# 1NC

## 1

#### 1] Interpretation - Reduce means permanent reduction – it’s distinct from “waive” or “suspend.”

**Reynolds 59** (Judge (In the Matter of Doris A. Montesani, Petitioner, v. Arthur Levitt, as Comptroller of the State of New York, et al., Respondents [NO NUMBER IN ORIGINAL] Supreme Court of New York, Appellate Division, Third Department 9 A.D.2d 51; 189 N.Y.S.2d 695; 1959 N.Y. App. Div. LEXIS 7391 August 13, 1959, lexis)

Section 83's counterpart with regard to nondisability pensioners, section 84, prescribes a reduction only if the pensioner should again take a public job. The disability pensioner is penalized if he takes any type of employment. The reason for the difference, of course, is that in one case the only reason pension benefits are available is because the pensioner is considered incapable of gainful employment, while in the other he has fully completed his "tour" and is considered as having earned his reward with almost no strings attached. It would be manifestly unfair to the ordinary retiree to accord the disability retiree the benefits of the System to which they both belong when the latter is otherwise capable of earning a living and had not fulfilled his service obligation. If it were to be held that withholdings under section 83 were payable whenever the pensioner died or stopped his other employment the whole purpose of the provision would be defeated, i.e., the System might just as well have continued payments during the other employment since it must later pay it anyway.  [\*\*\*13] The section says "reduced", does not say that monthly payments shall be temporarily suspended; it says that the pension itself shall be reduced. The plain dictionary meaning of the word is to diminish, lower or degrade. The word "reduce" seems adequately to indicate permanency.

#### Waiver is temporary.

Green 5/6 [Andrew Green (Devex Contributing Reporter based in Berlin, his coverage focuses primarily on health and human rights and he has previously worked as Voice of America's South Sudan bureau chief and the Center for Public Integrity's web editor). “US backs waiver for intellectual property rights for COVID-19 vaccines”. Devex. 06 May 2021. Accessed 7/31/2021. <https://www.devex.com/news/us-backs-waiver-for-intellectual-property-rights-for-covid-19-vaccines-99847> //Xu]

In a stunning reversal, U.S. President Joe Biden’s administration came out in favor of waiving intellectual property protections for COVID-19 vaccines Wednesday. The move follows months of U.S. opposition that began under former President Donald Trump to a proposal from South Africa and India to temporarily set aside intellectual property rights around products that would protect, contain, and treat COVID-19. Its supporters have argued that the proposal, first tabled at the World Trade Organization in October and now backed by more than 100 countries, is necessary to expand vaccine production and overcome global shortages.

#### 2] Violation – the plan waives intellectual property protections temporarily, which is an indefinite suspension.

#### 3] Vote neg for limits and neg ground – re-instatement under any infinite number of conditions doubles aff ground – every plan becomes either temporary or permanent – you cherry-pick the best criteria and I must prep every aff while they avoid core topic discussions like reduction-based DAs which decks generics like Pharma Innovation and Bio-Tech.

#### 5] TVA solves – permanently reduce COVID patents.

#### 6] Paradigm Issues –

#### a] Topicality is Drop the Debater – it’s a fundamental baseline for debate-ability.

#### b] Use Competing Interps – 1] Topicality is a yes/no question, you can’t be reasonably topical and 2] Reasonability invites arbitrary judge intervention and a race to the bottom of questionable argumentation.

#### c] No RVI’s - 1] Forces the 1NC to go all-in on Theory which kills substance education, 2] Encourages Baiting since the 1AC will purposely be abusive, and 3] Illogical – you shouldn’t win for not being abusive.

## 2

#### Interp – If the 1AC specifies a state or weapon further than the Resolution, they must have a Solvency Advocate specifically advocating for the actors isolated in the plan implementing the plan.

#### Violation – theres no cards

#### Vote Negative:

#### a] Ground – If there is not Solvency Advocate defining the Plan, then there is no relevant Topic Lit to define Negative offense solely within the confines of the Plan. That wrecks our ability to Clash since if we read generics, the 1AR will always say “not unique to us”

#### b] Limits - having a Solvency Advocate that specifically advocates the 1AC is the only way to limit an unlimited topic because under their model any 1AC that j says IP bad is topical which makes super small Affs like malaria topical but don’t have robust Neg Ground in the lit base.

#### Solvency Advocate theory isn’t frivolous or infinitely regressive – it’s a floor to ensure the Negative has an equal ability to access relevant topic literature as the Aff – it’s a central question towards the burden of rejoinder to prove that your specific proposal grounded in literature to ensure a stasis.

#### Our distinction matters about specificity – it’s key to precision – questions of where the plan affects/who is affected are key issues surrounding every discussion about IP– Topic Ed outweighs since we only have 2 months to debate the topic.

## 3

#### The World Trade Organization ought to increase intellectual property protections for insert aff’s medicine. The United States ought to designate intellectual property protections on insert aff’s medicine as adversely affecting the international transfer of technology.

#### Member states can waive IP rights if they hamper the international flow of medical technology.

WTO ’21 (World Trade Organization; 2021; “Obligations and exceptions”; World Trade Organization; Accessed: 8-30-2021; exact date not provided, but copyright was updated in 2021)

Article 8 Principles […] 2. Appropriate measures, provided that they are consistent with the provisions of this Agreement, **may be needed** to prevent the abuse of intellectual property rights by right holders or the resort to practices which unreasonably restrain trade or **adversely affect** the **international transfer of technology**. SECTION 8: CONTROL OF ANTI-COMPETITIVE PRACTICES IN CONTRACTUAL LICENCES Article 40 1. Members agree that some licensing practices or conditions pertaining to intellectual property rights which restrain competition may have **adverse effects on trade** and **may impede** the **transfer and dissemination** of technology. 2. Nothing in this Agreement **shall prevent** Members from specifying in their legislation licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market. As provided above, a Member **may adopt**, consistently with the other provisions of this Agreement, **appropriate measures** to **prevent or control** such practices, which may include for example exclusive grantback conditions, conditions preventing challenges to validity and coercive package licensing, in the light of the relevant laws and regulations of that Member. […]

#### Designating IP protections as antithetical to the global health system revitalizes info-sharing.

Youde ’16 (Jeremy; writer for World Politics Review; 4-29-2016; “Technology **Transfer** Is a **Weak Link** in the Global Health System”; World Politics Review; <https://www.worldpoliticsreview.com/articles/18639/technology-transfer-is-a-weak-link-in-the-global-health-system>; Accessed: 8-30-2021)

