In September of 2018, AIF received an SDG award for sustainable consumption (based on the UN’s Sustainable Development Goals) from the Swiss Green Economy Symposium. The award recognized the company for its innovative joint venture in Rwanda, along with the government of Rwanda, a consortium of various banks, and the International Finance Corporation, for promoting local production by buying farmers’ maize and soy yields directly at competitive prices. AIF’s factory in Kigali, the Rwandan capital, provides work to some 300 people, and the local-sourcing program provides around 24,000 Rwandan farmers with stable, sustainable income. Capitalism not only creates an environment for peace but when capitalism stumbles, so do the prospects for international harmony. In 2016, more countries experienced violent conflict than at any time in nearly 30 years. Not coincidentally, trade growth has been in something of a rut for most of the period since the global financial crisis. In that calamitous year of 2016, trade growth fell below 3% for the fifth consecutive year.

#### Decline causes nationalism, scapegoating, and diversionary conflict. That turns their racism and inequality impacts.

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.

#### Decline causes dangerous multi-polarity and great power wars.

Evan HILLEBRAND AND Stacy CLOSSON 15. \*\*Professor of International Economics, Patterson School of Diplomacy. \*\*Distinguished Visiting Professor, Patterson School of Diplomacy. *Energy, Economic Growth, and Geopolitical Futures: Eight Long-Range Scenarios*. MIT Press. 43-4.

The second scenario is marked by low energy prices, weak economic growth, and global disharmony. The United States and the European Union falter because their macroeconomic policies never come to grips with unsustainable budget deficits caused by rising transfer payments in the face of declining working-age populations. Recurrent financial crises afflict the OECD countries and wreak havoc on the developing world. China is never able to establish the conditions of secure property rights, impartial rule of law, and transparent governance for modem economic growth.

The result is high volatility and low-trend economic growth in the world's biggest economies, which drives down growth abroad and has a debilitating effect on geopolitical stability. Illiberal trade policies are ramped up everywhere, which slows growth further and breeds ill-will and mistrust among nations. Weak economic growth leads to low energy demand, which, when combined with new supplies of conventional and unconventional energy sources, leads to a sharp drop in energy prices.

This is a tumultuous multipolar world. Oil producers in the Middle East resort to desperate policies to retain power, and Iran emerges as the regional power after a short but exceedingly violent regional war. After decades of economic decline and rising unrest, Russia experiences a revolution by disparate groups of aggrieved liberal parties. Asian countries form a new alliance to resist pressure from an aggressive China. Africa does not reap the expected rewards from oil production. Instead, poor governance leads to weak economic performance, and many African nations are mired in conflict over water resources and drought-induced famine. The international community fails to · adequately address the underlying problems.

#### 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.

### Good - Space Col

#### Rapid growth key to space colonization---extinction.

Kovic '19 [Marko; March 2019; co-founder president of the Zurich Institute of Public Affairs Research; "The future of energy," https://osf.io/preprints/socarxiv/aswz9/download]

Ideally, the mitigation of climate risks will coincide with and contribute to the development of improved or even entirely novel sources of energy that will increase the long-term chances of humankind’s survival by means of space colonization. This is not an unrealistic expectation, given that the mitigation of climate risks consists, to a large degree, of replacing fossil fuels with other, less harmful sources of energy. However, some climate change mitigation strategies might actually harm the long-term prospects of humankind.

First, it is possible that dominant climate change mitigation strategies will actively exclude any form of nuclear energy from the repertoire of climate-friendly energy sources. Existing and experimental (molten salt) fission reactors could play a significant role in replacing carbon-heavy energy sources, but pro-environmental attitudes often overlap with anti-nuclear sentiments [65]. As a result, and in combination with other problems such as large-scale market failures of existing fission reactors (one of the reasons being that generating electricity from fossil fuels is cheaper) [66], nuclear fission does not currently have significant standing as a “cleantech” contribution to climate change mitigation. From a long-term perspective, an unfavorable view of nuclear energy in the context of climate change might mean that technological progress in the areas of nuclear fission and fusion might come to a halt (for example, due to explicit bans or implicit disincentives). If such a scenario came to be, our attempts at colonizing space would almost certainly fail: There are currently no alternatives to fission and fusion, and it is highly improbable that Solar power alone could suffice for sustaining extraterrestrial habitats.

Second, there is some probability that climate change mitigation strategies will change the social order towards a degrowth philosophy. Degrowth is a vague socio-economic concept and social movement that, in general, calls for a contraction of the global and national economies by means of lower production and consumption rates, and, to some degree, to more profound changes to the “capitalist” system of economic production [67]. Degrowth or degrowth-like approaches are being actively considered as climate risk mitigation strategies [68, 69], and degrowth would almost certainly be a highly effective measure for mitigating climate change. After all, if we were to drastically reduce or even completely eliminate the (industrial) sources of greenhouse gases, the amount of greenhouse gases that are being emitted would accordingly drastically sink. From the long-term perspective of humankind’s survival, degrowth is problematic in at least two ways. First, there is a risk that the general contraction of economic activity would also slow or eliminate progress in the domain of energy, which would, in turn, reduce the probability of successful space colonization due to an absence of suitable energy sources. Second, and more fundamental: If degrowth were to become a dominant societal paradigm, it is uncertain whether the long-term survival of humankind by means of space colonization would be regarded a desirable goal. In a literal sense, establishing extraterrestrial colonies would mean growth; the size of the total human population would grow, and the area of space-time that humans occupy would grow.

In a more philosophical sense, degrowth might even be antithetical to space colonization. Even though both degrowth and space colonization have a similar moral goal – increasing wellbeing – , the ends to that goal are very different. Within degrowth philosophy, the goal is, metaphorically speaking, not to “live beyond our means”: We should strive for “ecological balance”, and such a state should increase the average wellbeing. But the frame of reference is the status quo; Earth and humankind as we know it today. Space colonization, on the other hand, operates with a much larger frame of reference: All the future generations of humans (and other sentient beings) who could enjoy wellbeing if we succeed in colonizing space – and who will categorically be denied that wellbeing if we fail to colonize space [70]. The goal of space colonization as a moral project is not to live beyond our means, but to actively redefine and expand what our means are through scientific and technological progress.

#### Cap gets us off the rock and solves every impact.

Thiessen ‘20 – writes a twice-weekly column for The Post on foreign and domestic policy. He is a fellow at the American Enterprise Institute, and the former chief speechwriter for President George W. Bush. (Marc A., "SpaceX’s success is one small step for man, one giant leap for capitalism," Washington Post, 6-1-2020, https://www.washingtonpost.com/opinions/2020/06/01/spacexs-success-is-one-small-step-man-one-giant-leap-capitalism/)

It was one small step for man, one giant leap for capitalism. Only three countries have ever launched human beings into orbit. This past weekend, SpaceX became the first private company ever to do so, when it sent its Crew Dragon capsule into space aboard its Falcon 9 rocket and docked with the International Space Station. This was accomplished by a company Elon Musk started in 2002 in a California strip mall warehouse with just a dozen employees and a mariachi band. At a time when our nation is debating the merits of socialism, SpaceX has given us an incredible testament to the power of American free enterprise. While the left is advocating unprecedented government intervention in almost every sector of the U.S. economy, from health care to energy, today Americans are celebrating the successful privatization of space travel. If you want to see the difference between what government and private enterprise can do, consider: It took a private company to give us the first space vehicle with touch-screen controls instead of antiquated knobs and buttons. It took a private company to give us a capsule that can fly entirely autonomously from launch to landing — including docking — without any participation by its human crew. It also took a private company to invent a reusable rocket that can not only take off but land as well. When the Apollo 11 crew reached the moon on July 20, 1969, Neil Armstrong declared “the Eagle has landed.” On Saturday, SpaceX was able to declare that the Falcon had landed when its rocket settled down on a barge in the Atlantic Ocean — ready to be used again. That last development will save the taxpayers incredible amounts of money. The cost to NASA for launching a man into space on the space shuttle orbiter was $170 million per seat, compared with just $60 million to $67 million on the Dragon capsule. The cost for the space shuttle to send a kilogram of cargo into to space was $54,500; with the Falcon rocket, the cost is just $2,720 — a decrease of 95 percent. And while the space shuttle cost $27.4 billion to develop, the Crew Dragon was designed and built for just $1.7 billion — making it the lowest-cost spacecraft developed in six decades. SpaceX did it in six years — far faster than the time it took to develop the space shuttle. The private sector does it better, cheaper, faster and more efficiently than government. Why? Competition. Today, SpaceX has to compete with a constellation of private companies — including legacy aerospace firms such as Orbital ATK and United Launch Alliance and innovative start-ups such as Blue Origin (which is designing a Mars lander and whose owner, Jeff Bezos, also owns The Post) and Virgin Orbit (which is developing rockets than can launch satellites into space from the underside of a 747, avoiding the kinds of weather that delayed the Dragon launch). In the race to put the first privately launched man into orbit, upstart SpaceX had to beat aerospace behemoth Boeing and its Starliner capsule to the punch. It did so — for more than $1 billion less than its competitor. That spirit of competition and innovation will revolutionize space travel in the years ahead. Indeed, Musk has his sights set far beyond Earth orbit. Already, SpaceX is working on a much larger version of the Falcon 9 reusable rocket called Super Heavy that will carry a deep-space capsule named Starship capable of carrying up to 100 people to the moon and eventually to Mars. Musk’s goal — the reason he founded SpaceX — is to colonize Mars and make humanity a multiplanetary species. He has set a goal of founding a million-person city on Mars by 2050 complete with iron foundries and pizza joints. Can it be done? Who knows. But this much is certain: Private-sector innovation is opening the door to a new era of space exploration. Wouldn’t it be ironic if, just as capitalism is allowing us to explore the farthest reaches of our solar system, Americans decided to embrace socialism back here on Earth?

