# 1NC v. Orange Lutheran AZ Meadows Round 3

## 1

### CP

#### Counter Plan Text – the United States ought to

#### anonymously invest $25 billion into 25 production lines dedicated solely to COVID-19 vaccines to boost global vaccine production managed by the Biomedical Advanced Research and Development Authority.

#### anonymously pre-order and distribute 8 billion doses of COVID vaccines using an equitable distribution framework prioritizing developing countries in the Global South.

#### The CP solves the entirety of the case and does it faster. The plan mis-identifies the Root Cause – IP isn’t the Root Cause, Financing is.

Stankiewicz 21 Mike Stankiewicz 5-6-2021"Opinion: For just $25 billion, the U.S. could jump-start a project to quickly vaccinate the entire world against COVID" <https://www.marketwatch.com/story/for-just-25-billion-the-u-s-could-jump-start-a-project-to-quickly-vaccinate-the-entire-world-against-covid-11614898552> (a press officer in Public Citizen's communication's department, where he focuses on legislative policy and health-orientated advocacy)//Elmer

Despite wealthy countries such as the U.S. ramping up COVID-19 vaccination efforts, **it** still **may** **take years to vaccinate the world**, especially poorer countries, and the economic and humanitarian impacts could be devastating. But **an injection of** **just $25 billion** **into global vaccine production efforts by the U.S.** government **could save millions of lives** and help prevent economic disaster. The most up-to-date numbers paint incredibly different futures between wealthy and low-income countries. At the current rate of vaccination, analysts predict that developing countries, including almost all of Southeast Asia, may not reach meaningful vaccine coverage until 2023. Comparatively, President Joe Biden has promised that the U.S. will have enough vaccine doses to inoculate every adult within the next three months. Increased fatalities And as wealthy countries such as the U.S. are starting to see lower death, transmission and hospitalization rates, low-income countries are experiencing increased hardship and fatalities. Countries such as Hungry are being forced to tighten restrictions as infection rates increase, and deaths in Africa have spiked by 40% in the past month, according to the World Health Organization (WHO). No country can be left behind in this global pandemic, and the U.S. is in a unique position to make sure every country gets the ample amount of vaccines they need. **Public Citizen research has found that just a $25 billion investment in COVID-19 vaccine production by the U.S. government would produce enough vaccine for developing countries, potentially shaving years from the global pandemic**. Public Citizen estimates that **8 billion doses of** National Institutes of Health-**Moderna MRNA**, +1.98% vaccine can be **produced** **for** just over **$3 per dose**. To bolster production and supply the necessary 8 billion doses, it would take **$1.9 billion to fund** the necessary **25 production lines**. Another **$19 billion** would pay **for materials and labor**, and **$3 billion** would **compensate** **Moderna** **for making technology available to manufacturers** in other countries. An additional $500 million would cover costs to staff and run **a rapid-response federal program that provides technical assistance and facilitates technology transfer to manufacturers and works with the WHO’s technology hub.** In total, vaccinating the world would cost less than 1.4% the total of Biden’s $1.9 trillion COVID relief plan. But such a program also needs to be properly managed to be successful. To help facilitate these efforts, the Biden administration should also **designate** the government’s Biomedical Advanced Research and Development Authority (**BARDA**) **to lead** the world-wide **vaccine manufacturing effort**. BARDA has the **necessary experience to coordinate** **an initiative of this scale** with the WHO, building on its partnership to build pandemic flu manufacturing capacity in developing countries after the bird-flu scare of 2006. Widespread vaccines would help U.S. economy These efforts would dramatically increase access to vaccines in developing countries and speed up global vaccination by years, saving countless lives. But allowing the current vaccine supply crisis to continue is not just inhumane, it is also not in our own economic interest to do so.

## 2

### DA

#### Climate Patents and Innovation high now and solving Warming but COVID waiver sets a dangerous precedent for appropriations - the mere threat is sufficient is enough to kill investment.

Brand 5-26, Melissa. “Trips Ip Waiver Could Establish Dangerous Precedent for Climate Change and Other Biotech Sectors.” IPWatchdog.com | Patents & Patent Law, 26 May 2021, www.ipwatchdog.com/2021/05/26/trips-ip-waiver-establish-dangerous-precedent-climate-change-biotech-sectors/id=133964/. //sid

The biotech industry is making remarkable advancestowards climate change solutions, and it is precisely for this reason that it can expect to be in the crosshairs of potential IP waiver discussions. President Biden is correct to refer to climate change as an existential crisis. Yet it does not take too much effort to connect the dots between President Biden’s focus on climate change and his Administration’s recent commitment to waive global IP rights for Covid vaccines (TRIPS IP Waiver). “This is a global health crisis, and the extraordinary circumstances of the COVID-19 pandemic call for extraordinary measures.” If an IP waiver is purportedly necessary to solve the COVID-19 global health crisis (and of course [we dispute this notion](https://www.ipwatchdog.com/2021/04/19/waiving-ip-rights-during-times-of-covid-a-false-good-idea/id=132399/)), can we really feel confident that this or some future Administration will not apply the same logic to the climate crisis? And, without the confidence in the underlying IP for such solutions, what does this mean for U.S. innovation and economic growth? United States Trade Representative (USTR) [Katherine Tai](https://www.ipwatchdog.com/2021/05/05/tai-says-united-states-will-back-india-southafrica-proposal-waive-ip-rights-trips/id=133224/) was subject to questioning along this very line during a recent Senate Finance Committee hearing. And while Ambassador Tai did not affirmatively state that an IP waiver would be in the future for climate change technology, she surely did not assuage the concerns of interested parties. The United States has historically supported robust IP protection. This support is one reason the United States is the center of biotechnology innovation and leading the fight against COVID-19. However, a brief review of the domestic legislation arguably most relevant to this discussion shows just how far the international campaign against IP rights has eroded our normative position. The Clean Air Act, for example, contains a provision allowing for the mandatory licensing of patents covering certain devices for reducing air pollution. Importantly, however, the patent owner is accorded due process and the statute lays out a detailed process regulating the manner in which any such license can be issued, including findings of necessity and that no reasonable alternative method to accomplish the legislated goal exists. Also of critical importance is that the statute requires compensation to the patent holder. Similarly, the Atomic Energy Act contemplates mandatory licensing of patents covering inventions of primary importance in producing or utilizing atomic energy. This statute, too, requires due process, findings of importance to the statutory goals and compensation to the rights holder. A TRIPS IP waiver would operate outside of these types of frameworks. There would be no due process, no particularized findings, no compensationand no recourse. Indeed, the fact that the World Trade Organization (WTO) already has a process under the TRIPS agreement to address public health crises, including the compulsory licensing provisions, with necessary guardrails and compensation, makes quite clear that the waiver would operate as a free for all. Forced Tech Transfer Could Be on The Table When being questioned about the scope of a potential TRIPS IP waiver, Ambassador Tai invoked the proverb “Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.” While this answer suggests primarily that, in times of famine, the Administration would rather give away other people’s fishing rods than share its own plentiful supply of fish (here: actual COVID-19 vaccine stocks), it is apparent that in Ambassador Tai’s view waiving patent rights alone would not help lower- and middle-income countries produce their own vaccines. Rather, they would need to be taught how to make the vaccines and given the biotech industry’s manufacturing know-how, sensitive cell lines, and proprietary cell culture media in order to do so. In other words, Ambassador Tai acknowledged that the scope of the current TRIPS IP waiver discussions includes the concept of forced tech transfer. In the context of climate change, the idea would be that companies who develop successful methods for producing new seed technologies and sustainable biomass**,** reducing greenhouse gases in manufacturing and transportation, capturing and sequestering carbon in soil and products, and more, would be required to turn over their proprietaryknow-how to global competitors. While it is unclear how this concept would work in practice and under the constitutions of certain countries, the suggestion alone could be devastating to voluntary internationalcollaborations. Even if one could assume that the United States could not implement forced tech transfer on its own soil, what about the governments of our international development partners? It is not hard to understand that a U.S.-based company developing climate change technologies would be unenthusiastic about partnering with a company abroad knowing that the foreign country’s government is on track – with the assent of the U.S. government – to change its laws and seize proprietary materials and know-how that had been voluntarily transferred to the local company. Necessary Investment Could Diminish Developing climate change solutions is not an easy endeavor and bad policy positions threaten the likelihood that they will materialize. These products have long lead times from research and development to market introduction, owing not only to a high rate of failure but also rigorous regulatory oversight. Significant investment is required to sustain and drive these challenging and long-enduring endeavors. For example, synthetic biology companies critical to this area of innovation [raised over $1 billion in investment in the second quarter of 2019 alone](https://www.bio.org/sites/default/files/2021-04/Climate%20Report_FINAL.pdf). If investors cannot be confident that IP will be in place to protect important climate change technologies after their long road from bench to market, it is unlikely they will continue to investat the current and required levels**.**

#### Climate Patents are critical to solving Warming – only way to stimulate Renewable Energy Technology Investment.

Aberdeen 20 Arielle Aberdeen October 2020 "Patents to climate rescue: how intellectual property rights are fundamental to the development of renewable energy" <https://www.4ipcouncil.com/application/files/4516/0399/1622/Intellectual_Property_and_Renewable_Energy.pdf> (Caribbean Attorney-at-Law with extensive experience in legal research and writing.)//Elmer