In mid-April, a spokesperson for the Ugandan government admitted that the country’s only functioning cancer treatment machine had broken earlier that month. The radiotherapy machine, donated by China to Uganda in 1995 and housed at Mulago Hospital in Kampala, is now considered beyond repair. While the government did acquire a second radiotherapy machine in 2013, it has not been operational because of delays in allocating 30 billion shillings—just shy of $9 million—to construct a new building to house it. The funding delay has lifted, but the machine won’t be up and running for at least six months. The government has announced plans to airlift some cancer patients to Nairobi for treatment, but that plan will only accommodate 400 of the estimated 17,000 to 33,000 cancer patients who need treatment annually in Uganda. This breakdown of technology is a human tragedy for the cancer patients from Uganda as well as elsewhere in East Africa that the radiotherapy machine helped treat. Beyond the personal level, though, the episode illustrates a larger shortcoming in global health. Total annual development assistance for health is approximately $36 billion, but that funding is overwhelmingly concentrated on specific infectious diseases. Noncommunicable diseases like cancer receive relatively little international funding—only 1.3 percent in 2015, and the dollar amount has declined since 2013. Funds to strengthen health systems, geared toward building and supporting a resilient health care system, are similarly low, making up only 7.3 percent of development assistance in 2015. Noncommunicable diseases kill more people every year than infectious diseases and accidents do, but this balance is not reflected in global health spending. ... These shortcomings also speak to larger problems in global health around issues of **technology transfers** and long-term **commitments** to keep that technology working. It’s one thing to provide necessary medical technologies in the first place; it’s another to ensure that those technologies are accessible and operational going forward. Despite the **importance** of technology transfers, questions of **long-term support** for them have received relatively little attention from the global health regime. As noncommunicable diseases like cancer cause an even-higher proportion of deaths each year, it will become all the more **imperative** that the international community address this gap in **sharing** and funding **crucial health care** technology. This does not mean that there are no efforts to facilitate technology transfers around the world. The Fogarty International Center, a part of the U.S. National Institutes of Health, has had an [Office of Technology Transfer](http://www.fic.nih.gov/News/GlobalHealthMatters/march-april-2014/Pages/technology-transfer-nih-ott.aspx) since 1989 to make medical innovations developed in the United States more widely available. The World Health Organization (WHO) also has a [Technology Transfer Initiative](http://www.who.int/phi/programme_technology_transfer/en/) to improve access to health care technologies in developing countries. These efforts are laudable, but their interpretation of technology transfer is almost entirely rooted in access to pharmaceuticals and vaccines. To be sure, that is a very important issue—but it only deals with one narrow element of technology transfer. The problems of global health technology transfers illustrated in Uganda underscore a larger issue: the need for a so-called fourth industrial revolution, what has been described as “blurring the real world with the technological world.” This idea gained prominence earlier this year when it served as the theme for the World Economic Forum in Davos. For global health, this means embracing technology to find low-cost ways to promote health, spread education, and reach communities whose access to the health care infrastructure is weak. It expands on the notion of telemedicine and eHealth to make it more encompassing. According to health care entrepreneur Jonathan Jackson, the fourth industrial revolution could change global health by encouraging a shift in focus “from healthcare to health promotion.” Moving from high-cost treatment to low-cost prevention, he has argued, will have significant and far-reaching positive economic implications for developing countries around the world. Its inspiring sense of technological optimism notwithstanding, this sort of approach cannot be the sole focus of technology transfers in global health. Prevention is indeed important, but the fact of the matter remains that people will get sick—and those sick people will need treatment. Mobile applications and electronic access to health care providers can be useful, but they cannot replace a radiotherapy machine. Understanding the root causes of noncommunicable diseases goes far beyond individual choices and intersects with the larger political, economic and social context, so we cannot assume that cybertechnology alone can stop cancer. It is also important to remember that the results of greater technological innovation and integration won’t be free. Sub-Saharan African states, on average, spend $200 per person per year on health care. Even if technology allows costs to decline, they are still likely to be out of reach for many people in most of these countries—in the same way that the purchase and maintenance of medical technologies are prohibitively expensive in these same states today. Technology in and of itself is not useful unless it can be maintained over the long term. This, then, is a weak link in the larger global health system: How do we ensure access to life-prolonging medical technologies beyond pharmaceuticals and vaccines in a sustainable way? Consider two ideas. First, development assistance for health must orient more of its resources toward treating noncommunicable diseases and strengthening health systems. These are the areas in which these technologies are likely to be used, but are not currently supported by the international system. The changing nature of health and disease will only make them even more important in the years to come. Second, longer-term funding commitments would provide a greater opportunity to incorporate medical technologies into health care systems sustainably. Machines will break down, and technologies will fail. That is inevitable. But the global health regime, from the WHO and its regional organizations like the Regional Office for Africa to major donors like the **U**nited **S**tates government and the Bill and Melinda Gates Foundation, needs to figure out how to ensure that these problems do not put **lives in peril**. Technology alone will not improve global health unless it is properly supported and funded.

#### International collaboration’s key to check future pandemics – otherwise, extinction.

Dulaney ’20 [Michael; digital journalist with the ABC June 2020; "'A question of when, not if': Another pandemic is coming – and sooner than we think", No Publication; https://www.abc.net.au/news/science/2020-06-07/a-matter-of-when-not-if-the-next-pandemic-is-around-the-corner/12313372, accessed 4-12-2021]

And as recently as September last year — just a few months before COVID-19 was detected in China — an independent watchdog set up by the WHO warned the world was "grossly" unprepared for the "very real threat" of a pandemic. But even more alarming is what the new coronavirus indicates about the future. Researchers say human impacts on the natural world are causing new infectious diseases to emerge more frequently than ever before, meaning the next pandemic — one perhaps even worse than COVID-19 — is only a matter of time. "We know that it's a probability, not a possibility," Dr Reid says. "The roulette wheel will start to spin again. "If you don't resolve the conditions that generated the problem, then we sit waiting for the next probability equation to come through. "And it will, and sadly it's possible that it's in our lifetime." The growing threat to human health Nearly all emerging pathogens like COVID-19 come from "zoonotic transfer" — essentially, when a virus present in animals jumps to infect humans. The US Centers for Disease Control and Prevention estimates three out of every four new infectious diseases, and nearly all pandemics, emerge this way. Researchers have counted around 200 infectious diseases that have broken out more than 12,000 times over the past three decades. On average, one new infectious disease jumps to humans every four months. Animal species like civet cats (SARS), camels (MERS), horses (Hendra), pigs (Nipah) and chimpanzees (HIV) have all been implicated in the spread of new viruses at different times.

## 4

#### 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.

## 5

#### 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.

#### 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.

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.

## 6

#### NC theory first - 1] They started the chain of abuse and forced me down this strategy 2] We have more speeches to norm over it 3] It was introduced first so it comes lexically prior.

#### Neg abuse outweighs Aff abuse – 1] Infinite prep time before round to frontline 2] 2AR judge psychology 3] 1st and last speech 4] Infinite perms and uplayering in the 1AR.

#### Reasonability on 1AR shells – 1AR theory is very aff-biased because the 2AR gets to line-by-line every 2NR standard with new answers that never get responded to

#### DTA on 1AR shells - They can blow up blippy 20 second shells in the 2AR but I have to split my time and can’t preempt 2AR spin which necessitates judge intervention

#### RVIs on 1AR theory – 1AR being able to spend 20 seconds on a shell and still win forces the 2N to allocate at least 2:30 on the shell which means RVIs check back time skew

#### No new 1ar theory paradigm issues- A] New 1ar paradigms moot any 1NC theoretical offense B] introducing them in the aff allows for them to be more rigorously tested

## Case

### Solvency

#### 1] A vaccine waiver greenlights counterfeit medicine – independently turns Case by increasing vaccine hesitancy.

Conrad 5-18 John Conrad 5-18-2021 "Waiving intellectual property rights is not in the best interests of patients" <https://archive.is/vsNXv#selection-5353.0-5364.0> (president and CEO of the Illinois Biotechnology Innovation Organization in Chicago.)//Elmer

The Biden's administration's support for India and South Africa's proposal before the World Trade Organization to temporarily waive anti-COVID vaccine patents to boost its supply will fuel the **development of counterfeit vaccines and weaken the already strained global supply chain**. The proposal will not increase the effective number of COVID-19 vaccines in India and other countries. The manufacturing standards to produce COVID-19 vaccines are **exceptionally complicated**; it is unlike any other manufacturing process. To ensure patient safety and efficacy, only manufacturers with the **proper facilities and training should produce the vaccine, and they are**. Allowing a temporary waiver that permits compulsory licensing to allow a manufacturer to export counterfeit vaccines will **cause confusion and endanger public health**. For example, between 60,000 and 80,000 children in Niger with fatal falciparum malaria were treated with a counterfeit vaccine containing incorrect active pharmaceutical ingredients, resulting in more than **100 fatal infections.** Beyond the patients impacted, counterfeit drugs erode public confidence in health care systems and the pharmaceutical industry. Vaccine hesitancy is a rampant threat that feeds off of the distribution of misinformation. Allowing the production of vaccines from improper manufacturing facilities further opens the door for antivaccine hacks to stoke the fear fueling **vaccine hesitance**.