#### Cap is key to space col

Spring 16 (Todd, Writer, "A Case for Capitalism, In Regards to Space Travel – The Policy", Policy, 6-3-2016, https://thepolicy.us/a-case-for-capitalism-in-regards-to-space-travel-d77e50f8116e, DOA: 7-28-2017) //strikethrough on gendered language

As of now, N.A.S.A. does not plan on sending a ~~manned~~ mission to Mars until the 2030s — assuming, of course, they get the government funding they need to undertake such a massive project. Considering the recent cuts to deep space exploration, down nearly $300 million from 2016, I am not certain what the condition of the program will look like in another two years…much less the gap between now and the 2030s.

Where, then — if the government and its agencies will not provide us with the money for exploration — will we turn to slake our thirst for cosmic space travel?

SpaceX. Private corporations. Capitalism.

Seeing this article in the news, reading day after day the story of budget cuts to N.A.S.A. in regards to deep-space exploration and other related programs, got me thinking about just how important it will be for private companies and corporations to undertake these projects…such as Elon Musk’s SpaceX, and countless others (read the full list here).

The problem is that we have gotten it into our heads that Capitalism is the root cause of our economic woes in the United States, perhaps failing to understand that such policies are something like a double-edged sword: they could also be our salvation.

This article provides a great list of the pro’s and con’s of Capitalism. I would recommend you take the short passing of time it requires to read it through-and-through before continuing.

Now then.

I have never been for for fully-unhindered Capitalism. I do not believe that the government should stay out of economic affairs entirely, for as provided in the article many of the con’s relate to improper regulation (monopolization) as opposed to something fundamentally wrong, but I do not believe that any government should be going about shoving their claws into every economic affair either. There must be a healthy balance, especially if Capitalism is to work as it is supposed to work. The same goes for any policy. The government should be there to bolster competition between businesses…not favor one or bail-out the other. The more regulation, the more interference or amendment, the less it works…but this mix of regulation and free market must fall in the “goldilocks zone” if the citizens of said society are to reap its full benefit.

If not, like planets about a star, the society shall either burn or freeze.

One of those benefits is highlighted by Elon Musk’s SpaceX: the intervention of privately-funded companies to do things that a traditional government agency cannot. Namely, the exploration and eventual colonization of Mars in a reasonable, step-by-step timeframe…unlike the “we will get to it eventually” mindset plaguing the bowels of the United States government. Were not the policies in place to foster the growth of private companies, our best chance at getting people out of Earth-orbit — the Bush-approved, now-cancelled, insanely-expensive Constellation program — would have gone the way of promises and well-wishes.

It is my hope that Elon Musk and space entrepreneurs like him are not simply blowing steam, and that one day — perhaps even within my lifetime — I could be on my way to a space hotel on the Moon, flying aboard a space airliner with the name of a private company plastered across the side.

Regardless, if we humans are to truly become a multi-planet species we must not hinder economic growth with narrow thoughts. We must not become confused that the “problems down here” and the “problem of getting out there” must be in conflict; they do not need to, and we must not suppose they should. They are two separate issues with two unique sets of problems, and thus this policy of taking resources from one to give to the other will only ensure that neither issue is given that which it needs, or enough to fix what must be solved.

### Good – Warming

#### Cap solves warming – sustainable, private-industry tech key, alt fails and results in transition wars.

Smith 19 (Noah Smith; PhD in economics from the University of Michigan and Bloomberg Opinion columnist. He was an assistant professor of finance at Stony Brook University; 4/5/19; "Dumping Capitalism Won’t Save the Planet"; https://www.bloomberg.com/opinion/articles/2019-04-05/capitalism-is-more-likely-to-limit-climate-change-than-socialism; Bloomberg)

It has become fashionable on social media and in certain publications to argue that capitalism is killing the planet. Even renowned investor Jeremy Grantham, hardly a radical, made that assertion last year. The basic idea is that the profit motive drives the private sector to spew carbon into the air with reckless abandon. Though many economists and some climate activists believe that the problem is best addressed by modifying market incentives with a carbon tax, many activists believe that the problem can’t be addressed without rebuilding the economy along centrally planned lines. The climate threat is certainly dire, and carbon taxes are unlikely to be enough to solve the problem. But eco-socialism is probably not going to be an effective method of addressing that threat. Dismantling an entire economic system is never easy, and probably would touch off armed conflict and major political upheaval. In the scramble to win those battles, even the socialists would almost certainly abandon their limitation on fossil-fuel use — either to support military efforts, or to keep the population from turning against them. The precedent here is the Soviet Union, whose multidecade effort to reshape its economy by force amid confrontation with the West led to profound environmental degradation. The world's climate does not have several decades to spare. Even without international conflict, there’s little guarantee that moving away from capitalism would mitigate our impact on the environment. Since socialist leader Evo Morales took power in Bolivia, living standards have improved substantially for the average Bolivian, which is great. But this has come at the cost of higher emissions. Meanwhile, the capitalist U.S managed to decrease its per capita emissions a bit during this same period (though since the U.S. is a rich country, its absolute level of emissions is much higher). In other words, in terms of economic growth and carbon emissions, Bolivia looks similar to more capitalist developing countries. That suggests that faced with a choice of enriching their people or helping to save the climate, even socialist leaders will often choose the former. And that same political calculus will probably hold in China and the U.S., the world’s top carbon emitters — leaders who demand draconian cuts in living standards in pursuit of environmental goals will have trouble staying in power. The best hope for the climate therefore lies in reducing the tradeoff between material prosperity and carbon emissions. That requires technology — solar, wind and nuclear power, energy storage, electric cars and other vehicles, carbon-free cement production and so on. The best climate policy plans all involve technological improvement as a key feature. Recent developments show that the technology-centered approach can work. A recent report by Bloomberg New Energy Finance analyzed about 7000 projects in 46 countries, and found that large drops in the cost of solar power from photovoltaic systems, wind power and lithium-ion batteries have made utility-scale renewable electricity competitive with fossil fuels. A 76 percent decline in the cost of energy for short-term battery storage since 2012 is especially important. In a blog post, futurist and energy writer Ramez Naam underscores the significance of these developments. Naam notes the important difference between renewables being cheap enough to outprice new fossil-fuel plants, and being inexpensive enough to undercut existing plants. The former is already the case across much of the world, which is among the reasons for an 84 percent decrease in the number of new coal-fired plants worldwide since 2015. But when it becomes cheaper to scrap existing fossil-fuel plants and build renewables in their place, it will allow renewables to start replacing coal and gas much more quickly. Naam cites examples from Florida and Indiana where this is already being done. He cites industry predictions that replacing existing fossil-fuel plants with renewables will be economically efficient almost everywhere at some point in the next decade. Electricity is far from the only source of carbon emissions — there’s also transportation, manufacturing (especially of steel and cement), home and office heating, and agriculture to worry about. But the rapid advance of solar technology is a huge victory in the struggle against climate change, because it will allow people all over the world to have electricity without cooking the planet. And how was this victory achieved? A combination of smart government policy and private industry. Massachusetts Institute of Technology researchers Goksin Kavlak, James McNerney and Jessika Trancik in a recent paper evaluated the factors behind the solar-price decline from 1980 to 2012. They concluded that from 1980 to 2001, government-funded research and development was the main factor in bringing down costs, but from 2001 to 2012, the biggest factor was economies of scale. These economies of scale were driven by private industry increasing output, but with government subsidies helping to increase the incentive to ramp up production. It’s apparent, therefore, that both government and profit-seeking enterprises have their roles to play. Government funds the development of early-stage technology and then helps push the private sector toward adopting those technologies, while private companies compete to find ever-cheaper methods of implementation. Instead of eco-socialism, it’s eco-industrialism. If there’s any system that can beat climate change, this looks like it.

