“Communism is when no iPhone.” –Das Kapital, volume 4

# Chinese Vaccine Diplomacy CP

#### Text: The People’s Republic of China should offer Chinese developed vaccines and medical technology related to COVID-19 to the world for free.

#### The CP massively ramps up Chinese “vaccine diplomacy” which solves the case

Juecheng and Yuwei 8-13-21

(Zhao and Hu, https://www.globaltimes.cn/page/202108/1231387.shtml)

One of China’s most valued contributions to the global fair accessibility to COVID-19 vaccines is to enable more developing countries to hone their ability to produce vaccines by themselves, Zha Daojiong, professor of International Political Economy from Peking University, who closely studies the global vaccine equitable allocation framework, told the Global Times in a recent exclusive interview. Sharing his insights on widely discussed “vaccine nationalism,” “wavering vaccine intellectual property,” and “COVAX operation challenges,” Zha believes that China is advocating negotiations among countries on equitable global distribution of vaccines from a humanitarian, and global perspective. China has vowed to make efforts to provide the world with 2 billion doses of COVID-19 vaccines this year and donate $100 million to COVAX to promote global vaccine provision. This commitment comes amid the rampaging Delta variant, which is bringing more challenges for developing countries to access vaccines and combat the pandemic while the West continues to drag its heels in fulfilling its promises. The promise was made at the first meeting of a forum on international cooperation on COVID-19 vaccines held on August 5. Zha suggested that the forum, alongside the Initiative for Belt and Road Partnership on COVID-19 Vaccine Cooperation, reflect China’s efforts to support long-term cooperation in the vaccine industry globally. However, some Western media have labeled China and Russia as the pioneers of the global "vaccine diplomacy" campaign. The choice of vaccines by countries has become the epitome of global geopolitics.   Foreign comments on China using "vaccine diplomacy" in a narrow geopolitical sense reflect the real competition among COVID-19 vaccine providers, Zha told the Global Times. Due to China’s mature vaccine technologies, longer shelf life and lower requirement for storage and transportation, Chinese made vaccines are a more preferable choice for many developing countries with relatively weak vaccination infrastructure . This has been reflected in the approval of Chinese vaccines in more than 100 countries. But the phenomenon of “vaccine nationalism” was never absent in the decision by governments to choose vaccines, Zha suggested. “For example, some countries and regions would include geopolitical factors in choosing vaccines. These countries would reject certain vaccines. Moreover, some media outlets refuse to accept the fact that the professional assessment of vaccine efficacy is also a scientific process. Instead, they made comments on potential vaccines based on their geopolitical interests. This is also a kind of “vaccine nationalism”. Voices blaming “vaccine nationalism” have long been present in developed countries. For instance, Zha recalled how, during the H1N1 pandemic of 2009 which affected more than 200 countries and regions for more than a year, certain developed countries bought out entire stocks of vaccines against H1N1 once they were developed. Though some of those countries had promised to donate vaccines to others after they met their vaccination needs, the virus had long disappeared before their donations were made. Therefore, many in other nations lost the opportunity of a timely vaccination. Providing assistance from one country to another in the field of infectious or non-infectious diseases is often referred to as "health diplomacy." Some international public health research literature support "health diplomacy" because cooperation in this field is conducive to the improvement of political, economic and diplomatic relations, Zha said. China has taken important steps to close the global vaccine gap, including the acceleration of large-scale production, boosting fair distribution, and licensing local production in more countries.

#### Successful vaccine diplomacy is key to overall Chinese Soft Power

Huang, PhD, 3-11-21

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Vaccines have had a place in diplomacy since the Cold War era. The country that can manufacture and distribute lifesaving injections to others less fortunate sees a return on its investment in the form of soft power: prestige, goodwill, perhaps a degree of indebtedness, even awe. Today the country moving fastest toward consolidating these gains may be China, under President Xi Jinping, who proclaimed last May that Chinese-made vaccines against COVID-19 would become a “global public good.” Since that time, top officials have promised many developing countries priority access to Chinese vaccines, and the Chinese Foreign Ministry has announced that the country is providing free vaccines to 69 countries and commercially exporting them to 28 more. China’s competitors worry that where Beijing’s inoculations go, its influence will follow. But the field of COVID-19 vaccination is still a largely uncharted one and scattered with barriers, whether logistical, scientific, psychological, or geopolitical. China’s path through this labyrinth is neither obvious nor assured. The country faces stiffening competition from Russia and India. Now the United States, too, has entered the global stakes for equitable distribution of safe and effective vaccines. China has yet to prove that it can fulfill the role it has taken on or win the trust of those it has offered to aid. CHINA'S STAKE The Chinese government dislikes the term “vaccine diplomacy.” The implication that China would distribute vaccine doses in order to broaden its global political influence is a “sinister” one, according to the official Xinhua News Agency. Rather, the Chinese government contends that “in promoting cooperation in combating the pandemic, China does not seek any geopolitical goals or have any economic interest considerations, and it has never attached any political strings.” Xi has further stressed that by distributing necessary goods in a crisis, China is merely acting as a responsible great power should. In this regard, China may seek to succeed with vaccines where it failed with masks: last spring, quality-control issues and clumsy propaganda tarnished the country’s efforts to supply medical products to the developed world. Now China is looking to showcase its global health leadership to lower- and middle-income countries, where it is distributing vaccines. But Beijing surely has additional foreign policy objectives in mind. China began its vaccine development projects early last spring, and state media made quite clear that through them, China hoped to demonstrate its technological prowess and the superiority of its authoritarian model of governance. “We are not lagging behind the United States as far as the technology is concerned,” a Chinese virologist told the state-backed Global Times. Another scientist highlighted China’s “system advantages”: “The United States is no match for China in terms of concentrating power to accomplish big things.” Indeed, unlike in the United States, vaccine development in China was a highly state-driven process. The Chinese government simultaneously pushed several technological approaches, including inactivated vaccines, mRNA vaccines, and adenovirus vector vaccines. It mobilized at least 22 institutes and firms to work on 17 vaccine development projects. And until last summer, China was leading the global race in vaccine development. It developed a vaccine (Ad5-nCoV) as early as February 2020, started Phase 1 clinical trials on March 16, and published results of the trials in late May. General Chen Wei, the face of China’s vaccine development operation, celebrated such achievements as “an embodiment of our country’s S&T progress, an embodiment of China’s great-power image and responsibility, and, even more, a contribution to humankind.” Behind such lofty goals lie commercial objectives, too. Health-related development assistance has long offered Chinese pharmaceutical companies a low-cost means of expanding their market share in the developing world. In March 2020, President Xi explicitly linked the shipment of medical supplies overseas to the “Health Silk Road,” now an important component of the Belt and Road Initiative. Xiaofeng Liang, a former deputy director of the Chinese Center for Disease Control and Prevention, has publicly called for prioritizing BRI countries for access to Chinese vaccines. But the opportunity hardly ends there. Prior to the COVID-19 pandemic, few Chinese pharmaceutical companies had received World Health Organization prequalification to supply medical products to international organizations and donor funds. In 2019, China’s share in the value of UN-procured medical products was only 1.9 percent, compared with 21.9 percent for India. Chinese media lamented that of the 155 WHO-prequalified vaccines, only four were from China, compared with 44 from India. Indeed, Indian pharmaceutical firms produced more than 60 percent of the vaccines sold worldwide. The huge global demand for COVID-19 vaccines and “vaccine nationalism” in wealthy nations have created a great opportunity for China to break into a market that Indian and Western pharmaceutical firms have long dominated. If the vaccine were priced at $10 per dose with a 40 percent net profit margin, even a 15 percent share of the vaccine market in lower- and middle-income countries would generate total sales of $10.8 billion and a profit of $4.32 billion for the Chinese economy. In reality, Chinese vaccines are often priced higher than $10.