#### 2] Lack of key supplies

Tepper 21 James Tepper, 4/10 [James Tepper, (James M. Tepper is an American neuroscientist currently a Board of Governors Professor of Molecular and Behavioral Neuroscience and Distinguished Professor at Rutgers University and an Elected Fellow of the American Association for the Advancement of Science.)]. "Global Covid vaccine rollout threatened by shortage of vital components." Guardian, 4-1-2021, Accessed 8-8-2021. https://www.theguardian.com/world/2021/apr/10/global-covid-vaccine-rollout-threatened-by-shortage-of-vital-components // duongie

Vaccine-makers around the world face shortages of vital components including large plastic growbags, according to the head of the firm that is manufacturing a quarter of the UK’s jab supply. Stan Erck, the chief executive of Novavax – which makes the second vaccine to be grown and bottled entirely in Britain – told the Observer that the shortage of 2,000-litre bags in which the vaccine cells were grown was a significant hurdle for global supply. His warning came as bag manufacturers revealed that some pharmaceutical firms were waiting up to 12 months for the sterile single-use disposable plastic containers, which are used to make medicines of all kinds, including the Pfizer, Moderna and Novavax Covid-19 vaccines. But Erck and his British partners said they were confident they had enough suppliers to avoid disruption to the supply of Novavax. The vaccine is waiting for approval from the Medicines and Healthcare products Regulatory Agency (MHRA) but the first of 60 million doses ordered by the government are already in production in Teesside. The Fujifilm Diosynth Biotechnologies factory began growing the first cells for the Novavax vaccine in Billingham, County Durham this month and in a few weeks they will fill the bioreactor bag, ready to be transported to GlaxoSmithKline’s plant at Barnard Castle to be put into vials for distribution. “The first hurdle is showing it works and we don’t have that hurdle any more,” Erck said. But he added there were others still to overcome. “There’s the media that the cells have to grow in,” Erck said. “You grow them in these 2,000-litre bags, which are in short supply. Then you pour it out and you have to filter it, and the filters are in short supply. The little things count.” Novavax almost ran out of bags at one of its 20 factories earlier this year, but there had been no delays for the UK operation, according to Martin Meeson, global chief executive of Fujifilm Diosynth. “We started working on our part of the supply chain in summer last year,” he said. “We had to accelerate some of the investment here, but the commitment we made last summer to start manufacturing in February has been fulfilled.” Production of coronavirus vaccines is being ramped up. Production of coronavirus vaccines is being ramped up. Photograph: Christophe Archambault/AP Both Meeson and Erck said the UK’s vaccine taskforce had been helpful in sorting out supply issues so far, but other countries and other medical supplies might be affected. ABEC makes bioreactor bags at two plants in the US and two in Fermoy and Kells in Ireland, and delivered six 4,000-litre bags to the Serum Institute in India last year for its Covid vaccines. Brady Cole, vice-president of equipment solutions at ABEC, said: “We are hearing from our customer base of lead times that are pushing out to nine, 10, even 12 months to get bioreactor bags. We typically run out at 16 weeks to get a custom bioreactor bag out to a customer.” He said ABEC was still managing to fulfil orders at roughly that rate. “The bag manufacturing capacity can’t meet demand right now,” he added. “And on the component side, the tubes and the instruments and so forth that also go into the bag assembly – those lead times are also starting to get stretched as well. But the biggest problem we see is it really is just the ability to get bags in a reasonable amount of time.” ABEC expanded its factories last year and has now started making 6,000-litre bags, which are roughly the size of a minibus. Other firms including MilliporeSigma, part of German company Merck, have also been expanding their manufacturing facilities. American firm Thermo Fisher Scientific expects it will finish doubling its capacity this year. The US government has also blocked exports of bags, filters and other components so it can supply more Pfizer vaccines for Americans. Adar Poonawalla, the chief executive of the Serum Institute of India, said the restrictions were likely to cause serious bottlenecks. Novavax is hoping to avoid delays and “vaccine nationalism” by operating on four continents, with 20 facilities in nine countries. “One year ago, we had exactly zero manufacturing capacity,” Erck said. “We’re self-sufficient. The two main things we need to do are done in the UK. And in the EU we have plants in Spain and the Czech Republic and fill-and-finish in Germany and the Netherlands.” There was no need for vaccines to cross borders to fulfil contracts, he said. The Oxford/AstraZeneca vaccine was hit by a delay to a delivery of 5 million doses from India and a problem with a batch made in Britain, and the company has been dragged into a lengthy row between the UK and the EU over vaccine exports.

#### 3] Hurts Innovation

**Value Ingenuity 20** [Value Ingenuity, (The Value Ingenuity project is telling the story of innovation, its roots, its impact, its social and moral imperatives, and the public policy prescriptions that will assure a continued upward trajectory for the generations to follow. Our objective is to advance globally a shared purpose of mutual investment in sustainable innovation.)]. "WTO IP Waiver Would Undermine Covid Innovation." 10-2-2020, Accessed 8-5-2021. https://www.valueingenuity.com/2021/05/18/wto-ip-waiver-would-undermine-covid-innovation/ // duongie