### AT: Inequality

#### Inequality is decreasing at unprecedented rates by every metric.

McAfee, 19—cofounder and codirector of the MIT Initiative on the Digital Economy at the MIT Sloan School of Management, former professor at Harvard Business School and fellow at Harvard’s Berkman Center for Internet and Society (Andrew, “The Global Gallop of the Four Horsemen,” *More from Less: The Surprising Story of How We Learned to Prosper Using Fewer Resources—and What Happens Next*, Chapter 10, pg 235-240, Kindle, dml)

In 2016 the economist and columnist Noah Smith reviewed the evidence on poverty around the world, and his conclusion was notably exuberant: "This is incredible—nothing short of a miracle. Nothing like this has ever happened before in recorded history." A graph created by Max Roser clearly reveals the "miracle" Smith was talking about, and how right he was that the improvement is without precedent. The graph doesn't show the percentage of people living in poverty, but instead something even more important: the total number of extremely poor people on earth.

Chart

Description automatically generated

The World's War on Poverty

The total number of poor people in the world peaked right at the time of the first Earth Day in 1970, then started to slowly decrease. But the real miracle came when this happy decline accelerated during the twenty- first century. In 1999, 1.76 billion people were living in extreme poverty. Just sixteen years later, this number had declined by 60 percent, to 705 million. Hundreds of millions fewer people are living in poverty now than in 1820, when the world's total population was seven times smaller than it is today.

Much of this decline is reflective of what occurred in China, which, as we saw in the previous chapter, threw off economic socialism beginning in 1978 and let capitalism work its poverty-reducing miracles. But the story of global poverty reduction isn't a purely Chinese one. As the graph below shows, every region around the world has seen large poverty reductions in recent years. The speed of the recent decline indicates that it's no longer ridiculous to talk about completely eliminating extreme poverty from the planet. The World Bank thinks this might be possible by 2030.

It's not just incomes that have improved. As I consult Our World in Data and other comprehensive sources of evidence, I struggle to find even a single important measure of human material well-being that's not getting better in most regions around the world.

Here are recent trends in a few key areas.

Daily Bread

Chart, diagram

Description automatically generated with medium confidence

As recently as 1980, the global average number of available daily calories wasn't enough to permit an active adult male to maintain his body weight. Less than thirty-five years later, however, every region in the world met this standard of twenty-five hundred daily calories.

Clean Living

Chart, line chart

Description automatically generated

More than 90 percent of the world's people now have access to improved water;VII in 1990 only a bit more than 75 percent did. The situation is similar for sanitation: in 1990 only a bit more than half of the world's people had it; now, more than two-thirds do.

Young Minds

Chart, line chart

Description automatically generated

The trend in secondary education enrollment around the world is similar to the one for sanitation, but even sharper: in 1986 fewer than half of the world's teenagers were in school; at present, more than 75 percent are.

One Thing We Say to Death: Not Today

By now the pattern should be familiar: life expectancy at birth has gone up around the world in recent decades:

Diagram

Description automatically generated

As we saw in chapter 1, global life expectancy was about 28.5 years in 1800. Over the next 150 years, that number increased by 20 years. Then, in the years between 1950 and 2015, it increased by 25 more. These gains are now universal; Southern Africa has regained the 10 years of expected life lost during its terrifying AIDS crisis.

One of the reasons life expectancy has gone up so quickly is the collapse in both child and maternal mortality around the world:

Chart, line chart

Description automatically generated

I find these mortality declines especially fast, large, and broad. Today, we still have desperately poor regions, failed states, and the decimations of war. But in no region today is the child mortality rate higher than the world's average rate was in 1998.

Convergent

Trends in maternal and child mortality highlight a critical fact that's often overlooked: around the world, inequality in most important measures of human material well-being is decreasing. Poor countries are catching up to rich ones, and gaps that were once large are shrinking. Inequalities in income and wealth dominate the news, and in many places these gaps are large and growing. They re also important, so well look at economic inequality in the next two chapters.

But it's true, too, that there are other kinds of inequality that we should care about as we examine the human condition: inequalities in health, education, diet, sanitation, and other things that matter deeply for the quality of a person's life. Here the news is profoundly good; these inequalities are collapsing. As the four horsemen have galloped around the world in recent decades, they've made life better not only for those people and countries that were already rich but for just about everyone else. Everywhere, fewer mothers and babies are dying, more kids are getting an education, more people have adequate nutrition and sanitation.

It's essential to acknowledge these global victories because they show us that what we're doing is working. Tech progress, capitalism, public awareness, and responsive government are spreading around the world and improving it. It's often said that insanity is doing the same thing over and over but expecting different results. The corollary might be that ignorance is not examining the results of what's being done. Over and over, when we look at the evidence, we see that the four horsemen are improving our world.

## Link Defense/Turns

### Permutation

#### The perms solve best – restructuring capitalism is possible

Mazzucato ’21 [Mariana; Jan 28; Professor in the Economics of Innovation and Public Value at University College London where she is the founding director of the UCL Institute for Innovation and Public Purpose; “Mission Economy: A Moonshot Guide to Changing Capitalism,” p. 204-10]

This book has applied what I believe is the immensely powerful idea of a mission to solving the ‘wicked’ problems we face today. In it, I have argued that tackling grand challenges will only happen if we reimagine government as a prerequisite for restructuring capitalism in a way that is inclusive, sustainable and driven by innovation.

First and foremost, this means reinventing government for the twenty-first century – equipping it with the tools, organization and culture it needs to drive a mission-oriented approach. It also means bringing purpose to the core of corporate governance and taking a very broad stakeholder position across the economy. It means changing the relationship between public and private sectors, and between them and civil society, so they all work symbiotically for a common goal. The reason for the emphasis on rethinking government is simple: only government has the capacity to bring about transformation on the scale needed. The relationship between economic actors and civil society shows our problems at their most profound, and this is what we must unravel.

We can start by recognizing that capitalist markets are an outcome of how each actor in the system is organized and governed, and how the different actors relate to one another. This holds for the private and public sectors and for other sectors such as non-profits. No particular kind of market behaviour is inevitable. For example, the market pressure often cited as forcing a business to neglect the long term in favour of the short term, as too many companies do today, is the product of a particular organization of the market. Nor is there anything inevitable in government bureaucracies being too slow to react to challenges such as digital platforms and climate change. Rather, both are outcomes of agency, actions and governance structures that are chosen inside organizations, as well as the legal and institutional relationships between them. It is all down to design within and between organizations.

Capitalism is, indeed, in crisis. But the good news is that we can do better. We know from the past that public and private actors can come together to do extraordinary things. I have reflected on how, fifty years ago, going to the moon and back required public and private actors to invest, to innovate and to collaborate night and day for a common purpose. Imagine if that collaborative purpose today was to build a more inclusive and sustainable capitalism: green production and consumption, less inequality, greater personal fulfilment, resilient health care and healthy ageing, sustainable mobility and digital access for all. But small, incremental changes will not get us to those outcomes. We must have the courage and conviction to lift our gaze higher – to lead transformative change that is as imaginative as it is ambitious, aiming for something far more ambitious than sending a man to the moon.

To do this successfully, governments need to invest in their internal capabilities – building the competence and confidence to think boldly, partner with business and civil society, catalyse new forms of collaboration across sectors, and deploy instruments that reward actors willing to engage with the difficulties. The task is neither to pick winners nor to give unconditional handouts, subsidies and guarantees, but to pick the willing. And missions are about making markets, not only fixing them. They’re about imagining new areas of exploration. They’re about taking risks, not only ‘de-risking’. And if this means making mistakes along the way, so be it. Learning through trial and error is critical for any value-creation exercise. Ambitious missions also have the courage to tilt the playing field.