**Chinese leadership solves extinction.**

Shen **Yamei 18**, Deputy Director and Associate Research Fellow of Department for American Studies, China Institute of International Studies, 1-9-2018, "Probing into the “Chinese Solution” for the Transformation of Global Governance," CAIFC, http://www.caifc.org.cn/en/content.aspx?id=4491

As the world is in a period of great development, transformation and adjustment, the international power comparison is undergoing profound changes, global governance is reshuffling and traditional governance concepts and models are confronted with challenges. The international community is expecting China to play a bigger role in global governance, which has given birth to the Chinese solution. A. To Lead the Transformation of the Global Governance System. **The “shortcomings” of the existing global governance system are prominent, which can hardly ensure global development. First, the traditional dominant forces are seriously imbalanced**. The US and Europe that used to dominate the global governance system have been beset with structural problems, with their economic development stalling, social contradictions intensifying, populism and secessionism rising, and states trapped in internal strife and differentiation. These countries have not fully reformed and adjusted themselves well, but rather pointed their fingers at globalization and resorted to retreat for self-insurance or were busy with their own affairs without any wish or ability to participate in global governance, which has encouraged the growth of “anti-globalization” trend into an interference factor to global governance. Second, the global governance mechanism is relatively lagging behind. Over the years of development, the strength of emerging economies has increased dramatically, which has substantially upset the international power structure, as the developing countries as a whole have made 80 percent of the contributions to global economic growth. These countries have expressed their appeal for new governance and begun policy coordination among themselves, which has initiated the transition of global governance form “Western governance” to “East-West joint governance”, but **the traditional governance mechanisms such as the World Bank, IMF and G7 failed to reflect the demand of the new pattern, in addition to their lack of representation and inclusiveness.** Third, the global governance rules are developing in a fragmented way, with governance deficits existing in some key areas. With the diversification and in-depth integration of international interests, the domain of global governance has continued to expand, with actors multiplying by folds and action intentions becoming complicated. As relevant efforts are usually temporary and limited to specific partners or issues, global governance driven by requests of “diversified governance” lacks systematic and comprehensive solutions. Since the beginning of this year, there have been risks of running into an acephalous state **in such key areas as global economic governance and climate change**. **Such emerging issues as nuclear security and international terrorism have suffered injustice because of power politics**. **The governance areas in deficit, such as cyber security, polar region and oceans, have “reversely forced” certain countries and organizations to respond hastily**. All of these have made the global governance system trapped in a dilemma and call urgently for a clear direction of advancement. B. To Innovate and Perfect the International Order. Currently, whether the developing countries or the Western countries of Europe and the US are greatly discontent with the existing international order as well as their appeals and motivation for changing the order are unprecedentedly strong. The US is the major creator and beneficiary of the existing hegemonic order, but it is now doubtful that it has gained much less than lost from the existing order, faced with the difficulties of global economic transformation and obsessed with economic despair and political dejection. Although the developing countries as represented by China acknowledge the positive role played by the post-war international order in safeguarding peace, boosting prosperity and promoting globalization, they criticize the existing order for lack of inclusiveness in politics and equality in economy, as well as double standard in security, believing it has failed to reflect the multi-polarization trend of the world and is an exclusive “circle club”. Therefore, there is much room for improvement. For China, to lead the transformation of the global governance system and international order not only supports the efforts of the developing countries to uphold multilateralism rather than unilateralism, advocate the rule of law rather than the law of the jungle and practice democracy rather than power politics in international relations, but also is an important subject concerning whether China could gain the discourse power and development space corresponding to its own strength and interests in the process of innovating and perfecting the framework of international order. C. To Promote Integration of the Eastern and Western Civilizations. Dialog among civilizations, which is the popular foundation for any country’s diplomatic proposals, runs like a trickle moistening things silently. Nevertheless, in the existing international system guided by the “Western-Centrism”, the Western civilization has always had the self-righteous superiority, conflicting with the interests and mentality of other countries and having failed to find the path to co-existing peacefully and harmoniously with other civilizations. **So to speak, many problems of today, including the growing gap in economic development between the developed and developing countries against the background of globalization, the Middle East trapped in chaos and disorder, the failure of Russia and Turkey to “integrate into the West”, etc., can be directly attributed to lack of exchanges, communication and integration among civilizations.** Since the 18th National Congress of CPC, Xi Jinping has raised the concept of “Chinese Dream” that reflects both Chinese values and China’s pursuit, re-introducing to the world the idea of “all living creatures grow together without harming one another and ways run parallel without interfering with one another”, which is the highest ideal in Chinese traditional culture, and striving to shape China into a force that counter-balance the Western civilization. He has also made solemn commitment that “we respect the diversity of civilizations …… cannot be puffed up with pride and depreciate other civilizations and nations”; “facing the people deeply trapped in misery and wars, we should have not only compassion and sympathy, but also responsibility and action …… do whatever we can to extend assistance to those people caught in predicament”, etc. China will rebalance the international pattern from a more inclusive civilization perspective and with more far-sighted strategic mindset, or at least correct the bisected or predominated world order so as to promote the parallel development of the Eastern and Western civilizations through mutual learning, integration and encouragement. D. To Pass on China’s Confidence. Only a short while ago, some Western countries had called for “China’s responsibility” and made it an inhibition to “regulate” China’s development orientation. Today, China has become a source of stability in an international situation full of uncertainties. Over the past 5 years, China has made outstanding contributions to the recovery of world economy under relatively great pressure of its own economic downturn. Encouraged by the “four confidences”, the whole of the Chinese society has burst out innovation vitality and produced innovation achievements, making people have more sense of gain and more optimistic about the national development prospect. It is the heroism of the ordinary Chinese to overcome difficulties and realize the ideal destiny that best explains China’s confidence. When this confidence is passed on in the field of diplomacy, it is expressed as: first, China’s posture is seen as more forging ahead and courageous to undertake responsibilities ---- proactively shaping the international agendas rather than passively accepting them; having clear-cut attitudes on international disputes rather than being equivocal; and extending international cooperation to comprehensive and dimensional development rather than based on the theory of “economy only”. In sum, China will actively seek understanding and support from other countries rather than imposing its will on others with clear-cut Chinese characteristics, Chinese style and Chinese manner. Second, China’s discourse is featured as a combination of inflexibility and yielding as well as magnanimous ---- combining the internationally recognized diplomatic principles with the excellent Chinese cultural traditions through digesting the Chinese and foreign humanistic classics assisted with philosophical speculations to make “China Brand, Chinese Voice and China’s Image get more and more recognized”. Third, the Chinese solution is more practical and intimate to people as well as emphasizes inclusive cooperation, as China is full of confidence to break the monopoly of the Western model on global development, “offering mankind a Chinese solution to explore a better social system”, and “providing a brand new option for the nations and peoples who are hoping both to speed up development and maintain independence”. II.Path Searching of the “Chinese Solution” for Global Governance Over the past years’ efforts, China has the ability to transform itself from “grasping the opportunity” for development to “creating opportunity” and “sharing opportunity” for common development, hoping to pass on the longing of the Chinese people for a better life to the people of other countries and promoting the development of the global governance system toward a more just and rational end. It has become the major power’s conscious commitment of China to lead the transformation of the global governance system in a profound way. A. To Construct the Theoretical System for Global Governance. The theoretical system of global governance has been the focus of the party central committee’s diplomatic theory innovation since the 18th National Congress of CPC as well as an important component of the theory of socialism with Chinese characteristics for a new era, which is not only the sublimation of China’s interaction with the world from “absorbing and learning” to “cooperation and mutual learning”, but also the cause why so many developing countries have turned from “learning from the West” to “exploring for treasures in the East”. In the past 5 years, the party central committee, based on precise interpretation of the world pattern today and serious reflection on the future development of mankind, has made a sincere call to the world for promoting the development of global governance system toward a more just and rational end, and proposed a series of new concepts and new strategies including engaging in major power diplomacy with Chinese characteristics, creating the human community with common destiny, promoting the construction of new international relationship rooted in the principle of cooperation and win-win, enriching the strategic thinking of peaceful development, sticking to the correct benefit view, formulating the partnership network the world over, advancing the global economic governance in a way of mutual consultation, joint construction and co-sharing, advocating the joint, comprehensive, cooperative and sustainable security concept, and launching the grand “Belt and Road” initiative. The Chinese solution composed of these contents, not only fundamentally different from the old roads of industrial revolution and colonial expansion in history, but also different from the market-driven neo-liberalism model currently advocated by Western countries and international organizations, stands at the height of the world and even mankind, seeking for global common development and having widened the road for the developing countries to modernization, which is widely welcomed by the international community. B. To Supplement and Perfect the Global Governance System. Currently, the international political practice in global governance is mostly problem-driven without creating a set of relatively independent, centralized and integral power structures, resulting in the existing global governance systemcharacterized as both extensive and unbalanced. China has been engaged in reform and innovation, while maintaining and constructing the existing systems, producing some thinking and method with Chinese characteristics. First, China sees the UN as a mirror that reflects the status quo of global governance, which should act as the leader of global governance, and actively safeguards the global governance system with the UN at the core. Second, China is actively promoting the transforming process of such recently emerged international mechanisms as G20, BRICS and SCO, perfecting them through practice, and boosting Asia-Pacific regional cooperation and the development of economic globalization. China is also promoting the construction of regional security mechanism through the Six-Party Talks on Korean Peninsula nuclear issue, Boao Forum for Asia, CICA and multilateral security dialog mechanisms led by ASEAN so as to lay the foundation for the future regional security framework. Third, China has initiated the establishment of AIIB and the New Development Bank of BRICS, creating a precedent for developing countries to set up multilateral financial institutions. The core of the new relationship between China and them lies in “boosting rather than controlling” and “public rather than private”, which is much different from the management and operation model of the World Bank, manifesting the increasing global governance ability of China and the developing countries as well as exerting pressure on the international economic and financial institution to speed up reforms. **Thus, in leading the transformation of the global governance system, China has not overthrown the existing systems and started all over again, but been engaged in innovating and perfecting; China has proactively undertaken international responsibilities, but has to do everything in its power and act according to its ability.** C. To Reform the Global Governance Rules. Many of the problems facing global governance today are deeply rooted in such a cause that the dominant power of the existing governance system has taken it as the tool to realize its own national interests first and a platform to pursue its political goals. Since the beginning of this year, the US has for several times requested the World Bank, IMF and G20 to make efforts to mitigate the so-called global imbalance, abandoned its commitment to support trade openness, cut down investment projects to the middle-income countries, and deleted commitment to support the efforts to deal with climate change financially, which has made the international systems accessories of the US domestic economic agendas, dealing a heavy blow to the global governance system. On the contrary, the interests and agendas of China, as a major power of the world, are open to the whole world, and China in the future “will provide the world with broader market, more sufficient capital, more abundant goods and more precious opportunities for cooperation”, while having the ability to make the world listen to its voice more attentively. With regard to the subject of global governance, China has advocated that what global governance system is better cannot be decided upon by any single country, as the destiny of the world should be in the hands of the people of all countries. In principle, all the parties should stick to the principle of mutual consultation, joint construction and co-sharing, resolve disputes through dialog and differences through consultation. Regarding the critical areas, opening to the outer world does not mean building one’s own backyard, but building the spring garden for co-sharing; the “Belt and Road” initiative is not China’s solo, but a chorus participated in by all countries concerned. **China has also proposed international public security views on nuclear security, maritime cooperation and cyber space order, calling for efforts to make the global village into a “grand stage for seeking common development” rather than a “wrestling arena”; we cannot “set up a stage here, while pulling away a prop there”, but “complement each other to put on a grand show”**. From the orientation of reforms, efforts should be made to better safeguard and expand the legitimate interests of the developing countries and increase the influence of the emerging economies on global governance. Over the past 5 years, China has attached importance to full court diplomacy, gradually coming to the center stage of international politics and proactively establishing principles for global governance. By hosting such important events as IAELM, CICA Summit, G20 Summit, the Belt and Road International Cooperation Forum and BRICS Summit, China has used theseplatforms to elaborate the Asia-Pacific Dream for the first time to the world, expressing China’s views on Asian security and global economic governance, discussing with the countries concerned with the Belt and Road about the synergy of their future development strategies and setting off the “BRICS plus” capacity expansion mechanism, in which China not only contributes its solution and shows its style, but also participates in the shaping of international principles through practice. On promoting the resolution of hot international issues, China abides by the norms governing international relations based on the purposes and principles of the UN Charter, and insists on justice, playing a constructive role as a responsible major power in actively promoting the political accommodation in Afghanistan, mediating the Djibouti-Eritrea dispute, promoting peace talks in the Middle East, devoting itself to the peaceful resolution of the South China Sea dispute through negotiations. In addition, China’s responsibility and quick response to international crises have gained widespread praises, as seen in such cases as assisting Africa in its fight against the Ebola epidemic, sending emergency fresh water to the capital of Maldives and buying rice from Cambodia to help relieve its financial squeeze, which has shown the simple feelings of the Chinese people to share the same breath and fate with the people of other countries. D. To Support the Increase of the Developing Countries’ Voice. The developing countries, especially the emerging powers, are not only the important participants of the globalization process, but also the important direction to which the international power system is transferring. With the accelerating shift of global economic center to emerging markets and developing economies, the will and ability of the developing countries to participate in global governance have been correspondingly strengthened. As the biggest developing country and fast growing major power, China has the same appeal and proposal for governance as other developing countries and already began policy coordination with them, as China should comply with historical tide and continue to support the increase of the developing countries’ voice in the global governance system. To this end, China has pursued the policy of “dialog but not confrontation, partnership but not alliance”, attaching importance to the construction of new type of major power relationship and global partnership network, while making a series proposals in the practice of global governance that could represent the legitimate interests of the developing countries and be conducive to safeguarding global justice, including supporting an open, inclusive, universal, balanced and win-win economic globalization; promoting the reforms on share and voting mechanism of IMF to increase the voting rights and representation of the emerging market economies; financing the infrastructure construction and industrial upgrading of other developing countries through various bilateral or regional funds; and helping other developing countries to respond to such challenges as famine, refugees, climate change and public hygiene by debt forgiveness and assistance.