A TRIPS waiver for vaccines would do nothing to help — and could in fact hurt — the effort to produce billions of vaccine doses and get them in arms. Supply of these high-tech products is ramping up quickly, with about 10 billion doses projected to be produced by the end of 2021 — we shouldn’t distract attention away from that all-important goal. IP is not a barrier to vaccine access. It already enabled the creation of three vaccines, in record-breaking time, that have received FDA authorization. IP is also safely facilitating international partnerships (275+ to date) to share technology and information more easily with trusted partners across borders. An IP waiver could lead to untested and unregulated copycats. Some nations are looking to manufacture sophisticated vaccines without permission, exacerbating the shortage of the critical materials (raw materials, tubing, vials etc.) and increasing vaccine hesitancy due to the development of unsafe products and medicines. The proposal jeopardizes U.S. manufacturing & jobs. Allowing other countries to take and commercialize American-made technologies conflicts with President Biden’s goal to build up American infrastructure and create manufacturing jobs. In the U.S. alone, biopharmaceutical companies support 4 million jobs across all 50 states, with many more across innovation ecosystems in labs, finance, and SMEs. Waiving IP undermines America’s leadership in the life sciences. We should not be forfeiting IP to countries looking to undermine America’s global leadership in biomedical technology and innovation. IP protections enabled decades of R&D by biopharmaceutical research companies, allowing them to move quickly and effectively against COVID-19. Business welcomes the Biden Administration’s support for the global vaccine program, COVAX. This type of program can have a significant positive, practical impact on global rollout of vaccines and therapies without disrupting the incredible IP-enabled progress that has been made to date to defeat the pandemic. Its effects will be even more effective as trade barriers are removed and all countries allow vaccines to be exported internationally. GOOD TO KNOW: Today 57% of all new medicines globally come from the United States with its world-class IP ecosystem, and private companies in the life sciences community make up more than 80% of the investment in the research and development of those new drugs. The U.S. biopharmaceutical industry directly and indirectly supports over 4 million American jobs. SCIENTISTS, ACADEMICS, ADVOCATES AND POLITICAL LEADERS SKEPTICAL OF WAIVING IP RIGHTS “The goal is noble, but the demand [for an IP waiver] is more slogan than solution … patents on vaccines are not the central bottleneck, and even if turned over to other nations, would not quickly result in more shots. This is because vaccine manufacturing is exacting and time-consuming. Look at the production difficulties encountered by Emergent BioSolutions, a vaccine manufacturer in Baltimore, where 15 million doses were contaminated. That was caught before the shots were distributed, but one can imagine the horrific consequences of a failure to maintain quality control elsewhere in the world.” WASHINGTON POST EDITORIAL BOARD, May 4, 2021 “The goal is noble, but the demand [for an IP waiver] is more slogan than solution … patents on vaccines are not the central bottleneck, and even if turned over to other nations, would not quickly result in more shots. This is because vaccine manufacturing is exacting and time-consuming. Look at the production difficulties encountered by Emergent BioSolutions, a vaccine manufacturer in Baltimore, where 15 million doses were contaminated. That was caught before the shots were distributed, but one can imagine the horrific consequences of a failure to maintain quality control elsewhere in the world.” WALL STREET JOURNAL EDITORIAL BOARD, May 6, 2021 “The U.S. decision to support a temporary waiver of intellectual-property protections for Covid-19 vaccines won’t end debate on the issue, much less end the pandemic. Reaching a formal agreement could take months and even then may not accelerate vaccine production; opposition from countries such as Germany could yet doom any compromise.” BLOOMBERG EDITORIAL BOARD, May 12, 2021 “The collaboration that’s happened in the midst of this pandemic I think points to the ways in which IP has actually not been a barrier, but a facilitator of critical, cutting-edge innovation […] I don’t think that waiving IP rights will suddenly enable other countries to ramp up the manufacturing of complex vaccines.” SEN. CHRIS COONS (D-DE), CSIS: April 22, 2021 “There are only so many vaccine manufacturers in the world […] people are very careful about the safety of vaccines […] The thing that is holding us back is not IP. There is no idle factory with regulatory approval that makes magically safe vaccines […] we have all the rights from the vaccine companies and the work is going at full speed” BILL GATES, Sky News: April 25, 2021 “There are enough manufacturers, it just takes time to scale up. And by the way, I have been blown away by the cooperation between the public and private sectors in the last year, in developing these vaccines.” ADAR POONAWALLA, CEO SERUM INSTITUTE OF INDIA, February 14, 2021 “These [vaccines] are complex to make so just waiving IP and patents isn’t going to help […] you can only get trade secrets and knowhow with the cooperation of the originator companies, and they don’t have the bandwidth to do this in every part of the world … the only immediate solution is for rich countries to donate or sell their surplus vaccine to COVAX or other countries.” JAYASHREE WATAL, GEORGETOWN LAW PROFESSOR & FORMER WTO IP COUNSELOR, April 22, 2021 “It is also unclear whether a waiver of IP rights will make a difference […] Furthermore, as others have pointed out, IP rights are only a piece of what is needed to produce vaccines. There is currently a global shortage of raw materials and proper manufacturing facilities.” SAPAN KUMAR, LAW FOUNDATION PROFESSOR OF LAW AT THE UNIVERSITY OF HOUSTON LAW CENTER, May 9, 2021 “This is technology that’s every bit as critical as munitions and encryption codes […] It’s a platform technology that can be used to make all manner of treatments going forward, including vaccines.” DAVID KAPPOS, FORMER U.S. PATENT AND TRADEMARK OFFICE FOR PRESIDENT OBAMA, April 22, 2021 “The notion that we would then turn around and go to the World Trade Organization and basically endorse a policy of DARPA-funded technology transfer to China is just inconceivable. You’re basically aiding and abetting China’s ‘Made in China 2025’ plans for technological dominance.” CLETE WILLEMS, FORMER SPECIAL ASSISTANT TO THE PRESIDENT FOR INTERNATIONAL TRADE, INVESTMENT, AND DEVELOPMENT, April 22, 2021.

#### Turns the Aff – Delta Variant proves current vaccines aren’t enough – we need new innovations.

Guarino 8-18 Ben Guarino 8-18-2021 “Vaccines show declining effectiveness against infection overall but strong protection against hospitalization amid delta variant” <https://archive.is/pvuzL#selection-747.0-750.0> (Education: University of Pennsylvania, BSE in bioengineering; New York University, MA in journalism)//Elmer

**Results** from a trio of studies, published in the CDC’s weekly report, **motivated** the **Biden** administration **to** **consider** **booster shots**. **Three studies published** Wednesday by the Centers for Disease Control and Prevention **show** that **protection against the** **coronavirus from vaccines** **declined** in the midsummer months **when** the more contagious **delta variant rose** to dominance in the United States. At the same time, protection against hospitalization was strong for weeks after vaccination, indicating the shots will generate immune fighters that stave off the worst effects of the virus and its current variations. Data from these studies persuaded the Biden administration to develop a plan for additional doses to bolster the immune systems of people vaccinated months earlier. The trio of reports, published Wednesday in the Morbidity and Mortality Weekly Report, the CDC’s scientific digest, also **reinforce** the **idea** that **vaccines** **alone will be unable to lift the nation out of the pandemic**. Masks and other precautions should be part of “a layered approach centered on vaccination,” wrote researchers from the New York State Department of Health and the University at Albany School of Public Health in their study of vaccine effectiveness across New York state. All three reports measure vaccine effectiveness, which compares the rates of infection or hospitalization among vaccinated people with the rates among people who had not been vaccinated. Until now, evaluations of vaccine effectiveness amid delta largely relied on observations from outside the United States. A recent New England Journal of Medicine study concluded the Pfizer vaccine was 88 percent effective against infections that caused symptoms in England. Others, such as **a study in Israel**, **found** **larger declines in protection against infection**. One U.S. report that has not yet gone through peer review, collecting data from Mayo Clinic Health System facilities in five states, **found** a **drop in** the **Pfizer**-BioNTech **vaccine’s** **effectiveness** **against delta infections to 42 percent**. The other mRNA vaccine, made by Moderna, was 76 percent effective. The new study from New York is the first to assess vaccine protection against coronavirus infection across the entirety of a U.S. state amid delta. The study authors found a modest drop in effectiveness: It descended from 92 percent in May to 80 percent in late July. Twenty percent of new infections and 15 percent of hospitalizations from covid-19, the disease caused by the coronavirus, were among vaccinated people. The second of the three studies published Wednesday by the CDC found effectiveness against infection declined for nursing home residents after delta emerged. It dropped from 75 percent in March through May to 53 percent in June and July. Vaccination for visitors and staff is crucial, the study authors wrote, and “additional doses of COVID-19 vaccine might be considered for nursing home and long-term care facility residents.” The third report, an analysis of patients at 21 hospitals in 18 states, found sustained protection against hospitalization. Effectiveness was steady at 86 percent, even in the midsummer months when delta outcompeted other variants of concern. For adults who do not have compromised immune systems, that effectiveness stood at 90 percent.