If government is indeed a value creator that is driven by public purpose, its policies should reflect and reinforce that. Too many green policies today are just minor adjustments to a trajectory that still favours the old waste-prone behaviours and the financial casino that worsens inequality. A healthy economy that works for the whole of society must tilt the playing field consistently to reward behaviours that help us achieve agreed and desirable goals. That means achieving coherence in a multiplicity of fields, from taxes to regulation, from business law to the social safety net.

As emphasized throughout the book, it is key to not pretend that social missions are the same as technological ones. With challenges that are more ‘wicked’ it is essential that moonshot thinking is linked with support to underlying government systems. For example, a moonshot around disease testing or health priorities must interact closely with the public-health system, not replace or circumvent it. Similarly, a moonshot around clean growth must interact with transport systems and planning authorities and understand behavioural change. Thus it is critical to perceive missions not as siloed projects but as being intersectoral, bottom-up, and building on existing systems (such as innovation systems, among others).

Governments cannot pursue missions alone. They must work alongside purpose-driven businesses to achieve them. As I’ve argued in this book, this requires addressing one of the biggest dilemmas of modern capitalism: restructuring business so that private profits are reinvested back into the economy rather than being used for short-term financialized purposes. Missions can accelerate this shift by shaping expectations about where business opportunities lie and also getting a better return for public investment. In this sense they can begin to walk the talk of stakeholder value. This means creating a more symbiotic form of partnership and collaboration in different sectors, whether in health, energy or digital platforms. A market-shaping perspective requires governing these interactions so that intellectual property rights, data privacy, pricing of essential medicines and taxation all reflect what needs to happen to reach the common objective. In health that must mean health innovation driven by the mission of better health care for all; in energy it must mean divestment from fossil fuels and the creation of public goods like green infrastructure and green production systems that protect the earthly oasis that Armstrong referred to; and in the digital domain it must mean the use of digitalization to improve the access of all people to the power of the technologies of the twenty-first century – while ensuring both data privacy and that our welfare states are strengthened, not weakened, by digital platforms.

Doing capitalism differently requires reimagining the full potential of a public sector driven by public purpose – democratically defining clear goals that society needs to meet by investing and innovating together. It requires a fundamentally new relationship between all economic actors willing and able to tackle complexity to achieve outcomes that matter.

#### Capitalism’s not monolithic---regs solve their impacts and preserve positives.

Laura Tyson and Lenny Mendonca 21. Laura Tyson, former chair of the US President's Council of Economic Advisers, is Professor of the Graduate School at the Haas School of Business and Chair of the Blum Center Board of Trustees at the University of California, Berkeley. Lenny Mendonca, Senior Partner Emeritus at McKinsey & Company, is a former chief economic and business adviser to Governor Gavin Newsom of California and chair of the California High-Speed Rail Authority. "Capitalism We Can Believe In". Project Syndicate. 1-15-2021. https://www.project-syndicate.org/commentary/what-to-do-about-declining-trust-in-us-capitalism-by-laura-tyson-and-lenny-mendonca-2021-01

Growing distrust of capitalism follows from its failure to address major socioeconomic challenges, not least climate change and inequalities in opportunity, income, and wealth. While private incentives under capitalism are good at stimulating efficiency, growth, and innovation, they also generate unequal income and wealth distributions (even in a context of intense competition), often at odds with social norms of fairness. Moreover, capitalist systems tend to underinvest in public goods like education, health care, and social insurance – all critical factors in the pandemic response – while also discounting negative externalities such as greenhouse-gas emissions.

These shortcomings of capitalism are predictable, but they are remediable through public policies and institutions. Tax and transfer policies and minimum wages can reduce income and wealth disparities, just as public investment in education, training, and health care can enhance opportunity by providing access to good jobs and fostering the creation of new enterprises. Likewise, a price on carbon dioxide and regulations limiting or banning carbon emissions can help the world avert the existential threat of climate change.

Critics of capitalism often miss (or choose to ignore) that there is no single canonical model. Europe’s various “social market” models differ significantly from the neoliberal variant in the US. And even within the US, there are important differences between states and localities.

Some of these distinctions have been highlighted in the responses to the COVID-19 pandemic and recession. All advanced economies have deployed unprecedented levels of fiscal and monetary stimulus in the face of “K-shaped” or “dual” recessions in which lower-wage workers have suffered disproportionately more than other cohorts. Unlike the US, Germany and several other European countries have deployed measures specifically designed to keep as many workers as possible in their jobs. Because these countries have generous social insurance and benefits, including sick leave and family leave, workers and their families have been able to cope with both COVID-19 and sudden drops in their incomes.

Differences in national health-care models have also become more apparent. Unlike European capitalist systems that provide universal coverage, 14.5% of America’s non-elderly population (ages 18-64) remains uninsured. Moreover, owing to America’s heavy reliance on employer-based insurance, the pandemic has pushed at least 15 million more workers at least temporarily into the uninsured pool.

With their strong public-health systems, many European countries were also better equipped to carry out widespread testing and vaccine distribution. The US, meanwhile, has utterly failed to contain the virus, and is now delegating the vaccination campaign to under-resourced state and local authorities.

In another contrast with the US, Europe has dedicated about one-third of its massive stimulus program to investments aligned with its commitment to achieve carbon neutrality by mid-century. America’s federal stimulus measures have been silent on climate with few conditions of any kind.

Within the US, individual states’ responses to the COVID-19 crisis reflect different variants of capitalism. In California, Governor Gavin Newsom’s recent 2021-22 budget proposal reveals some distinctive features. In terms of health-care coverage, California remains a national leader with a Medicaid program covering more than 13 million people. Despite the pandemic-induced recession, the state is increasing its minimum wage to $14 per hour in 2021, on track to realize the target of $15 per hour in 2022 for all businesses employing 26 or more workers; many municipalities, including Los Angeles and San Francisco, have already achieved or exceeded the $15 target. (On January 1, 2021, 20 other states also raised their minimum wages, whereas the US federal minimum wage has remained unchanged at $7.25 per hour since 2009.)

California has also expanded coverage of its Earned Income Tax Credit (EITC) and Young Child Tax Credit to include undocumented workers who are otherwise denied the benefits of federal stimulus packages. Together, these tax credits applied to 3.6 million California households in 2020, adding $1 billion in total income. The state also passed new legislation significantly expanding unpaid family-leave rights. Employers with as few as five employees now must provide this option as well as more time for paid sick leave for workers forced to self-isolate or quarantine as a result of COVID-19 exposure or diagnosis.

Looking ahead, Newsom has proposed an additional $600 one-time cash payment to all taxpayers who are eligible for the state’s EITC in 2021. His proposed 2021-22 budget also earmarks $372 million to expedite the distribution of COVID-19 vaccines, and includes $4.5 billion for programs to drive economic growth and job creation once restrictions on normal activities have been lifted. These programs include $575 million in grants to small businesses and nonprofits, in addition to the $500 million for such grants implemented in late 2020 amid forced business closures. The proposal also allocates up to an additional $50 million for the California Rebuilding Fund, a public-private partnership, to support up to an additional $125 million of low-interest loans to underserved small businesses throughout the state.

California’s distinctive approach to market capitalism also emphasizes climate sustainability, using both carbon pricing and efficiency standards to achieve ambitious decarbonization targets. Under a 2018 state law, 60% of electricity must come from renewable resources by 2030, and 100% by 2045. California runs the world’s fourth-largest cap-and-trade system and will be setting even lower caps (and thus a higher carbon price) next month. In September 2020, Newsom announced an executive order requiring that zero-emission vehicles account for 100% of new car sales by 2035. His proposed budget seeks $1.5 billion to accelerate the infrastructure investment needed to achieve this goal.

President-elect Joe Biden has just announced a $1.9 trillion emergency rescue plan to counter the pandemic’s surge and provide substantial relief to workers, families, small businesses, and state and local governments. Prompt congressional passage of this plan is a critical first step in the renovation of America’s outdated neoliberal version of capitalism. As the economy recovers from the deep and uneven COVID-19 recession, the US must “build back better” by strengthening its social safety net, increasing public investment in education, health care, and other public goods, and rejoining the global charge against climate change. Lessons from the more successful variants of market capitalism in Europe and California point the way forward.