# Pharma DA

**Pharma profits are up from COVID vaccines, patent waivers threaten this**

**Buchholz 5-17-21**

(Katharina, https://www.statista.com/chart/24829/net-income-profit-pharma-companies/)

The profitability of coronavirus vaccines has been in the spotlight since U.S. President Joe Biden come out in support of temporarily lifting vaccine patents to make the production of the life-saving inoculations more financially feasible for poorer countries. EU leaders meanwhile remain divided over such a move. Company financial reports show that COVID-19 vaccine makers and developers like Johnson & Johnson, Pfizer, Moderna, AstraZeneca and BioNTech have seen their profits increase since the vaccine rollout, at times majorly. In early May, stocks of several companies that benefit from COVID-19 vaccine sales **took a nosedive on the news of Biden’s reversal**. Moderna stocks, for example, were still down more than 6 percent at close on May 5, the day of the announcement. Stocks recovered somewhat as German chancellor Angela Merkel came out against patent waivers the following day. While fluctuations in the stock market price have hurt drug makers in the **short term**, patent waivers would diminish the bottom line of companies involved with the development and production of COVID-19 **vaccines in the long term**. Pharma giants like Johnson & Johnson and Pfizer bring in billions of dollars of income every quarter from diverse sources, so the COVID bump was smaller for them. In the case of Pfizer, which has been a bigger producer than J&J, the year-over-year profit increase was a handsome 44 percent, however. For smaller AstraZeneca, the COVID year meant that its profits doubled. In the case of Moderna, the past year has turned a Q1 loss into a profit. The case is similar for German company BioNTech, which collaborated with Pfizer on its COVID vaccine. While Q1 2021 brought in a profit of $1.1 billion, the company ran a deficit since its founding in 2008 up until Q4 2020, when it posted a profit for the first time. The $446 million earned stood in contrast to losses of almost $428 million accrued in the first nine months of the year.

**Strong IP protection spurs innovation by encouraging risk-taking and incentivizing knowledge sharing -- prefer statistical analysis of multiple studies**

**Ezell and Cory 19** [Stephen Ezell, vice president & global innovation policy @ ITIF, BS Georgetown School of Foreign Service. Nigel Cory, associate director covering trade policy @ ITIF, MA public policy @ Georgetown. "The Way Forward for Intellectual Property Internationally," Information Technology & Innovation Foundation, 4-25-2019, accessed 8-25-2021, https://itif.org/publications/2019/04/25/way-forward-intellectual-property-internationally] HWIC

IPRs Strengthen Innovation

Intellectual property rights power innovation. For instance, analyzing the level of intellectual property protections (via the World Economic Forum’s Global Competitiveness reports) and creative outputs (via the Global Innovation Index) shows that countries with stronger IP protection have more creative outputs (in terms of intangible assets and creative goods and services in a nation’s media, printing and publishing, and entertainment industries, including online), even at varying levels of development.46

IPR reforms also introduce strong incentives for domestic innovation. Sherwood, using case studies from 18 developing countries, concluded that poor provision of intellectual property rights deters local innovation and risk-taking.47 In contrast, IPR reform has been associated with increased innovative activity, as measured by domestic patent filings, albeit with some variation across countries and sectors.48 For example, Ryan, in a study of biomedical innovations and patent reform in Brazil, found that patents provided incentives for innovation investments and facilitated the functioning of technology markets.49 Park and Lippoldt also observed that the provision of adequate protection for IPRs can help to stimulate local innovation, in some cases building on the transfer of technologies that provide inputs and spillovers.50 In other words, local innovators are introduced to technologies first through the technology transfer that takes place in an environment wherein protection of IPRs is assured; then, they may build on those ideas to create an evolved product or develop alternate approaches (i.e., to innovate). Related research finds that trade in technology—through channels including imports, foreign direct investment, and technology licensing—improves the quality of developing-country innovation by increasing the pool of ideas and efficiency of innovation by encouraging the division of innovative labor and specialization.51 However, Maskus notes that without protection from potential abuse of their newly developed technologies, foreign enterprises may be less willing to reveal technical information associated with their innovations.52 The protection of patents and trade secrets provides necessary legal assurances for firms wishing to reveal proprietary characteristics of technologies to subsidiaries and licensees via contracts.