### Advantage 1

#### 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 Hamaan Impact:

#### 1] No Brink Scenario – no explanations of conflicts/tensions that are escalating now.

#### 2] China thumps Compliance – they’ll never listen.

Webster 14, Timothy. "Paper compliance: How China implements WTO decisions." Mich. J. Int'l L. 35 (2014): 525. (Director of East Asian Legal Studies & Assistant Professor of Law, Case Western Reserve University)//Elmer

Since the number of WTO cases involving China is small, certitude about China's future conduct in the DSB would be inapt. But certain patterns are clear. First, in the majority of cases, China has revised its legal and regulatory systems to comply with the DSB rulings. It has done so typically within the reasonable period of time in which it agreed to do so and has accumulated a strong record in terms of the quality of its implementation. Moreover, as of July 2013, no Chi-nese case has gone into compliance proceedings, wherein an arbitration panel determines the costs of one country's non-compliance to other WTO members. This is a significant difference from other major trading partners, such as the United States, E.U., and Japan, all of which have been respondents in compliance proceedings. n256 Some of these cases have dragged on for more than a decade, indicating a resistance to WTO rulings far and above anything that China has exhibited. Second, **China has found ways to resist WTO rulings** and norms. Inconsistent regulations remain in effect. In the three cases discussed above - DS 362 (intellectual property enforcement), DS 363 (trading rights for publications) DS 373 (financial information services) - inconsistent regulations either continue in effect or were revised so as not to ef-fectuate [\*573] the purpose of the ruling. This lacuna could be a function of institutional capacity. China's capa-cious bureaucratic institutions produce reams of regulations; it is unclear whether many of them keep close tabs on the various regulations they produce, and quite definite that some of them have not repealed regulations found to be in-consistent. Or there may be a more sinister explanation: **China wants to keep the inconsistent regulations** in place, and understands that its regulatory maze may be **too labyrinthine for** other **WTO** members **to navigate**. Whether by design or neglect, a number of inconsistent regulations continue to plague China's compliance record. Moreover, local and provincial-level regulations often amplify the effects of inconsistent national regulations. In cases such as DS 363 and DS 373, lower-level government agencies have promulgated policies that reference regulations that were either revoked or found inconsistent. This means that WTO-inconsistent regulations will cast a regulatory afterglow at various levels of the Chinese legal system. The most striking case of non-compliance, so far, has been the trading rights case (DS 363). The revisions suggest-ed by the DSB challenged China's censorship regime and long-held monopoly on cultural information. Not only did China not comply within a reasonable period of time, but it also left in place several regulations that the DSB deemed inconsistent with WTO disciplines. This suggests that, in particularly sensitive areas, China will not fulfill its implemen-tation obligations. **As China continues to gain experience with WTO litigation**, **instances of non-implementation are likely to increase**. China has, in essence, learned that it can "get away" without fully complying with DSB rulings and recommendations. Indeed, as noted above, two recent rulings show just how far China is willing to push the implemen-tation envelope. Third, reforming laws in China means less than it would in Western liberal democracies with robust legal institu-tions. One-party rule, coupled with a unitary governance structure, allow the party-state to control the passage of laws and regulations, dictate revisions to the domestic legal environment, and coordinate changes with a maximum of speed and minimum of institutional friction. **China** has tinkered with the literal letter of its law, but it **continues** to produce **a whole range of programs that violate WTO** principles. **It is** perhaps **unrealistic to think the DSB can induce compliance** more broadly, that is, outside of the regulation challenged. But it is doubtful that China's domestication of DSB rulings has meaningfully influenced the development of its political economy. Many basic norms - market capitalism, dereg-ulation, strong protection of intellectual property, limits on subsidies - remain alien to China. Fourth, many WTO violations take place in the interstices of law, areas where government officials exercise discre-tion: whether or not to register a foreign company, to issue it a business license, or to prosecute someone for IP theft. Likewise, **China distributes trade regulations to** governmental **agencies as "internal guidance"** (neibu cankao) that should be published under China's WTO transparency obligations, but in fact [\*574] never are. n257 The dispute set-tlement system provides a very rough tool by which to reshape a member's domestic legal system and to monitor its implementation of WTO commitments. A range of violations takes place, either below the radar or without meaningful recourse for investors or manufacturers outside of China. Finally, China deploys the tactical features of the dispute settlement system to buffer the ruling's impact. China settles "easy" cases early and prolongs decisions that seriously disrupt its political system, harm core economic interests, or require significant internal reform to implement. Like any other national actor, China seeks to maximize its interests and minimize disruptions that international law and institutions may inflict upon its domestic legal and regulatory sys-tems.

#### 3] No DSB usage even if it’s credible.

Alavi 7 Amin Alavi 2007 “African Countries and the WTO’s Dispute Settlement Mechanism” <http://www.worldtradelaw.net/articles/alaviafrica.pdf> (PhD Researcher @ Danish Institute for International Studies)//Elmer

The passing of time has modified most observers’ earlier enthusiasm about the DSM.3 It has become clear that **the DSM has shortcomings**. These include some **conflicting deadlines** (better known as sequencing), a **weak enforcement mechanism**, **questionable quality of some of its rulings**, and the **possibility of prolonging disputes** (see, for example, Mavroidis et al., 1998). Increasingly too, the absence from the scene of a majority of developing countries, including the SSA ones, has also been acknowledged.4 One question that is now raised is whether or not the DSM has in fact been a success, and especially whether it represents a gain for developing countries. But this latter discussion is only now emerging and only a few observers have taken part in it. Furthermore, it does not yet constitute a distinct field of debate. The prime focus of academic commentary on the DSM remains on how it has been used, rather than why it has not been used. A majority of researchers working on the DSM do so from within the legal tradition and have studied it as a litigation process by analysing case law and the rulings. They implicitly regard the system as a success in allowing countries to settle their disagreements. However, the DSM is also a political process, and cases have important economic impacts. Recently, lawyers have been joined by economists and political scientists in analysing the DSM. Unlike the lawyers, these last two groups are interested in determining the conditions under which countries participate in the DSM, and the costs and benefits of this participation. A first set of observations from this source concerns possible relations between countries’ levels of engagement in the DSM, their shares and patterns of trade, and the retaliation opportunities that these provide (Bown and Hoekman, 2005; Horn et al., 1999; Nordstrom, 2005). The authors cited consider countries’ shares of world trade, numbers of traded products and numbers of trading partners as determinants of their participation. Their hypothesis is that ‘the probability of encountering disputable trade measures is proportional to the diversity of a country’s exports over products and partners, which means that larger and more diversified exporters would be expected to bring more complaints than smaller and less diversified exporters’ (Horn et al., 1999: ii). They find that the hypothesis ‘goes quite far toward predicting the actual pattern of complaints across countries’ (ibid.),5 especially when the cost of litigation is controlled for. However, they also find that the **G4 countries**6 are **overrepresented** **in the DSM**, relative to their positions with regard to these attributes.7 A second, related set of observations regards the negative consequences a case may have as a reason why small developing countries especially have not been active in the DSM. Examples of this are provided by Bown (2005), who develops a model to analyse a subset of disputes, namely, those dealing with issues of market access. He finds that lost market access and economic losses determine countries’ decisions to initiate cases. However, ‘several other **political** economy **factors affect the decision not to litigate** ... Other things being equal, adversely affected exporters are less likely to participate when they are involved in a preferential trade agreement with the respondent, when they **lack the capacity to retaliate** against the respondent by withdrawing trade concessions, **when they are poor or small**, and when they are particularly reliant on the respondent for bilateral assistance’ (ibid.: 291). Bown’s arguments partly recapitulate those of Hoekman and Mavroidis (2000) whose list of countries’ reasons for not initiating cases includes practising policies similar to those that a case tries to change, and fear of the political as well as economic impact of a case on bilateral relations with another state. A final set of observations from this literature focuses on biases and inequalities within and between institutions managing trade, including the WTO in general and the DSM in particular (Busch and Reinhardt, 2003; Shaffer, 2003). Here, the main problem identified is that the **DSM** (and the WTO) has **become too technically complex and demanding for** most **developing countries** to use effectively in the absence of adequate assistance. Underlying this is the observation that there is too much law and too little politics in the system. Proponents of this position link these observations to others concerning developing countries’ typically weak trade-policy infrastructures, their shortage of trained personnel, and their lack of knowledge about the system. This view is systematically elaborated by Hoekman and Mavroidis (2000), who present the overall dispute process in two stages – ‘upstream’, which is that part of the process before a case is officially brought before the DSM, and ‘downstream’, which is after a case has been officially initiated. During the first stage, a country’s trade-policy infrastructure plays the central role. It is here that information is gathered, analysed and transferred to the government, which then decides whether to pursue a case or not. Not only the existence but also the functioning of trade-policy infrastructures is critical for countries’ engagement in the system, according to Shaffer (2003). His study of the infrastructures of the US and the EU finds that an institutionalised linkage between private companies and officials is a key characteristic of the major users of the system. While under existing WTO rules only member states may initiate a case, this generally occurs on the basis of persuasion from private companies. This is facilitated where local private companies are strong and where the established infrastructure gives private companies a voice and the chance to lead their case informally through the initial stage