### AT: Cyber

#### Cyber threat is legitimate---means and motive exist.

Wintch ’21 [Timothy; April 30; active-duty major in the United States Air Force, M.A. in Military Studies from the American Military University; Homeland Security Today, “Perspective: Cyber and Physical Threats to the U.S. Power Grid and Keeping the Lights on,” <https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/>]

Among critical infrastructure sectors in the U.S., energy is perhaps the most crucial of the 16 sectors defined by the Department of Homeland Security. This sector is so vital because it provides the energy necessary to run every other critical infrastructure sector. However, the U.S. power grid, the backbone of the energy sector, is built upon an aging skeleton that is becoming increasingly vulnerable every day. Whether from terrorists or nation-states like Russia and China, the power grid is susceptible to not just physical attacks, but also to cyber intrusion as well. However, much of this threat can be mitigated if the U.S. takes the appropriate steps to safeguard the power grid and avoid a potential catastrophe in the future.

Since Sept. 11, 2001, terrorism on U.S. soil has been at the forefront of American consciousness. Critical infrastructure provides an appealing target because of the disproportionally large impact even a small attack can have on the sectors. In particular, the power grid represents a particularly lucrative target, both in terms of the ease of access and the large impact it can make. The National Research Council stated that the U.S. power grid is “vulnerable to intelligent multi-site attacks by knowledgeable attackers intent on causing maximum physical damage to key components on a wide geographical scale.”[[1]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn1) Additionally, the physical security of transmission and distribution systems is difficult due to the dispersed nature of these key components, which in turn is advantageous to attackers as it reduces the likelihood of their capture.[[2]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn2) From 2002-2012, approximately 2,500 physical attacks occurred against transmission lines and towers worldwide and approximately 500 attacks against transformer substations.[[3]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn3) Terrorists have the motivation to attack the U.S. power grid but the very nature of the grid makes it highly vulnerable. The power grid is not only at risk from physical attacks, but also nation-state cyberattacks.

One nation that has shown both the capability and intent to use attacks against critical energy infrastructure is Russia, as demonstrated in their 2015 annexation of Crimea from Ukraine. A Russian cyber threat group known as Sandworm, which used its BlackEnergy malware, attacked Ukrainian computer systems that provide remote control of the Ukraine power grid.[[4]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn4) This attack, and another in 2016, each left the capital Kiev without power, prompting cyber experts to raise concern about the same malware already existing in NATO and the U.S. power grids.[[5]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn5) In any conflict between Russia and NATO, not only would similar cyberattacks pose a threat, but so would potential physical attacks severing fuel oil and natural gas lines to Western Europe. Russia has both the capability and intent to attack critical infrastructure, particularly power grids, during future conflicts in their “hybrid warfare” approach.

Another nation that has the capability to attack critical energy infrastructure is China, representing a threat to not just the U.S. energy infrastructure but also that of our allies whose support would be vital in a major conflict. A recent NATO report highlighted this threat from China’s Belt and Road Initiative, stating that “[China’s] foreign direct investment in strategic sectors [such as energy generation and distribution] …raises questions about whether access and control over such infrastructure can be maintained, particularly in crisis when it would be required to support the military.”[[6]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn6) Like Russia, China has been active with cyber intrusions in U.S. energy infrastructure. The Mission Support Center at Idaho National Laboratory characterized these as attacks as “multiple intrusions into US ICS/SCADA [Industrial Control Systems/Supervisory Control and Data Acquisition] and smart grid tools [that] may be aimed more at intellectual property theft and gathering intelligence to bolster their own infrastructure, but it is likely that they are also using these intrusions to develop capabilities to attack the [bulk electric system], as well.”[[7]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn7) China, therefore, has both the capability and intent to conduct cyber intrusions and attacks for myriad reasons.

Another arm of this threat is the reliance the U.S. energy industry has on imports from China, especially transformers. In early 2020, federal officials seized a transformer in the port of Houston that had been imported by the Jiangsu Huapeng Transformer Company before sending it to Sandia National Laboratory in Albuquerque. Sandia is contracted by the U.S. Department of Energy for mitigating national security threats.[[8]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn8) The Wall Street Journal reported that “Mike Howard, chief executive of the Electric Power Research Institute, a utility-funded technical organization, said that the diversion of a huge, expensive transformer is so unusual – in his experience, unprecedented – that it suggests officials had significant security concerns.”[[9]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn9) Previously destined for the Washington Area Power Administration’s Ault, Colo., substation, the transformer is believed to have been seized due to “backdoor” exploitable hardware emplaced by the Chinese prior to shipment.[[10]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn10) Shortly after these events, President Trump issued Executive Order 13920, “[Securing the United States Bulk-Power System](https://trumpwhitehouse.archives.gov/presidential-actions/executive-order-securing-united-states-bulk-power-system/),” essentially limiting the import of Chinese-built critical energy infrastructure components due to concerns about cybersecurity.[[11]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn11) Interestingly, Jiangsu Huapeng “boasted that it supported 10 percent of New York City’s electricity load.”[[12]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn12)

Franklin Kramer, the former Assistant Secretary of Defense for International Security Affairs, testified before a U.S. House of Representatives Energy and Commerce subcommittee during an energy and power hearing in 2011 and said that a “highly-coordinated and structured cyber, physical, or blended attack on the bulk power system, however, could result in long-term (irreparable) damage to key system components in multiple simultaneous or near-simultaneous strikes.” He added that “an outage could result with the potential to affect a wide geographic area and cause large population centers to lose power for extended periods.”[[13]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn13) Even the inclusion of features such as smart grids to the overall grid structure poses new vulnerabilities through their connectivity. Kramer stated that “such connectivity means that the distribution system could be a key vector for a national security attack on the grid.”[[14]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn14)

### AT: Biotechnology

#### Biomedical innovation solves all sustainability warrants---that’s a defense of our methodology and a disad to theirs.

Michael Chui 20. Partner at the McKinsey Global Institute (MGI), McKinsey's business and economics research arm. James Irvine Foundation and the Asia Society of Northern California, and a member of the Council on Foreign Relations. “The Bio Revolution Innovations transforming economies, societies, and our lives.” <https://www.mckinsey.com/~/media/McKinsey/Industries/Pharmaceuticals%20and%20Medical%20Products/Our%20Insights/The%20Bio%20Revolution%20Innovations%20transforming%20economies%20societies%20and%20our%20lives/MGI-Bio-Revolution-Report-May-2020.ashx>.

New biological capabilities have the potential to bring sweeping change to economies and societies. The effects will be felt across value chains, from how R&D is conducted to the physical inputs in manufacturing to the way medicines and consumer products are delivered and consumed. These capabilities include the following: — Biological means could be used to produce a large share of the global economy’s physical materials, potentially with improved performance and sustainability. Significant potential exists to improve the characteristics of materials, reduce the emissions profile of manufacturing and processing, and shorten value chains. Fermentation, for centuries used to make bread and brew beer, is now being used to create fabrics such as artificial spider silk. Biology is increasingly being used to create novel materials that can raise quality, introduce entirely new capabilities, be biodegradable, and be produced in a way that generates significantly less carbon emissions. Mushroom roots rather than animal hide can be used to make leather.11 Plastics can be made with yeast instead of petrochemicals. — Increased control and precision in methodology is occurring across the value chain, from delivery to development and consumption with more personalization. Advances in biological sciences have made R&D and delivery processes more precise and predictable; the character of R&D is shifting from discovery by accident to rational design. Increasing knowledge of human genomes and the links between certain genes and diseases is enabling the spread of personalized or precision medicine, which can be more effective than the one-size-fits-all therapies of the past.12 Precision also applies to agriculture, where insights from a plant or soil’s microbiome increasingly can be used to optimize yield as well as to offer consumers with, for instance, personalized nutrition plans based on genetic tests.13 — The capability to engineer and reprogram human and nonhuman organisms is increasing. Gene therapies could offer complete cures of some diseases for the first time. The same technical advances that are driving capabilities that improve human health can be used to introduce valuable new traits that, for instance, improve the output or yield of nonhuman organisms like microbes, plants, and animals. Crops can be genetically engineered to produce higher yields and be more heat- or drought-resistant, for instance. By permanently genetically altering the vectors spreading disease (such as mosquitoes), gene drives could be used to prevent vector-borne diseases, including malaria, dengue fever, schistosomiasis, and Lyme disease, although they also come with ecological risks.14 — New methodologies using automation, machine learning, and proliferating biological data are enhancing discovery, throughput, and productivity in R&D. Biology and computing together are accelerating R&D, thereby addressing a productivity challenge. McKinsey analysis in 2017 found that the ratio of revenue to R&D spending in the biopharmaceutical industry hit a low point in productivity between 2008 and 2011.15 An explosion of biological data due to cheaper sequencing can be used by biotech companies and research institutes that increasingly are using robotic automation and sensors in labs that could increase throughput up to ten times.16 Further, advanced analytics, more powerful computational techniques, and AI can be leveraged to provide better insights during the R&D process. — Potential is growing for interfaces between biological systems and computers. A new generation of biomachine interfaces relies on close interaction between humans and computers. Such interfaces include neuroprosthetics that restore lost sensory functions (bionic vision) or enable signals from the brain to control physical movement of prosthetic or paralyzed limbs. Biocomputers that employ biology to mimic silicon, including the use of DNA to store data, are being researched. DNA is about one million times denser than hard-disk storage; technically, one kilogram of DNA could store the entirety of the world’s data (as of 2016).17 While these are early days, the scope and scale of these emerging capabilities could have a broad impact on economies and societies, touching multiple domains both directly and indirectly. These applications may change everything from the food we consume to textiles to the types of health treatments we receive and how we build our physical world. The potential value is vast. As noted, as much as 60 percent of the physical inputs to the global economy could be produced biologically, and even modest progress toward that 60 percent number could be transformative. Beyond the physical world, innovations could transform prevention, diagnostics, and treatment of disease. At least 45 percent of the global disease burden could be addressed with capabilities that are scientifically conceivable today, according to our analysis. Bio innovations, such as high-throughput screening, CRISPR, and machine learning for analyzing large and complex biological data, have also begun to shape R&D. We estimate that roughly 30 percent of private-sector R&D in major economies is in industries where biological data, biological inputs, or biological means of production could be used.18