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The relationship between IPR rights and innovation can also be seen in studies of how the introduction of stronger IPR laws, with regard to patents, copyrights, and trademarks, affect R&D activity in an economy. Studies by Varsakelis and by Kanwar and Evenson found that R&D to GDP ratios are positively related to the strength of patent rights, and are conditional on other factors.53 Cavazos Cepeda et al. found a positive influence of IPRs on the level of R&D in an economy, with each 1 percent increase in the level of protection of IPRs in an economy (as measured by improvements to a country’s score in the Patent Rights Index) equating to, on average, a 0.7 percent increase in the domestic level of R&D.54 Likewise, a 1 percent increase in copyright protection was associated with a 3.3 percent increase in domestic R&D. Similarly, when trademark protection increased by 1 percent, there was an associated R&D increase of 1.4 percent. As the authors concluded, “Increases in the protection of the IPRs carried economic benefits in the form of higher inflows of FDI, and increases in the levels of both domestically conducted R&D and service imports as measured by licensing fees.”55 As Jackson summarized, regarding the relationship between IPR reform and both innovation and R&D, and FDI, “In addition to spurring domestic innovation, strong intellectual property rights can increase incentives for foreign direct investment which in turn also leads to economic growth.”56

**Biopharmaceutical innovation is key to prevent future pandemics and bioterror**

**Marjanovic and Feijao 20** [Sonja Marjanovic Ph.D., Judge Business School, University of Cambridge. Carolina Feijao, Ph.D. in biochemistry, University of Cambridge; M.Sc. in quantitative biology, Imperial College London; B.Sc. in biology, University of Lisbon. "How to Best Enable Pharma Innovation Beyond the COVID-19 Crisis," RAND Corporation, 05-2020, accessed 8-8-2021, https://www.rand.org/pubs/perspectives/PEA407-1.html] HWIC

As key actors in the healthcare innovation landscape, pharmaceutical and life sciences companies have been called on to develop medicines, vaccines and diagnostics for pressing public health challenges. The COVID-19 crisis is one such challenge, but there are many others. For example, MERS, SARS, Ebola, Zika and avian and swine flu are also infectious diseases that represent public health threats. Infectious agents such as anthrax, smallpox and tularemia could present threats in a bioterrorism context.1 The general threat to public health that is posed by antimicrobial resistance is also well-recognised as an area in need of pharmaceutical innovation. Innovating in response to these challenges does not always align well with pharmaceutical industry commercial models, shareholder expectations and competition within the industry. However, the expertise, networks and infrastructure that industry has within its reach, as well as public expectations and the moral imperative, make pharmaceutical companies and the wider life sciences sector an indispensable partner in the search for solutions that save lives. This perspective argues for the need to establish more sustainable and scalable ways of incentivising pharmaceutical innovation in response to infectious disease threats to public health. It considers both past and current examples of efforts to mobilise pharmaceutical innovation in high commercial risk areas, including in the context of current efforts to respond to the COVID-19 pandemic. In global pandemic crises like COVID-19, the urgency and scale of the crisis – as well as the spotlight placed on pharmaceutical companies – mean that contributing to the search for effective medicines, vaccines or diagnostics is essential for socially responsible companies in the sector. 2 It is therefore unsurprising that we are seeing industry-wide efforts unfold at unprecedented scale and pace. Whereas there is always scope for more activity, industry is currently contributing in a variety of ways. Examples include pharmaceutical companies donating existing compounds to assess their utility in the fight against COVID19; screening existing compound libraries in-house or with partners to see if they can be repurposed; accelerating trials for potentially effective medicine or vaccine candidates; and in some cases rapidly accelerating in-house research and development to discover new treatments or vaccine agents and develop diagnostics tests.3,4 Pharmaceutical companies are collaborating with each other in some of these efforts and participating in global R&D partnerships (such as the Innovative Medicines Initiative effort to accelerate the development of potential therapies for COVID-19) and supporting national efforts to expand diagnosis and testing capacity and ensure affordable and ready access to potential solutions.3,5,6 The primary purpose of such innovation is to benefit patients and wider population health. Although there are also reputational benefits from involvement that can be realised across the industry, there are likely to be relatively few companies that are ‘commercial’ winners. Those who might gain substantial revenues will be under pressure not to be seen as profiting from the pandemic. In the United Kingdom for example, GSK has stated that it does not expect to profit from its COVID-19 related activities and that any gains will be invested in supporting research and long-term pandemic preparedness, as well as in developing products that would be affordable in the world’s poorest countries.7 Similarly, in the United States AbbVie has waived intellectual property rights for an existing combination product that is being tested for therapeutic potential against COVID-19, which would support affordability and allow for a supply of generics.8,9 Johnson & Johnson has stated that its potential vaccine – which is expected to begin trials – will be available on a not-for-profit basis during the pandemic.10 Pharma is mobilising substantial efforts to rise to the COVID-19 challenge at hand. However, we need to consider how pharmaceutical innovation for responding to emerging infectious diseases can best be enabled beyond the current crisis. Many public health threats (including those associated with other infectious diseases, bioterrorism agents and antimicrobial resistance) are urgently in need of pharmaceutical innovation, even if their impacts are not as visible to society as COVID-19 is in the immediate term. The pharmaceutical industry has responded to previous public health emergencies associated with infectious disease in recent times – for example those associated with Ebola and Zika outbreaks.11 However, it has done so to a lesser scale than for COVID-19 and with contributions from fewer companies. Similarly, levels of activity in response to the threat of antimicrobial resistance are still low.12 There are important policy questions as to whether – and how – industry could engage with such public health threats to an even greater extent under improved innovation conditions.

**That causes extinction, which outweighs.**

**Millett & Snyder-Beattie ‘17**. Millett, Ph.D., Senior Research Fellow, Future of Humanity Institute, University of Oxford; and Snyder-Beattie, M.S., Director of Research, Future of Humanity Institute, University of Oxford. 08-01-2017. “Existential Risk and Cost-Effective Biosecurity,” Health Security, 15(4), PubMed

In the decades to come, advanced bioweapons could **threaten human existence**. Although the **probability** of human extinction from bioweapons **may** be low, the **expected value** of **reducing** the risk could **still** be **large**, since such risks jeopardize the existence of **all future generations**. We provide an overview of biotechnological extinction risk, make some rough initial estimates for how severe the risks might be, and compare the cost-effectiveness of reducing these extinction-level risks with existing biosecurity work. We find that reducing human extinction risk can be more cost-effective than reducing smaller-scale risks, even when using conservative estimates. This suggests that the risks are not low enough to ignore and that more ought to be done to prevent the worst-case scenarios. How worthwhile is it spending resources to study and mitigate the chance of human extinction from biological risks? The risks of such a catastrophe are presumably low, so a skeptic might argue that addressing such risks would be a waste of scarce resources. In this article, we investigate this position using a cost-effectiveness approach and ultimately conclude that the expected value of reducing these risks is large, especially since such risks jeopardize the existence of all future human lives. **Historically, disease events have been responsible for the greatest death tolls** on humanity. The 1918 flu was responsible for more than 50 million deaths,1 while smallpox killed perhaps 10 times that many in the 20th century alone.2 The Black Death was responsible for killing over 25% of the European population,3 while other pandemics, such as the plague of Justinian, are thought to have killed 25 million in the 6th century—constituting over 10% of the world's population at the time.4 It is an open question whether a future pandemic could result in outright human extinction or the irreversible collapse of civilization. A skeptic would have many good reasons to think that existential risk from disease is unlikely. Such a disease would need to spread worldwide to **remote populations**, overcome **rare genetic resistances**, and **evade detection**, cures, and **countermeasures**. Even evolution itself may work in humanity's favor: **Virulence and transmission is often a trade-off**, and so **evolutionary pressures** could push against maximally lethal wild-type pathogens.5,6 While these arguments point to a very small risk of human extinction, they **do not rule** the possibility **out** entirely. Although rare, there are recorded instances of **species going extinct due to disease**—primarily in amphibians, but also in 1 mammalian species of rat on Christmas Island.7,8 There are also **historical examples of large human populations being almost entirely wiped out** by disease, especially when multiple diseases were simultaneously introduced into a population without immunity. The most striking examples of total population collapse include **native American tribes** exposed to European diseases, such as the Massachusett (86% loss of population), Quiripi-Unquachog (95% loss of population), and the Western Abenaki (which suffered a staggering 98% loss of population).9 In the modern context, no single disease currently exists that combines the worst-case levels of transmissibility, lethality, resistance to countermeasures, and global reach. But **many diseases are proof** of principle that **each worst-case attribute can be realized independently**. For example, some diseases exhibit nearly a 100% case fatality ratio in the absence of treatment, such as rabies or septicemic plague. Other diseases have a track record of spreading to virtually every human community worldwide, such as the 1918 flu,10 and seroprevalence studies indicate that other pathogens, such as chickenpox and HSV-1, can successfully reach over 95% of a population.11,12 Under optimal virulence theory, **natural evolution** would be an **unlikely** source for pathogens with the **highest possible levels of transmissibility, virulence, and global reach**. But **advances in biotech**nology might allow the creation of diseases that **combine such traits**. Recent controversy has **already emerged** over a number of **scientific experiments** that resulted in viruses with enhanced **transmissibility**, **lethality**, and/or the ability to overcome **therapeutics**.13-17 Other experiments demonstrated that mousepox could be modified to have a 100% case fatality rate and render a vaccine ineffective.18 In addition to transmissibility and lethality, studies have shown that other disease traits, such as incubation time, environmental survival, and available vectors, could be modified as well.19-21 Although these experiments had scientific merit and were not conducted with malicious intent, their implications are still worrying. This is especially true given that there is also a **long historical track record** of**state-run bioweapon research** applying cutting-edge science and technology to design agents not previously seen in nature. The Soviet bioweapons program developed agents with traits such as enhanced virulence, resistance to therapies, greater environmental resilience, increased difficulty to diagnose or treat, and which caused unexpected disease presentations and outcomes.22 Delivery capabilities have also been subject to the cutting edge of technical development, with Canadian, US, and UK bioweapon efforts playing a critical role in developing the discipline of aerobiology.23,24 While there is no evidence of state-run bioweapons programs directly attempting to develop or deploy bioweapons that would pose an existential risk, the logic of deterrence and **m**utually **a**ssured **d**estruction could create such incentives in more unstable political environments or following a breakdown of the Biological Weapons Convention.25 The **possibility of a war** between great powers could also increase the pressure to use such weapons—during the World Wars, bioweapons were used across multiple continents, with Germany targeting animals in WWI,26 and Japan using plague to cause an epidemic in China during WWII.27

#### Climate change is causing catastrophic diseases to emerge from thawed permafrost. Some have been dormant for millennia—humans will have difficulty combatting them.

