#### Existing *compulsory licensing* exemptions are sufficient to solve

Bacchus, JD, 20

(James, adjunct scholar at the Cato Institute, a professor of global affairs at the University of Central Florida, An Unnecessary Proposal A WTO Waiver of Intellectual Property Rights for COVID-19 Vaccines <https://www.cato.org/sites/cato.org/files/2020-12/FTB_78.pdf>, 12-16)

What we have not heard in the waiver debate is any clear explanation from waiver advocates of why they believe that the right to compulsory licensing that they already possess will prove insufficient to ensuring access to COVID-19 vaccines. In requesting a broad waiver of IP rights to COVID-19 vaccines, India and South Africa maintained that “many countries especially developing countries may face institutional and legal difficulties when using flexibilities available” under existing WTO rules. They also noted that a “particular concern for countries with insufficient or no manufacturing capacity” is that the 2017 amendment that permits countries that produce generic medicines under compulsory license to export all of those medicines to least-developed countries that lack their own manufacturing capabilities will lead to a “cumbersome and lengthy process.”14 India and South Africa did not offer any further explanation or any evidence to support these assertions. In an effort at an explanation, two Canadian university professors contended, “The TRIPS flexibilities are important policies but they are not perfect. Rules allowing compulsory licensing apply only on a case-by-case and product-by-product basis. This slows down the ability of countries to scale up production of needed COVID-19 products.”15 But this is advocacy, not evidence. At the time, this point was purely prospective; it was a prejudgment before any COVID-19 vaccine had been given final approval or reached the market. Before such a sweeping waiver of IP rights is taken up, it should first be demonstrated that the option of compulsory licensing and other flexibilities under the current trade rules will not suffice. At this point, the developed countries that have opposed the waiver are correct. There is no evidence of the need for such a waiver. Action by the WTO should be contemplated only if, and when, the current flexibilities in WTO rules prove to be inadequate. Should that happen, any such action should be no broader than necessary to address the global medical need.

# Covid Aff

#### The standard is preserving human life, util.

#### Patent debates involve conflicting interests- classic utilitarianism is the best framework for evaluating them

Perot 14

(Emma, Maximising Utility: Applying Utilitarian Theory to International Patent Law The King’s Student Law Review, Vol. 5, No. 1 (Spring 2014), pp. 58-77)

The ethical theory of classical utilitarianism as fathered by Jeremy Bentham is being advocated as the means of addressing the imbalance in the existing patent system concerning the relationship of financial incentives and human health. 62 As a branch of consequentialism, the objective of utilitarianism is to act in a way that creates the greatest amount of value overall. 63 Value was originally interpreted as a positive mental state but more recently has been recognised to be wider than this and can be described as ‘interest-satisfaction’64. John Stuart Mill further developed this theory by expounding the utilitarian calculation as follows: (i) Add up the pain and pleasure derived from an act (ii) Determine where the largest number of people will benefit the most (iii) Allow flexibility for efficiency Many strands of utilitarianism have developed from Bentham’s original proposition, including ‘act-rule’, ‘economic’ and ‘ideal’ to name a few. For the purposes of this article, classic utilitarianism is relied upon as this proposal has to consider large groups with divergent interests in the context of a change of system, rather than individual actions as in ‘act-rule’, or pure wealth maximisation for ‘economic’. Utilitarianism is a suitable solution to the problem at hand because it seeks to maximise value. In this case, there are two values that have to be reconciled, these are, health value for DCs and financial value for pharmaceutical companies. It may appear rudimentary to couch matters that are the source of international tension in such simple terms, but it is important to keep in mind that the aim is to effect change in a way that will benefit both parties and in order to do this, the main interests must be considered. In striking a balance between both values, the utilitarian framework will consider the current problems. The main problems faced by DCs are availability and access. Availability is an issue for drugs for endemics specific to DCs, as pharmaceutical companies do not devote R&D to these types of drugs as they do not see them as a way to generate profit. With regards to accessibility, drugs for worldwide consumption are being reduced as there are markets for them, but they are unaffordable in DCs. As such, a distinction is made between these two categories, drugs for endemics and drugs for worldwide consumption, in an attempt to promote both health and finance values. Utilitarianism provides the scope to effectively balance these different values, unlike the current economic approach, which elevates finance to the detriment of health. By allowing for a more normative balance, the main problem caused by the economic approach, concerning access and availability to pharmaceuticals can be solved by utilising this utilitarian market structure to balance both values. As this framework will be applied in an international context, the main social and economic issues need to be addressed.

## 1AC

### Contention 1: Vaccine Inequality

#### Global health inequality threatens progress in fight vs COVID-19 encouraging vaccine resistant mutations

Fink 7-30-21

(Jenni, https://www.newsweek.com/who-warns-world-blind-understanding-covid-spread-hurting-ability-end-pandemic-1614722)

A lack of testing for COVID-19 in parts of the world is preventing countries from having a clear picture of how the virus is spreading and therefore hurting the world's chances at fighting the virus and ending the pandemic, according to the World Health Organization. Health inequities throughout the world have plagued the global response to COVID-19 from the outset and WHO has pushed higher income countries to help lower income countries in the interest of ending the pandemic. Along with restricted access to vaccines, lower income countries have struggled to have sufficient testing, meaning the virus is likely going undetected in certain areas, further enabling its ability to spread. Low testing rates is "leaving the world blind to understanding where the disease is and how it's changing," Dr. Tedros Adhanom Ghebreyesus, director general of the WHO said on Friday during a press briefing. Without improving global testing rates, Ghebreyesus said the world can't "fight the disease" or mitigate the risk it poses to people around the globe. who blind covid spread cases On Friday, the World Health Organization warned the world is "blind" to how COVID-19 is spreading because of a lack of testing in certain places. WHO Director-General Tedros Adhanom Ghebreyesus attends a daily press briefing on the new coronavirus dubbed COVID-19, at the WHO headquaters on March 2, 2020, in Geneva. FABRICE COFFRINI//AFP/GETTY IMAGES NEWSWEEK NEWSLETTER SIGN-UP > One of Ghebreyesus' biggest frustrations with the pandemic response is the failure to evenly distribute the vaccine around the world. In some countries, like the United States and other higher-income nations, significant portions of the population have been vaccinated. While those large vaccinated populations help reduce the spread of the virus in some areas, other countries, especially those in Africa, haven't been able to vaccinate even 10 percent of their population. This puts the entire world at risk because when the virus is able to spread throughout communities it has the ability to mutate, thereby increasing the possibility that a mutation could evade the vaccines. It's a scenario public health officials have been warning about for months and Ghebreyesus said on Friday that "hard won gains are in jeopardy" or have already been lost because the virus has been able to spread. Nearly 30 countries have high or rising oxygen needs and the shortage of life-saving oxygen could lead to increased deaths. More than 196 million cases of COVID-19 have been reported around the world, according to a Johns Hopkins University tracker, and more than 4.2 million people have died. Ghebreyesus suspected the number of cases would top 200 million within the next two weeks and warned that health systems in many countries are being overwhelmed. Preventing hospitals from exceeding capacity was a massive concern when the pandemic first broke out and a year later, parts of the U.S. are having their health systems strained as the more transmissible Delta variant spreads. On Thursday, Arkansas Governor Asa Hutchinson declared a public health emergency that allows the state to bring in health care workers from outside Arkansas and makes it easier for retired health care workers and medical students to become licensed. The goal is to help alleviate stress on health care systems and Hutchinson said they've had people waiting in ambulances because there wasn't an open spot in a hospital. That strain will only become more exacerbated if a mutation occurs that evades the vaccine, as inoculations have proven effective at helping to keep people out of the hospital. Ghebreyesus warned that more variants will emerge if global access to vaccines and testing doesn't improve. "The pandemic will end when the world chooses to end it. It is in our hands. We have all the tools we need. We can prevent this disease. We can test for it and we can treat it," Ghebreyesus said.

#### IP protections are the vital internal link to reduce vaccine inequality. Empirics disprove all pro patent arguments

Kumar, PhD, 7-12-21

(Rajeesh, Associate Fellow Manohar Parrikar Institute for Defence Studies and Analysis, https://www.idsa.in/issuebrief/wto-trips-waiver-covid-vaccine-rkumar-120721)