**Climate change is** the **most pressing** global **challenge** and with the international commitment to reduce greenhouse gas emissions under the Paris Agreement,1 there **needs to be a global energy revolution** and transition.2 This is where **innovative technology can help** meet the challenge of reducing our dependency on finite natural capital resources. The development and deployment of innovative technology play a pivotal role in enabling us to replace fossil fuel use with more sustainable energy solutions. **Patents** have **facilitated** the **development of such innovative technologies** thus far **and** will **continue to be the catalyst for this transition**. Patents are among a group of intellectual property rights (‘IPRs’). 3 These are private and exclusive rights given for the protection of different types of intellectual creations. IPRs are the cornerstone of developed and knowledge-based economies, as they encourage innovation, drive the investment into new areas and allow for the successful commercialisation of intellectual creations. IPRs are the cornerstone of developed and knowledge-based economies. Empirical evidence has shown that a **strong IPRs** system **influences** both the **development and diffusion of technology**. Alternatively, **weak IPRs** protection has been shown to **reduce** **innovation**, **reduce investment** and prevent firms from entering certain markets.4 Once patent protection has been sought and granted, it gives a time-limited and exclusive rights to the creator of an invention. This allows the inventor or patentor the ability to restrict others from using, selling, or making the new invented product or process. Thereby allowing a timelimited monopoly on the exploitation of the invention in the geographical area where it is protected. During the patent application procedure, the patentor must make sufficient public disclosure of the invention. This will allow others to see, understand and improve upon it, thereby spurring continuous innovation. Therefore, the patent system through providing this economic incentive is a successful tool which has encouraged the development and the dissemination of technology. Patents like all IPRs are key instruments in the global innovation ecosystem.5 When developing innovative technology, patents play a role throughout the “technological life cycle”,6 as shown in Figure 1. This lifecycle involves the invention, research and development (‘R&D’), market development and commercial diffusion. Patents are most effective when sought at the R&D stage. Once a patent has been granted, it becomes an asset which can then be used to7: Gain Market Access: Patents can create market advantages; to develop and secure market position; to gain more freedom to operate within a sector and reduce risks of infringing on other patents; protect inventions from being copied, and removes delaying by innovative firms to release new or improved technology and encourage the expansion of their markets. Negotiation leverage: Patents can build a strong brand or company reputation which can enhance the company’s negotiation power and allow for the creation of equal partnerships. Funding: Patents can generate funding and revenue streams for companies. Having a strong patent portfolio especially in small businesses or start-ups can be used to leverage investor funding; while also be a source of revenue for companies through licensing fees, sales, tax incentives, collateral for loans and access to grants and subsidies. Strategic value: Patents can be used to build “synergistic partnerships”8 through which collaboration on R&D and other partnerships; be used to improve in-house R&D and build and/ or develop more products. As such, obtaining and managing patent as part of a patent and broader IPRs strategy are key tools for business success, especially within highly innovative and technology-driven industries.9 Renewable Energy: The Basics Renewable energy is derived from natural unlimited sources which produce little to no harmful greenhouse gases and other pollutants. 10 Innovative renewable energy technologies (‘RETs’) have created the ability to tap into these sources and convert them to energy which can then be stored, distributed, and consumed at a competitive cost. RETs have developed into a technology ecosystem which consists of alternative energy production, energy conservation and green transportation.11 For energy production, RETs have been developed to generate energy from six main sources. These are: Wind energy: Technology, via off-shore and/or on-shore wind turbines, harnesses the energy produced by the wind. Solar energy: Technology either through concentrated solar power (‘CSP’)and solar photovoltaic (‘PV’) harnesses the energy produced by the sun. Hydropower: Technology either through large-scale or small-scale hydropower plants, captures energy from flowing water. Bioenergy: Technology is used to convert organic material into energy either through burning to produce heat or power or through converting it to a liquid biofuel. Geothermal: Technology is used to capture the energy from the heat produced in the earth’s core. Ocean/Tidal energy: Technology is used to capture the energy produced from waves, tides, salinity gradient energy and ocean thermal energy conversion. Out of these six sources, the wind, solar and hydropower energy sectors are the biggest, the most developed and the most widely used. While geothermal and ocean energy sources are used in a more limited capacity. In particular, the RETs in ocean energy is still at its infancy and thus presents an opportunity for future innovation and commercialisation. Renewable energy is the fastest-growing energy source, with the electricity sector showing the fastest energy transition. 12 In 2016, renewable energy accounted for 12% of final global energy consumption and in 2018, a milestone was reached with renewables being used to generate 26% of global electricity. The source of this energy has been driven by renewable hydropower, as shown in Figure 2, with wind and solar energy trailing behind in energy production. However, the International Energy Agency (‘IRENA’) forecasts that Solar PV will lead RETs to increase capacity in the upcoming years. 13 This rise in renewable energy is due to the increased investment into the sector and the development, diffusion and deployment of innovative RETs. For the period between 2010 and 2019, there were 2.6 trillion US dollars invested in renewable energy. 14 The majority of which being focused on solar energy. 15 This investment has surpassed the investment made into the traditional fossil fuel energy 16 and has been heavily driven by the private sector. 17 The International Energy Agency recent report showed that its members increased the public budgets for energy technology R&D, with the biggest increase in the low-carbon sectors.18 The geographic sources of this investment shown in Figure 3, reveals that the European Union, the United States and Japan are part of the largest investors. This reflects the historic involvement these countries have had in the renewable energy arena and the development of RETs. However, there is now the emergence of China, India and Brazil as large investors in this field. This trend in investment has also coincided with the increase in patenting technology in renewable energy compared to fossil fuels.19 Reports from the World Intellectual Property Office (WIPO), have shown that there has been a **steady increase in patent filing rates in RETs since the mid-1990s**.20 This increase has occurred in the four major renewable sectors, 21 where RETs patents applications were growing steadily from 2005 until reaching a peak in 2013.22 Post-2013, there has been a slight decline in patent filings, which can indicate a maturing of sectors and deployment of technologies.23 Each renewable energy sector is at a different stage of maturity and thus there is a variation of patent ownership. The wind sector is the most mature and consequently has the highest intellectual property ownership and patent grants compared to that of the biofuel sector. 24 IRENA also provides a comprehensive and interactive database for RETs patents. As seen in Figure 4 below, they have collected patent data from the major patent filing jurisdiction25 which shows the breakdown of the patents per type. This information reveals that there is a dominance of patent filings focused on solar technology. This data corresponds to the focus of the investment in renewable energy into solar energy. Upon closer look at the data, the geographic source of these patents shows that RETs patents have been concentrated in a few developed OECD countries and China. This also corresponds to the source of investment shown in Figure 3 and reflects the historical concentration of RETs innovation within these countries. 26 The latest WIPO report for 2019, which looks at the data for PCT patent applications, shows that 76 % of all PCT patent application came from the United States, Germany, Japan, the Republic of Korea and China.27 China is the newest entry into the top ten list and has made one of the largest jumps to become one of the biggest RETs patent filers at the PCT. This geographic data is also mirrored by IRENA’s statistics, as shown in Figure 5 below. This data also reflects China’s emerging renewable dominance. China is heavily **investing in solar energy** **technology** and has filed numerous patents in this area and the underlying technologies.28 The successful flow of investment in this sector can only **occur in** the **presence of a strong IPRs system** and protection. Government policies and initiatives to improve the **patent system** can be used to promote the development of RETs and drive private capital and investment into this area.29 This direct **effect on RETs** through policies was **shown in** the United States with the ‘**Green Tech Pilot Program’**.30 This was a special accelerated patent application procedure developed by the United States Patent and Trademark Office for inventions falling under the green technology category. This program ran from 2009-2011 and led to a boost in RETs patent applications, with the office issuing 1062 RETs patents from the programme. Other jurisdictions, such as the European Union and China have used policy and incentives to promote the development of RETs and the advancement of their renewable energy sector. In particular, the European Union and China began the renewable energy path at different starting points but are now both dominant players in this area.

#### Warming causes Extinction

Kareiva 18, Peter, and Valerie Carranza. "Existential risk due to ecosystem collapse: Nature strikes back." Futures 102 (2018): 39-50. (Ph.D. in ecology and applied mathematics from Cornell University, director of the Institute of the Environment and Sustainability at UCLA, Pritzker Distinguished Professor in Environment & Sustainability at UCLA)//Re-cut by Elmer