### AT: Artificial Intelligence

#### AI regulation is good! Positive benefits solve extinction.

Tzimas ’21 [Themistoklis; 2021; Faculty of Law at the Aristotle University of Thessaloniki; Legal and Ethical Challenges of Artificial Intelligence from an International Law Perspective, “Chapter 2: The Expectations and Risks from AI,” p. 9-32]

Therefore, it is only natural to be at least skeptical towards a future with entities possessing equal or superior intelligence and levels of autonomy; the prospect even of existential risk looms as possible.7

AI that will have reached or surpassed our level of intelligence make us wonder why would highly autonomous and intelligent AI want to give up control back to its original creators?8 Why remain contained in pre-deﬁned goals set for it by us, humans?

Even AI in its current form and narrow intelligence poses risks because of its embedded-ness in an ever-growing number of crucial aspects of our lives. The role of AI in military, ﬁnancial,9 health, educational, environmental, governance networks-among others—are areas where risk generated by AI—even limited— autonomy can be diffused through non-linear networks, with signiﬁcant impact— even systemic.10

The answer therefore to the question whether AI brings risk with it is yes; as Eliezer Yudkowski comments the greatest of them all is that people conclude too early that they understand it11 or that they assume that they can achieve it without necessarily having acquired complete and thorough understanding of what intelli- gence means.12

Our projection of our—lack of complete—understanding of the concept of intelligence on AI is owed to our lack of complete comprehension of human intelligence too, which is partially covered by the prevalent and until now self- obvious, anthropomorphism because of which we tend to identify higher intelligence with the human mind.

Yudkowski again however suggests that AI “refers to a vastly greater space of possibilities than does the term “Homo sapiens.” When we talk about “AIs” we are really talking about minds-in-general, or optimization processes in general. Imagine a map of mind design space. In one corner, a tiny little circle contains all humans; within a larger tiny circle containing all biological life; and all the rest of the huge map is the space of minds-in-general. The entire map ﬂoats in a still vaster space, the space of optimization processes.”13

Regardless of what our well-established ideas are, there are many, different intelligences and even more signiﬁcantly, there are potentially, different intelli- gences equally or even more evolved than human.

From such a perspective, the unprecedented—ness of potential AI developments and the mystery surrounding them emerges as not only the outcome of pop culture but of a radical transformation of our—until recently—self—obvious identiﬁcation of humanity with highly evolved and dominant intelligence.14

The lack of understanding of intelligence and therefore of AI may be frightening but does not lead necessarily to regulation—at least to a proper one. We could even be led into making potentially catastrophic choices, on the basis of false assumptions.

On top of our lack of understanding, we should add a sentiment of anxiety as well as of expectations, which intensiﬁes as an atmosphere of emergency and of expected groundbreaking developments grows. The most graphic description of this feeling is the potential of a moment of singularity, as mentioned above according to the description by Vinge and Kurzweil.

As the mathematician I. J. Good–Alan Turing’s colleague in the team of the latter during World War II—has put it: “Let an ultraintelligent machine be deﬁned as a machine that can far surpass all the intellectual activities of any man however clever. Since the design of machines is one of these intellectual activities, an ultraintelligent machine could design even better machines; there would then unquestionably be an “intelligence explosion,” and the intelligence of man would be left far behind. Thus the ﬁrst ultraintelligent machine is the last invention that man need ever make, provided that the machine is docile enough to tell us how to keep it under control.”15 This is in a nutshell the moment of singularity.

The estimates currently foresee the emergence of ultra or super intelligence—as it is currently labelled—or in other words of singularity, somewhere between 20 and 50 years from today, further raising the sentiment of emergency.16 We cannot even foretell with precision how singularity would look like but we know that because of its expected groundbreaking impact, both states and private entities compete towards gaining the upper hand in the prospect of the singularity.17

Despite the fact that such predictions have been proven rather optimistic in the past18 and therefore up to some extent inaccurate, there are reasons to assume that their materialization will take place and that the urgency of regulation will be proven realistic.

After all, part of the disappointments from AI should be blamed on the fact that certain activities and standards, which were considered as epitomes of human intelligence have been surpassed by AI, only to indicate that they were not eventu- ally satisfactory thresholds for the surpassing of human intelligence.19 Partially because of AI progress we realize that human intelligence and its thresholds are much more complicated than assumed in the past.

The vastness’s of deﬁnitions of intelligence, as well as its etymological roots are enlightening of the difﬁculties: “to gather, to collect, to assemble or to choose, and to form an impression, thus leading one to ﬁnally understand, perceive, or know”.20

As with other relevant concepts, the truth is that until recently our main way to approach intelligence for far too long was “we know it, when we see it”. AI is an additional reason for looking deeper into intelligence and the more we examine it, the most complicated it seems.

The combination of lack of complete understanding of intelligence, the unpredictability of AI, its rapid evolution and the prospect of singularity explain both the fascination and the fear from AI. Once the latter emerges, we have no real knowledge about what will happen next but only speculations, which until recently belonged to the area of science ﬁction.

We are for example pretty conﬁdent that the speed of AI intelligence growth will accelerate, once self—improvement will have been achieved. The expected or possible chain of events will begin from AI capacity to re-write its own algorithms and exponentially self—improve, surpassing human intelligence, which lacks the capacity of such rapid self—improvement and setting its own goals.21

We can somehow guess the speed of AGI and ASI evolution and possibly some of its initial steps but we cannot guess the directions that such AI will choose to follow and the characteristics that it will demonstrate. Practically, we credibly guess the prospects of AI beyond a certain level of development.

Two existential issues could emerge: ﬁrst, an imbalance of intelligence at our expense—with us, humans becoming the inferior species—in favor of non-biological entities and secondly a lack of even fundamental conceptual communication between the two most intelligent “species”. Both of them heighten the fear of irreversible changes, once we lose the possession of the superior intelligence.22

However, we need to consider the expectations as well. The positive side focuses on the so-called friendly AI, meaning AI which will beneﬁt and not harm humans, thanks to its advanced intelligence.23

AI bears the promise of signiﬁcantly enhancing human life on various aspects, beginning from the already existing, narrow applications. The enhanced automation24 in the industry and the shift to autonomy,25 the take—over by AI of tasks even at the service sector which can be considered as “tedious”—i.e. in the banking sector—climate and weather forecasting, disaster response,26 the potentially better cooperation among different actors in complicated matters such as in matters of information, geopolitics and international relations, logistics, resources ex.27

The realization of the positive expectations depends up to some extent upon the complementarity or not, of AI with human intelligence. However, what friendly AI will bring in our societies constitutes a matter of debate, given our lack of unanimous approach on what should be considered as beneﬁcial and therefore friendly to humans—as is analyzed in the next chapter.

Friendly AI for example bears the prospect of freeing us from hard labor or even further from unwanted labor; of generating further economic growth; of dealing in unbiased, speedy, effective and cheaper ways with sectors such as policing, justice, health, environmental crisis, natural disasters, education, governance, defense and several more of them which necessitate decision-making, with the involvement of sophisticated intelligence.