In October 2020, India and South Africa had submitted a proposal to the World Trade Organization (WTO), suggesting a waiver of certain provisions of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement for the “prevention, containment and treatment of COVID-19”. The proposal seeks the waiver of “the implementation, application, and enforcement of sections 1, 4, 5 and 7 of part II of the TRIPS agreement”, which are stipulations referring to copyright, industrial design, patents, and undisclosed information (trade secrets).1 The proponents of the proposal argue that a waiver will enable timely and equitable access to affordable health products and technologies, including vaccines. Though many member countries had supported and co-sponsored the proposal, a small but influential group of countries, mainly Australia, Canada, the European Union (EU), Japan, the United Kingdom (UK) and the United States (US), opposed it. They argued that existing exceptions under the TRIPS Agreement are sufficient to address the concerns mentioned in the proposal. This resulted in sidelining of the waiver proposal for months. However, on 5 May 2021, the Joseph Biden administration announced its support for waiving intellectual property protections for COVID-19 vaccines.2 It was a significant step towards breaking the seven-month gridlock, and led to many more countries modifying their position on the waiver proposal. On 25 May 2021, the co-sponsors of the waiver proposal submitted a revised proposal that specified the scope of the waiver as applying to “health products and technologies” and also added a section on the proposed duration of the waiver, i.e., three years.3 At present, more than 100 countries, including the US and China support this proposal. The principal opponent of the waiver is the EU and in June 2021, it submitted an alternative proposal to the TRIPS Council, which requested to keep TRIPS’ provisions intact and focused on compulsory licensing and removing vaccine export restrictions to address the concerns raised by India and South Africa.4 The EU proposal also stated that the TRIPS Agreement does not prevent countries from taking measures to protect public health.5 At the meeting of the TRIPS Council on 8–9 June 2021, the member states agreed to text-based negotiations focusing on two proposals tabled by members. The members also decided to hold a series of meetings till the end of July 2021 to take stock of the text-based negotiations. However, the latest developments show that the waiver discussions hit a hurdle due to a split between the developed and developing countries over the negotiation text. This brief discusses how TRIPS becomes a barrier to the equitable access of COVID-19 vaccines. It also examines how a waiver will help India in its fight against COVID-19 at home and abroad. TRIPS and its Exceptions TRIPS, a comprehensive multilateral agreement on Intellectual Property (IP), was an outcome of the Uruguay Round (1986–94) of negotiations of the General Agreement on Tariffs and Trade (GATT). The Agreement came into force on 1 January 1995 and offers a minimum standard of protection for Intellectual Property Rights (IPR).6 In WTO, IPR are divided into two main categories. First, copyright and related rights (Articles 9 to 14, Part II of the TRIPS Agreement). Second, industrial property that includes trademarks, geographical indications, industrial designs, patents, integrated circuit layout designs, and undisclosed information (Articles 15 to 38, Part II of the TRIPS Agreement).7 Article IX.3 and IX.4 of the Marrakesh Agreement Establishing the WTO deals with TRIPS waivers. Article IX.3 says that in “exceptional circumstances” the Ministerial Conference may waive off an obligation imposed on WTO member countries.8 Such a decision requires the support of three-fourths of the WTO membership. According to Article IX.4, any waiver granted for more than one year will be reviewed by the Ministerial Conference. Based on the annual review, the Conference may extend, modify, or terminate the waiver. The TRIPS Agreement provides some flexibility primarily in the form of compulsory licensing and research exceptions through Articles 30 and 31. While Article 30 permits WTO members to make limited exceptions to patent rights, Article 31 provides a detailed exception, provided certain conditions are met. Compulsory licensing is the process of granting a license by a government to use a patent without the patent holder's consent. Article 31 permits granting compulsory license under circumstances such as “national emergencies”, “other circumstances of extreme urgency”, “public noncommercial use”, or against “anti-competitive” practices.9 In addition to these original waivers, the Declaration on the TRIPS Agreement and Public Health, adopted at the 2001 Doha Ministerial Meeting, also recognises some exceptions, for instance, in situations of a public health emergency, member countries have the freedom to determine the grounds upon which compulsory licenses are granted. Similarly, under Article 66.1, the least developed countries (LDCs) are given waivers for implementing TRIPS on pharmaceuticals till 1 January 2033. COVID-19 and TRIPS Waiver Two significant factors rekindled the debate on TRIPS waiver for essential medical products—first, vaccine inequity, and second, the insufficiency of existing waiver provisions in fighting the COVID-19 pandemic. COVID-19 is an exceptional circumstance, and equitable global access to the vaccine is necessary to bring the pandemic under control. However, the world is witnessing quite the reverse, i.e., vaccine nationalism. Vaccine nationalism is “my nation first” approach to securing and stockpiling vaccines before making them available in other countries. A TRIPS waiver would be instrumental in addressing the growing inequality in the production, distribution, and pricing of the COVID-19 vaccines. Vaccine Inequity According to Duke Global Health Innovation Center, which monitors COVID-19 vaccine purchases, rich nations representing just 14 per cent of the world population have bought up to 53 per cent of the most promising vaccines so far. As of 4 July 2021, the high-income countries (HICs) purchased more than half (6.16 billion) vaccine doses sold globally. At the same time, the low-income countries (LICs) received only 0.3 per cent of the vaccines produced. The low and middle-income countries (LMICs), which account for 81 per cent of the global adult population, purchased 33 per cent, and COVAX (COVID-19 Vaccines Global Access) has received 13 per cent.10 Many HICs bought enough doses to vaccinate their populations several times over. For instance, Canada procured 10.45 doses per person, while the UK, EU and the US procured 8.18, 6.89, and 4.60 doses per inhabitant, respectively.11 Source:“Tracking COVID-19 Vaccine Purchases Across the Globe”, Duke Global Health Innovation Center, Updated 9 July 2021. Consequently, there is a significant disparity between HICs and LICs in vaccine administration as well. As of 8 July 2021, 3.32 billion vaccine doses had been administered globally.12 Nonetheless, only one per cent of people in LICs have been given at least one dose. While in HICs almost one in four people have received the vaccine, in LICs, it is one in more than 500. The World Health Organization (WHO) notes that about 90 per cent of African countries will miss the September target to vaccinate at least 10 per cent of their populations as a third wave looms on the continent.13 South Africa, the most affected African country, for instance, has vaccinated less than two per cent of its population of about 59 million. This is in contrast with the US where almost 47.5 per cent of the population of more than 330 million has been fully vaccinated. In Sub-Saharan Africa, vaccine rollout remains the slowest in the world. According to the International Monetary Fund (IMF), at current rates, by the end of 2021, a massive global inequity will continue to exist, with Africa still experiencing meagre vaccination rates while other parts of the world move much closer to complete vaccination.14 This vaccine inequity is not only morally indefensible but also clinically counter-productive. If this situation prevails, LICs could be waiting until 2025 for vaccinating half of their people. Allowing most of the world’s population to go unvaccinated will also spawn new virus mutations, more contagious viruses leading to a steep rise in COVID-19 cases. Such a scenario could cause twice as many deaths as against distributing them globally, on a priority basis. Preventing this humanitarian catastrophe requires removing all barriers to the production and distribution of vaccines. TRIPS is one such barrier that prevents vaccine production in LMICs and hence its equitable distribution. TRIPS: Barrier to Equitable Health Care Access The opponents of the waiver proposal argue that IPR are not a significant barrier to equitable access to health care, and existing TRIPS flexibilities are sufficient to address the COVID-19 pandemic. However, history suggests the contrary. For instance, when South Africa passed the Medicines and Related Substances Act of 1997 to address the HIV/AIDS public health crisis, nearly 40 of world’s largest and influential pharma companies took the South African government to court over the violation of TRIPS. The Act, which invoked the compulsory licensing provision, allowed South Africa to produce affordable generic drugs.15 The Big Pharma also lobbied developed countries, particularly the US, to put bilateral trade sanctions against South Africa.16 Similarly, when Indian company Cipla decided to provide generic antiretrovirals (ARVs) to the African market at a lower cost, Big Pharma retaliated through patent litigations in Indian and international trade courts and branded Indian drug companies as thieves.17 Another instance was when Swiss company Roche initiated patent infringement proceedings against Cipla’s decision to launch a generic version of cancer drug, “erlotinib”. Though the Delhi High Court initially dismissed Roche's appeal by citing “public interest” and “affordability of medicines,” the continued to pressure the generic pharma companies over IPR. 18 Likewise, Pfizer’s aggressive patenting strategy prevented South Korea in developing pneumonia vaccines for children.19 A recent document by Médecins Sans Frontières (MSF), or Doctors Without Borders, highlights various instances of how IP hinders manufacturing and supply of diagnostics, medical equipment, treatments and vaccines during the COVID-19 pandemic. For instance, during the peak of the COVID-19 first wave in Europe, Roche rejected a request from the Netherlands to release the recipe of key chemical reagents needed to increase the production of diagnostic kits. Another example was patent holders threatening producers of 3D printing ventilators with patent infringement lawsuits in Italy.20 The MSF also found that patents pose a severe threat to access to affordable versions of newer vaccines.21 Source:“COVID-19 Vaccine R&D Investments”, Global Health Centre, Graduate Institute, Geneva, Updated 9 July 2021. The opponents of the TRIPS waiver also argue that IP is the incentive for innovation and if it is undermined, future innovation will suffer. However, most of the COVID-19 medical innovations, particularly vaccines, are developed with public financing assistance. Governments spent billions of dollars for COVID-19 vaccine research. Notably, out of $6.1 billion in investment tracked up to July 2021, 98.12 per cent was public funding.22 The US and Germany are the largest investors in vaccine R&D with $2.2 billion and $1.5 billion funding. Source:“COVID-19 Vaccine R&D Investments”, Global Health Centre, Graduate Institute, Geneva, Updated 9 July 2021. Private companies received 94.6 per cent of this funding; Moderna received the highest $956.3 million and Janssen $910.6 million. Moreover, governments also invested $50.9 billion for advance purchase agreements (APAs) as an incentive for vaccine development. A recent IMF working paper also notes that public research institutions were a key driver of the COVID-19 R&D effort—accounting for 70 per cent of all COVID-19 clinical trials globally.23 The argument is that vaccines are developed with the support of substantial public financing, hence there is a public right to the scientific achievements. Moreover, private companies reaped billions in profits from COVID-19 vaccines. Source: Katharina Buchholz, “COVID-19 Vaccines Lift Pharma Company Profits”, Statista, 17 May 2021. One could argue that since the US, Germany and other HICs are spending money, their citizens are entitled to get vaccines first, hence vaccine nationalism is morally defensible. Nonetheless, it is not the case. The TRIPS Agreement includes several provisions which mandates promotion of technology transfer from developed countries to LDCs. For instance, Article 7 states that "the protection and enforcement of IP rights should contribute to the promotion of technological innovation and the transfer and dissemination of technology, to the mutual advantage of producers and users of technical knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations."24 Similarly, Article 66.2 also mandates the developed countries to transfer technologies to LDCs to enable them to create a sound and viable technological base. The LMICs opened their markets and amended domestic patent laws favouring developing countries’ products against this promise of technology transfer. Another argument against the proposed TRIPS waiver is that a waiver would not increase the manufacturing of COVID-19 vaccines. Indeed, one of the significant factors contributing to vaccine inequity is the lack of manufacturing capacity in the global south. Further, a TRIPS waiver will not automatically translate into improved manufacturing capacity. However, a waiver would be the first but essential step to increase manufacturing capacity worldwide. For instance, to export COVID-19 vaccine-related products, countries need to ensure that there are no IP restrictions at both ends – exporting and importing. The market for vaccine materials includes consumables, single-use reactors bags, filters, culture media, and vaccine ingredients. Export blockages on raw materials, equipment and finished products harm the overall output of the vaccine supply chain. If there is no TRIPS restriction, more governments and companies will invest in repurposing their facilities. Similarly, the arguments such as that no other manufacturers can carry out the complex manufacturing process of COVID-19 vaccines and generic manufacturing as that would jeopardise quality, have also been proven wrong in the past. For instance, in the early 1990s, when Indian company Shantha Biotechnics approached a Western firm for a technology transfer of Hepatitis B vaccine, the firm responded that “India cannot afford such high technology vaccines… And even if you can afford to buy the technology, your scientists cannot understand recombinant technology in the least.”25 Later, Shantha Biotechnics developed its own vaccine at $1 per dose, and the UNICEF (United Nations Children’s Emergency Fund) mass inoculation programme uses this vaccine against Hepatitis B. In 2009, Shantha sold over 120 million doses of vaccines globally. India also produces high-quality generic drugs for HIV/AIDS and cancer treatment and markets them across the globe. Now, a couple of Indian companies are in the last stage of producing mRNA (Messenger RNA) vaccines.26 Similarly, Bangladesh and Indonesia claimed that they could manufacture millions of COVID-19 vaccine doses a year if pharmaceutical companies share the know-how.27 Recently, Vietnam also said that the country could satisfy COVID-19 vaccine production requirements once it obtains vaccine patents.28 Countries like the United Arab Emirates (UAE), Turkey, Cuba, Brazil, Argentina and South Korea have the capacity to produce high-quality vaccines but lack technologies and know-how. However, Africa, Egypt, Morocco, Senegal, South Africa and Tunisia have limited manufacturing capacities, which could also produce COVID-19 vaccines after repurposing. Moreover, COVID-19 vaccine IPR runs across the entire value chain – vaccine development, production, use, etc. A mere patent waiver may not be enough to address the issues related to its production and distribution. What is more important here is to share the technical know-how and information such as trade secrets. Therefore, the existing TRIPS flexibilities, such as compulsory and voluntary licensing, are insufficient to address this crisis. Further, compulsory licensing and the domestic legal procedures it requires is cumbersome and not expedient in a public health crisis like the COVID-19 pandemic.