In summary, six of the nine proposed planetary boundaries (phosphorous, nitrogen, biodiversity, land use, atmospheric aerosol loading, and chemical pollution) are unlikely to be associated with existential risks. They all correspond to a degraded environment, but in our assessment do not represent existential risks. However, the three remaining boundaries (**climate change**, global **freshwater** cycle, **and** ocean **acidification**) do **pose existential risks**. This is **because of** intrinsic **positive feedback loops**, substantial lag times between system change and experiencing the consequences of that change, and the fact these different boundaries interact with one another in ways that yield surprises. In addition, climate, freshwater, and ocean acidification are all **directly connected to** the provision of **food and water**, and **shortages** of food and water can **create conflict** and social unrest. Climate change has a long history of disrupting civilizations and sometimes precipitating the collapse of cultures or mass emigrations (McMichael, 2017). For example, the 12th century drought in the North American Southwest is held responsible for the collapse of the Anasazi pueblo culture. More recently, the infamous potato famine of 1846–1849 and the large migration of Irish to the U.S. can be traced to a combination of factors, one of which was climate. Specifically, 1846 was an unusually warm and moist year in Ireland, providing the climatic conditions favorable to the fungus that caused the potato blight. As is so often the case, poor government had a role as well—as the British government forbade the import of grains from outside Britain (imports that could have helped to redress the ravaged potato yields). Climate change intersects with freshwater resources because it is expected to exacerbate drought and water scarcity, as well as flooding. Climate change can even impair water quality because it is associated with heavy rains that overwhelm sewage treatment facilities, or because it results in higher concentrations of pollutants in groundwater as a result of enhanced evaporation and reduced groundwater recharge. **Ample clean water** is not a luxury—it **is essential for human survival**. Consequently, cities, regions and nations that lack clean freshwater are vulnerable to social disruption and disease. Finally, ocean acidification is linked to climate change because it is driven by CO2 emissions just as global warming is. With close to 20% of the world’s protein coming from oceans (FAO, 2016), the potential for severe impacts due to acidification is obvious. Less obvious, but perhaps more insidious, is the interaction between climate change and the loss of oyster and coral reefs due to acidification. Acidification is known to interfere with oyster reef building and coral reefs. Climate change also increases storm frequency and severity. Coral reefs and oyster reefs provide protection from storm surge because they reduce wave energy (Spalding et al., 2014). If these reefs are lost due to acidification at the same time as storms become more severe and sea level rises, coastal communities will be exposed to unprecedented storm surge—and may be ravaged by recurrent storms. A key feature of the risk associated with climate change is that mean annual temperature and mean annual rainfall are not the variables of interest. Rather it is extreme episodic events that place nations and entire regions of the world at risk. These extreme events are by definition “rare” (once every hundred years), and changes in their likelihood are challenging to detect because of their rarity, but are exactly the manifestations of climate change that we must get better at anticipating (Diffenbaugh et al., 2017). Society will have a hard time responding to shorter intervals between rare extreme events because in the lifespan of an individual human, a person might experience as few as two or three extreme events. How likely is it that you would notice a change in the interval between events that are separated by decades, especially given that the interval is not regular but varies stochastically? A concrete example of this dilemma can be found in the past and expected future changes in storm-related flooding of New York City. The highly disruptive flooding of New York City associated with Hurricane Sandy represented a flood height that occurred once every 500 years in the 18th century, and that occurs now once every 25 years, but is expected to occur once every 5 years by 2050 (Garner et al., 2017). This change in frequency of extreme floods has profound implications for the measures New York City should take to protect its infrastructure and its population, yet because of the stochastic nature of such events, this shift in flood frequency is an elevated risk that will go unnoticed by most people. 4. The combination of positive feedback loops and societal inertia is fertile ground for global environmental catastrophes **Humans** are remarkably ingenious, and **have adapted** to crises **throughout** their **history**. Our doom has been repeatedly predicted, only to be averted by innovation (Ridley, 2011). **However**, the many **stories** **of** human ingenuity **successfully** **addressing** **existential risks** such as global famine or extreme air pollution **represent** environmental c**hallenges that are** largely **linear**, have immediate consequences, **and operate without positive feedbacks**. For example, the fact that food is in short supply does not increase the rate at which humans consume food—thereby increasing the shortage. Similarly, massive air pollution episodes such as the London fog of 1952 that killed 12,000 people did not make future air pollution events more likely. In fact it was just the opposite—the London fog sent such a clear message that Britain quickly enacted pollution control measures (Stradling, 2016). Food shortages, air pollution, water pollution, etc. send immediate signals to society of harm, which then trigger a negative feedback of society seeking to reduce the harm. In contrast, today’s great environmental crisis of climate change may cause some harm but there are generally long time delays between rising CO2 concentrations and damage to humans. The consequence of these delays are an absence of urgency; thus although 70% of Americans believe global warming is happening, only 40% think it will harm them (http://climatecommunication.yale.edu/visualizations-data/ycom-us-2016/). Secondly, unlike past environmental challenges, **the Earth’s climate system is rife with positive feedback loops**. In particular, as CO2 increases and the climate warms, that **very warming can cause more CO2 release** which further increases global warming, and then more CO2, and so on. Table 2 summarizes the best documented positive feedback loops for the Earth’s climate system. These feedbacks can be neatly categorized into carbon cycle, biogeochemical, biogeophysical, cloud, ice-albedo, and water vapor feedbacks. As important as it is to understand these feedbacks individually, it is even more essential to study the interactive nature of these feedbacks. Modeling studies show that when interactions among feedback loops are included, uncertainty increases dramatically and there is a heightened potential for perturbations to be magnified (e.g., Cox, Betts, Jones, Spall, & Totterdell, 2000; Hajima, Tachiiri, Ito, & Kawamiya, 2014; Knutti & Rugenstein, 2015; Rosenfeld, Sherwood, Wood, & Donner, 2014). This produces a wide range of future scenarios. Positive feedbacks in the carbon cycle involves the enhancement of future carbon contributions to the atmosphere due to some initial increase in atmospheric CO2. This happens because as CO2 accumulates, it reduces the efficiency in which oceans and terrestrial ecosystems sequester carbon, which in return feeds back to exacerbate climate change (Friedlingstein et al., 2001). Warming can also increase the rate at which organic matter decays and carbon is released into the atmosphere, thereby causing more warming (Melillo et al., 2017). Increases in food shortages and lack of water is also of major concern when biogeophysical feedback mechanisms perpetuate drought conditions. The underlying mechanism here is that losses in vegetation increases the surface albedo, which suppresses rainfall, and thus enhances future vegetation loss and more suppression of rainfall—thereby initiating or prolonging a drought (Chamey, Stone, & Quirk, 1975). To top it off, overgrazing depletes the soil, leading to augmented vegetation loss (Anderies, Janssen, & Walker, 2002). Climate change often also increases the risk of forest fires, as a result of higher temperatures and persistent drought conditions. The expectation is that **forest fires will become more frequent** and severe with climate warming and drought (Scholze, Knorr, Arnell, & Prentice, 2006), a trend for which we have already seen evidence (Allen et al., 2010). Tragically, the increased severity and risk of Southern California wildfires recently predicted by climate scientists (Jin et al., 2015), was realized in December 2017, with the largest fire in the history of California (the “Thomas fire” that burned 282,000 acres, https://www.vox.com/2017/12/27/16822180/thomas-fire-california-largest-wildfire). This **catastrophic fire** embodies the sorts of positive feedbacks and interacting factors that **could catch humanity off-guard and produce a** true **apocalyptic event.** Record-breaking rains produced an extraordinary flush of new vegetation, that then dried out as record heat waves and dry conditions took hold, coupled with stronger than normal winds, and ignition. Of course the record-fire released CO2 into the atmosphere, thereby contributing to future warming. Out of all types of feedbacks, water vapor and the ice-albedo feedbacks are the most clearly understood mechanisms. Losses in reflective snow and ice cover drive up surface temperatures, leading to even more melting of snow and ice cover—this is known as the ice-albedo feedback (Curry, Schramm, & Ebert, 1995). As snow and ice continue to melt at a more rapid pace, millions of people may be displaced by flooding risks as a consequence of sea level rise near coastal communities (Biermann & Boas, 2010; Myers, 2002; Nicholls et al., 2011). The water vapor feedback operates when warmer atmospheric conditions strengthen the saturation vapor pressure, which creates a warming effect given water vapor’s strong greenhouse gas properties (Manabe & Wetherald, 1967). Global warming tends to increase cloud formation because warmer temperatures lead to more evaporation of water into the atmosphere, and warmer temperature also allows the atmosphere to hold more water. The key question is whether this increase in clouds associated with global warming will result in a positive feedback loop (more warming) or a negative feedback loop (less warming). For decades, scientists have sought to answer this question and understand the net role clouds play in future climate projections (Schneider et al., 2017). Clouds are complex because they both have a cooling (reflecting incoming solar radiation) and warming (absorbing incoming solar radiation) effect (Lashof, DeAngelo, Saleska, & Harte, 1997). The type of cloud, altitude, and optical properties combine to determine how these countervailing effects balance out. Although still under debate, it appears that in most circumstances the cloud feedback is likely positive (Boucher et al., 2013). For example, models and observations show that increasing greenhouse gas concentrations reduces the low-level cloud fraction in the Northeast Pacific at decadal time scales. This then has a positive feedback effect and enhances climate warming since less solar radiation is reflected by the atmosphere (Clement, Burgman, & Norris, 2009). The key lesson from the long list of potentially positive feedbacks and their interactions is that **runaway climate change,** and runaway perturbations have to be taken as a serious possibility. Table 2 is just a snapshot of the type of feedbacks that have been identified (see Supplementary material for a more thorough explanation of positive feedback loops). However, this list is not exhaustive and the possibility of undiscovered positive feedbacks **portends** even greater **existential risks**. The many environmental crises humankind has previously averted (famine, ozone depletion, London fog, water pollution, etc.) were averted because of political will based on solid scientific understanding. We cannot count on complete scientific understanding when it comes to positive feedback loops and climate change.

#### Warming entrenches Global North-South Inequality.

LA Times 19 9-15-2019 "Editorial: Wealthy Countries are Responsible for Climate Change, but it's the poor who will suffer most" <https://archive.is/aVCFf#selection-1989.1-2016.0> //Elmer

**Although the richest**, most developed countries in the world **are** overwhelmingly **to blame for** the catastrophe of global **climate change**, they are not **the ones who will suffer the most** from it. Who will? You guessed it: the **poorest countries**. The unfairness of that is self-evident, but so is the truth of it. For more than a century, the largest emitters of greenhouse gases, in total as well as per capita, have been the big developed nations, most notably the United States and the countries of Europe, which grew their economies by burning fossil fuels and spewing carbon from their factories, homes and cars. Today they still emit carbon and other greenhouse gasses disproportionately into the environment, although other big countries such as China and India have caught up. Yet even as the wealthy nations drive the world toward ecological disaster, it is clearly the poor countries that will face the gravest consequences and have the most difficulty coping. For instance, low-lying **Bangladesh**, already battered by increasingly powerful cyclones, **could lose 10% of its territory to the ocean** within a few decades, **displacing 18 million people**. **Political instability** and violence, **influenced** in part **by droughts and poor harvests**, **have** already **driven millions** of people **from their homes in** sub-Saharan **Africa and Central America.** A recent study from Stanford University found that **climate change** is **exacerbating global income inequality between wealthy nations** in cooler regions, **and poor nations** in hotter parts of the world. This is due, at least in part, to the relative inability of poorer countries to pay for the projects necessary to mitigate the effects of climate change, including more extreme weather events and the deterioration of arable land in subsistence economies. For instance, Miami Beach is spending hundreds of millions of dollars to raise streets and install pumps in preparation for the expected flooding from rising seas — but Port-au-Prince, Haiti, only 700 miles away, simply doesn’t have the resources for such projects. A report released last week found that extreme weather displaced 7 million people from their homes during the first half of 2019, especially in Asia and Africa. That set a new record, but researchers warned that the number of such events would increase as the climate continues to change.

## 3

### DA

#### WTO Credibility is on the brink – patent waivers are the make-it-or-break it issue – failure to pass the Plan dooms the WTO BUT passage signals success that generate momentum for structural change.

Meyer 6-18 David Meyer 6-18-2021 "The WTO's survival hinges on the COVID-19 vaccine patent debate, waiver advocates warn" <https://archive.is/etPtf> (Senior Writer at Fortune Magazine; Covers mostly European Business Affairs)//Elmer

The World Trade Organization **knows all about crises**. Former U.S. President Donald Trump threw a wrench into its core function of resolving trade disputes—a blocker that President Joe Biden has not yet removed—and there is widespread dissatisfaction over the fairness of the global trade rulebook. The 164-country organization, under the fresh leadership of Nigeria's Ngozi Okonjo-Iweala, has a lot to fix. However, one crisis is **more pressing than the others**: the battle over COVID-19 vaccines, and whether the protection of their patents and other intellectual property should be temporarily lifted to boost production and end the pandemic sooner rather than later. According to some of those pushing for the waiver—which was originally proposed last year by India and South Africa—**the WTO's future rests on what happens next**. "The credibility of the WTO will depend on its **ability to find a meaningful outcome** on this issue that truly ramps-up and diversifies production," says Xolelwa Mlumbi-Peter, South Africa's ambassador to the WTO. "**Final nail in the coffin**" The Geneva-based WTO isn't an organization with power, as such—it's a framework within which countries make big decisions about trade, generally by consensus. It's supposed to be the forum where disputes get settled, because all its members have signed up to the same rules. And one of its most important rulebooks is the Agreement on Trade-Related Aspects of Intellectual Property Rights, or TRIPS, which sprang to life alongside the WTO in 1995. The WTO's founding agreement allows for rules to be waived in exceptional circumstances, and indeed this has happened before: its members agreed in 2003 to waive TRIPS obligations that were blocking the importation of cheap, generic drugs into developing countries that lack manufacturing capacity. (That waiver was effectively made permanent in 2017.) Consensus is the key here. Although the failure to **reach consensus on a waiver could be overcome with a 75% supermajority vote by the WTO's membership, this would be an unprecedented and seismic event**. In the case of the COVID-19 vaccine IP waiver, it would mean standing up to the European Union, and Germany in particular, as well as countries such as Canada and the U.K.—the U.S. recently flipped from opposing the idea of a waiver to supporting it, as did France. It's a dispute between countries, but the result **will be on the WTO as a whole**, say waiver advocates. "If, in the face of one of humanity's greatest challenges in a century, the WTO functionally **becomes an obstacle** as in contrast to part of the solution, I think **it could be the final nail in the coffin**" for the organization, says Lori Wallach, the founder of Public Citizen's Global Trade Watch, a U.S. campaigning group that focuses on the WTO and trade agreements. "If the TRIPS waiver is successful, and people see the WTO as being part of the solution—saving lives and livelihoods—it could create goodwill and momentum to address what are still daunting structural problems."