Goudarzi 16

Sara Goudarzi, 11-1-2016, "As Earth Warms, the Diseases That May Lie within Permafrost Become a Bigger Worry," Scientific American, <https://www.scientificamerican.com/article/as-earth-warms-the-diseases-that-may-lie-within-permafrost-become-a-bigger-worry/> (ML)

This past summer anthrax killed a 12-year-old boy in a remote part of Siberia. At least 20 other people, also from the Yamal Peninsula, were diagnosed with the potentially deadly disease after approximately 100 suspected cases were hospitalized. Additionally, more than 2,300 reindeer in the area died from the infection. The likely cause? Thawing permafrost. According to Russian officials, thawed permafrost—a permanently frozen layer of soil—released previously immobile spores of Bacillus anthracis into nearby water and soil and then into the food supply. The outbreak was the region's first in 75 years. Researchers have predicted for years that one of the effects of global warming could be that whatever is frozen in permafrost—such as ancient bacteria—might be released as temperatures climb. This could include infectious agents humans might not be prepared for, or have immunity to, the scientists said. Now they are witnessing the theoretical turning into reality: infectious microorganisms emerging from a deep freeze. Although anthrax occurs naturally in all soil and outbreaks unrelated to permafrost can occur, extensive permafrost thaw could increase the number of people exposed to anthrax bacteria. In a 2011 paper published in Global Health Action, co-authors Boris A. Revich and Marina A. Podolnaya wrote of their predictions: “As a consequence of permafrost melting, the vectors of deadly infections of the 18th and 19th centuries may come back, especially near the cemeteries where the victims of these infections were buried.” And permafrost is indeed thawing—at higher latitudes and to greater depths than ever before. In various parts of Siberia the active layer above permafrost can thaw to a depth of 50 centimeters every summer. This summer, however, there was a heat wave in the region, and temperatures hovered around 35 degrees Celsius—25 degrees warmer than usual. The difference possibly expanded or deepened the thaw and mobilized microorganisms usually stuck in rigid earth. Although scientists have yet to calculate the final depth, they postulate that it is a number that has not been seen in almost a century. Permafrost thaw overall could become widespread with temperatures only slightly higher than those at present, according to a 2013 study in Science. Heat waves in higher latitudes are becoming more frequent as well. What thawing permafrost could unleash depends on the heartiness of the infectious agent involved. A lot of microorganisms cannot survive in extreme cold, but some can withstand it for many years. “B. anthracis are special because they are sporulating bacteria,” says Jean-Michel Claverie, head of the Mediterranean Institute of Microbiology and a professor at Aix-Marseille University in France. “Spores are extremely resistant and, like seeds, can survive for longer than a century.” Viruses could also survive for lengthy periods. In 2014 and 2015 Claverie and his colleague Chantal Abergel published their findings on two still infectious viruses from a chunk of 30,000-year-old Siberian permafrost. Although Pithovirus sibericum and Mollivirus sibericum can infect only amoebas, the discovery is an indication that viruses that infect humans—such as smallpox and the Spanish flu—could potentially be preserved in permafrost. Human viruses from even further back could also make a showing. For instance, the microorganisms living on and within the early humans who populated the Arctic could still be frozen in the soil. “There are hints that Neandertals and Denisovans could have settled in northern Siberia [and] were plagued by various viral diseases, some of which we know, like smallpox, and some others that might have disappeared,” Claverie says. “The fact that there might be an infection continuity between us and ancient hominins is fascinating—and might be worrying.”

# Generics

## Impact Defense

### Disease

#### Surveillance efforts prevent extinction from future pandemics

Maureen **Miller**, Adjunct Associate Professor of Epidemiology, 8-1-20**21**, "The next pandemic is already happening – targeted disease surveillance can help prevent it," No Publication, https://www.yahoo.com/now/next-pandemic-already-happening-targeted-130202377.html?guccounter=1