### Advantage 2

#### India Scenario -

#### 1] Non-Unique - India COVID improving.

The Economist 5-24 5-24-2021 "India's COVID-19 crisis is beginning to ease" <https://archive.is/rpQ63#selection-579.0-582.0> //Elmer

Yet even India’s faulty government numbers now give **reason for hope**. The parts of the country where counting is fairly reliable show a clear trend. The virus’s vicious **second wave** is **rolling back almost as fast as it rolled in**. In early May, India was recording some 400,000 new cases a day. This has now fallen below 250,000. The number of **daily** **new cases** **in Mumbai**, the country’s commercial capital and one of the first places to see a surge, is now **about one-seventh of its peak**. In **Delhi**, the hard-hit capital, the proportion of covid **tests** proving **positive** in April reached a frightening 36%. This has now tumbled **below 3%.** The corresponding national “positivity rate”, heavily weighted towards cities where more tests are performed, has fallen from 24% to under 12%. In the main cities at least, the **desperate fight to get** **oxygen** to gasping patients **has** been **won**. Daily demand for liquid medical oxygen (LMO), which reached some 9,000 metric tons—three times the demand during India’s first peak in September—has now begun to drop, says a government task-force. Jokers point to another indicator of improving fortunes. Leaders whose visibility faded notably as the tragedy mounted have suddenly grown less camera-shy. “You know cases are going down because...Modi has reappeared,” joked one tweet, referring to the prime minister, Narendra Modi, who very publicly appeared to choke with emotion during a televised Zoom call with doctors in his parliamentary constituency.

#### 2] Decreases likelihood of War.

Gul 20 Ayaz Gul 4-28-2020 "Kashmiri Leader: COVID-19 Lowers Chances of Pakistan-India War" <https://www.voanews.com/south-central-asia/kashmiri-leader-covid-19-lowers-chances-pakistan-india-war> (VOA reporter)//Elmer

ISLAMABAD - **Pakistan and India** are **locked in** almost **daily military clashes** across their Kashmir frontier, **but** the **president of** the **Pakistani-ruled part** of the disputed territory **says** the **coronavirus** pandemic **has** for now **diminished chances, if any**, **of** the **tensions escalating into a full-blown war**. Islamabad and New Delhi routinely accuse each other of firing the first shot that started the clashes in violation of a 2003 mutual truce across what is referred to as the Kashmir Line of Control (LoC). Critics say the increased violence in recent years, however, already has rendered the truce ineffective. The clashes have caused dozens of casualties on both sides, mostly civilians living in villages close to the LoC. “I **don’t foresee a war** in the near future,” said President Masood Khan of Azad (independent) Jammu and Kashmir (AJK), the official name Pakistan uses for the part of the divided region it administers. India controls the remaining two-thirds of the largely Muslim Himalayan region, claimed by both of the nuclear-armed rival nations. “Right now, the **world** is **preoccupied with** the **COVID**-19 **pandemic**, and nobody seriously expects India and Pakistan to go to war. And we do not know what the world would look like once this pandemic is over,” Khan told VOA in an interview at his camp office in the Pakistani capital.

#### 3] Pakistan instability were unrelated to COVID – we’ll insert the card

1AC Somos 20. [Christy Somos is a CTVNews.ca Writer) “COVID-19 has escalated armed conflict in India, Pakistan, Iraq, Libya and the Philippines, study finds,” CTV News, December 17, 2020. <https://www.ctvnews.ca/world/covid-19-has-escalated-armed-conflict-in-india-pakistan-iraq-libya-and-the-philippines-study-finds-1.5236738>] TDI

INDIA India saw a rise in armed conflict during the study period, with violent clashes in the Kashmir region between Kashmiri separatists facing off against the Indian military, as well as conflicts between Pakistan and India. “So what mostly drove the increase in conflict intensity…were basically due to two factors,” Ide said. “The first being that there is some evidence that Pakistan sponsors or supports these insurgents in Kashmir, to encourage them to increase their attacks [on Indian forces] because they perceived them to be weak and struggling with the pandemic.” The second factor, Ide explained, was that while Indian government enacted a “pretty comprehensive lockdown in Kashmir, and sealing it way from international media attention…launched more intense counter-insurgency efforts and…crack[ed] down on any pro-Pakistani sympathy expressions.” IRAQ Iraq had an increase in armed conflict, but Ide noted that the overall intensity did not change that much – a “very slight upward trend” in scale that was not linear. What did increase were attacks by ISIS in April, May, and June. “The Iraqi government was really in trouble,” he said. “They had enormous economic loss, they had to go head-to-head and use troops and funds to combat the pandemic – the international coalition supporting the government partially withdrew troops or stopped their activities.” “The Iraqi government was really in a position of weakness.” Ide said the Islamic State exploited the pandemic and the thin resources at hand to the government to expand territorial control, conquer new areas and to stage more attacks. LIBYA The civil war in Libya between the Government of National Accord’s (GNA) forces and the Libyan National Army escalated during the study period, after a ceasefire brokered in January was broken, Ide said. “As soon as international attention shifted to the pandemic…they really escalated the conflict, tried to make gains while hoping the other side is weakened because of the pandemic, hoping to score an easy military victory” Ide said. “It didn’t happen.” The UN Security Council noted in a May report that the pandemic was bolstering the 15-month conflict, citing the history of more than 850 broken ceasefire agreements and “a tide of civilian deaths” on top of a worsening outbreak. PAKISTAN **The ongoing conflict with India saw a rise in armed conflict in Pakistan** during the study period – **which were unrelated to the pandemic**, but also a rise in Taliban-affiliated groups and anti-government sentiments due to pandemic restrictions, Ide said. “There were a lot of anti-government grievances,” Ide said. “There were restrictions on religious gatherings, which religious groups did not like, and there were some negative **economic impacts which affected the local people**.” Ide said those two factors could have been exploited by the Taliban in a quest to recruit more followers. Later in the study period, a swath Pakistani government officials were struck with COVID-19, **leaving the country with a leadership crisis**, which saw an increase of attacks by Taliban groups in May.

#### 4] No escalation – their evidence only says “nuclear” in the context of a previous “ominous hint” for a convention for another conflict which disproves escalation risk AND “continue escalating” is nonsense w/o a brink scenario – we’ll insert another re-cutting.