#### Yes Link – the Plan is perceptively seen as bolstering the WTO since its by all WTO Members.

#### WTO collapse solves extinction

Hilary 15 John Hilary 2015 “Want to know how to really tackle climate change? Pull the plug on the World Trade Organisation” <http://www.independent.co.uk/voices/want-to-know-how-to-really-tackle-climate-change-pull-the-plug-on-the-world-trade-organisation-a6774391.html> (Executive Director, War on Want)//Elmer

Yet this grandiose plan soon fell victim to its own ambition. The WTO’s first summit after the launch of the Doha Round collapsed in acrimonious failure. The next was marked by pitched battles in the streets of Hong Kong as riot police fought Asian farmers desperately trying to save their livelihoods from the WTO’s free trade agenda. The WTO slipped into a coma. Government ministers must decide this week whether to turn off its life support. The answer is surely yes. It was the WTO’s poisonous cocktail of trade expansion and market deregulation that led to the economic crisis of 2008. Years of export-led growth resulted in a crisis of overproduction that could only be sustained with mountains of debt. The parallel deregulation of financial services meant that this debt soon turned out to be toxic, and the world’s banking system went into freefall. Nor is the WTO fit for purpose on ecological grounds. If last week’s climate talks in Paris taught us anything, it is that we must rethink the model of ever-expanding production and consumption in order to avoid planetary meltdown. Global capitalism may need limitless expansion in order to survive, but the planet is already at the very limits of what it can take. The choice is ours. Worst of all, it is the WTO’s ideology of unrestricted trade and corporate domination that lies behind all the bilateral trade deals that are proliferating at the moment, including the infamous Transatlantic Trade and Investment Partnership (TTIP). We need a radically different model of regulated trade and controlled investment if we are to have any chance of breaking the cycle of economic and ecological crisis. For the planet to survive, the WTO must die.

#### The WTO ensures structural poverty of the Global South – multiple warrants.

Walker 11 Aurelie Walker 11-14-2011 "The WTO has failed developing nations" <https://www.theguardian.com/global-development/poverty-matters/2011/nov/14/wto-fails-developing-countries> (trade policy advisor at the Fairtrade Foundation. Aurelie has specialised in EU trade relations with Africa, the Caribbean and the Pacific. She has worked as trade negotiator for an East African government, as advisor to business and government in Southern Africa on the Economic Partnership Agreement negotiations and for European Institutions and think tanks. Aurelie now advocates on behalf on Fairtrade producers on international trade issues)//Elmer

Ten years ago, a new World Trade Organisation that put developing country needs at the centre of the international trade negotiation agenda was proposed. The Ministerial Declaration adopted at the start of the Doha Development Round of trade negotiations, on 14 November 2001, was a promising response to the anti-globalisation riots of the 1990s. But the **WTO** membership **has failed to deliver** the promised **pro-development changes**. Finding "development" in the Doha Development Round today is like looking for a needle in a haystack. **Developing countries** have been **completely sidelined** **by** the **economic** **and political interests of global powers**. Here are 10 examples of how the WTO has failed the poor: 1. **Cotton**: the Fairtrade Foundation revealed last year how the $47bn in **subsidies** **paid to rich-country producers** in the past 10 years **has created barriers for** the **15 million cotton farmers across west Africa** **trying to trade their way out of poverty**, **and** how **5 million** of the **world's poorest farming families** have been **forced out of business** and into deeper poverty because of those subsidies. 2. **Agricultural subsidies**: beyond cotton, WTO members have failed even to agree how to reduce the huge subsidies **paid to rich world farmers**, whose overproduction continues to **threaten** the **livelihoods of developing world farmers**. 3. **Trade agreements**: the WTO has also failed to clarify the deliberately ambiguous rules on concluding trade agreements that allow the poorest countries to be manipulated by the rich states. In Africa, in negotiations with the EU, countries have been forced to eliminate tariffs on up to 90% of their trade because no clear rules exist to protect them. 4. Special treatment: the rules for developing countries, called "special and differential treatment" rules, were meant to be reviewed to make them more precise, effective and operational. But the WTO has failed to work through the 88 proposals that would fill the legal vacuum. 5. Medicine: the poorest in developing countries are unable to access affordable medicine because members have failed to clarify ambiguities between the need for governments to protect public health on one hand and on the other to protect the intellectual property rights of pharmaceutical companies. 6. **Legal costs**: the WTO pledged to improve access to its **expensive** and **complex legal system**, but has failed. In 15 years of dispute settlement under the WTO, 400 cases have been initiated. No African country has acted as a complainant and only one least developed country has ever filed a claim. 7. Protectionist economic policies: one of the WTO's five core functions agreed at its inception in 1995 was to achieve more coherence in global economic policy-making. Yet the **WTO** **failed to curb** the speedy **increase in** the number of **protectionist measures** applied **by G20 countries** in response to the global economic crisis over the past two years – despite G20 leaders' repeated affirmations of their "unwavering" commitment to resist all forms of protectionist measures. 8. Natural disaster: the **WTO fails to alleviate suffering** when it has the opportunity to do so. **In** the case of **natural disaster**, the **membership** will have **taken** almost **two years to** agree and **implement** temporary **trade concessions for Pakistan,** where severe flooding displaced 20 million people in 2010 and caused $10bn of damage. Those measures, according to the International Centre for Trade and Sustainable Development, would have boosted Pakistan's exports to the EU by at least €100m this year. 9. Decision-making: the WTO makes most of its decisions by consensus – and achieving consensus between 153 countries is nearly impossible. But this shows another failure of the WTO: to break the link between market size and political weight that would give small and poor countries a voice in the trade negotiations. 10. Fair trade: 10 years after the start of the Doha Development Round, governments have failed to make trade fair. As long as small and poor countries remain without a voice, the role of campaigning organisations, such as Traidcraft and Fairtrade Foundation, which are working together to eliminate cotton subsidies, will remain critical. The WTO has failed to live up to its promises over the past decade, which reveals a wider systemic problem in the global community. True and lasting solutions to global economic problems can only come when the model of global competitiveness between countries becomes one of genuine cooperation.

#### The 1AC evidence isolates that each of the problems they mention aren’t solely caused by IP, but rather expressions of the overarching system of capitalism – thus collapsing the whole system is key.

# Case

## 1NC – AT: Framework

### 1NC – Extinction Outweighs

#### Extinction outweighs –

#### 1] Reversibility- it forecloses the alternative because we can’t improve society if we are all dead

#### 2] Structural violence- death causes suffering because people can’t get access to resources and basic necessities

#### 3] Objectivity- body count is the most objective way to calculate impacts because comparing suffering is unethical

#### 4] Uncertainty- if we’re unsure about which interpretation of the world is true, we should preserve the world to keep debating about it

#### 5] Reducing existential risks is the top priority in any coherent moral theory

Plummer 15 (Theron, Philosophy @St. Andrews http://blog.practicalethics.ox.ac.uk/2015/05/moral-agreement-on-saving-the-world/)