As more and more people around the world are getting vaccinated, one can almost hear the collective sigh of relief. But the next pandemic threat is likely already making its way through the population right now. My research as an infectious disease epidemiologist has found that there is a simple strategy to mitigate emerging outbreaks: proactive, real-time surveillance in settings where animal-to-human disease spillover is most likely to occur. In other words, don’t wait for sick people to show up at a hospital. Instead, monitor populations where disease spillover actually happens. The current pandemic prevention strategy Global health professionals have long known that pandemics fueled by [zoonotic disease spillover](https://www.news-medical.net/health/What-is-a-Spillover-Event.aspx), or animal-to-human disease transmission, were a problem. In 1947, the World Health Organization established a global network of hospitals to [detect pandemic threats](https://www.who.int/influenza/gip-anniversary/en/) through a process called [syndromic surveillance](https://www.cdc.gov/nssp/overview.html). The process relies on standardized symptom checklists to look for signals of emerging or reemerging diseases of pandemic potential among patient populations with symptoms that can’t be easily diagnosed. This clinical strategy relies both on infected individuals coming to [sentinel hospitals](https://apps.who.int/iris/bitstream/handle/10665/259884/9789241513623-eng.pdf) and medical authorities who are [influential and persistent](https://www.bbc.com/news/world-asia-china-51364382) enough to raise the alarm. There’s only one hitch: By the time someone sick shows up at a hospital, an outbreak has already occurred. In the case of [SARS-CoV-2, the virus that causes COVID-19](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it), it was likely widespread long before it was detected. This time, the clinical strategy alone failed us. Zoonotic disease spillover is not one and done A more proactive approach is currently gaining prominence in the world of pandemic prevention: viral evolutionary theory. This theory suggests that [animal viruses become dangerous human viruses](https://doi.org/10.3390/v13040637) incrementally over time through frequent zoonotic spillover. It’s not a one-time deal: An “intermediary” animal such as a civet cat, pangolin or pig may be required to mutate the virus so it can make initial jumps to people. But the final host that allows a variant to become fully adapted to humans may be humans themselves. Viral evolutionary theory is playing out in real time with the rapid development of [COVID-19 variants](https://www.cdc.gov/coronavirus/2019-ncov/transmission/variant.html). In fact, an international team of scientists have proposed that undetected human-to-human transmission after an animal-to-human jump is the likely [origin of SARS-CoV-2](https://doi.org/10.1038/s41591-020-0820-9). When novel zoonotic viral disease outbreaks like Ebola first came to the world’s attention in the 1970s, research on the extent of disease transmission relied on [antibody assays](https://www.cdc.gov/coronavirus/2019-ncov/testing/serology-overview.html), blood tests to identify people who have already been infected. Antibody surveillance, also called [serosurveys](https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/geographic-seroprevalence-surveys.html), test blood samples from target populations to identify how many people have been infected. Serosurveys help determine whether diseases like Ebola are circulating undetected. Turns out they were: Ebola antibodies were found in more than 5% of people tested in Liberia in 1982 decades before the West African epidemic in 2014. These results support viral evolutionary theory: It takes time – sometimes a lot of time – to make an animal virus dangerous and transmissible between humans. What this also means is that scientists have a chance to intervene. Measuring zoonotic disease spillover One way to take advantage of the lead time for animal viruses to fully adapt to humans is long-term, repeated surveillance. Setting up a [pandemic threats warning system](http://dx.doi.org/10.2471/BLT.16.175984) with this strategy in mind could help [detect pre-pandemic viruses](https://doi.org/10.3390/v13040637) before they become harmful to humans. And the best place to start is directly at the source. My team worked with [virologist Shi Zhengli](https://www.scientificamerican.com/article/how-chinas-bat-woman-hunted-down-viruses-from-sars-to-the-new-coronavirus1/) of the Wuhan Institute of Virology to develop a human antibody assay to test for a very distant cousin of SARS-CoV-2 found in bats. We established proof of zoonotic spillover in a small 2015 serosurvey in Yunnan, China: [3% of study participants living near bats](https://doi.org/10.1007/s12250-018-0012-7) carrying this SARS-like coronavirus tested antibody positive. But there was one unexpected result: None of the previously infected study participants reported any harmful health effects. Earlier spillovers of SARS coronaviruses – like the first SARS epidemic in 2003 and Middle Eastern Respiratory Syndrome (MERS) in 2012 – had caused high levels of illness and death. This one did no such thing. Researchers conducted a larger study in Southern China between 2015 and 2017. It’s a region home to bats known to carry SARS-like coronaviruses, including the one that caused the [original 2003 SARS pandemic](https://doi.org/10.1038/nature12711) and the one [most closely related to SARS-CoV-2](https://doi.org/10.1038/s41586-020-2012-7). Fewer than 1% of participants in this study tested antibody positive, meaning they had been previously infected with the SARS-like coronavirus. Again, none of them reported negative health effects. But syndromic surveillance – the same strategy used by sentinel hospitals – revealed something even more unexpected: An additional [5% of community participants](https://doi.org/10.1016/j.bsheal.2019.10.004) reported symptoms consistent with SARS in the past year. This study did more than just provide the biological evidence needed to establish proof of concept to measure zoonotic spillover. The pandemic threats warning system also picked up a signal for a SARS-like infection that couldn’t yet be detected through blood tests. It may even have detected early variants of SARS-CoV-2. Had surveillance protocols been in place, these results would have triggered a search for community members who may have been part of an undetected outbreak. But without an established plan, the signal was missed. From prediction to surveillance to genetic sequencing The lion’s share of pandemic prevention funding and effort over the past two decades has focused on discovering wildlife pathogens, and predicting pandemics before animal viruses can infect humans. But this approach has not predicted any major zoonotic disease outbreaks – including H1N1 influenza in 2009, MERS in 2012, the West African Ebola epidemic in 2014 or the current COVID-19 pandemic. Predictive modeling has, however, provided robust heat maps of the [global “hot spots”](https://doi.org/10.1038/s41467-017-00923-8) where zoonotic spillover is most likely to occur. Long-term, regular surveillance at these “hot spots” could detect spillover signals, as well as any changes that occur over time. These could include an uptick in antibody-positive individuals, increased levels of illness and demographic changes among infected people. As with any proactive disease surveillance, if a signal is detected, an outbreak investigation would follow. People identified with [symptoms that can’t be easily diagnosed](https://doi.org/10.1038/d41586-018-05373-w) can then be screened using genetic sequencing to characterize and identify new viruses. This is exactly what Greg Gray and his team from Duke University did in their search for [undiscovered coronaviruses](https://doi.org/10.1093/cid/ciaa347) in rural Sarawak, Malaysia, a known “hot spot” for zoonotic spillover. Eight of 301 specimens collected from pneumonia patients hospitalized in 2017-2018 were found to have a canine coronavirus never before seen in humans. Complete viral genome sequencing not only suggested that it had recently jumped from an animal host – it also harbored the same mutation that made both SARS and SARS-CoV-2 so deadly. [[The Conversation’s most important coronavirus headlines, weekly in a science newsletter](https://theconversation.com/us/newsletters/science-editors-picks-71/?utm_source=Yahoo&utm_medium=inline-link&utm_campaign=newsletter-text&utm_content=science-corona-important)] Let’s not miss the next pandemic warning signal The good news is that surveillance infrastructure in global “hot spots” already exists. The [Connecting Organisations for Regional Disease Surveillance](https://www.cordsnetwork.org/) program links six regional disease surveillance networks in 28 countries. They pioneered “participant surveillance,” partnering with communities at high risk for both initial zoonotic spillover and the gravest health outcomes to contribute to prevention efforts. For example, Cambodia, a country at risk of pandemic avian influenza spillover, established a free national hotline for community members to report animal illnesses directly to the Ministry of Health in real time. Boots-on-the-ground approaches like these are key to a timely and coordinated public health response to stop outbreaks before they become pandemics. It is easy to miss warning signals when global and local priorities are tentative. The same mistake need not happen again.

### Econ



#### The economy won’t collapse- numerous factors prove doomsayers wrong

Kimberly **Amadeo,** 6-11-20**21**, "Top 10 Reasons the U.S. Economy Won't Collapse," Balance, https://www.thebalance.com/us-economy-wont-collapse-3980688

[The Balance](https://www.thebalance.com/)

Have you come across those websites that urge you to prepare for the coming [U.S. economic collapse](https://www.thebalance.com/u-s-economy-collapse-what-will-happen-how-to-prepare-3305690)? They start by saying the debt is unsustainable, the dollar is in a bubble, or the Federal Reserve is printing dollars. The [coronavirus pandemic](https://www.thebalance.com/coronavirus-plague-ebola-economic-impact-4795744) is the latest reason why some are warning about an economic collapse. All of those assertions are true, but they’re nothing to panic over. The fallacy in these arguments occurs after they make the true assertion. You'll notice that the doomsayers say that "if" a specific event occurs, "then" the economy will collapse. For example, "if China sells its dollar holdings" or "if the United States defaults on its debt." But, they don’t tell you that these events are not at all likely. They suggest that you buy guns, gold coins, or their survival book to prepare for the event "just in case." Key Takeaways The economy is based on confidence. Fortunately, consumers and investors see the U.S. economy as reliable. While U.S. debt has reached dangerous levels, investors remain confident that it will be repaid. Globalization has made international markets more intertwined. Foreign countries have no incentive to cash in their debt quickly, since it would affect their economies as well. Why the U.S. Economy Won't Fail Even if the U.S. economy enters a deep recession or even a depression, that doesn't mean it will fail. Here are the top 10 reasons it won't collapse. Included are rebuttals to the negativists' claims. The pandemic caused a serious recession, but unemployment is declining. The unemployment rate peaked at 14.8% during April 2020, according to the U.S. Bureau of Labor Statistics (BLS). Although this doesn't come close to economists' direst projections during the early days of the pandemic, it's still the [highest unemployment rate since the Great Depression](https://www.thebalance.com/unemployment-rate-by-year-3305506).12 Fortunately, many of those people are returning to work as employers figure out how to keep their workers safe, and the vaccine rollout continues. The stock market is recovering. The market hit new highs and then crashed in 2020. The highs were a reflection of underlying investor confidence. The lows were a result of [uncertainty caused by the pandemic](https://www.thebalance.com/fundamentals-of-the-2020-market-crash-4799950). Over time, the market has recovered as uncertainty has continued to dissipate.3 **The economy is not on the verge of collapse.** The U.S. national debt is $28 trillion, more than the economy produces in a year. Government spending in response to the pandemic is driving that figure higher.4 Although the [debt-to-gross domestic product ratio](https://www.thebalance.com/debt-to-gdp-ratio-how-to-calculate-and-use-it-3305832) is in the danger zone, it's not enough to cause a collapse.5 First, the United States prints its money. That means it is in control of its currency. Lenders feel safe that the U.S. government will pay them back. In fact, the United States could run a much higher debt-to-GDP ratio than it does now and still not face economic collapse. Japan is another strong economy that controls its currency. It's had a debt-to-GDP ratio above 200% for years. Its economy is sluggish but in no danger of collapse. The United States won't default on its debt. Most members of Congress realize that a debt [default](https://www.thebalance.com/u-s-debt-default-3306295) would destroy America's credibility in the financial markets. The Tea Party Republicans in Congress were a minority who threatened to default during the 2011 debt ceiling crisis and in 2013. China and Japan are the biggest owners of the U.S. debt, but they have no incentive to create a collapse. The United States is the largest market for these countries.6 If the U.S. economy fails, so do theirs. Despite what doomsayers may claim, China is not selling all of its dollar holdings. The [U.S. debt to China](https://www.thebalance.com/u-s-debt-to-china-how-much-does-it-own-3306355) has remained above $1 trillion since 2013.7 If anything, the dollar would slowly decline instead of collapse. The dollar fell by 58% between 2002 and 2008.8 On January 3, 2002, a euro could only buy $0.90. By December 29, 2008, it was worth $1.42. The [dollar's value falls](https://www.thebalance.com/dollar-decline-or-dollar-collapse-3306090) as the euro's strengthens. That was a huge drop in the dollar's value, but it was far from a collapse. The dollar won't be replaced as the world's global currency. The doomsayers point to gold, the euro, or Bitcoin as a replacement for the dollar as the [world's global currency](https://www.thebalance.com/world-currency-3305931#:~:text=Despite%20trillions%20of%20dollars%20in,in%20the%20years%20to%20come.). China's shows that it would like the yuan to become a more widely traded currency.9 None of these other alternatives has enough circulation to replace the dollar.10 Bitcoin has become the currency of choice for the underground economy.11 The Fed's quantitative easing program and low fed funds rate won't cause hyperinflation. The real cause of hyperinflation has been debt repayments to fund wars. If anything, the Fed's programs created a [liquidity trap](https://www.thebalance.com/liquidity-trap-examples-with-5-signs-and-5-cures-3306141). That's when people, businesses, and banks hoard cash instead of spending or lending it. Consumer confidence hit a 19-year high in 2018. Consumer spending drives about 70% of the economy.12 Confidence has been hit hard by the pandemic, but its strength will return.13 The Great Depression was the worst the economy has ever undergone. As bad as it was, it wasn't a collapse. What It Means to You Before you run out to buy gold or stock up on canned goods, do two things. First, read the articles linked in the 10 points above. They will give you the facts the naysayers ignore. Or read "[How the U.S. Economy Works](https://www.thebalance.com/how-does-the-u-s-economy-work-4056835)." Second, see what a real economic collapse looks like. On [September 17, 2008](https://www.thebalance.com/reserve-primary-fund-3305671), the U.S. economy almost collapsed. Companies pulled out trillions of dollars from money market accounts. It would have created a severe cash crunch had it continued. The nation's trucking industry would have ground to a halt. Gas stations would have gone dry. Grocery stores' shelves would have gone empty. Shortages didn’t happen, because the Federal Reserve prevented the collapse. It guaranteed money market accounts and restored confidence. Although the [Great Depression](https://www.thebalance.com/the-great-depression-of-1929-3306033) wasn't a collapse, it was close. GDP fell by half.14 Global trade dropped by two-thirds.15 Unemployment was 25%.16 What caused the Great Depression? Government actions turned a recession into a depression. The Fed raised the fed funds rate to protect the gold standard. Congress cut back on the New Deal too soon. That brought back the depression in 1937. It didn't end until Congress started spending again to build up the military for World War II. We aren't headed for an economic collapse or even a [second Great Depression](https://www.thebalance.com/could-the-great-depression-happen-again-3305685). The coronavirus pandemic caused a severe recession lasting several months. A depression lasts for years.