### Contention 2: Great Power War

#### Failure to contain COVID-19 causes extinction

Guy R. **McPherson, PhD, 20** [PhD Range Science, Professor Emeritus, University of Arizona School of Natural Resources and Department of Ecology & Evolutionary Biology], “Will COVID-19 Trigger Extinction of All Life on Earth?” Eart & Envi Scie Res & Rev, Volume 3 Issue 2, 4-8-2020, <https://opastonline.com/wp-content/uploads/2020/04/will-covid-19-trigger-extinction-of-all-life-on-earth-eesrr-20-.pdf>

Small lives matter. Indeed, the “human body contains about 100 trillion cells, but only maybe one in 10 of those cells is actually — human” [1]. We are comprised of bacteria and other tiny living organisms, as well as non-living entities such as viruses. One such virus has captured the attention of the world, and with good reason. **The novel coronavirus could trigger extinction of humans, and therefore the extinction of all life on Earth**. I frequently hear and read that COVID-19 is a nefarious attempt by the so-called “elite” among us to depopulate the burgeoning human population on Earth. Other conspiracy theories abound, including COVID-19 as an attempt to further reduce human rights, promote expensive medical therapies, and otherwise enrich the wealthy at the expense of the bamboozled masses. I do not doubt the ability of the informed wealthy to fleece the ignorant masses. Nor do I doubt the ability of the informed wealthy to turn virtually any situation into an opportunity for monetary gain. A quick glance at the past two centuries provides plenty of examples. However, I doubt the monetarily wealthy among us are interested in accelerating human extinction, even for financial gain. As I explain below, **the ongoing reduction in industrial activity as a result of COVID-19 almost certainly leads to loss of habitat for human animals, hence putting us on the fast track to human extinction**. I doubt the knowledgeable “elite” are interested in altering the sweet deal they are experiencing with the current set of living arrangements. The aerosol masking effect, or global dimming, has been described in the peer-reviewed literature since at least 1929 [2, 3]. **Coincident with industrial activity adding to greenhouse gases that warm the planet, industrial activity simultaneously cools the planet by adding aerosols to the atmosphere. These aerosols block incoming sunlight, thereby keeping cool our pale blue dot. Reducing industrial activity by as little as 35 percent is expected to cause a global-average temperature rise of 1 degree Celsius within a few weeks**, according to research on the aerosol masking effect [4]. Such research was deemed collectively too conservative by a paper in the 17 January 2019 issue of Science [5]. As pointed out by the lead author of the latter paper on 22 January 2019 “Global efforts to improve air quality by developing cleaner fuels and burning less coal could end up harming our planet by reducing the number of aerosols in the atmosphere, and by doing so, diminishing aerosols’ cooling ability to offset global warming” [6].

The cooling effect is “nearly twice what scientists previously thought,” and the paper by Rosenfeld et al. [5] cites the conclusion by Levy et al. [4], indicating as little as 35% reduction in industrial activity drives a 1 C global-average rise in temperature, thereby suggesting that as little as a 20% reduction in industrial activity will drive a 1 C spike in temperature within a few weeks [7]. Additional, recent support for the importance of the aerosol masking effect comes from [8, 9]. Furthermore, loss of aerosols exacerbates heat waves [10]. Human extinction might have been triggered several years ago when the global-average temperature of Earth exceeded 1.5 C above the 1750 baseline. According to a comprehensive overview published by European Strategy and Policy Analysis System in April, an “increase of 1.5 degrees is the maximum the planet can tolerate; … at worst, [such a rise in temperature above the 1750 baseline will cause] the extinction of humankind altogether” [11, 12]. Earth’s global-average temperature hit 1.73 C above the 1750 baseline by April, 2018 the highest global-average temperature experienced by Homo sapiens on Earth [13, 14].

By 13 March 2020, 2 C above the 1750 baseline was crossed [11]. In other words, human extinction via the death-by-a-thousandcuts route might be locked in with no further heating of Earth. In light of the ongoing pandemic, the ongoing Mass Extinction Event, and abrupt, irreversible climate change, it is pleasantly surprising that humans still occupy Earth. The pandemic-induced reduction in industrial activity may have already reduced the aerosol masking effect sufficiently to trigger a 1 C temperature spike. The outcome is not yet obvious because the timing of the outbreak of the novel coronavirus was favorable for human habitat. Trees produced leaves in the Northern Hemisphere spring of 2020 as a result of carbohydrates stored the previous year and grain crops were harvested before the novel coronavirus emerged. Results of the recent and ongoing rise in temperature, which have already been reported in China and India, will become obvious to most humans when many more trees die. Large-scale die-off of trees likely will approximately correspond with catastrophic crop failure. This might occur by the end of this year, although I would rather it not. **Every civilization requires bread and circuses**. There is little doubt **the circuses attendant to industrial civilization will continue until the end of the planetary show for Homo sapiens. Bread, however, requires wheat. Wheat production requires a delicate balance of growing conditions that, like habitat for humans, teeters on the brink** [15]. **The path to near-term human extinction thus runs from a tiny virus underlying a pandemic through a reduction of industrial activity that overheats a planet already running a fever**.

**The outbreak of COVID-19 could very well be the event that accelerates human extinction via reduction of industrial activity, hence loss of habitat for Homo sapiens. As a result of the rapid environmental change likely to follow, we are almost certain to lose all life on Earth** [16]. History is replete with examples of human hubris. We thought we were mighty, and we certainly have left our mark on Earth. **How embarrassing for the big-brained human species that a microscopic virus could pull the trigger on our extinction** [15].

#### Continued COVID spread causes great power war and is the death knell of the LIO—diversion, nationalism, psychology

Kitfield 20

(James, the only three-time winner of the prestigious Gerald R. Ford Award for Distinguished Reporting on National Defense, <https://breakingdefense.com/2020/05/will-covid-19-kill-the-liberal-world-order/>, 5-22)