There appears to be lot of disagreement in moral philosophy. Whether these many apparent disagreements are deep and irresolvable, I believe there is at least one thing it is reasonable to agree on right now, whatever general moral view we adopt: that it is very important to reduce the risk that all intelligent beings on this planet are eliminated by an enormous catastrophe, such as a nuclear war. How we might in fact try to reduce such existential risks is discussed elsewhere. My claim here is only that we – whether we’re consequentialists, deontologists, or virtue ethicists – should all agree that we should try to save the world. According to consequentialism, we should maximize the good, where this is taken to be the goodness, from an impartial perspective, of outcomes. Clearly one thing that makes an outcome good is that the people in it are doing well. There is little disagreement here. If the happiness or well-being of possible future people is just as important as that of people who already exist, and if they would have good lives, it is not hard to see how reducing existential risk is easily the most important thing in the whole world. This is for the familiar reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. There are so many possible future people that reducing existential risk is arguably the most important thing in the world, even if the well-being of these possible people were given only 0.001% as much weight as that of existing people. Even on a wholly person-affecting view – according to which there’s nothing (apart from effects on existing people) to be said in favor of creating happy people – the case for reducing existential risk is very strong. As noted in this seminal paper, this case is strengthened by the fact that there’s a good chance that many existing people will, with the aid of life-extension technology, live very long and very high quality lives. You might think what I have just argued applies to consequentialists only. There is a tendency to assume that, if an argument appeals to consequentialist considerations (the goodness of outcomes), it is irrelevant to non-consequentialists. But that is a huge mistake. Non-consequentialism is the view that there’s more that determines rightness than the goodness of consequences or outcomes; it is not the view that the latter don’t matter. Even John Rawls wrote, “All ethical doctrines worth our attention take consequences into account in judging rightness. One which did not would simply be irrational, crazy.” Minimally plausible versions of deontology and virtue ethics must be concerned in part with promoting the good, from an impartial point of view. They’d thus imply very strong reasons to reduce existential risk, at least when this doesn’t significantly involve doing harm to others or damaging one’s character. What’s even more surprising, perhaps, is that even if our own good (or that of those near and dear to us) has much greater weight than goodness from the impartial “point of view of the universe,” indeed even if the latter is entirely morally irrelevant, we may nonetheless have very strong reasons to reduce existential risk. Even egoism, the view that each agent should maximize her own good, might imply strong reasons to reduce existential risk. It will depend, among other things, on what one’s own good consists in. If well-being consisted in pleasure only, it is somewhat harder to argue that egoism would imply strong reasons to reduce existential risk – perhaps we could argue that one would maximize her expected hedonic well-being by funding life extension technology or by having herself cryogenically frozen at the time of her bodily death as well as giving money to reduce existential risk (so that there is a world for her to live in!). I am not sure, however, how strong the reasons to do this would be. But views which imply that, if I don’t care about other people, I have no or very little reason to help them are not even minimally plausible views (in addition to hedonistic egoism, I here have in mind views that imply that one has no reason to perform an act unless one actually desires to do that act). To be minimally plausible, egoism will need to be paired with a more sophisticated account of well-being. To see this, it is enough to consider, as Plato did, the possibility of a ring of invisibility – suppose that, while wearing it, Ayn could derive some pleasure by helping the poor, but instead could derive just a bit more by severely harming them. Hedonistic egoism would absurdly imply she should do the latter. To avoid this implication, egoists would need to build something like the meaningfulness of a life into well-being, in some robust way, where this would to a significant extent be a function of other-regarding concerns (see chapter 12 of this classic intro to ethics). But once these elements are included, we can (roughly, as above) argue that this sort of egoism will imply strong reasons to reduce existential risk. Add to all of this Samuel Scheffler’s recent intriguing arguments (quick podcast version available here) that most of what makes our lives go well would be undermined if there were no future generations of intelligent persons. On his view, my life would contain vastly less well-being if (say) a year after my death the world came to an end. So obviously if Scheffler were right I’d have very strong reason to reduce existential risk. We should also take into account moral uncertainty. What is it reasonable for one to do, when one is uncertain not (only) about the empirical facts, but also about the moral facts? I’ve just argued that there’s agreement among minimally plausible ethical views that we have strong reason to reduce existential risk – not only consequentialists, but also deontologists, virtue ethicists, and sophisticated egoists should agree. But even those (hedonistic egoists) who disagree should have a significant level of confidence that they are mistaken, and that one of the above views is correct. Even if they were 90% sure that their view is the correct one (and 10% sure that one of these other ones is correct), they would have pretty strong reason, from the standpoint of moral uncertainty, to reduce existential risk. Perhaps most disturbingly still, even if we are only 1% sure that the well-being of possible future people matters, it is at least arguable that, from the standpoint of moral uncertainty, reducing existential risk is the most important thing in the world. Again, this is largely for the reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. (For more on this and other related issues, see this excellent dissertation). Of course, it is uncertain whether these untold trillions would, in general, have good lives. It’s possible they’ll be miserable. It is enough for my claim that there is moral agreement in the relevant sense if, at least given certain empirical claims about what future lives would most likely be like, all minimally plausible moral views would converge on the conclusion that we should try to save the world. While there are some non-crazy views that place significantly greater moral weight on avoiding suffering than on promoting happiness, for reasons others have offered (and for independent reasons I won’t get into here unless requested to), they nonetheless seem to be fairly implausible views. And even if things did not go well for our ancestors, I am optimistic that they will overall go fantastically well for our descendants, if we allow them to. I suspect that most of us alive today – at least those of us not suffering from extreme illness or poverty – have lives that are well worth living, and that things will continue to improve. Derek Parfit, whose work has emphasized future generations as well as agreement in ethics, described our situation clearly and accurately: “We live during the hinge of history. Given the scientific and technological discoveries of the last two centuries, the world has never changed as fast. We shall soon have even greater powers to transform, not only our surroundings, but ourselves and our successors. If we act wisely in the next few centuries, humanity will survive its most dangerous and decisive period. Our descendants could, if necessary, go elsewhere, spreading through this galaxy…. Our descendants might, I believe, make the further future very good. But that good future may also depend in part on us. If our selfish recklessness ends human history, we would be acting very wrongly.” (From chapter 36 of On What Matters)

### 1NC – AT: Kessler

#### 1] Probability 1st Collapses – everything can be more probable in the absolute AND impossible to measure risk of probability which links to the paralysis argument

#### 2] We’re not the “most absurd scenarios”---we have robust proof of our internal links, and impacts---the bright line is arbitrary and low

#### 3] Weigh magnitude times probability---“probability first” framing is rooted in psychological biases and leads to mass death

Clarke 08 [Lee, member of a National Academy of Science committee that considered decision-making models, Anschutz Distinguished Scholar at Princeton University, Fellow of AAAS, Professor Sociology (Rutgers), Ph.D. (SUNY), “Possibilistic Thinking: A New Conceptual Tool for Thinking about Extreme Events,” Fall, Social Research 75.3, JSTOR]

In scholarly work, the subfield of disasters is often seen as narrow. One reason for this is that a lot of scholarship on disasters is practically oriented, for obvious reasons, and the social sciences have a deep-seated suspicion of practical work. This is especially true in sociology. Tierney (2007b) has treated this topic at length, so there is no reason to repeat the point here. There is another, somewhat unappreciated reason that work on disaster is seen as narrow, a reason that holds some irony for the main thrust of my argument here: disasters are unusual and the social sciences are generally biased toward phenomena that are frequent. Methods textbooks caution against using case stud- ies as representative of anything, and articles in mainstreams journals that are not based on probability samples must issue similar obligatory caveats. The premise, itself narrow, is that the only way to be certain that we know something about the social world, and the only way to control for subjective influences in data acquisition, is to follow the tenets of probabilistic sampling. This view is a correlate of the central way of defining rational action and rational policy in academic work of all varieties and also in much practical work, which is to say in terms of probabilities. The irony is that probabilistic thinking has its own biases, which, if unacknowledged and uncorrected for, lead to a conceptual neglect of extreme events. This leaves us, as scholars, paying attention to disasters only when they happen and doing that makes the accumulation of good ideas about disaster vulnerable to issue-attention cycles (Birkland, 2007). These conceptual blinders lead to a neglect of disasters as "strategic research sites" (Merton, 1987), which results in learning less about disaster than we could and in missing opportunities to use disaster to learn about society (cf. Sorokin, 1942). We need new conceptual tools because of an upward trend in frequency and severity of disaster since 1970 (Perrow, 2007), and because of a growing intellectual attention to the idea of worst cases (Clarke, 2006b; Clarke, in press). For instance, the chief scientist in charge of studying earthquakes for the US Geological Service, Lucile Jones, has worked on the combination of events that could happen in California that would constitute a "give up scenario": a very long-shaking earthquake in southern California just when the Santa Anna winds are making everything dry and likely to burn. In such conditions, meaningful response to the fires would be impossible and recovery would take an extraordinarily long time. There are other similar pockets of scholarly interest in extreme events, some spurred by September 11 and many catalyzed by Katrina. The consequences of disasters are also becoming more severe, both in terms of lives lost and property damaged. People and their places are becoming more vulnerable. The most important reason that vulnerabilities are increasing is population concentration (Clarke, 2006b). This is a general phenomenon and includes, for example, flying in jumbo jets, working in tall buildings, and attending events in large capacity sports arenas. Considering disasters whose origin is a natural hazard, the specific cause of increased vulnerability is that people are moving to where hazards originate, and most especially to where the water is. In some places, this makes them vulnerable to hurricanes that can create devastating storm surges; in others it makes them vulnerable to earthquakes that can create tsunamis. In any case, the general problem is that people concentrate themselves in dangerous places, so when the hazard comes disasters are intensified. More than one-half of Florida's population lives within 20 miles of the sea. Additionally, Florida's population grows every year, along with increasing development along the coasts. The risk of exposure to a devastating hurricane is obviously high in Florida. No one should be surprised if during the next hurricane season Florida becomes the scene of great tragedy. The demographic pressures and attendant development are wide- spread. People are concentrating along the coasts of the United States, and, like Florida, this puts people at risk of water-related hazards. Or consider the Pacific Rim, the coastline down the west coasts of North and South America, south to Oceania, and then up the eastern coast- line of Asia. There the hazards are particularly threatening. Maps of population concentration around the Pacific Rim should be seen as target maps, because along those shorelines are some of the most active tectonic plates in the world. The 2004 Indonesian earthquake and tsunami, which killed at least 250,000 people, demonstrated the kind of damage that issues from the movement of tectonic plates. (Few in the United States recognize that there is a subduction zone just off the coast of Oregon and Washington that is quite similar to the one in Indonesia.) Additionally, volcanoes reside atop the meeting of tectonic plates; the typhoons that originate in the Pacific Ocean generate furiously fatal winds. Perrow (2007) has generalized the point about concentration, arguing not only that we increase vulnerabilities by increasing the breadth and depth of exposure to hazards but also by concentrating industrial facilities with catastrophic potential. Some of Perrow's most important examples concern chemical production facilities. These are facilities that bring together in a single place multiple stages of production used in the production of toxic substances. Key to Perrow's argument is that there is no technically necessary reason for such concentration, although there may be good economic reasons for it. The general point is that we can expect more disasters, whether their origins are "natural" or "technological." We can also expect more death and destruction from them. I predict we will continue to be poorly prepared to deal with disaster. People around the world were appalled with the incompetence of America's leaders and orga- nizations in the wake of Hurricanes Katrina and Rita. Day after day we watched people suffering unnecessarily. Leaders were slow to grasp the importance of the event. With a few notable exceptions, organi- zations lumbered to a late rescue. Setting aside our moral reaction to the official neglect, perhaps we ought to ask why we should have expected a competent response at all? Are US leaders and organiza- tions particularly attuned to the suffering of people in disasters? Is the political economy of the United States organized so that people, espe- cially poor people, are attended to quickly and effectively in noncri- sis situations? The answers to these questions are obvious. If social systems are not arranged to ensure people's well-being in normal times, there is no good reason to expect them to be so inclined in disastrous times. Still, if we are ever going to be reasonably well prepared to avoid or respond to the next Katrina-like event, we need to identify the barriers to effective thinking about, and effective response to, disas- ters. One of those barriers is that we do not have a set of concepts that would help us think rigorously about out-sized events. The chief toolkit of concepts that we have for thinking about important social events comes from probability theory. There are good reasons for this, as probability theory has obviously served social research well. Still, the toolkit is incomplete when it comes to extreme events, especially when it is used as a base whence to make normative judgments about what people, organizations, and governments should and should not do. As a complement to probabilistic thinking I propose that we need possibilistic thinking. In this paper I explicate the notion of possibilistic thinking. I first discuss the equation of probabilism with rationality in scholarly thought, followed by a section that shows the ubiquity of possibilis- tic thinking in everyday life. Demonstrating the latter will provide an opportunity to explore the limits of the probabilistic approach: that possibilistic thinking is widespread suggests it could be used more rigorously in social research. I will then address the most vexing prob- lem with advancing and employing possibilistic thinking: the prob- lem of infinite imagination. I argue that possibilism can be used with discipline, and that we can be smarter about responding to disasters by doing so.