#### Economic decline won’t cause war

Walt 20

**(Dr. Stephen M Walt, Robert and Renée Belfer, 5-13-20, Stephen M. Walt, a columnist at Foreign Policy and the Robert and Renée Belfer professor of international relations at Harvard University, PhD in International Relations (with Distinction) from Stanford Universtiy, MA in Political Science from University of California, Berkeley, “*Will a Global Depresttion Trigger Another World War?”*** <https://foreignpolicy.com/2020/05/13/coronavirus-pandemic-depression-economy-world-war/JH>**)**

By many measures, 2020 is looking to be the worst year that humankind has faced in many decades. We’re in the midst of a pandemic that has already claimed more than 280,000 lives, sickened millions of people, and is certain to afflict millions more before it ends. The [world economy is in free fall](https://www.cnn.com/2020/04/14/business/imf-world-economic-outlook/index.html), with unemployment rising dramatically, trade and output plummeting, and no hopeful end in sight. A [plague of locusts is back for a second time in Africa](https://www.washingtonpost.com/graphics/world/2020/05/05/locusts-africa-swarms-kenya-ethiopia/), and last week we learned about [murderous killer wasps](https://www.scientificamerican.com/article/just-how-dangerous-is-the-murder-hornet/) threatening the bee population in the United States. Americans have a head-in-the-sand president who prescribes [potentially lethal nostrums](https://www.bbc.com/news/world-us-canada-52407177) and ignores the advice of his scientific advisors. Even if all those things magically disappeared tomorrow—and they won’t—we still face the looming long-term danger from climate change. Given all that, what could possibly make things worse? Here’s one possibility: war. It is therefore worth asking whether the combination of a pandemic and a major economic depression is making war more or less likely. What does history and theory tell us about that question? For starters, we know neither plague nor depression make war impossible. World War I ended just as the 1918-1919 influenza was beginning to devastate the world, but that pandemic didn’t stop the Russian Civil War, the Russo-Polish War, or [several other serious conflicts](https://en.wikipedia.org/wiki/Turkish_War_of_Independence). The Great Depression that began in 1929 didn’t prevent Japan from invading Manchuria in 1931, and it helped fuel the rise of fascism in the 1930s and made World War II more likely. So if you think major war simply can’t happen during COVID-19 and the accompanying global recession, think again. But war could still be much less likely. The Massachusetts Institute of Technology’s Barry Posen has [already considered](https://www.foreignaffairs.com/articles/china/2020-04-23/do-pandemics-promote-peace) the likely impact of the current pandemic on the probability of war, and he believes COVID-19 is more likely to promote peace instead. He argues that the current pandemic is affecting all the major powers adversely, which means it isn’t creating tempting windows of opportunity for unaffected states while leaving others weaker and therefore vulnerable. Instead, it is making all governments more pessimistic about their short- to medium-term prospects. Because states often go to war out of sense of overconfidence (however misplaced it sometimes turns out to be), pandemic-induced pessimism should be conducive to peace. Moreover, by its very nature war requires states to assemble lots of people in close proximity—at training camps, military bases, mobilization areas, ships at sea, etc.—and that’s not something you want to do in the middle of a pandemic. For the moment at least, beleaguered governments of all types are focusing on convincing their citizens they are doing everything in their power to protect the public from the disease. Taken together, these considerations might explain why even an impulsive and headstrong warmaker like Saudi Arabia’s Mohammed bin Salman has gotten more interested in [winding down his brutal and unsuccessful military campaign in Yemen](https://foreignpolicy.com/2020/04/09/coronavirus-pandemic-peace-talks-yemen-houthi-saudi-arabia/). Posen adds that COVID-19 is also likely to reduce international trade in the short to medium term. Those who believe economic interdependence is a powerful barrier to war might be alarmed by this development, but he points out that trade issues have been a source of considerable friction in recent years—especially between the United States and China—and a degree of decoupling might reduce tensions somewhat and cause the odds of war to recede. For these reasons, the pandemic itself may be conducive to peace. But what about the relationship between broader economic conditions and the likelihood of war? Might a few leaders still convince themselves that provoking a crisis and going to war could still advance either long-term national interests or their own political fortunes? Are the other paths by which a deep and sustained economic downturn might make serious global conflict more likely? One familiar argument is the so-called diversionary (or “scapegoat”) theory of war. It suggests that leaders who are worried about their popularity at home will try to divert attention from their failures by provoking a crisis with a foreign power and maybe even using force against it. Drawing on this logic, [some Americans now worry](https://www.washingtonpost.com/outlook/2019/04/29/would-trump-start-war-boot-his-chances/) that President Donald Trump will decide to attack a country like Iran or Venezuela in the run-up to the presidential election and especially if he thinks he’s likely to lose. This outcome strikes me as unlikely, even if one ignores the [logical and empirical flaws in the theory itself](http://fas-polisci.rutgers.edu/levy/articles/Levy%20-%20Diversionary%20theory.pdf). War is always a gamble, and should things go badly—even a little bit—it would hammer the last nail in the coffin of Trump’s declining fortunes. Moreover, none of the countries Trump might consider going after pose an imminent threat to U.S. security, and even his staunchest supporters may wonder why he is wasting time and money going after Iran or Venezuela at a moment when thousands of Americans are dying preventable deaths at home. Even a successful military action won’t put Americans back to work, create the sort of testing-and-tracing regime that competent governments around the world have been able to implement already, or hasten the development of a vaccine. The same logic is likely to guide the decisions of other world leaders too. Another familiar folk theory is “military Keynesianism.” War generates a lot of economic demand, and it can sometimes lift depressed economies out of the doldrums and back toward prosperity and full employment. The obvious case in point here is World War II, which did help the U.S economy finally escape the quicksand of the Great Depression. Those who are convinced that great powers go to war primarily to keep Big Business (or the arms industry) happy are naturally drawn to this sort of argument, and they might worry that governments looking at bleak economic forecasts will try to restart their economies through some sort of military adventure. I doubt it. It takes a really big war to generate a significant stimulus, and it is hard to imagine any country launching a large-scale war—with all its attendant risks—at a moment when debt levels are already soaring. More importantly, there are lots of easier and more direct ways to stimulate the economy—infrastructure spending, unemployment insurance, even “helicopter payments”—and launching a war has to be one of the least efficient methods available. The threat of war usually spooks investors too, which any politician with their eye on the stock market would be loath to do. Economic downturns can encourage war in some special circumstances, especially when a war would enable a country facing severe hardships to capture something of immediate and significant value. Saddam Hussein’s decision to seize Kuwait in 1990 [fits this model perfectly](https://www.tandfonline.com/doi/abs/10.1080/00396339108442571): The Iraqi economy was in terrible shape after its long war with Iran; unemployment was threatening Saddam’s domestic position; Kuwait’s vast oil riches were a considerable prize; and seizing the lightly armed emirate was exceedingly easy to do. Iraq also owed Kuwait a lot of money, and a hostile takeover by Baghdad would wipe those debts off the books overnight. In this case, Iraq’s parlous economic condition clearly made war more likely. Yet I cannot think of any country in similar circumstances today. Now is hardly the time for Russia to try to grab more of Ukraine—if it even wanted to—or for China to make a play for Taiwan, because the costs of doing so would clearly outweigh the economic benefits. Even conquering an oil-rich country—the sort of greedy acquisitiveness that [Trump occasionally hints at](https://www.washingtonpost.com/outlook/2019/11/05/trump-keeps-talking-about-keeping-middle-east-oil-that-would-be-illegal/)—doesn’t look attractive when there’s a vast glut on the market. I might be worried if some weak and defenseless country somehow came to possess the entire global stock of a successful coronavirus vaccine, but that scenario is not even remotely possible. If one takes a longer-term perspective, however, a sustained economic depression could make war more likely by strengthening fascist or xenophobic political movements, fueling protectionism and hypernationalism, and making it more difficult for countries to reach mutually acceptable bargains with each other. The history of the 1930s shows where such trends can lead, although the economic effects of the Depression are hardly the only reason world politics took such a deadly turn in the 1930s. Nationalism, xenophobia, and authoritarian rule were making a comeback well before COVID-19 struck, but the economic misery now occurring in every corner of the world could intensify these trends and leave us in a more war-prone condition when fear of the virus has diminished. On balance, however, I do not think that even the extraordinary economic conditions we are witnessing today are going to have much impact on the likelihood of war. Why? First of all, if depressions were a powerful cause of war, there would be a lot more of the latter. To take one example, the United States has suffered [40 or more recessions since the country was founded](https://en.wikipedia.org/wiki/List_of_recessions_in_the_United_States), yet it has fought perhaps 20 interstate wars, most of them unrelated to the state of the economy. To paraphrase the economist [Paul Samuelson’s famous quip about the stock market](https://www.forbes.com/sites/briandomitrovic/2018/11/22/the-stock-market-has-predicted-nine-of-the-past-five-recessions/#308e13d74089), if recessions were a powerful cause of war, they would have predicted “nine out of the last five (or fewer).” Second, states do not start wars unless they believe they will win a quick and relatively cheap victory. As John Mearsheimer showed in his classic book [*Conventional Deterrence*](https://www.amazon.com/Conventional-Deterrence-Cornell-Studies-Security/dp/0801493463), national leaders avoid war when they are convinced it will be long, bloody, costly, and uncertain. To choose war, political leaders have to convince themselves they can either win a quick, cheap, and decisive victory or achieve some limited objective at low cost. Europe went to war in 1914 with each side believing it would win a rapid and easy victory, and Nazi Germany developed the strategy of blitzkrieg in order to subdue its foes as quickly and cheaply as possible. Iraq attacked Iran in 1980 because Saddam believed the Islamic Republic was in disarray and would be easy to defeat, and George W. Bush invaded Iraq in 2003 convinced the war would be short, successful, and pay for itself. The fact that each of these leaders miscalculated badly does not alter the main point: No matter what a country’s economic condition might be, its leaders will not go to war unless they think they can do so quickly, cheaply, and with a reasonable probability of success. Third, and most important, the primary motivation for most wars is the desire for security, not economic gain. For this reason, the odds of war increase when states believe the long-term balance of power may be shifting against them, when they are convinced that adversaries are unalterably hostile and cannot be accommodated, and when they are confident they can reverse the unfavorable trends and establish a secure position if they act now. The historian A.J.P. Taylor once observed that “every war between Great Powers [between 1848 and 1918] … started as a preventive war, not as a war of conquest,” and that remains true of most wars fought since then.