For a brief moment it seemed that the worst global pandemic in a century might lead to increased comity between the United States, China and Russia after years of geopolitical eye-gouging. As the virus spread there were early signs of a pause in the escalating cycle of military brinksmanship, cyberattacks, disinformation campaigns and trade wars that has badly shaken the rules-based international order in this era of great power competition. Beijing seemed to initially embrace a spirit of cooperation when it donated protective gear and testing equipment to hard hit countries in Europe. President Trump for months was uncharacteristically effusive in his praise of Chinese President Xi Jinping’s efforts to combat the virus. Russian President Vladimir Putin got into the soft power act in early April when he dispatched an An-124 military transport to New York filled with donated masks and ventilators. (Of course, you can also argue it was a highly effective information operation designed to undermine U.S. standing in the world.) That moment was short lived. “Unfortunately, this crisis is likely to unfold in three consecutive waves, with a public health crisis followed by an economic crisis, quite possibly followed by a security crisis,” said David Kilcullen, author of the recent book “The Dragons and Snakes: How the Rest Learned to Fight the West,” and a former special adviser to Gen. David Petraeus in Iraq, and the U.S. Secretary of State. The United States is already experiencing high levels of domestic unrest at a time of paralyzing partisan rancor, he noted, and the discord will certainly increase as the presidential election nears in November. Adding to that combustible mixture is likely to be a second wave of the virus expected to hit in the fall, and foreign actors like Russian and China determined to use disinformation to stoke domestic divisions during the election. “Given the likelihood of internal instability and anti-government anger here and around the world, there will be a huge incentive for leaders who personalize politics like Trump, [Russian President Vladimir] Putin and [Chinese President] Xi Jinping to look for external scapegoats for their domestic troubles, which has already started to happen,” said Kilcullen. “This crisis also comes at a point when the international system that we’ve known since the end of World War II was already rotting and weaker than it appears. It may only take one big shock to bring that whole structure down, and, if we’re not very careful, the pandemic could be that shock. So this is the most dangerous geopolitical dynamic I have seen in my entire career.” Chinese President Xi Jinping inspects PLA troops As it became clear the Chinese Communist Party covered up the initial outbreak of the novel coronavirus in Wuhan, wasting precious time and allowing it to blossom into a global pandemic, Beijing launched a campaign of intimidation and economic threats to mute international criticism. Borrowing a page from Russian disinformation operations, Beijing posited the conspiracy theory that the virus originated with the U.S. military. Both China and Russia pushed alarmist narratives about the pandemic on social media to sow division and panic inside the United States. Much of the protective equipment Beijing “donated” to the West carried a price tag and turned out to be defective. In his own campaign of blame shifting and heated rhetoric, President Donald Trump accused China of being responsible for an attack on the United States that “is worse that Pearl Harbor,” and “worse than the World Trade Center” that fell in the 9/11 terrorist attacks. Chinese incompetence in dealing with the virus, Trump tweeted this week, is responsible for “mass Worldwide killing!” Trump darkly hinted in mid-April that he had information that a virology lab in Wuhan played an important role in the virus’ creation, even though the U.S. Intelligence Community consensus was that the virology lab in Wuhan had nothing to do the virus’ creation or origins. Secretary of State Mike Pompeo insisted there is “enormous evidence” the coronavirus originated in that lab. “We greatly underestimated the degree to which Beijing is ideologically and politically hostile to free nations,” Pompeo told reporters this week, after sending a rare, high-level message of congratulations to recently reelected Taiwanese President Tsai Ing-Wen, who has rejected the “one country, two systems” construct that has kept the peace between China and Taiwan for nearly half a century. As the Trump administration weighs retribution against China, it has continued to ratchet up the rhetoric and provocations, angering and worrying allies by cutting critical funding to the World Health Organization (WHO) in the midst of the pandemic, and boycotting a virtual meeting of G-20 nations that attempted to coordinate an international response to the crisis, leaving a leadership gap that China was happy to help fill. Open Skies surveillance plane On the Russian front, the Trump administration has reportedly decided to withdraw from the three-decade old Open Skies Treaty that allows 34 countries to fly over each other’s territory with sensors to confirm they are not preparing military action. The trump White House says the Russians are violating the accord by forbidding flights over military exercises and using its own flights over the United States to identify critical infrastructure that can be hit by cyberattacks.Meanwhile, populist leaders and autocratic regimes around the world are using the threat of the pandemic to assume extraordinary powers and crack down on their political opposition in what the United Nations Special Rapporteur for Counterterrorism and Human Rights called an “an epidemic of authoritarianism,” according to the The New York Times. Shaky World Order Even before the pandemic the post-WW II international order that the United States constructed and led for more than half a century was on shaky ground. The global institutions, alliances and rules governing international relations has been challenged by assertive autocratic regimes like China and Russia, and eroded from within by inward-looking nationalist-populists movements spreading throughout the Western democracies. The liberal international order has also been largely abandoned by its leader as Donald Trump’s administration retreats further into “America First” isolationism. The Trump doctrine in international affairs actively seeks to undermine the institutions of global order, whether it’s the World Health and Trade Organizations, the UN, the European Union or NATO. The administration has rejected or abolished all manner of multilateral agreements and treaties designed to peacefully constrain international rivalries, including the Trans-Pacific Partnership Agreement, the Paris Climate Agreement, the Iran nuclear deal, the Intermediate-Range Nuclear Forces treaty, and quite possibly next year the New Strategic Arms Reduction Treaty (New START). A Dark History History is rife with cautionary examples of natural disasters or economic crises conflating with geopolitical tensions, with cataclysmic results. The catastrophic 1918 Spanish flu pandemic, which killed more than 20 million victims worldwide, was accelerated and spread by troop movements during World War I. With many Americans disillusioned by the war and loss, the United States turned insular and isolationist during the 1920s, rejecting the League of Nations, dramatically curtailing immigration and erecting steep tariff barriers to trade. Much of the rest of the world followed suit. The U.S. stock market crash of 1929 was compounded the next year by one of the worst droughts in history. When the Japanese invaded China two years later, and Adolf Hitler became German chancellor soon after, there was no League of Nations nor stabilizing trading systems to contain the war fever that swept the globe and became World War II. “When you think back to 1918 and the Spanish flu, it’s worth remembering that more people died in the second wave than the first, and the Great Depression and the 1930s taught us that bad economic conditions can be transformative,” said Joseph Nye, a professor emeritus and former Dean of the Harvard’s Kennedy School of Government, speaking recently on a videoconference organized by The National Interest. “The point is, in the current pandemic we’re likely only in Act 1 of a multi-act play.” Combustible Leadership The very real potential for the pandemic crisis to propel the major powers towards outright military conflict was noted recently by the Chinese Ministry of State Security, Beijing’s top intelligence agency. In a report for Xi Jinping and the senior Chinese leadership it reportedly concluded that global anti-China sentiment being stoked by the Trump administration has reached its highest peak since the 1989 Tiananmen Square crackdown, and as a result China needs to be prepared for a worst-case scenario of armed confrontation with the United States. Despite the warnings, Xi Jinping has doubled down in recent months on provocative military maneuvers in its neighboring seas, sending its Liaoning carrier battle group and military flights off the coast of Taiwan; conducting anti-submarine exercises in contested areas of the South China Sea; ramming and sinking a Vietnamese fishing boat near the disputed Paracel Islands; dispatching a fishing boat “militia” to harass Philippine counterparts near the contested Spratly Islands; and harassing a Malaysian drillship. The littoral combat ship USS Montgomery conducts operations near drillship, the West Capella, in Malaysian waters. Some analysts see those moves as an attempt by Xi Jinping to show strength and bolster his image at home among a Chinese populace wearied by the pandemic shutdowns and economic disruptions. Those provocations are exactly the kind of saber-rattling that can escalate dangerously in a time of crisis. George Beebe is a former director of the CIA’s Russia analysis section, and author of the book “The Russia Trap: How Our Shadow War with Russia Could Spiral into Catastrophe.” “My concern is that the major power leaders Putin, Xi and Trump all tend to personalize international relations and politics. They are all going through severe economic and political distress. Each of them is convinced that their rivals are trying to exploit the pandemic crisis, and not one of them is dealing from a position of strength and confidence,” he told me. Putin has long felt betrayed and threatened by the United States, Beebe noted, and Xi Jinping is convinced that America is trying to thwart China’s rise. One of the few constants in Trump’s worldview is the conviction that China has taken advantage of the United States with trade going back decades. “So there’s a lot of fear and emotion and very little trust in the relationships between these leaders during a time of great strain, and their communications and diplomatic mechanisms to manage a crisis if one occurs have atrophied,” said Beebe. “Given that personalities and personal relationships among national leaders are far more important in international affairs than a lot of people appreciate, I do worry that we’re entering a very dangerous period when cooler heads may not prevail among the great power leaders.”

#### Risk of U.S.-China nuclear escalation to total war is high – Chinese planners don’t believe nuclear weapons are usable and US decisionmakers are too confident in limited nuclear war.

Fiona **CUNNINGHAM** Poli Sci @ GW **AND** Taylor **FRAVEL** Arthur and Ruth Sloan Professor of Political Science and Director of the Security Studies Program at the Massachusetts Institute of Technology **’19** “Dangerous Confidence? Chinese Views on Nuclear Escalation” *International Security* 44 (2) p. EBSCO

Chinese views of nuclear escalation are key to assessing the potential for nuclear escalation in a crisis or armed conflict between the United States and China, but they have not been examined systematically. A review of original Chinese-language sources and interviews with members of China's strategic community suggest that China is skeptical that nuclear escalation could be controlled once nuclear weapons are used and, thus, leaders would be restrained from pursuing even limited use. These views are reflected in China's nuclear operational doctrine (which outlines plans for retaliatory strikes only and lacks any clear plans for limited nuclear use) and its force structure (which lacks tactical nuclear weapons). The long-standing decoupling of Chinese nuclear and conventional strategy, organizational biases within China's strategic community, and the availability of space, cyber, and conventional missile weapons as alternative sources of strategic leverage best explain Chinese views toward nuclear escalation. China's confidence that a U.S.-China conflict would not escalate to the use of nuclear weapons may hamper its ability to identify nuclear escalation risks in such a scenario. Meanwhile, U.S. scholars and policymakers emphasize the risk of inadvertent escalation in a conflict with China, but they are more confident than their Chinese counterparts that the use of nuclear weapons could remain limited. When combined, these contrasting views could create pressure for a U.S.-China conflict to escalate rapidly into an unlimited nuclear war. Whatever the pathway, understanding the views of China's strategic community toward nuclear escalation is critical for both scholars and policymakers. Our previous research suggested that Chinese experts were relatively confident about crisis stability, defined as a situation in which neither country has an incentive to use nuclear weapons first, in a U.S.-China crisis.[ 2] This article examines the origins and consequences of this confidence. Why are most Chinese experts confident that a U.S.-China conventional war would not escalate to a nuclear war? How consistent are these views with China's operational doctrine and force structure? How much control does China think it would have over nuclear escalation in a conflict? What are the implications of these views? Understanding Chinese views of nuclear escalation is important for several reasons. To start, the dynamics of limited nuclear war are receiving renewed attention among U.S. policymakers. Their concerns that Russia's nuclear doctrine envisages the use of limited nuclear strikes to escalate to de-escalate a conventional conflict has focused U.S. attention on how to deter limited nuclear strikes.[ 3] In addition, as the conventional military superiority of the United States fades,[ 4] some former U.S. policymakers have suggested it might need to threaten limited nuclear strikes to maintain the credibility of its commitments to deter nuclear attacks on allies in Europe and East Asia.[ 5] Finally, the 2018 U.S. Nuclear Posture Review warns that China might believe that it could secure advantages through the limited use of nuclear weapons.[ 6] Second, understanding Chinese views about nuclear escalation can help illuminate the potential for inadvertent escalation in a U.S.-China conflict. Most arguments about inadvertent escalation are based on assumptions about how Chinese leaders would respond if U.S. conventional attacks on China's conventional missile forces also degraded China's nuclear capabilities by destroying some command and control infrastructure or even some nuclear-armed missiles. Chinese leaders would then face the choice of whether to use China's nuclear weapons before they lost the ability to do so.[ 7] Nevertheless, uncertainty remains regarding how China's leaders would respond under these circumstances.[ 8] Understanding Chinese views about nuclear escalation may help scholars and policymakers anticipate both how Chinese leaders might respond and the risks of such U.S. conventional attacks. Third, no previous work has comprehensively examined Chinese views of nuclear escalation, a gap this article seeks to fill. Existing studies of Chinese views of escalation examine only conventional escalation in a crisis or war, not nuclear escalation.[ 9] China's views of nuclear escalation are likely to be distinct from those of conventional escalation, given the differences between nuclear and conventional weapons.[10] A recent book chapter by Chinese experts Zhao Tong and Li Bin analyzing the entanglement of U.S. and Chinese conventional and nuclear capabilities and inadvertent escalation is a partial exception, but it investigates only one of multiple pathways to nuclear escalation.[11]