Roblin 21. [(Sébastien Roblin holds a master’s degree in Conflict Resolution from Georgetown University and served as a university instructor for the Peace Corps in China, "If the Next India-Pakistan War Goes Nuclear, It Will Destroy the World," The National Interest, March 26, 2021. <https://nationalinterest.org/blog/reboot/if-next-india-pakistan-war-goes-nuclear-it-will-destroy-world-181134>] TDI

Here's What You Need to Remember: India and Pakistan account for over one-fifth world’s population, and therefore a significant share of economic activity. Should their major cities become irradiated ruins with their populations decimated, a tremendous disruption would surely result. Between February 26 and 27 in 2019, Indian and Pakistani warplanes launched strikes on each other’s territory and engaged in aerial combat for the first time since 1971. Pakistan **ominously** hinted **it was convening its N**ational **C**ommand **A**uthority, **the institution which can authorize a nuclear strike**. The two states, which have retained an adversarial relationship since their founding in 1947, between them deploy nuclear warheads that can be delivered by land, air and sea. However, those weapons are inferior in number and yield to the thousands of nuclear weapons possessed by Russia and the United States, which include megaton-class weapons that can wipe out a metropolis in a single blast. Some commenters have callously suggested that means a “limited regional nuclear war” would remain an Indian and Pakistani problem. People find it difficult to assess the risk of rare but catastrophic events; after all, a full-scale nuclear war has never occurred before, though it has come close to happening. Such assessments are not only shockingly callous but shortsighted. In fact, several studies have modeled the global impact of a “limited” ten-day nuclear war in which India and Pakistan each exchange fifty 15-kiloton nuclear bombs equivalent in yield to the Little Boy uranium bomb dropped on Hiroshima. Their findings concluded that spillover would in no way be “limited,” directly impacting people across the globe that would struggle to locate Kashmir on a map. And those results are merely a conservative baseline, as India and Pakistan are estimated to possess over 260 warheads. Some likely have yields exceeding 15-kilotons, which is relatively small compared to modern strategic warheads. Casualties Recurring terrorist attacks by Pakistan-sponsored militant groups over the status of India’s Muslim-majority Jammu and Kashmir state have repeatedly led to threats of a conventional military retaliation by New Delhi. Pakistan, in turn, maintains it may use nuclear weapons as a first-strike weapon to counter-balance India’s superior conventional forces. Triggers could involve the destruction of a large part of Pakistan’s military or penetration by Indian forces deep into Pakistani territory. Islamabad also claims it might authorize a strike in event of a damaging Indian blockade or political destabilization instigated by India. India’s official policy is that it will never be first to strike with nuclear weapons—but that once any nukes are used against it, New Dehli will unleash an all-out retaliation. The Little Boy bomb alone killed around 100,000 Japanese—between 30 to 40 percent of Hiroshima’s population—and destroyed 69 percent of the buildings in the city. But Pakistan and India host some of the most populous and densely populated cities on the planet, with population densities of Calcutta, Karachi and Mumbai at or exceeding 65,000 people per square mile. Thus, even low-yield bombs could cause tremendous casualties. A 2014 study estimates that the immediate effects of the bombs—the fireball, over-pressure wave, radiation burns etc.—would kill twenty million people. An earlier study estimated a hundred 15-kiloton nuclear detonations could kill twenty-six million in India and eighteen million in Pakistan—and concluded that escalating to using 100-kiloton warheads, which have greater blast radius and overpressure waves that can shatter hardened structures, would multiply death tolls four-fold. Moreover, these projected body counts omit the secondary effects of nuclear blasts. Many survivors of the initial explosion would suffer slow, lingering deaths due to radiation exposure. The collapse of healthcare, transport, sanitation, water and economic infrastructure would also claim many more lives. A nuclear blast could also trigger a deadly firestorm. For instance, a firestorm caused by the U.S. napalm bombing of Tokyo in March 1945 killed more people than the Fat Man bomb killed in Nagasaki. Refugee Outflows The civil war in Syria caused over 5.6 million refugees to flee abroad out of a population of 22 million prior to the conflict. Despite relative stability and prosperity of the European nations to which refugees fled, this outflow triggered political backlashes that have rocked virtually every major Western government. Now consider likely population movements in event of a nuclear war between India-Pakistan, which together total over 1.5 billion people. Nuclear bombings—or their even their mere potential—would likely cause many city-dwellers to flee to the countryside to lower their odds of being caught in a nuclear strike. Wealthier citizens, numbering in tens of millions, would use their resources to flee abroad. Should bombs beginning dropping, poorer citizens many begin pouring over land borders such as those with Afghanistan and Iran for Pakistan, and Nepal and Bangladesh for India. These poor states would struggle to supports tens of millions of refugees. China also borders India and Pakistan—but historically Beijing has not welcomed refugees. Some citizens may undertake risky voyages at sea on overloaded boats, setting their sights on South East Asia and the Arabian Peninsula. Thousands would surely drown. Many regional governments would turn them back, as they have refugees of conflicts in Vietnam, Cambodia and Myanmar in the past. Fallout Radioactive fallout would also be disseminated across the globe. The fallout from the Chernobyl explosion, for example, wounds its way westward from Ukraine into Western Europe, exposing 650,000 persons and contaminating 77,000 square miles. The long-term health effects of the exposure could last decades. India and Pakistan’s neighbors would be especially exposed, and most lack healthcare and infrastructure to deal with such a crisis. Nuclear Winter Studies in 2008 and 2014 found that of one hundred bombs that were fifteen-kilotons were used, it would blast five million tons of fine, sooty particles into the stratosphere, where they would spread across the globe, warping global weather patterns for the next twenty-five years. The particles would block out light from the sun, causing surface temperatures to decrease an average of 2.7 degrees Fahrenheit across the globe, or 4.5 degrees in North American and Europe. Growing seasons would be shortened by ten to forty days, and certain crops such as Canadian wheat would simply become unviable. Global agricultural yields would fall, leading to rising prices and famine. The particles may also deplete between 30 to 50 percent of the ozone layer, allowing more of the sun’s radiation to penetrate the atmosphere, causing increased sunburns and rates of cancer and killing off sensitive plant-life and marine plankton, with the spillover effect of decimating fishing yields. To be clear, these are outcomes for a “light” nuclear winter scenario, not a full slugging match between the Russian and U.S. arsenals. Global Recession Any one of the factors above would likely suffice to cause a global economic recession. All of them combined would guarantee one. India and Pakistan account for over one-fifth world’s population, and therefore a significant share of economic activity. Should their major cities become irradiated ruins with their populations decimated, a tremendous disruption would surely result. A massive decrease in consumption and production would obviously instigate a long-lasting recessionary cycle, with attendant deprivations and political destabilization slamming developed and less-developed countries alike. Taken together, these outcomes mean even a “limited” India-Pakistan nuclear war would significantly affect every person on the globe, be they a school teacher in Nebraska, a factory-worker in Shaanxi province or a fisherman in Mombasa. Unfortunately, the recent escalation between India and Pakistan is no fluke, but part of a long-simmering pattern likely to continue escalating unless New Delhi and Islamabad work together to change the nature of their relationship.

#### 5] No Indo-Pak War.

Seghal and Rajaraman 18 Rashme Sehgal and Ramamurti Rajaraman 18, he’s being interviewed, Emeritus Professor of Theoretical Physics at Jawaharlal Nehru University, "'India-Pakistan nuke war not a realistic possibilty', says leading nuclear expert Ramamurti Rajaraman", Firstpost, <https://www.firstpost.com/india/india-pakistan-nuke-war-not-a-realistic-possibilty-says-leading-nuclear-expert-ramamurti-rajaraman-3880145.html> //re-cut by Elmer

Q: The conflict between India and Pakistan has intensified in the last three years. If the situation worsens, is there a likelihood that India could launch a pre-emptive first strike against Pakistan if it feared an imminent nuclear strike? Of course, this could mean a marked reversal of our no-first use (NFU) policy. On the other hand, if India goes in for more surgical strikes, can Pakistan use a conventional attack as a pretext to attack India?