The synergies between human intelligence and AI “promise” the enhancement of humans in most of their aspects. Such synergies may remain external—humans using AI as external to themselves, in terms of analysis, forecasts, decision—making and in general as a type of assistant-28 or may evolve into the merging of the two forms of intelligence either temporarily or permanently.

The second profoundly enters humanity, existentially—speaking, into uncharted waters. Elon Musk argues in favor of “having some sort of merger of biological intelligence and machine intelligence” and his company “Neuralink” aims at implanting chips in human brain. Musk argues that through this way humans will keep artiﬁcial intelligence under control.29 The proposition is that of “mind design”, with humans playing the role that God had according to theologies.30

While the temptation is strong—exceeding human mind’s capacities, far beyond what nature “created”, by acquiring the capacity for example to connect directly to the cyberspace or to break the barriers of biology31—the risks are signiﬁcant too: what if a microchip malfunction? Will such a brain be usurped or become captive to malfunctioning AI?

The merging of the two intelligences is most likely to evolve initially by invoking medical reasons, instead of human enhancement. But the merging of the two will most likely continue, as after all the limits between healing and enhancement are most often blurry. This development will give rise, as is analyzed below, to signif- icant questions and issues, the most of crucial of which is the setting of a threshold for the prevalence of the human aspect of intelligence over the artiﬁcial one.

Human nature is historically improved, enhanced, healed and now, potentially even re-designed in the future.32 Can a “medical science” endorsing such a goal be ethically acceptable and if yes, under what conditions, when, for whom and by what means? The answers are more difﬁcult than it seems. As the World Health Organi- zation—WHO—provides in its constitution, “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or inﬁrmity”.33

Therefore, why discourage science which aims at human-enhancement, even reaching the levels of post-humanism?34 Or if restrictions are to be imposed on human enhancement, on what ethics and laws will they be justiﬁed? How ethically acceptable is it to prohibit or delay technological evolution, which among several other magniﬁcent achievements, promises to treat death as a disease and cure it, by reducing soul to self, self to mind, and mind to brain, which will then be preserved as a “softwarized” program in a hardware other than the human body?35

After all, “According to the strong artiﬁcial intelligence program there is no fundamental difference between computers and brains: a computer is different machinery than a person in terms of speed and memory capacity.”36

While such a scientiﬁc development and the ones leading potentially to it will be undoubtedly, groundbreaking technologically-speaking, is it actually—ethically- speaking—as ambivalent as it may sound or is it already justiﬁed by our well— rooted human-centrism?37

Secular humanism may have very well outdated religious beliefs about afterlife in the area of science but has not diminished the hope for immortality; on the contrary, science, implicitly or explicitly predicts that matter can in various ways surpass death, albeit by means which belong in the realm of scientiﬁc proof, instead of that of metaphysical belief.38

If this is the philosophical case, the quest for immortality becomes ethically acceptable; it can be considered as embedded both in the existential anxiety of humans, as well as in the human-centrism of secular philosophical and political victory over the dei-centric approach to the world and to our existence.

From another perspective of course and for the not that distant philosophical reasons, the quest for immortality becomes ethically ambiguous or even unacceptable.39 By seeking endless life we may miss all these that make life worth living in the framework of ﬁniteness. As the gerontologist Paul Hayﬂick cautioned “Given the possibility that you could replace all your parts, including your brain, then you lose your self-identity, your self-recognition. You lose who you are! You are who you are because of your memory.”40

In other words, once we begin to integrate the two types of intelligence, within ourselves, until when and how we will be sure that it is human intelligence that guides us, instead of the AI? And if we are not guided completely or—even further—at all by human intelligence but on the contrary we are guided by AI which we have embodied and which is trained by our human intelligence, will we be remaining humans or we will have evolved to some type of meta-human or transhumant species, being different persons as well?41

AI promises tor threatens to offer a solution by breaking down our consciousness into small “particles” of information—simplistically speaking—which can then be “software-ized” and therefore “uploaded” into different forms of physical or non-physical existence.

Diane Ackerman states that “The brain is silent, the brain is dark, the brain tastes nothing, the brain hears nothing. All it receives are electrical impulses--not the sumptuous chocolate melting sweetly, not the oboe solo like the ﬂight of a bird, not the pastel pink and lavender sunset over the coral reef--only impulses.”42 Therefore, all that is needed—although it is of course much more complicated than we can imagine—is a way to code and reproduce such impulses.

Even if we consider that without death, we will no more be humans but something else, why should we remain humans once technologies allow us be something “more”, in the sense of an enhanced version of “being”? Why are we to remain bound by biological evolution if we can re-design it and our future form of existence?

Why not try to achieve the major breakthrough, the anticipated or hoped digita- lization of the human mind, which promises immortality of consciousness via the cyberspace or artiﬁcial bodies: the uploading of our consciousness so that it can live on forever, turning death into an optional condition.43

Either through an artiﬁcial body or emulation-a living, conscious avatar—we hope—or fear—that the domain of immortality will be within reach. It is the prospect of a “substrate-independent minds,” in which human and machine consciousness will merge, transcending biological limits of time, space and mem- ory” that fascinates us.44

As Anders Sandberg explained “The point of brain emulation is to recreate the function of the original brain: if ‘run’ it will be able to think and act as the original,” he says. Progress has been slow but steady. “We are now able to take small brain tissue samples and map them in 3D. These are at exquisite resolution, but the blocks are just a few microns across. We can run simulations of the size of a mouse brain on supercomputers—but we do not have the total connectivity yet. As methods improve, I expect to see automatic conversion of scanned tissue into models that can be run. The different parts exist, but so far there is no pipeline from brains to emulations.”45

The emulation is different from a simulation in the sense that the former mimics not only the outward outcome but also the “internal causal dynamics”, so that the emulated system and in this particular case the human mind behaves as the original.46 Obviously, this is a challenging task: we need to understand the human brain with the help of computational neuroscience and combine simpliﬁed parts such as simulated neurons with network structures so that the patterns of the brain are comprehended. We must combine effectively “biological realism (attempting to be faithful to biology), completeness (using all available empirical data about the system), tractability (the possibility of quantitative or qualitative simulation) and understanding (producing a compressed representation of the salient aspects of the system in the mind of the experimenter)”.47

The technological challenges are vast. Technologically speaking, the whole concept is based on some assumptions which must be proven both accurate and feasible.48 We must achieve technology capable of scanning completely the human brain, of creating software on the basis of the acquired information from its scanning and of the interpretation of information and the hardware which will be capable of uploading or downloading such software.49 The steps within these procedures are equally challenging. Their detailed analysis evades the scope of this book.

Some critical questions—they are further analyzed in the next chapters—emerge however: how will we interpret free will in emulation? What will be the impact of the environment and of what environment? How will be missing parts of the human brain re-constructed and emulated? What will be the status of the several emulations which will be created—i.e. failed attempts or emulations of parts of the human brain—in the course of the search for a complete and functioning emulation? Will they be considered as “persons” and therefore as having some right or will they be considered as mere objects in an experimental lab? How are we going to decode the actual subjective sentiments of these emulations? Essentially, are emulations the humans “themselves” who are emulated or a different person? Even further what will human and person mean in the era of emulation?

From a different perspective, the victory over death may be seen as a danger of mass extinction, absorption or de-humanization. In this new, vast universe of emulations will there be place for humans?50

From the above—mentioned discussion, it becomes obvious that at a large extent, the prospect of risk or of expectation is a matter of perspective, for which there is no unanimous agreement in the present. This may be the greatest danger of all, for which Asimov warned us: unleashing technology while we cannot communicate among us, in the face of it.

The existential prospect as well as the risks by AI may self-evidently emerge from technological advances but are determined on the basis of politico—philosophical or in the wider sense, ethical assumptions. This is where the need for legal regulation steps in. Such a need was often underestimated in the past in favor of a solely technologically oriented approach—although exceptions raising issues other than technological can be found too.51 The gradual raising of ethic—political, philosoph- ical and legal issues constitutes a rather recent development, partially because of the realization of the proximity of the risks and of the expectations.

The public debate is often divided between two “contradictory” views: fear of AI or enthusiastic optimism. The opinions of the experts differ respectively.