### Contention 3: WTO Collapse

#### COVID vaccine debate will kill the WTO- there are no alternate causes and solvency is reverse causal

Meyer 6-18-21

(David, Senior Writer, https://fortune.com/2021/06/18/wto-covid-vaccines-patents-waiver-south-africa-trips/)

The World Trade Organization knows all about crises. Former U.S. President Donald Trump threw a wrench into its core function of resolving trade disputes—a blocker that President Joe Biden has not yet removed—and there is widespread dissatisfaction over the fairness of the global trade rulebook. The 164-country organization, under the fresh leadership of Nigeria's Ngozi Okonjo-Iweala, has a lot to fix. However, one crisis is more pressing than the others: the battle over COVID-19 vaccines, and whether the protection of their patents and other intellectual property should be temporarily lifted to boost production and end the pandemic sooner rather than later. According to some of those pushing for the waiver—which was originally proposed last year by India and South Africa—the WTO's future rests on what happens next. "The credibility of the WTO will depend on its ability to find a meaningful outcome on this issue that truly ramps-up and diversifies production," says Xolelwa Mlumbi-Peter, South Africa's ambassador to the WTO. "Final nail in the coffin" The Geneva-based WTO isn't an organization with power, as such—it's a framework within which countries make big decisions about trade, generally by consensus. It's supposed to be the forum where disputes get settled, because all its members have signed up to the same rules. And one of its most important rulebooks is the Agreement on Trade-Related Aspects of Intellectual Property Rights, or TRIPS, which sprang to life alongside the WTO in 1995. The WTO's founding agreement allows for rules to be waived in exceptional circumstances, and indeed this has happened before: its members agreed in 2003 to waive TRIPS obligations that were blocking the importation of cheap, generic drugs into developing countries that lack manufacturing capacity. (That waiver was effectively made permanent in 2017.) Consensus is the key here. Although the failure to reach consensus on a waiver could be overcome with a 75% supermajority vote by the WTO's membership, this would be an unprecedented and seismic event. In the case of the COVID-19 vaccine IP waiver, it would mean standing up to the European Union, and Germany in particular, as well as countries such as Canada and the U.K.—the U.S. recently flipped from opposing the idea of a waiver to supporting it, as did France. It's a dispute between countries, but the result will be on the WTO as a whole, say waiver advocates. "If, in the face of one of humanity's greatest challenges in a century, the WTO functionally becomes an obstacle as in contrast to part of the solution, I think it could be the final nail in the coffin" for the organization, says Lori Wallach, the founder of Public Citizen's Global Trade Watch, a U.S. campaigning group that focuses on the WTO and trade agreements. "If the TRIPS waiver is successful, and people see the WTO as being part of the solution—saving lives and livelihoods—it could create goodwill and momentum to address what are still daunting structural problems." Those problems are legion. Reform needs Top of the list is the WTO's Appellate Body, which hears appeals in members' trade disputes. It's a pivotal part of the international trade system, but Trump—incensed at decisions taken against the U.S. —blocked appointments to its seven-strong panel as judges retired. The body became completely paralyzed at the end of 2019, when two judges' terms ended and the panel no longer had the three-judge quorum it needs to rule on appeals. Anyone who hoped the advent of the Biden administration would change matters was disappointed earlier this year when the U.S. rejected a European proposal to fill the vacancies. "The United States continues to have systemic concerns with the appellate body," it said. "As members know, the United States has raised and explained its systemic concerns for more than 16 years and across multiple U.S. administrations." At her confirmation hearing in February, current U.S. Trade Representative Katherine Tai reiterated those concerns—she said the appellate body had "overstepped its authority and erred in interpreting WTO agreements in a number of cases, to the detriment of the United States and other WTO members," and accused it of dragging its heels in settling disputes. "Reforms are needed to ensure that the underlying causes of such problems do not resurface," Tai said. "While the U.S. [has] been engaging [with the WTO] it hasn't indicated it would move quickly on allowing appointments to the Appellate Body," says Bryan Mercurio, an economic-law professor at the Chinese University of Hong Kong, who opposes the vaccine waiver. "This is not a good sign. In terms of WTO governance, it's a much more important step than supporting negotiations on an [intellectual property] waiver." It's not just the U.S. that wants to see reform at the WTO. In a major policy document published in February, the EU said negotiations had failed to modernize the organization's rules, the dispute-resolution system was broken, the monitoring of countries' trade policies was ineffective, and—crucially—"the trade relationship between the U.S. and China, two of the three largest WTO members, is currently largely managed outside WTO disciplines." China is one of the key problems here. It became a WTO member in 2001 but, although this entailed significant liberalization of the Chinese economy, it did not become a full market economy. As the European Commission put it in February: "The level at which China has opened its markets does not correspond to its weight in the global economy, and the state continues to exert a decisive influence on China's economic environment with consequent competitive distortions that cannot be sufficiently addressed by current WTO rules." "China is operating from what it sees as a position of strength, so it will not be bullied into agreeing to changes which it sees as not in its interests," says Mercurio. China is at loggerheads with the U.S., the EU and others over numerous trade-related issues. Its rivals don't like its policy of demanding that Chinese citizens' data is stored on Chinese soil, nor do they approve of how foreign investors often have to partner with Chinese firms to access the country's market, in a way that leads to the transfer of technological knowhow. They also oppose China's industrial subsidies. Mercurio thinks China may agree to reforms on some of these issues, particularly regarding subsidies, but "only if it is offered something in return." All these problems won't go away if the WTO manages to come up with a TRIPS waiver for COVID-19 vaccines and medical supplies, Wallach concedes. "But," she adds, "the will and the good faith to tackle these challenges is increased enormously if the WTO has the experience of being part of the solution, not just an obstacle." Wallach points to a statement released earlier this month by Asia Pacific Economic Cooperation (APEC) trade ministers, which called for urgent discussions on the waiver. "The WTO must demonstrate that global trade rules can help address the human catastrophe of the COVID-19 pandemic and facilitate the recovery," the statement read in its section about WTO reform. Okonjo-Iweala's role The WTO's new director general, whose route to the top was unblocked in early 2021 with the demise of the Trump administration, is certainly keen to fix the problems that contributed to the early departure of her predecessor, Brazil's Robert Azevedo. "We must act now to get all our ambassadors to the table to negotiate a text" on the issue of an IP waiver for COVID vaccines, Ngozi Okonjo-Iweala, director general of the World Trade Organization, has said. Dursun Aydemir—Anadolu/Bloomberg/Getty Images Earlier this week, when the U.S. and EU agreed a five-year ceasefire in a long-running dispute over Boeing and Airbus aircraft subsidies, Okonjo-Iweala tweeted: "With political will, we can solve even the most intractable problems." However, Mercurio is skeptical about her stewardship having much of an effect on the WTO's reform process. "Upon taking [over she] stated it was time for delegations to speak to each other and not simply past each other, but at the recent General Counsel meeting delegations simply read prepared statements in what some have described as the worst meeting ever," he says. "On the other hand, Ngozi is very much someone who will actively seek solutions to problems, and in this way different to her predecessor. If the role of mediator is welcomed, she could have an impact not in starting discussions but in getting deals over the finish line." A spokesperson for the WTO Secretariat declined to offer comment on Mlumbi-Peter and Wallach's suggestions that the organization's credibility rests on the vaccine patent waiver issue, but pointed to a May speech in which Okonjo-Iweala said the WTO could help tackle vaccine supply chain monitoring and transparency, helping manufacturers scale up production, and creating a more geographically diversified manufacturing base. In her speech, the WTO chief also said members "must address issues related to technology transfer, knowhow and intellectual property," including the waiver proposal. "We must act now to get all our ambassadors to the table to negotiate a text," she said.

#### The WTO dampens US-China great power conflict which is crucial to solve a laundry list of existential threats. Cooperation on global vaccine distribution is a vital test case

Shaffer, JD Stanford, 21

(Gregory Shaffer is Chancellor’s Professor at the University of California, Irvine, and author of the forthcoming book, “Emerging Powers in the World Trading System: The Past and Future of International Economic Law.” <https://thehill.com/opinion/international/559049-the-us-must-engage-with-china-even-when-countering-china>, 6-21)

A policy statement heard around the world is that U.S. engagement with China “has come to an end.” It suggests that the Biden administration is taking a hawkish approach toward China. That stance seemed clear as the U.S. worked the G7 and NATO communiqués to confront China with an “alliance of democracies.” Yet, peeling the layers, one comes to the necessity for a much more complex U.S. approach to China. Rather than ending engagement, the U.S. should be thinking about engagement’s different dimensions. Indeed, Kurt Campbell, coordinator for Indo-Pacific affairs on the National Security Council, who made the remark, implicitly addressed three necessary forms of engagement that have been lacking. First, even when the United States aims to counter China, engagement remains essential. The U.S. will most effectively counter Chinese actions in the South China Sea, the Taiwan Strait, along the border with India, and against allies’ economies, if the U.S. works closely with others. The Trump administration was notoriously unreliable and antagonistic towards allies. The United States and its allies will bolster their position in relation to China if they coordinate — an approach underscored at the recent G7 and NATO summits. ADVERTISEMENT Yet, even in high-conflict situations, diplomacy and bargaining with China also will be important. Trade and technology policies are rife with rivalry and competition. These policies can trigger harmful tit-for-tat escalations if they are not grounded in agreed rules and understandings. These risks become particularly salient when economic and financial crises strike. Third-party institutions such as the World Trade Organization (WTO) can help parties manage their conflicts so that they are not mutually destructive. China will be indispensable in any U.S. effort to update and “reform” WTO rules. Second, the United States needs to work with China to effectively address common global, existential challenges. Campbell mentioned three: climate change, global pandemics, and nuclear proliferation. A signal success of the Obama administration was getting China to make commitments for the first time on emissions, which gave rise to the Paris Agreement. The U.S. also worked with China to stem Iran’s ability to develop nuclear weapons under the Joint Comprehensive Plan of Action. It needs to do the same regarding North Korea’s nuclear program. Even in these areas of mutual concern, competition and rivalry are present. Yet such competition also can lead to mutually beneficial outcomes, such as to provide vaccines globally and to develop green technologies.