### 1NC – AT: Structural Violence First

#### 1] Prefer util – even if its flawed, alternatives are worse because they justify the same ends but create decision paralysis, and requires saying some lives are more valuable than others, which turns all their impacts

#### 2] Tautological – devolves into consequentialism---either their maxims are created to minimize harm, which means they’re utilitarian consequentialist, or they’re inflexible in cases of moral atrocity worse than utilitarianism because they requires saving some people over others

#### 3] Not our util – utilitarian framework wouldn’t justify atrocities like slavery because the magnitude of the harm to a smaller group still outweighs

#### 4] You link worse – deontology requires creating maxims that say we should prevent harm against some people but not others – justifies the same atrocities.

#### 5] Their 10-word highlighting the ev only includes 1 argument about how institutions normalize structural violence with no warrant but insofar we prove that the structures pertaining to the aff are good or that util is a better alternative it has no implication

### 1NC – AT: Racism First

#### 1] Requires winning a tradeoff between their framing and ours solving ongoing/racially discriminatory harms which is false---war makes all their harms worse OR we solve all the racism offense

#### 2] No tradeoff and preventing war turns case

John Horgan 14. Director of the Center for Science Writings at Stevens Institute of Technology, “To End War, Focus on Culture Rather than "Root Causes"”, Scientific American, 8-18, https://blogs.scientificamerican.com/cross-check/to-end-war-focus-on-culture-rather-than-root-causes/

When I started researching war, I also assumed that to get rid of war, we have to get rid of its root causes. The trouble is, scholars have identified countless causes of war. One pseudo-explanation (which I'm glad Kloor does not mention, and which I rebut early on in my book and in posts such as this) is that war stems from a compulsion bred into our ancestors by natural selection. Biology underpins war, as it underpins all human behaviors. The crucial question is, why does war break out in certain places and times and not others? The most popular non-biological explanations of war are what I call the Malthusian and Marxist hypotheses. The first posits that war stems from our tendency to over-reproduce and hence fight over land and other resources. The second holds that war stems from inequality, the tendency of societies (especially capitalist ones) to divide into haves and have-nots. Scholars have also blamed wars on religion, racism and nationalism, which Kloor mentions above, as well as such fundamental social traits as hierarchy, sexism and injustice. If you cherry pick, you always find evidence to support your favorite theory. But as scholars such as Lewis Fry Richardson (whom my friend David Berreby recently profiled) have shown, neither the Malthusian and Marxist theories nor any of the other explanations above can account for the vast diversity of wars. Moreover, some factors that provoke conflict, such as religion, can also inhibit it. Religion has inspired some of our greatest antiwar leaders, notably Gandhi and Martin Luther King. I have found only one theory of war that fits the facts. The theory holds that war is a self-perpetuating, contagious meme, which can propagate independently of other social and environmental factors. As anthropologist Margaret Mead put it in a famous 1940 essay, "Warfare Is Only an Invention—Not a Biological Necessity." In other words, the major cause of war is war itself, which has a terrible tendency to spread even to societies that would prefer to remain peaceful. I make this point in my book and in a 2010 blog post, "Margaret Mead’s war theory kicks butt of neo-Darwinian and Malthusian models." Here is an edited excerpt: In his 1997 book War Before Civilization, anthropologist Lawrence Keeley notes that war among North American Indians often stemmed from the aggression of just a few extremely warlike tribes, "rotten apples that spoiled their regional barrels." He added, "Less aggressive societies, stimulated by more warlike groups in their vicinity, become more bellicose themselves." Societies in a violent region, the political scientist Azar Gat emphasizes in his 2006 book War in Human Civilization, have a strong incentive to carry out preemptive attacks. Societies may "attack the other side in order to eliminate or severely weaken them as a potential enemy. Indeed, this option only makes the other side more insecure, rendering the security dilemma more acute. War can thus become a self-fulfilling prophecy. The fear of war breeds war." Many people are pessimistic about ending war because they assume it will require radical social engineering. World peace will require eliminating poverty, inequality, sexism, racism or [fill in the blank]. We will need to eradicate religion, or all embrace the same religion. We will need to get rid of all nation states and become anarchists, or form a single global government. My analysis of war suggests that if we want to end war, we don't need to create a society radically different from our own, let alone a utopia. If we want to end war, we should focus on ending war and the culture of war rather than on supposed causal factors. If we can do that, we will take a major step toward solving many of our other social problems, as I argued in my previous post. And that brings me to Keith Kloor's final challenge to me. He devotes much of his column to a discussion of how extremists on both sides of the conflict between Israel and Palestine have "hijacked the peace process. Horrific spasmodic cycles of violence and death is the result." He asks me how we can "rid the world of extremist groups that sow the seeds of war." Kloor has his causation backwards. Just as war promotes poverty, tyranny, inequality and resource depletion at least as much as vice versa, so war promotes fanaticism. Once militarism seizes hold of a society, it can transform vast populations into virtual sociopaths. It turns decent, ethical, reasonable people into intolerant fanatics capable of the most heinous acts. Breaking out of what Kloor calls "spasmodic cycles of violence and death" can be extraordinarily difficult, but history offers many examples of societies that have done just that. Germany and France were bitter, bloody rivals for centuries. But it is now inconceivable that Germany and France—or any members of the European Union--would go to war against each other. One of my favorite examples of a nation that has renounced militarism is Costa Rica. Like many of its neighbors in Central American, Costa was once wracked by terrible violence. But after a bloody civil war in the 1940s, Costa Rica disbanded its army, freeing up more funds for education, health care, transportation and tourism. It is often ranked as one of the most peaceful, healthy, "happy" nations in the world.

### 1NC – AT: Predictions

#### 1] Make them indict our internal links---their interp justifies arbitrarily lowering the risk of dropped args, which breaks the game and collapses into endless judge intervention based on how likely you think the DA is

#### 2] They have to win this creates a tiny risk of our impacts for you to disregard them entirely---even if they’re bad, ignoring ex risks is worse.

#### 3] Predictions of high-magnitude impacts are accurate and valuable.

Gleditsch 12 (Kristian S. Gleditsch, Department of Government, University of Essex & Peace Research Institute Oslo, and Michael D. Ward, Department of Political Science, Duke, 2012, “Forecasting is difficult, especially about the future: Using contentious issues to forecast interstate disputes,” Journal of Peace Research, 50(1) 17–31, Sage Journals)  
There have been remarkably few efforts to generate global forecasts or risk profiles for interstate conflict. Moreover, the most prominent efforts to consider the predictive ability of models of interstate conflicts have based their research on models that were not actually proposed with forecasting in mind. A notable example here is Beck, King & Zeng (2000), who essentially adopt the so-called liberal peace model of Russett & Oneal (2001). Certainly, nothing akin to the Political Instability Task Force’s now annual projections (beginning with Gurr, Marshall & Khosla, 2000) exists for international conflicts. Perhaps not surprisingly, many observers are very skeptical of the ability of academic researchers to anticipate conflict between states, at least beyond very short time horizons. Research in recent decades has seen a large number of hypotheses generated to explain under what conditions militarized interstate conflict is more or less likely. This avenue of research has been primarily inspired by research on the so-called democratic peace, or the absence of conflict between democracies. Indeed, there are thousands of scholarly works mentioning the term militarized interstate dispute (MID), most of which use these data for some kind of empirical examination of a proposition about disputes. Yet, the evidence suggests that the ability of this body of work to forecast conflict out-of-sample is decidedly disappointing. Ward, Siverson & Cao (2007) found that most of the recent statistical studies of militarized interstate disputes in prominent political science and international relations journals were unable to predict the outbreak of a single dispute out-of-sample (see also Beck, King & Zeng, 2000). Many researchers have sought to improve on the ability to forecast militarized interstate conflict by turning to alternative statistical methods. Beck, King & Zeng (2000), for example, find that neural networks perform marginally better than generalized linear regression models in forecasting conflict from the same input factors.1 Changes in estimation methods or statistical techniques per se, however, have at best led only to limited improvements in out-of-sample predictive ability. Our argument is that simply identifying inappropriate methods as the key source of the problem in forecasting conflict may give us the wrong diagnosis and lead us down less productive avenues. A more fundamental problem is models that provide a poor basis for forecasting by disregarding the motives for conflict to arise, or by only considering motives in a relatively superficial manner. Models that have been proposed for research on the democratic peace, notably the work of Russett & Oneal (2001), are primarily intended to examine whether certain characteristics of liberal institutions, such as democracy and trade, make conflict on average less likely relative to baseline risks of conflict. Although these approaches may be appropriate for testing the original propositions of interest, they essentially ignore the contentious issues that might cause states to resort to violence and instead treat these contentious issues as exogenous features, typically hidden inside a so-called ‘black box’ of the baseline risk of conflict. Our own initial foray into out-of-sample prediction for a state-level model indicates that spatial information about other conflict events can help to improve forecasts (see Ward & Gleditsch, 2002). Although this allows predictions of conflict to be conditional on other observed events rather than treating each conflict as an independent observation, the approach still ignores the issues over which such conflicts may have arisen initially. We believe that greater attention to the specific reasons for the occurrence of conflicts and the incompatibilities that may generate the use of violence can help improve our ability to forecast conflict. Although we recognize that different models may be appropriate to evaluate particular propositions and to forecast events, in our view the enterprise of prediction has great potential for winnowing bad ideas out of theories on the causes of conflict and avoiding the problem of retrospective biases in conventional hypothesis testing on the data used to develop the hypotheses in the first place (see Ward, Greenhill & Bakke, 2010). In fairness, much of the existing work on the statistical modeling of conflict has bypassed motivation since it is genuinely difficult to establish what states fight over and what their possible motivation for fighting might be. Nevertheless, the fact that something is difficult to evaluate does not mean that simply ignoring it is the best course of action. Another tradition in research on conflict has sought to identify incompatibilities in terms of contentious issues, such as territorial or maritime claims (Diehl, 1992; Mansbach & Vasquez, 1981). Recent efforts to examine these propositions empirically have found considerable evidence that cases where such claims exist are more likely to see militarized activities (Hensel, 2001; Hensel et al., 2008; Hensel & Mitchell, 2010). Even so, at present this line of research has primarily engaged in testing hypotheses about whether coefficient estimates are significantly different from 0 or the in-sample post-diction of conflicts, and has not yet examined if information on contentious issues may be helpful for forecasting dyadic conflict out-of-sample. Here we explicitly consider whether taking into account information on contentious issues and conflict management can help improve on forecasting interstate conflict and our understanding of conflict dynamics. Although we focus on statistical approaches to interstate conflict in this article, many of our arguments also apply to problems in traditional theories of conflict and qualitative approaches to prediction or anticipating political events (see Tetlock, 2005). Traditional theories of interstate conflict tend to focus on structural features presumed to influence the opportunities for conflict such as the distribution of power in the international system or relative balance of power (see e.g. Waltz, 1979). These theories display little interest in the specific incompatibilities that may motivate the use of violence. However, structural factors rarely change rapidly, but violent conflict tends to be episodic, and hence cannot be adequately explained merely by reference to permissive conditions (see Fearon, 1995). Likewise, our core argument applies to studies of civil war, which tend to emphasize opportunities for conflict rather than motivations for conflict (see Cederman, Weidmann & Gleditsch, 2011), and where evidence for the predictive ability of existing statistical efforts seems similarly disappointing (see Ward, Greenhill & Bakke, 2010). Many political and area study experts, typically using informal methods for deriving predictions, often have strong confidence in their ability to forecast events. However, the comprehensive series of studies by Tetlock (2005), who asked experts to rate a series of outcomes which could then be compared against the historical record, provide little support for the forecasting ability of political experts.