Kurzweil, who has come with a prediction for a date for the emergence of singularity—until 2045—expects such a development in a positive way: “What’s actually happening is [machines] are powering all of us,” Kurzweil said during the SXSW interview. “They’re making us smarter. They may not yet be inside our bodies, but, by the 2030s, we will connect our neocortex, the part of our brain where we do our thinking, to the cloud.”52

In a well-known article—issued on the occasion of a ﬁlm—Stephen Hawking, Max Tegmark, Stuart Russell, and Frank Wilczek shared a moderate position: “The potential beneﬁts are huge; everything that civilization has to offer is a product of human intelligence; we cannot predict what we might achieve when this intelligence is magniﬁed by the tools AI may provide, but the eradication of war, disease, and poverty would be high on anyone’s list. Success in creating AI would be the biggest event in human history. . . Unfortunately, it might also be the last, unless we learn how to avoid the risks.”53

## Alt

### Environment/Sustainability – Alt

#### 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.

#### No transition---degrowth assumes magic!

Branko Milanovic 2/3/21. Visiting Presidential Professor at the Graduate Center City University of New York and Senior Scholar at the Stone Center for Socio-economic Inequality. "Degrowth: Solving the Impasse by Magical Thinking". No Publication. 2-23-2021. https://www.globalpolicyjournal.com/blog/23/02/2021/degrowth-solving-impasse-magical-thinking

The difficulty of discussion with degrowers comes from the fact that they and the rest of us live in two different ideological worlds. Degrowers live in a world of magic, where merely by listing the names of desirable ends they are supposed to somehow happen. In that world, one does not need to bother with numbers or facts, trade-offs, first or second bests; one merely needs to conjure up what he/she desires and it will be there.

Now degrowers are not irrational people. The reason why they are pushed in this magical corner is because when they try to “do the numbers” they are led to an impasse. They do not want to allow for significant increase in world GDP because it will, even if decoupling (of which they are skeptical) happens, drive energy emissions too high. If one wants to keep world GDP more or less as now one must (A) “freeze” today’s global income distributions so that some 10-15% of the world population continue to live below the absolute poverty line, and one-half of the world population below $PPP 7 dollars per day (which is, by the way, significantly below Western poverty lines). This is however unacceptable to the poor people, to the poor countries, and even to degrowers themselves.

Thus they must try something else: introduce a different distribution (B) where everybody who is above the current mean world income ($PPP 16 per day) is driven down to this mean, and the poor countries and people are, at least for a while, allowed to continue growing until they too achieve the level of $PPP 16 per day. But the problem with that approach is that one would have to engage in a massive reduction of incomes for all those who make more than $PPP 16 which is practically all of the Western population. Only 14% of the population in Western countries live at the level of income less than the global mean. This is probably the most important statistic that one should keep in mind. Degrowers thus need to convince 86% of the population living in rich countries that their incomes are too high and need to be reduced. They would have to preside over economic depressions for about a decade, and then let the new real income stay at that level indefinitely. (Even that would not quite solve the problem because in the meantime, many poor countries would have reached the level of $PPP 16 per day and they too would have to be prevented from growing further.) It is quite obvious that such a proposition is a political suicide. Thus degrowers do not wish to spell it out.

#### You can’t just wish away the current system.

Andrew SAYER 95, Reader in Social Theory and Political Economy at Lancaster University [*Radical Political Economy: A Critique*, 1995, p. 33-34]

Any criticism presupposes the possibility of a better way of life; to expose something as illusory or contradictory is to imply the possibility and desirability of a life without those illusions and contradictions. This much has been established by critical theorists such as Habermas and Apel. Yet the notion that critique implies a quest for the good is a highly abstract one. Up to a point, particular critiques do imply something a little more specific than the standpoint of a better life. The critique of capitalism's anarchic and uneven development implies a critical standpoint or contrast space of an imagined society with a rationally ordered and even process of development. The critique of class points to the desirability of a classless society. Naturally, society would be better if its illusions, conflicts and contradictions were reduced, but we naturally want to know how this could be achieved. The desirability of a life without contradictions or illusions does not make it feasible.

Critical social science does not merely identify illusions, irrationality or contradictions but attempts to provide explanations of their sources, locating the 'unwanted determinations' of behaviour, as Bhaskar (1989) puts it. It would be strange, to say the least, if an analysis of the causes of problems such as hunger and exploitation were unable to indicate anything about alternatives which would eliminate them. If a critical theory cannot begin to indicate how to eliminate problems we must inevitably be suspicious of its claims to have identified their causes. If the alternative implied by a critical standpoint is not feasible, then any critique made from that standpoint is thereby seriously weakened. Not to put too fine a point on it, the critique of, say, capitalism's anarchic and uneven development would lose much of its force if all [END PAGE 33] advanced economies were necessarily anarchic and uneven in their development, though one could still criticize advanced economies - not just capitalist ones - from the very different standpoint of a 'deep ecology', calling for a return to small-scale, more primitive economies (Dobson, 1990).

We need to know enough about the critical standpoint and the implied alternative to be able to judge first whether it really is feasible and desirable. Since knowledge is 'situated' and bears the mark of its author's social position, this includes assessing whose standpoint it is made from. Does it privilege the position of a particular group (e.g. male workers, advanced countries)? Does it imply a society without difference? If it suggests greater equality on whose terms is equality to be defined?7 We have also to ask whether remedying one set of problems would generate others (it usually does), and whether these would be worse than the original problems. This is rarely considered in radical political economy, the usual implicit assumption being that all bad things go together in capitalism and all good things under socialism/communism. Yet it is possible that some of the 'contradictions' involve dilemmas which can't be eliminated along with capitalism. Evaluations in terms of desirability therefore need to be cross-checked with assessments of feasibility, and optimistic assumptions of inevitable improvement suspended.

There are two kinds of feasibility which might be considered:

1 whether a certain desired end-state or goal can be realized - for example, how people can be politically mobilized to make it happen; and

2 whether, assuming enough people are willing to try to make it happen, the goal or end-state is feasible in itself, e.g. could one have an advanced economy without money?

It is usually only the first of these questions that radicals address, the standard response to utopian discussions being not 'would it work?' but 'yes but how are you going to get from here to there?' But while many might think it idle to ignore (1), it is surprising how little attention is given to (2), as if the journey mattered more than the destination. I fully accept that I am not offering suggestions on (1) in this book, and only ideas pertinent to (2): but then I don't see how large-scale political mobilization can precede a well-worked out conception of a feasible alternative.

### Transition Wars – Alt

#### Alt fails---transition wars and domestic pressure means the alt abandons fidelity to the environment.

Smith '19 [Noah; 4/5/19; Bloomberg Opinion columnist, former assistant professor of finance at Stony Brook University; "Dumping Capitalism Won’t Save the Planet," https://www.bloomberg.com/opinion/articles/2019-04-05/capitalism-is-more-likely-to-limit-climate-change-than-socialism]

It has become fashionable on social media and in certain publications to argue that capitalism is killing the planet. Even renowned investor Jeremy Grantham, hardly a radical, made that assertion last year. The basic idea is that the profit motive drives the private sector to spew carbon into the air with reckless abandon. Though many economists and some climate activists believe that the problem is best addressed by modifying market incentives with a carbon tax, many activists believe that the problem can’t be addressed without rebuilding the economy along centrally planned lines.

The climate threat is certainly dire, and carbon taxes are unlikely to be enough to solve the problem. But eco-socialism is probably not going to be an effective method of addressing that threat. Dismantling an entire economic system is never easy, and probably would touch off armed conflict and major asdasd upheaval. In the scramble to win those battles, even the socialists would almost certainly abandon their limitation on fossil-fuel use — either to support military efforts, or to keep the population from turning against them. The precedent here is the Soviet Union, whose multidecade effort to reshape its economy by force amid confrontation with the West led to profound environmental degradation. The world's climate does not have several decades to spare.

Even without international conflict, there’s little guarantee that moving away from capitalism would mitigate our impact on the environment. Since socialist leader Evo Morales took power in Bolivia, living standards have improved substantially for the average Bolivian, which is great. But this has come at the cost of higher emissions. Meanwhile, the capitalist U.S managed to decrease its per capita emissions a bit during this same period (though since the U.S. is a rich country, its absolute level of emissions is much higher).

In other words, in terms of economic growth and carbon emissions, Bolivia looks similar to more capitalist developing countries. That suggests that faced with a choice of enriching their people or helping to save the climate, even socialist leaders will often choose the former. And that same political calculus will probably hold in China and the U.S., the world’s top carbon emitters — leaders who demand draconian cuts in living standards in pursuit of environmental goals will have trouble staying in power.

The best hope for the climate therefore lies in reducing the tradeoff between material prosperity and carbon emissions. That requires technology — solar, wind and nuclear power, energy storage, electric cars and other vehicles, carbon-free cement production and so on. The best climate policy plans all involve technological improvement as a key feature.