#### The WTO reduces war through peace dividends, interdependence, and rule of law

Baldwin, PhD, and Nakotomi 15

(Richard Baldwin, professor of international economics at the Graduate Institute of International and Development Studies in Geneva, Michitaka, Consulting Fellow at the Research Institute of Economy, Trade and Industry (RIETI) and a Special Adviser to the Japan External Trade Organization (JETRO). <https://cepr.org/sites/default/files/policy_insights/PolicyInsight84.pdf>, July)

The WTO, and the GATT before it, has been one the planet’s precious public goods. The multilateral cooperation supports and encourages trade, which, in turn, fosters peace and rising living standards worldwide. The idea that trade fosters peace was famously expounded by Montesquieu in the 18th century: “The natural effect of commerce is to bring peace. Two nations that negotiate between themselves become reciprocally dependent, if one has an interest in buying and the other in selling. And all unions are based on mutual needs.” 2 Put simply, sellers have little interest in attacking their buyers. Perhaps the most obvious example is how bourgeoning trade between France and Germany flipped the switch from a war-pattern to a peace-pattern. After fighting three increasingly horrifying wars from 1870 to 1945, the French and the Germans are now locked in one of the most intense commercial interactions in the world. At a personal level, this has brought millions of French and Germans into frequent, direct contact. French work for German companies and vice versa, and French firms are excellent customers for German firms and vice versa. The idea that going to war to, for example, would switch the nationality of AlsaceLorraine once again is now insanity. International commerce makes Franco-German war into a ‘mutually assured destruction’ situation. When it comes to why flourishing trade is synonymous with rising living standards, there is little mystery. Trade allows the market’s efficiencyenhancing mechanisms to play out on a broader scale. With access to larger markets on the export side and a wider range of high-quality, reasonablyprices goods and services on the import side, trade allows nations to allocate resources to where they can be most productive. This enables countries to achieve greater scale and agglomeration economies that are, in turn, pro-innovation, pro-productivity, and pro-growth. Open trade also generates an imperative to innovate. As the Bhagwati-Sutherland Report put it: “Exposed to Japanese car manufacturers’ competition, Detroit car makers recognised that their system of vertical integration was less efficient than a competitive supply chain model. European farmers respond to developing world agricultural imports by moving out of bulk commodities and into boutique and specialist farm goods and foods. India’s car industry has been transformed by external competition to the extent that the worlds’ smallest and cheapest car – the Tata Nano - is a world class Indian innovation”.3 Trade, in other words, is a classic example of winwin cooperation. When all cooperate, all can win. Creating a common interest in multilateral cooperation The GATT promoted such win-win multilateral cooperation by setting up what political scientists refer to as a ‘regime’ – a collection of principles, norms, rules, and procedures around which the expectations of nations and interest groups converged. The result is what could be called the GATT/WTO ‘code of good conduct’. The code fostered a pattern of cooperation which fostered economic success (see Box 1 for a brief description of the code). The resulting economic success was nothing short of spectacular. As the GATT’s mutual-liberalisation process started working its magic, exports of manufactured goods boomed. This made it easy to view the GATT as good for exports, industry, and growth. But the really useful outcome – as far as cooperation is concerned – is the fact that manufactured exports grew two and a half times faster than manufacturing output. This made it very easy to portray multilateral cooperation as win-win. One just could not say that the ‘your’ exports were ‘stealing’ demand from ‘my’ producers. Quite the contrary, export sales around the world were outstripping production growth by a wide margin (Figure 1). All cooperated and all won. Economic success shifts mind sets This success produced a historic shift in the mindset of global political, business, and labour leaders. Recall that in the decades before the GATT, the received wisdom was that a nation should raise protection to protect its industry. Free trade was for starry-eyed idealists; unilateral protection was the savvy way to boost national industry and incomes. All this changed in the 1950s and 1960s. Mutual opening became the winning way; unilateral closing came to be viewed as a failed dogma of olden days. This manifest economic success launched a selfreinforcing cycle. Booming trade and incomes strengthened GATT members’ belief that following the code of conduct was good policy from a purely nationalistic perspective. The cycle spiralled ever higher as the code continued to produce progressive, mutually advantageous trade opening decade after decade. Perhaps even more important than this sea-change in policymakers’ minds was the shift in the thinking and expectations of political pressure groups inside each member. As nations and interest groups came to expect that the rules would be respected, they adopted behaviours that conformed to the rules – thus making rule-compliance almost automatic. Despite trade conflicts being common, the code and the win-win outcomes created a common interest among GATT members in defending multilateral cooperation. It is a precious ‘public good’ for world trade and, more generally, for world peace; multilateral cooperation on anything is a rare commodity these days. More generally, the GATT/WTO has raised respect for the rule of law in the international context almost universally. It is one part of the foundation that supports respect for the concept of international law. Creation of strong dispute settlement mechanism and prohibition of unilateral measures in the WTO further reinforced it. The GATT/WTO is the leading – and probably the only – example of a multilateral and nearuniversal framework of rules and law.

#### The WTO is crucial to make global trade equitable and reduce poverty

Narlikar, PhD, 18

(AMRITA NARLIKAR is President of the GIGA German Institute of Global and Area Studies and a professor at the University of Hamburg. <https://www.foreignaffairs.com/articles/2018-03-05/trade-war-poor>, 3-5)

Recurrent deadlocks have plagued the Doha negotiations since their launch in 2001, damaging the credibility of the organization that oversees this unfortunate negotiation process. The WTO’s Ministerial Conference in Nairobi in 2015, which coincided with the 20th anniversary of the WTO’s founding, should have been a moment for celebration. Instead, it turned out to be an embarrassment: for the first time the Ministerial Declaration reflected not consensus but fundamental division over whether even to reaffirm the Doha mandates, which had sought to launch an ambitious round of multilateral trade liberalization with a close eye on development issues. At its Ministerial Conference in Buenos Aires, in 2017, the WTO sank to a new low: this conference was unprecedented in its failure to even produce a Ministerial Declaration. The WTO seems to be whimpering its way to an inglorious end. And if the global trading mechanism does indeed collapse, the consequences will be adverse for all parties, but especially so for the poorest of the world. PUNISHING DEVELOPING COUNTRIES AND THE POOREST PEOPLE In 2010, the Millennium Development Goals reached one of its targets, of cutting extreme poverty by half. The most important factor that contributed to this achievement was economic growth in many developing countries, especially China and India. Although such growth was fueled by several factors, one critical driver was international trade. Extensive research shows that the countries and regions that harnessed the opportunities afforded by low tariffs and open markets did particularly well, aided as they were by a reliable system of enforceable trade rules—all negotiated, monitored, and implemented under the auspices of the WTO. Still, between 600 million and 700 million people currently live under $1.90 per day and are concentrated in middle-income and lower-income developing countries. For instance, 4.5 percent of Brazilians live below the extreme poverty line, six percent do in India, and 34 and 42 percent do in Afghanistan and Nigeria. Much work still has to be done to address the concerns of the poor worldwide, and a minimal step toward this would be to ensure continued market access for developing countries and to maintain the predictability of tariff and non-tariff barriers. If the WTO collapses, rich countries would easily be able to crank up tariffs against poorer countries, while introducing many other protectionist measures to discourage imports. Developing countries, which have experienced growth through exports, and have adapted their production chains to export markets, would be hit hard. A decline in their exports would directly affect their producers and workers in the affected industries, resulting in losses for poor people who can least afford such losses. The costs, moreover, would go beyond the immediate job losses and price hikes in basic goods. The first fundamental benefit that poor countries derive from the WTO is that they get a relatively level playing field for negotiating with more powerful countries. Outside the WTO, in bilateral and regional settings, it is much easier to coerce countries into accepting harsh terms in a trade deal, such as through stringent environmental and labor standards that they would find virtually impossible to meet. In contrast, the institutional setting of the WTO offers developing countries some indispensable advantages. Formally, all members in the WTO have one vote each (very different from voting procedures at the UN Security Council and the International Monetary Fund). This is a powerful equalization tool, which is rendered all the more potent by the fact that consensus-based decision-making allows even the smallest and weakest player de jure veto power. Informally, having an audience within the institution, and a range of partners to work with, enables poor countries to form coalitions with like-minded states. Some powerful coalitions have emerged over the years, which have allowed poor and middle-income countries to band together (sometimes also with developed countries) to punch considerably above their weight in the Doha negotiations. One example is the G-33. It began as a coalition of 33 developing countries including China, India, Indonesia, Nigeria, Pakistan, and others, but now comprises 47 members and has managed to resist calls for greater market opening for agricultural products in developing economies. The G-20, a coalition led by Brazil, China, and India at the time of its founding, which now includes 23 developing countries, has demanded more ambitious market opening for agricultural products in developed country markets. Without the WTO, developing countries would have neither the institutional rules to protect them nor the support of coalitions to enhance their bargaining power. The second important benefit that developing countries derive from the WTO is its Dispute Settlement Mechanism (DSM), which allows members to take another member “to court” over violating trade rules. In the event a judgment is made, the WTO can then authorize retaliatory measures against the responding party. Even though there are several deterrents that might make poor countries reluctant to make use of this facility (including the fact that bringing a dispute against a rich country requires extensive technical and legal know-how, and low-income countries sometimes lack the resources and capacity to initiate a case), the figures show considerable learning and growing effectiveness on their part. While the United States and the European Union have been the most avid users of the DSM (they have brought 115 and 97 cases, respectively, since 1995), many large developing countries have also frequently lodged complaints. China, for example, has brought 15 cases; India, 23; and Brazil, 31. Nor should one assume that the DSM has been the stomping ground of only developed countries and rising powers. David has sometimes taken on Goliath. Ecuador, for example, filed a complaint against U.S. action against its shrimp exports in 2005, and won, despite the extreme asymmetry of power. Allow the WTO to wither away and the world returns to a system of unchecked power politics. The costs, moreover, would not necessarily be limited to the “global South” and its poorest people. FROM WIN-WIN TO LOSE-LOSE Even if a WTO collapse would strike the poorest nations the hardest, rich countries will not escape its impact, as the resulting protectionism would greatly hurt poor consumers in developed economies. They would lose access to cheap and competitive imports from developing countries, including essential items such as fruits and vegetables, garments, footwear, and other items on which the average person spends a large proportion of his or her disposable income. The impact of increased tariffs on employment, however, would be, at best, mixed. Any gains would be restricted to specific sectors. For instance, a tariff increase on steel imports may see job increases in that particular industry—although tariffs would not save the job losses that have occurred due to technological innovation—but many other U.S. industries that rely on steel imports, such as producers of cars or electrical machinery, would see their production costs rise. This, in turn, would negatively affect their domestic and international competitiveness, profit margins, and their ability to hire and pay wages. Further, it is unlikely that other countries will accept such treatment sitting down. Retaliatory action could potentially go considerably beyond the steel and steel-consuming sector. China is the second-largest market for agricultural exports from the United States; if China increased trade barriers against soybeans, coarse grains, meat products, and cotton, it could hurt U.S. jobs across several sectors. Of course, such measures by China would be welfare-reducing for its own consumers too, who benefit from these key and competitive U.S. imports. Almost all parties would thus end up in an entirely unnecessary and sad lose-lose situation. In sum, a trade war would be a lose-lose for all, but particularly the poorest in developed and rising powers.