## 1NC – AT: Advantage

### 1NC – AT: Vaccine Imperialism

#### 1] Lack of access is not a result of IP, but lack of infrastructure – rather IP is key to ensure high quality vaccines that pass regulatory hurdles, which means the plan actually reduces access

Stevens, Philip, and Mark Schultz 1/14. “Why Intellectual Property Rights Matter for COVID-19 - Geneva Network - Intellectual Property Rights and Covid-19.” Geneva Network, 14 Jan. 2021, geneva-network.com/research/why-intellectual-property-rights-matter-for-covid-19/. Philip Stevens in the Founder and Executive Director of Geneva Network. He is also a Senior Fellow at the Institute for Democracy and Economic Affairs, Malaysia.; Professor Mark F. Schultz is the Goodyear Tire & Rubber Company Endowed Chair in Intellectual Property Law, the Director of the Intellectual Property and Technology Law Program at the University of Akron School of Law. He was a professor at Southern Illinois University School of Law for 16 years and was co-founder and a leader of the Center for Protection of Intellectual Property (CPIP) at George Mason University in Washington, D.C., where he remains a non-resident Senior Scholar. He also serves as a Senior Fellow of the Geneva Network. //sid

IP has underpinned the research and development that has led to the arrival of several game-changing vaccines. But the challenge does not end there. Perhaps the biggest hurdle is manufacturing billions of doses or new antibody treatments while maintaining the highest quality standards. There’s more to it than starting a global manufacturing free for all by overriding or ignoring patents. A spokesperson for Regeneron, a manufacturer of a novel COVID-19 antibody treatment explained to [The Lancet](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32581-2/fulltext): “Manufacturing antibody medicines is incredibly complex and transferring the technology takes many months, as well as significant resources and skill. Unfortunately, it is not as simple as putting a recipe on the internet and committing to not sue other companies during the pandemic”. [John-Arne Røttingen](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32581-2/fulltext), chair of the WHO COVID-19 Solidarity trial, explains that technology transfer will be crucial to scaling up production, but voluntary mechanisms are better: “If you want to establish a biological production line, you need a lot of additional information, expertise, processes, and biological samples, cell lines, or bacteria” to be able to document to regulatory agencies that you have an identical product, he explains. The TRIPS waiver, he says, is the “wrong approach” because COVID-19 therapeutics and vaccines are complex biological products in which the main barriers are production facilities, infrastructure, and know-how. “IP is the least of the barriers”, [he says](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32581-2/fulltext). Then there is the problem of distributing the vaccines to billions of people in every country. Even with plentiful supplies, a [range of issues](https://www.statnews.com/2020/12/15/dont-repeat-mistakes-past-vaccine-supply-chains/) need to be considered such as regulatory bottlenecks; supply chain, transport and storage; maintenance of the cold chain; adequately trained staff; data tracking; and vaccine hesitancy amongst the population. The costs of the vaccine itself is only a small component of the total cost of delivering doses to millions of people. The UK, for example, has spent around £2.9bn on procuring vaccines, far less than the official [estimate](https://www.ft.com/content/58b11945-71b1-4f96-b389-695e162642fb) of £8.8bn to be spent on distributing and delivering them. Comparable costs will exist for all other countries, even if they are subsidised by Overseas Development Assistance. Even then, the combined costs of vaccination are dwarved by the other economic costs of the pandemic. IP is part of the solution Far from being a problem, IP has repeatedly proven itself to be part of the solution in fighting disease. It allows innovators to manage production scale-up by selecting and licensing technology to partners who have the skills and capacity to reliably manufacture large quantities of high-quality products, which they distribute at scale in low and middle-income countries. It would make no sense for IP owners to use it to withhold access, when they can profit from supplying all demand. IP licensing is the way this is done. This is the model unfolding for COVID-19, with new manufacturing licensing deals such as those between AstraZeneca and the Serum Institute in India (1bn doses), China’s [BioKangtai](https://www.fiercepharma.com/manufacturing/astrazeneca-takes-covid-19-vaccine-to-china-biokangtai-deal-for-200m-dose-capacity-by) (200m doses), Brazil’s FioCruz, Russia’s R-Pharm and South Korea’s SK Bioscience. Collectively, such deals will see the manufacture of [2 billion doses](https://www.fiercepharma.com/manufacturing/astrazeneca-takes-covid-19-vaccine-to-china-biokangtai-deal-for-200m-dose-capacity-by) by the end of 2021. The Serum Institute has also entered into manufacturing licenses with a number of developers of yet to be approved COVID-19 vaccines, as have several other [Indian vaccine manufacturers](https://www.contractpharma.com/content-microsite/covid-19/2020-10-20/india-emerges-as-hot-spot-for-manufacturing-covid-19-vaccines). Many of these doses will be procured on a non-profit basis by new collective procurement bodies such as COVAX, for distribution to low and middle-income countries. IP is important because it allows the innovator to control which partners manufacture the product, ensuring the quality of supplies, while maximising low-cost access for low and middle-income countries. It also allows the innovator to preserve its ability to recoup costs from richer markets, meaning the preservation of incentives for future R&D investment. Voluntary licensing has worked well in the past, particularly for low and middle-income countries. A recent academic analysis of hepatitis C voluntary licenses published by The [Lancet Global Health](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(19)30266-9/fulltext#seccestitle150)concluded that they have increased access to medicines at a considerably faster pace than alternative access models, by avoiding the need for lengthy patent disputes and bringing to bear inter-company competition and economies of scale.

#### Empirics prove that low quality vaccines cause vaccine hesitancy, particularly among minority communities, which flips the aff impacts.

Cunningham 5/6, Paige Winfield. “Analysis | the HEALTH 202: The Johnson & Johnson Pause Did Hurt Vaccine Acceptance, a Poll Finds.” The Washington Post, WP Company, 6 May 2021, www.washingtonpost.com/politics/2021/05/06/health-202-johnson-johnson-pause-did-hurt-vaccine-acceptance-poll-finds/. //sid

Some experts predicted the Biden administration’s temporary pause on use of Johnson & Johnson’s [coronavirus](https://www.washingtonpost.com/coronavirus/?itid=lk_inline_manual_2) vaccine would worsen vaccine hesitancy. Now a new poll indicates it did result in fewer Americans being willing to get that vaccine and the shots made by Pfizer and Moderna. Nearly 1 in 5 unvaccinated adults say they changed their minds about getting vaccinated because of the pause. In a new Kaiser Family Foundation [poll](https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-april-2021/), 9 percent of unvaccinated adults said the pause made them less likely to want the Johnson & Johnson vaccine. Seven percent said it made them less likely to want any of the vaccines. And 4 percent said it changed their thoughts about the vaccines in some other way. The findings seem to support concerns that suspending use of the vaccine for a week and a half in April would undermine public confidence in it. Federal health agencies were initially reacting to six cases of severe blood clots among 7 million Americans who had received the single-dose shot. Ten days later, after ultimately reviewing 15 cases in which people developed clots, an advisory panel to the Centers for Disease Control and Prevention voted to resume the shots. But some vaccine experts questioned the decision to pause use of Johnson & Johnson’s vaccine at all, considering how extremely rare the cases were. [As we noted at the time](https://www.washingtonpost.com/politics/2021/04/14/health-202-some-experts-are-criticizing-decision-pause-johnson-johnson-vaccine/?itid=lk_inline_manual_12), even younger people in their 20s and 30s were far, far more likely to die of covid-19 than of complications from the vaccine. The Johnson & Johnson pause had a particular effect on Hispanic women. The Kaiser Family Foundation poll found that 39 percent of Hispanic women said the pause changed their thinking on vaccines, with 15 percent saying that the pause made them less likely to want the Johnson & Johnson vaccine and 18 percent saying that it made them less likely to want any vaccine. ‘

#### 2] The first piece of Vanni evidence has no warrants for IP being the cause – rather it’s saying that lack of access to healthcare is what is causing disproportionate minority deaths.

#### 3] 1AC solvency is contingent on winning that a vaccine waiver would solve COVID, but they never prove the infrastructure exists – prefer the NC evidence – it’s a key internal link to aff solvency that they just didn’t bother reading.

#### 4] The Parthasarathy evidence – the aff doesn’t solve this – a] it doesn’t increase funding for health disparities research – this is independent of IP – b] Uncoordinated R&D is a function of privatization as a whole, not just IP. Unless the aff defends making the government in charge of all medical R&D, they don’t solve.