A: The conflict between India and Pakistan during the past three years has been limited to Jammu and Kashmir. These conflicts may continue and may also occasionally intensify. There may also be a lot of heated rhetoric from both sides. But I don’t think there is any realistic possibility of those conflicts developing into a full-scale war, let alone one with any serious chances of a nuclear strike by Pakistan. Notice that there has been no mainland attack by Pakistan based terrorists since the 2008 Mumbai attacks. I feel that this is because Pakistan military and its Inter-Services Intelligence do appreciate the fact that the next time there is an attack of that magnitude, India would have to retaliate in a serious manner. It is true that the Pakistan Army maintains a hostile posture towards India as a matter of policy. But that is done largely for domestic consumption and for maintaining its pre-eminence in the Pakistani power structure. If push comes to shove, the leadership in both countries are too responsible to let matters go anywhere near a nuclear threshold. So, there is no question of India conducting a pre-emptive strike on Pakistan in anticipation of a nuclear attack from them. I don’t think India will reverse its NFU policy, even though some analysts, for the want of anything better to write about, keep harping on it. That would be a very unwise thing to do diplomatically.

#### 6] Iran regime collapse now

Ayoob 12/2/19 [Mohammed Ayoob is University Distinguished Professor Emeritus of International Relations, Michigan State University, and a senior fellow for the Center for Global Policy. His books include The Many Faces of Political Islam and, most recently, Will the Middle East Implodeand editor of Assessing the War on Terror. Is Iran Near Collapse? December 2, 2019. https://nationalinterest.org/blog/middle-east-watch/iran-near-collapse-101397

The events of the last few weeks in Iran indicate that the country may be in for a repetition of the events of 1978 that led to the toppling of the Shah. Anti-government protests in Iran have reached a boiling point with the streets of several of Iran’s cities and towns reverberating with slogans demanding the overthrow of Supreme Leader Ayatollah Ali Khamenei. One can hear echoes of the “Death to the Shah” slogans of 1978–79 in these frenzied chants. Security forces have repeatedly opened fire, killing people by the dozens—possibly by the hundreds—in order to disperse protestors just as they did in the autumn of 1978.

Iran’s economy is in a tailspin, which is what triggered the protests. It is in far worse shape today than was the case on the eve of the Shah’s fall when there was a severe economic downturn because of economic mismanagement and misdirection despite the oil boom of the 1970s. The economic distress of the late 1970s was intimately related to the crony capitalism of the Shah’s regime that hurt the traditional merchant class, symbolized by the “bazar,” as well as the newly developing middle class. It was no coincidence that the religiously observant bazaris bankrolled the movement led by Ayatollah Ruhollah Khomeini that overthrew the Shah.

The resemblances of the situation today with the last years of the Shah’s rule are uncanny. The economic distress is in part the result of the economic sanctions, especially on the sale of Iranian oil, imposed by the United States since May 2018. Oil is the lifeline of the Iranian economy and accounts for a quarter of the country’s GDP and contributes about three-quarters of Iran’s public revenue. With oil exports slashed from 2.45 mbd to 0.26 mbd in the past year, the Iranian economy has gone into a severe recession. World Bank projections for 2019 indicate a negative growth rate of minus 8.7 percent in its GDP. The Iranian currency has fallen precipitately since the reimposition of sanctions with the unofficial rate plummeting to 135,000 to one U.S. dollar, thus adding to the financial woes of the Iranian public.

According to the World Bank, “Higher import prices from the devaluation are expected to push inflation back above 30 percent in the coming years as inflationary expectations spiral and consumer sentiment falls leading to once again a period of stagflation for Iran. Despite the depreciation and drop in imports, the reduction in oil exports is estimated to almost eliminate the current account surplus which is lower than the earlier sanctions episode as oil prices are almost half of the levels they were in 2012/13–2013/14. The economy’s downward trajectory is also likely to put further pressure on the labor market and reverse recent job creation gains.”

Crony capitalism with religious foundations controlled by the regime, and especially by the IRGC, controlling a large part of the economy and monopolizing certain crucial sectors has added to the people’s economic woes especially since their combined budgets of these foundations account for over 30 percent of central government spending that benefits a small segment of the elite. Additionally, according to World Bank estimates, the unemployment rate was over 12 percent as of April-June 2018 with youth unemployment over 28 percent in June 2018. One can reasonably expect this to have climbed higher with the reimposition of economic sanctions in May 2018 that has had a tremendous negative impact on the Iranian economy.

One of the byproducts of the Iranian economic downturn was the decision in November to increase the price of gasoline on an average by 50 percent. The Iranian public had become accustomed to a heavily subsidized price of oil and its sudden increase by such a hefty margin acted as the trigger for the protests that broke out almost immediately following the announcement of this decision. However, these economic woes build upon the frustration generated by political repression.

The current protests, as distinct from those of 2009 following the regime-engineered re-election of President Mahmoud Ahmadinejad, have been spontaneous and largely leaderless. No faction of the regime has been involved in the current demonstrations and thus they cut across the hardline-moderate divide. They also cut across class and ethnic divides with people of all classes joining in the protests and different ethnic groups—the majority Persians as well as the minority Arab population of Khuzistan—participating as well. Initially largely motivated by economic factors they have now taken on major political overtones demanding the removal not only of Rouhani and his government but of the supreme leader and the coterie of clerics around him as well.

The response of the regime’s security forces has been swift and brutal with hundreds of unarmed protestors shot down in cold blood reminding observers of the events of 1978 in the lead up to the fall of the Shah. It seems that this brutality has had the effect of galvanizing the opposition to the regime just as it did in 1978, thus perpetuating the cycle of violence and resistance that reminds one eerily of the months preceding the Shah’s fall.

The major unanswered question now is: Will the current protests have the same result as those of 1978 or will the regime be able to suppress them with the use of brutal force? It is difficult to answer this question with any degree of certainty especially because of a near-total news blackout imposed by the regime. The forces at the regime’s command are not only well trained in suppressing dissent, but they are also ideologically committed to the system of clerically-dominated rule. Moreover, their commanders realize that the fall of the mullah-dominated regime could mean not only an end to their power and perks but to their physical existence as well. This is the lesson they have absorbed from the fall of the Shah, which led to the systematic decimation of the officer corps that had been loyal to him. They know they are fighting for their lives and not just for the perpetuation of clerical rule. This explains in large part the ferocity demonstrated by the regime’s security apparatus in suppressing the demonstrations.

This means that the regime is likely to survive in the short term, but only in the short term. Its legitimacy has been irreparably damaged by the disproportionate and brutal use of force that it has unleashed on largely unarmed protestors. Hardly anyone in Iran now buys the argument that the governing powers—hardliners and moderates alike—are either defending Islam or the country against foreign enemies. Furthermore, unlike in earlier periods of turmoil, the regime does not have the surplus economic resources to buy off dissenters by offers of subsidies, a practice that the regime had engaged in time and again when oil prices remained high and the volume of oil exports was high as well. The drastic fall in the volume of oil exports has removed the financial buffer on which the government had depended earlier for its survival.

The regime may be able to survive this round of protests and demonstrations but both its legitimacy and its ability to hold on to power have been severely damaged, eroding almost beyond repair its capacity to manage future rounds of protests. There may not be a repetition of 1979 this year, but the protests have surely paved the way for its reprise in the not too distant future.