### Contention 4: Solvency

#### Plan: Member nations of the World Trade Organization ought to reduce intellectual property protections for medicines for COVID-19, as per the request by India and South Africa to the WTO.

#### Communication from India and South Africa to the WTO 20

(WAIVER FROM CERTAIN PROVISIONS OF THE TRIPS AGREEMENT FOR THE PREVENTION,

CONTAINMENT AND TREATMENT OF COVID-19 <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/IP/C/W669.pdf&Open=True>, 10-2)

5. An effective response to COVID-19 pandemic requires rapid access to affordable medical products

including diagnostic kits, medical masks, other personal protective equipment and ventilators, as

well as vaccines and medicines for the prevention and treatment of patients in dire need.

6. The outbreak has led to a swift increase in global demand with many countries facing acute

shortages, constraining the ability to effectively respond to the outbreak. Shortages of these

products has put the lives of health and other essential workers at risk and led to many avoidable

deaths. It is also threatening to prolong the COVID-19 pandemic. The longer the current global crisis

persist, the greater the socio-economic fallout, making it imperative and urgent to collaborate

internationally to rapidly contain the outbreak.

7. As new diagnostics, therapeutics and vaccines for COVID-19 are developed, there are significant

concerns, how these will be made available promptly, in sufficient quantities and at affordable price

to meet global demand. Critical shortages in medical products have also put at grave risk patients

suffering from other communicable and non-communicable diseases.

8. To meet the growing supply-demand gap, several countries have initiated domestic production

of medical products and/or are modifying existing medical products for the treatment of COVID-19

patients. The rapid scaling up of manufacturing globally is an obvious crucial solution to address the

timely availability and affordability of medical products to all countries in need.

9. There are several reports about intellectual property rights hindering or potentially hindering

timely provisioning of affordable medical products to the patients.3

It is also reported that some

WTO Members have carried out urgent legal amendments to their national patent laws to expedite

the process of issuing compulsory/government use licenses.

10. Beyond patents, other intellectual property rights may also pose a barrier, with limited options

to overcome those barriers. In addition, many countries especially developing countries may face

institutional and legal difficulties when using flexibilities available in the Agreement on Trade-Related

Aspects of Intellectual Property Rights (TRIPS Agreement). A particular concern for countries with

insufficient or no manufacturing capacity are the requirements of Article 31bis and consequently the

cumbersome and lengthy process for the import and export of pharmaceutical products.

11. Internationally, there is an urgent call for global solidarity, and the unhindered global sharing

of technology and know-how in order that rapid responses for the handling of COVID-19 can be put

in place on a real time basis.

12. In these exceptional circumstances, we request that the Council for TRIPS recommends, as

early as possible, to the General Council a waiver from the implementation, application and

enforcement of Sections 1, 4, 5, and 7 of Part II of the TRIPS Agreement in relation to prevention,

containment or treatment of COVID-19.

13. The waiver should continue until widespread vaccination is in place globally, and the majority

of the world's population has developed immunity hence we propose an initial duration of [x] years

from the date of the adoption of the waiver.

14. We request that the Council for TRIPS urgently recommends to the General Council adoption of

the annexed decision text.

#### The plan creates a new goldilocks patent law that exempts pandemics

Lindsey, JD Harvard, 21

(Brink, <https://www.brookings.edu/blog/up-front/2021/06/03/why-intellectual-property-and-pandemics-dont-mix/>, 6-3)

Waiving patent protections is certainly no panacea. What is needed most urgently is a massive drive of technology transfer, capacity expansion, and supply line coordination to bring vaccine supply in line with global demand. Dispensing with patents in no way obviates the need for governments to fund and oversee this effort. Although focusing on these immediate constraints is vital, we cannot confine our attention to the short term. First of all, the COVID-19 pandemic is far from over. Although Americans can now see the light at the end of the tunnel thanks to the rapid rollout of vaccines, most of the world isn’t so lucky. The virus is currently raging in India and throughout South America, overwhelming health care systems and inflicting suffering and loss on a horrific scale. And consider the fact that Australia, which has been successful in suppressing the virus, recently announced it was sticking to plans to keep its borders closed until mid-2022. Criticisms of the TRIPS waiver that focus only on the next few months are therefore short-sighted: this pandemic could well drag on long enough for elimination of patent restrictions to enable new vaccine producers to make a positive difference. Furthermore, and probably even more important, this is almost certainly not the last pandemic we will face. Urbanization, the spread of factory-farming methods, and globalization all combine to increase the odds that a new virus will make the jump from animals to humans and then spread rapidly around the world. Prior to the current pandemic, the 21st century already saw outbreaks of SARS, H1N1, MERS, and Ebola. Everything we do and learn in the current crisis should be viewed from the perspective of getting ready for next time. THE NATURE OF THE PATENT BARGAIN When we take the longer view, we can see a fundamental mismatch between the policy design of intellectual property protection and the policy requirements of effective pandemic response. Although patent law, properly restrained, constitutes one important element of a well-designed national innovation system, the way it goes about encouraging technological progress is singularly ill-suited to the emergency conditions of a pandemic or other public health crisis. Securing a TRIPS waiver for COVID-19 vaccines and treatments would thus establish a salutary precedent that, in emergencies of this kind, governments should employ other, more direct means to incentivize the development of new drugs. Here is the basic bargain offered by patent law: encourage the creation of useful new ideas for the long run by slowing the diffusion of useful new ideas in the short run. The second half of the bargain, the half that imposes costs on society, comes from the temporary exclusive rights, or monopoly privileges, that a patent holder enjoys. Under U.S. patent law, for a period of 20 years nobody else can manufacture or sell the patented product without the permission of the patent holder. This allows the patent holder to block competitors from the market, or extract licensing fees before allowing them to enter, and consequently charge above-market prices to its customers. Patent rights thus slow the diffusion of a new invention by restricting output and raising prices. The imposition of these short-run costs, however, can bring net long-term benefits by sharpening the incentives to invent new products. In the absence of patent protection, the prospect of easy imitation by later market entrants can deter would-be innovators from incurring the up-front fixed costs of research and development. But with a guaranteed period of market exclusivity, inventors can proceed with greater confidence that they will be able to recoup their investment. For the tradeoff between costs and benefits to come out positive on net, patent law must strike the right balance. Exclusive rights should be valuable enough to encourage greater innovation, but not so easily granted or extensive in scope or term that this encouragement is outweighed by output restrictions on the patented product and discouragement of downstream innovations dependent on access to the patented technology. Unfortunately, the U.S. patent system at present is out of balance. Over the past few decades, the expansion of patentability to include software and business methods as well as a general relaxation of patenting requirements have led to wildly excessive growth in these temporary monopolies: the number of patents granted annually has skyrocketed roughly fivefold since the early 1980s. One unfortunate result has been the rise of “non-practicing entities,” better known as patent trolls: firms that make nothing themselves but buy up patent portfolios and monetize them through aggressive litigation. As a result, a law that is supposed to encourage innovation has turned into a legal minefield for many would-be innovators. In the pharmaceutical industry, firms have abused the law by piling up patents for trivial, therapeutically irrelevant “innovations” that allow them to extend their monopolies and keep raising prices long beyond the statutorily contemplated 20 years. Patent law is creating these unintended consequences because policymakers have been caught in an ideological fog that conflates “intellectual property” with actual property rights over physical objects. Enveloped in that fog, they regard any attempts to put limits on patent monopolies as attacks on private property and view ongoing expansions of patent privileges as necessary to keep innovation from grinding to a halt. In fact, patent law is a tool of regulatory policy with the usual tradeoffs between costs and benefits; like all tools, it can be misused, and as with all tools there are some jobs for which other tools are better suited. A well-designed patent system, in which benefits are maximized and costs kept to a minimum, is just one of various policy options that governments can employ to stimulate technological advance—including tax credits for R&D, prizes for targeted inventions, and direct government support. PUBLIC HEALTH EMERGENCIES AND DIRECT GOVERNMENT SUPPORT For pandemics and other public health emergencies, patents’ mix of costs and benefits is misaligned with what is needed for an effective policy response. The basic patent bargain, even when well struck, is to pay for more innovation down the road with slower diffusion of innovation today. In the context of a pandemic, that bargain is a bad one and should be rejected entirely. Here the imperative is to accelerate the diffusion of vaccines and other treatments, not slow it down. Giving drug companies the power to hold things up by blocking competitors and raising prices pushes in the completely wrong direction.