### 1NC – AT: COVID

#### The Plan can’t solve COVID -

#### 1] List of supply shortages – there is no way the aff solves, but they decrease available vaccines.

[Laurie Garrett 21, (Columnist at Foreign Policy and former senior fellow for global health at the Council on Foreign Relations). 5/7/21, Stopping Drug Patents Has Stopped Pandemics Before, Foreign Policy, <https://foreignpolicy.com/2021/05/07/stopping-drug-patents-pandemics-coronavirus-hiv-aids/>] Justin

The vaccines aren’t easy to make. Manufacturing errors in a Maryland Emergent BioSolutions factory caused an 86 percent plummet in Johnson & Johnson vaccine supplies in early April. Complex steps in the process of isolating, purifying, preserving, storing, and delivering COVID-19 immunizations are each error-prone and require long lists of specialized chemicals and machinery.

The world is in the grips now of pipette tips shortages—used to suck out chemicals and viral samples from test tubes in key steps of vaccine making. Syringes are in short supply, prompting vaccinators to toss vaccine supplies for lack of means to administer them. The sterile containers used to hold vaccines are running out. From the earliest days of the 2020 pandemic, the sorts of protective gear and machinery vaccine researchers and makers require have been in short supply, exacerbated by trade tensions between the United States and China. Swabs used for COVID-19 testing and all aspects of equipment cleaning in sterile conditions are held up in a grotesque family dispute in Maine. There aren’t enough centrifuge tubes made worldwide to spin down cell samples. Moderna and Pfizer are constantly scrambling to find the ingredients used to make the microscopic fatty balls, called liposomes, that house the mRNA molecules and carry them safely into the bloodstream. Even the nucleic acids used to construct mRNA and a long list of special enzymes used to purify those samples are in horribly short supply, largely because their use overlaps with the manufacture of COVID-19 tests. Because such delicate chemicals and proteins must be handled at deep-freeze temperatures and transported swiftly for immediate use, the entire supply chain is vulnerable to the simplest of catastrophes: weather at an airport, a car crash that blocks truck traffic, power outages, or competition for cargo space.

Although waiving TRIPS requirements on COVID-19 vaccines is a spectacular, historic gesture, would-be generic makers worldwide will soon discover their efforts are stymied not by patents but for want of Avanti Polar Lipids’ liposome ingredients, Flexsafe RM special bags to hold liquid vaccines in bulk, phosphate-buffered saline solution, Distearoylphosphatidylcholine for liposome-making, 5’ cap for mRNA made by TriLink BioTechnologies, RNA polymerases—the list goes on, and on, and on. As the number of would-be vaccine makers grows, so will demand for thousands of such items, putting pressure on companies that are, in many cases, mom-and-pop operations. Worse, pressure on supplies critical for COVID-19 vaccine making is already resulting in a production loss of vital medicines for other diseases.

#### Raw materials take years to scaleup.

Newey et al 21 [Sarah Newey*;* Anne Gulland*;* Jennifer Rigby, (GLOBAL HEALTH SECURITY CORRESPONDENTS at the telegraph) *and* Samaan Lateef (Reporting IN INDIA) 6/1/21, Vaccinating the world: the obstacles hindering global rollout – and how to overcome them, Telegraph, <https://www.telegraph.co.uk/global-health/science-and-disease/vaccinating-the-world/>] Justin

But perhaps the strongest argument against waivers is this: in October Moderna, one of the producers of new mRNA vaccines, actually offered an IP waiver. No-one has yet taken it up. Instead, “the biggest obstacle is raw materials,” says Dr Richard Torbett, chief executive of the Association of the British Pharmaceutical Industry. “All of the companies are saying we could produce more if we only had more glass vials, or filters, or bio bags.” Again, this is a daunting challenge – the Pfizer vaccine, for example, has 260 ingredients that come from 60 companies in 19 different countries. Many of these products are highly specialised and it will take many months, perhaps years, to ramp production of them up. “We’re very likely to see continued shortages that set back some of the vaccine producers for several months,” says Rasmus Bech Hansen, chief executive of Airfinity, adding that it is becoming harder for manufacturers with new jabs to secure the needed supplies – CureVac is already facing this problem, for example. The third challenge is perhaps harder to tackle. Vaccines are biological products and the manufacturing process does not always go smoothly. According to Airfinity, 1.73bn doses have been distributed worldwide, far short of the 4.5bn initially projected by big pharma. An overambitious manufacturing target is largely to blame for the gap. [AstraZeneca’s row with Europe](https://www.telegraph.co.uk/news/2021/05/09/eu-says-wont-renew-astrazeneca-contract-pivots-towards-pfizers/), for instance, was triggered by a lower yield at factories than hoped. Meanwhile Russia has produced only around 42m doses – compared to 400m from AstraZeneca and Pfizer – amid difficulties producing the second dose of Sputnik V, which uses different adenoviruses in the first and second shot.

#### The aff causes a scramble for limited resources by manufacturers with no experience – turns case.

Breuninger 21 [Kevin; Specialist at CNBC; “Pfizer CEO opposes U.S. call to waive Covid vaccine patents, cites manufacturing and safety issues,” CNBC; 5/7/21; <https://www.cnbc.com/2021/05/07/pfizer-ceo-biden-backed-covid-vaccine-patent-waiver-will-cause-problems.html>] Justin

“Currently, infrastructure is not the bottleneck for us manufacturing faster,” Bourla wrote in a dear colleague letter posted on LinkedIn. “The restriction is the scarcity of highly specialized raw materials needed to produce our vaccine.”

Pfizer’s vaccine requires 280 different materials and components that are sourced from 19 countries around the world, Bourla said. He contended that without patent protections, entities with much less experienced than Pfizer at manufacturing vaccines will start competing for the same ingredients.

“Right now, virtually every single gram of raw material produced is shipped immediately into our manufacturing facilities and is converted immediately and reliably to vaccines that are shipped immediately around the world,” Bourla wrote.

He predicted that the proposed waiver “threatens to disrupt the flow of raw materials.”

“It will unleash a scramble for the critical inputs we require in order to make a safe and effective vaccine,” Bourla wrote.

“Entities with little or no experience in manufacturing vaccines are likely to chase the very raw materials we require to scale our production, putting the safety and security of all at risk,” the CEO wrote.

#### 2] Skill Disparities and Trade Secrets – Moderna proves IP isn’t the root cause.

Silverman 3-15 Rachel Silverman 3-15-2021 "Waiving vaccine patents won’t help inoculate poorer nations" <https://www.washingtonpost.com/outlook/2021/03/15/vaccine-coronavirus-patents-waive-global-equity/> (Rachel Silverman is a policy fellow at the Center for Global Development)//Duong

Reality is more complicated, however. Because of the technical complexity of manufacturing coronavirus vaccines, waiving intellectual-property rights, by itself, would have **little effect**. It could even backfire, with companies using the move as an excuse to disengage from global access efforts. There are more effective ways to entice — and to pressure — companies to license and share their intellectual property and the associated know-how, without broadly nullifying patents. The Moderna vaccine illustrates the limits of freeing up intellectual property. Moderna announced in October that it would **not enforce IP rights** on its coronavirus vaccine — and yet it has **taken no steps to share information** about the vaccine’s design or manufacture, citing commercial interests in the underlying technology. Five months later, production of the Moderna vaccine remains entirely under the **company’s direct control** within its owned and contracted facilities. Notably, Moderna is also the only manufacturer of a U.S.- or British-approved vaccine not yet participating in Covax, a global-aid-funded effort (including a pledged $4 billion from the United States) to purchase vaccines for use in low- and middle-income countries. It is true, however, that activist pressure — including threats to infringe upon IP rights — can encourage originators to enter into voluntary licensing arrangements. So the global movement to liberate the vaccine patents may be useful, even if some advocates make exaggerated claims about the effects of waivers on their own. We focused on covid. Now our other patients are suffering. One reason patent waivers are unlikely to help much in this case is that vaccines are harder to make than ordinary drugs. Because most drugs are simple chemical compounds, and because the composition of the compounds is easily analyzable, competent chemists can usually reverse-engineer a production process with relative ease. When a drug patent expires, therefore — or is waived — generic companies can readily enter the market and produce competitive products, lowering prices dramatically. Vaccines, in contrast, are complex biological products. Observing their contents is insufficient to allow for imitation. Instead, to produce the vaccine, manufacturers need access to the developer’s “soft” IP — the proprietary recipe, cell lines, manufacturing processes and so forth. While some of this information is confidentially submitted to regulators and might theoretically be released in an extraordinary situation (though not without legal challenge), manufacturers are at an enormous disadvantage without the originator’s cooperation to help them set up their process and kick-start production. Even with the nonconsensual release of the soft IP held by the regulator, the process of trial and error would cause long delays in a best-case scenario. Most likely, the effort would end in expensive failure. Manufacturers also need certain raw ingredients and other materials, like glass vials and filtration equipment; overwhelming demand, paired with disruptive export restrictions, has constricted the global availability of some of these items.

#### 3] Lack of mRNA experts in the status quo means no scale up once the plan is passed

Garde et al 21 [Damian Garde (National Biotech Reporter), Helen Branswell (Senior Writer, Infectious Disease)Matthew Herper (Senior Writer, Medicine, Editorial Director of Events), 5/6/21, Waiver of patent rights on Covid-19 vaccines, in near term, may be more symbolic than substantive, <https://www.statnews.com/2021/05/06/waiver-of-patent-rights-on-covid-19-vaccines-in-near-term-may-be-more-symbolic-than-substantive/>] Justin

In October, Moderna vowed not to enforce its Covid-19-related patents for the duration of the pandemic, opening the door for manufacturers that might want to copy its vaccine. But to date, it’s unclear whether anyone has, despite the vaccine’s demonstrated efficacy and the worldwide demand for doses.

That underscores the drug industry’s case that patents are just one facet of the complex process of producing vaccines.

“There are currently no generic vaccines primarily because there are hundreds of process steps involved in the manufacturing of vaccines, and thousands of check points for testing to assure the quality and consistency of manufacturing. One may transfer the IP, but the transfer of skills is not that simple,” said Norman Baylor, who formerly headed the Food and Drug Administration’s Office of Vaccines Research and Review, and who is now president of Biologics Consulting.

While there are factories around the world that can reliably produce generic Lipitor, vaccines like the ones from Pfizer and Moderna — using messenger RNA technology — require skilled expertise that even existing manufacturers are having trouble sourcing.

“In such a setting, imagining that someone will have staff who can create a new site or refurbish or reconfigure an existing site to make mRNA [vaccine] is highly, highly unlikely,” Yadav said.