#### Critics of the IP waiver are wrong- it’s the most effective way to combat covid inequality, alternatives fail

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(Parsa Erfani, Fogarty global health scholar1 2, Agnes Binagwaho, vice chancellor2, Mohamed Juldeh Jalloh, vice president3, Muhammad Yunus, chair4, Paul Farmer, professor57, Vanessa Kerry, associate professor810 Harvard Medical School, Boston, USA 2University of Global Health Equity, Rwanda 3Sierra Leone 4Yunus Centre, Bangladesh 5Global Health and Social Medicine, Harvard Medical School, Boston, USA 6Division of Global Health Equity, Brigham and Women’s Hospital, USA 7Partners In Health, USA 8Seed Global Health, USA 9Program in Global Public Policy and Social Change, Harvard Medical School, Boston, USA 10Division of Pulmonary and Critical Care Medicine, Massachusetts General Hospital, USA Intellectual property waiver for covid-19 vaccines will advance global health equity BMJ 2021; 374 doi: https://doi.org/10.1136/bmj.n1837 (Published 03 August 2021) Cite this as: BMJ 2021;374:n1837 https://www.bmj.com/content/374/bmj.n1837.full) The barrier to adequate vaccine supply today is not lack of vaccine options, nor even theoretical production capacity; the problem is the intellectual property (IP) protection governing production and access to vaccines—and ultimately, the political and moral will to waive these protections in a time of global crisis. Without such liberty, there will not be enough vaccine fast enough to prevent the spread of variants, the avoidable deaths, and the continued choking of low and middle income countries (LMICs) through poor health. Beyond donor based models of global vaccine equity As covid-19 became a pandemic, global efforts emerged to help ensure vaccines would be delivered across the globe to the highest risk populations. One of the first was Covax, a risk sharing mechanism in which countries, tiered by means, contribute to collectively source and equitably distribute vaccines globally. The effort, however laudable in intent, has been undercut by vaccine scarcity and underfunding. Covax aims to vaccinate 20% of the population in 92 low and middle income countries by the end of 2021. At the end of April, however, it had shipped only one fifth of its projected estimates and lacked critical resources for distribution.3 LMICs are wary about participating in well worn dynamics of global health aid. Instead, they are mobilising to overcome the fundamental paucity of available vaccines by challenging established global IP rules. At issue is the 1995 Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement, which established minimum protection standards for IP—including patents, industrial designs, trade secrets, and copyright—that all 164 members of the World Trade Organization (WTO) must respect.5 Subsequent rulings (such as the Doha declaration) have strived to clarify safeguards on patents, including compulsory licensing, which allows governments to license patents to a third party without consent (table 1).6 Today, these rules provide strong IP protection for vaccine technologies and affect the quantity and location of vaccine production and availability. Table 1 Licensing of intellectual property View popupView inline In October 2020, South Africa and India submitted a proposal to the WTO to temporarily waive certain provisions of the TRIPS agreement for covid-19 health products and technologies. The waiver would prevent companies that hold the IP for covid-19 vaccines from blocking vaccine production elsewhere on the grounds of IP and allow countries to produce covid-19 medical goods locally and import or export them expeditiously (table 1). Although the proposed IP waiver is supported by over 100 countries, WTO has not reached a consensus on the proposal because of opposition and filibustering by several high income countries, including the UK, Germany, and Japan.7 Waiver opponents argue that the limited capacity of LMICs to produce complex covid-19 vaccines safely is the true barrier to global production, not IP. They suggest that the TRIPS waiver would penalise drug companies, stifle biomedical innovation, and deter future investments in research and development—in sum, that it would reduce returns on investment and dismantle an IP system that provided the goods needed to end the pandemic. Others are concerned that an IP waiver would fuel supply chain bottlenecks for raw materials and undermine ongoing production. Moreover, policy makers argue that a waiver is unnecessary as company driven voluntary licensing—in which companies decide when and how to license their technologies—and existing TRIPS flexibilities (such as country determined compulsory licensing) should suffice in establishing production in LMICs (table 1). They suggest that waiving IP for covid-19 vaccines would provide no meaningful progress, but the data do not support this. What effect would a waiver have? Contrary to detractors’ concerns about the possible effect of a temporary TRIPS waiver, global health analyses suggest that it will be vital to equitable and effective action against covid-19. LMIC’s manufacturing capabilities have been underestimated, even though several LMICs have the scientific and manufacturing capacity to produce complex covid-19 vaccines. India, Egypt, and Thailand are already manufacturing viral vector or mRNA-based covid-19 vaccines,8910 and vaccine production lines could be established within months in some other LMICs,11 offering substantial benefit in a pandemic that will last years.11 Companies in India and China have already developed complex pneumococcal and hepatitis B recombinant vaccines, challenging existing vaccine monopolies.12 The World Health Organization launched an mRNA technology transfer hub in April 2021 to provide the logistical, training, and know-how support needed for manufacturers in LMICs to repurpose or expand existing manufacturing capacity to produce covid-19 vaccines and to help navigate accessing IP rights for the technology.13 Twenty five respondents from LMICs expressed interest, and South Africa was selected as the first hub, with plans to start producing the vaccine through the Biovac Institute in the coming months.14 Removing IP barriers through the waiver will facilitate these efforts, more rapidly enable future hubs, engage a greater number of manufacturers, and ultimately yield more doses faster. Moreover, as the waiver facilitates vaccine production, demand for raw materials and active ingredients will increase. Coupled with pre-emptive planning to anticipate and expand raw material production, the waiver—which encompasses the IP of all covid-19 vaccine-related technology— can offer a path to overcome bottlenecks and expand production of necessary vaccine materials. Current licensing mechanisms inadequate Voluntary licences have not and will not keep pace with public health demand. Since companies determine the terms of voluntary licences, they are often granted to LMICs that can afford them, leaving out poorer regions.10 For example, in South Asia, AstraZeneca has voluntarily licensed its vaccine to the Serum Institute of India, even though the region has multiple capable vaccine manufacturers.9 Many covid-19 vaccine developers have not taken steps towards licensing their technologies, simply because there is limited financial incentive to do so.11 To date, none have shared IP protected vaccine information with the WHO Covid-19 Technology Access Pool (C-TAP) established last year.15 Relying on the moral compass of companies that answer to shareholders to voluntarily license their technologies will have limited effect on vaccine equity. Their market is driven by profit margins, not public health. Compulsory licensing by LMICs will also be insufficient in rapidly expanding vaccine production, as each patent licence must be negotiated separately by each country and for each product based on its own merit. From 1995 to 2016, 108 compulsory licences were attempted and only 53 were approved.6 The case-by-case approach is slow and not suitable for a global crisis that requires swift action. In addition, TRIPS requires compulsory licences to be used predominantly for domestic supply, limiting exports of the licensed goods to nearby low income countries without production capacity.5 Although a “special” compulsory licence system was agreed in the Doha declaration to allow for expeditious exportation and importation (formalised as the article 31bis amendment to TRIPS in 2017), the provision is limited by cumbersome logistical procedures and has been rarely used.16 Governments may also be hesitant to pursue compulsory licences as high income countries have previously bullied them for doing so. Since India first used compulsory licensing for sorafenib tosylate in 2012 (reducing the cancer drug’s price by 97%), the US has consistently pressured the country not to use further compulsory licences.17 During this pandemic, Gilead sued the Russian government for issuing a compulsory licence for remdesivir.18 Furthermore, while compulsory licences are primarily for patents, covid-19 vaccines often have other types of IP, including trade secrets, that are integral for production.19 The emergency TRIPS waiver removes all IP as a barrier to starting production (not just patents) and negates the prolonged time, inconsistency, frequent failure, and political pressure that accompany voluntary licensing and compulsory licensing efforts. It also provides an expeditious path for new suppliers to import and export vaccines to countries in need without bureaucratic limitations. Finally, there is no compelling evidence that the proposed TRIPS waiver would dismantle the IP system and its innovation incentives. The waiver is restricted to covid-19 related goods and is time limited, helping to protect future innovation. It would, however, reduce profit margins on current covid-19 vaccines. With substantial earnings in the first quarter of 2021, many drug companies have already recouped their research and development costs for covid-19 vaccines.20 However, they have not been the sole investors in vaccine development, and they should not be the only ones to profit. Most vaccines received a substantial portion of their direct funding from governments and not-for-profit organisations—and for some, such as Moderna and Novavax, nearly all.21 Decades of publicly funded research have laid the groundwork for current innovations in the background technologies used for vaccines.22 Given that companies were granted upfront risk protection for covid-19 vaccine research and development, a waiver that advances global public health but reduces vaccine profits in a global crisis is reasonable. Knowledge transfer An IP waiver for covid-19 vaccines is integral to boosting vaccine supply, breaking vaccine monopolies, and making vaccines more affordable in LMICs. It is, however, only a first, but necessary, step. Originator companies must transfer vaccine technology and share know-how with C-TAP, transfer hubs, or individual manufacturers to help suppliers begin production.23 In addition, governments must leverage domestic law, private sector incentives, and contract terms with pharmaceutical companies to compel companies to cooperate with such transfers.24 If necessary, governments can require technology transfers in exchange for continuing enterprise in a country or avoiding penalties. Politicians and leaders are at a critical juncture: they will either take the necessary steps to make vaccine technology available to scale production, stimulate global collaboration, and create a path to equity or they will protect a hierarchical system based on an economic bottom line. The former will not only build a vaccination trajectory that puts equal value on the lives of the rich and the poor, but will also help stem the pandemic’s relentless momentum and quell the emergence of variants. We are in the middle of one of the largest vaccination efforts in human history. We cannot rely on companies to thread the needle of corporate social and moral responsibility with shareholder and stock value returns nor expect impacted governments to endure lengthy bureaucratic licensing processes in this time of crisis. It will be a legacy of apathy and unnecessary death. As the human impact of the proposed IP waiver becomes clear, consensus behind it is growing. Countries that previously opposed the waiver—such as the US and Brazil—now support written text based negotiations.7 Opposing countries must stop blocking the waiver, engage in transparent text negotiations, and commit to reaching consensus swiftly. The longer states stall, the more people die needlessly. Covid-19 has repeatedly shown that people without access to resources such as strong health systems, health workers, medicines, and vaccines will preferentially fall ill and die. For too long, this cycle has been “other people’s” problem. It is not. It is our problem.