#### The economy is recovering now- it’s consistent with previous post-recession rebounds

Myles Udland·**Ancho**r, 8-2-20**21**, "Why an atypical recession has seen a typical recovery," No Publication, https://news.yahoo.com/a-typical-recovery-to-an-atypical-recession-morning-brief-090108479.html

The first look at [second quarter growth figures out last week](https://finance.yahoo.com/news/q2-2021-us-gross-domestic-product-economic-activity-163209383.html) had some good news and bad news. The bad news was that the economy grew slower than expected in the second quarter. The good news was that gross domestic product (GDP) — for the first time — eclipsed pre-pandemic levels. But in a note to clients published Friday, Oxford Economics' senior economist Bob Schwartz argued that this rebound to pre-COVID levels isn't exactly the flattering economic data point that it might seem at first blush. "The rapid first-half growth lifted the level of GDP above its pre-COVID level," Schwartz wrote. "That, in turn, underscored the attention-getting headlines that the economy has recovered all of its pandemic-related output losses, leading some to laud this as a V-shaped recovery. As important as that development may seem, we have to point out that there is nothing special about how fast the economy returned to its previous peak," the economist added. Schwartz noted that a 6-quarter period between the beginning of a recession and the recovery to pre-recession output is merely the average of the 9 prior recessions the U.S. economy has seen since 1953. It took the U.S. economy six quarters to recover its pandemic-related decline in output, a recovery that is on par with the average seen over the last 70 years. (Source: Oxford Economics) Moreover, Schwartz noted that real GDP, as of the second quarter of 2021, still remains below where potential GDP suggests output would be had there not been an economic downturn. And as Federal Reserve Chair Jerome Powell [said in his post-FOMC press conference last week](https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20210728.pdf), with just under 7 million fewer Americans working than in February 2020, "the labor market has a ways to go." Real GDP surpassed pre-pandemic levels for the first time in the second quarter, but total output is still below estimated trend growth for the economy had there been no recession in 2020. (Source: FRED) Of course, comparing this recovery to prior recessions does dull the senses a bit to how extraordinary the last 18 months of economic activity have been. As we learned last month, the pandemic-induced recession lasted just two months, according to the NBER, [the shortest downturn on record](https://finance.yahoo.com/news/the-us-economy-officially-exited-the-recession-in-april-2020-174103503.html). Additionally, the drop in real GDP stemming from the pandemic sent total economic output recorded in the second quarter of 2020 back to 2014 levels. Prior to the pandemic, the post-Financial Crisis drop in GDP — in which 2009 output fell to 2005 levels at the recession's nadir — had served as the deepest recession in modern times. In other words, the economy was set back 6 years by COVID-19; previously, we'd never seen the economy lose more than 4 years of growth. And as we've [previously noted in The Morning Brief](https://finance.yahoo.com/news/everything-is-happening-faster-now-morning-brief-091330925.html), when you deconstruct GDP by S&P 500 sectors, and look at how many are growing faster than before the pandemic, we see a recovery that is several years ahead of a typical schedule. And when one considers that an almost overnight shutdown of the global economy was followed by trillions of dollars in government support — which resulted in a consumer and corporate demand crush unlike any that investors or operators have seen in their careers — it is obvious that no one will get in trouble for calling this economic moment "unprecedented."

#### No economic collapse-it’s resilient

Brad **Olsen**, 8-22-20**21,** "Resilient economy means we’ll bounce back from this setback," Stuff, https://www.stuff.co.nz/business/opinion-analysis/300388118/resilient-economy-means-well-bounce-back-from-this-setback

OPINION: It’s a position we hoped we’d never be in again, but we always knew was more than likely. Community cases of the COVID-19 delta variant means we’re having to press pause on substantial economic activity to limit the spread of the virus, stop our healthcare system from being overrun, and giving ourselves the best chance to get back to normal. The 17 months since our first Level 4 lockdown have provided us with the time and data to better understand what happens when you freeze the economy. Essential workers keep society moving, people operate from home where they can, and others sit there idle until their work can resume. There’s no doubt this Level 4 lockdown will be a tough blow to the economy. Treasury estimates economic activity is 26% lower during Alert Level 4, costing nearly $1.5b per week in GDP. The wage subsidy could have to support more than a million workers, and Infometrics estimates card spending could fall anywhere between 49% and 60%. But we’ve learnt three important lessons since the first Level 4 lockdown. First, the economic hit, although large, isn’t as big as we first thought. In 2020, Treasury estimated a 40% hit to economic activity at Level 4 but has now revised this back to 26%. Second, spending activity bounced back strongly once we moved down the Alert Levels as pent-up demand got spent. Having locked down first, China’s economy took eight months to return to pre-pandemic spending levels. New Zealand took three. And third, we’ve been getting better at adapting to higher Alert Levels. The fall in spending during recent Auckland lockdowns hasn’t been as severe as the first two lockdowns in 2020, and more businesses have worked to ensure their staff can operate from home and have online stores ready to go. Even I’ve joined in, upgraded from an ironing board desk during Lockdown 1.0 to a slightly better set up this time. Infometrics Principal Economist Brad Olsen Not all sectors will share this improved assessment. For the tourism, hospitality, and retail trade sectors, higher alert Levels will be a real struggle. But many businesses have seen robust levels of demand over recent months as New Zealand’s response to COVID-19 meant we could operate broadly as usual, albeit with border controls. The government has the fiscal firepower to support the country once again, with the first wage subsidy supporting a substantial number of workers and helping limit the peak unemployment rate so far to just 5.3%. With $5.1b in the bank, the government can again be proactive to support jobs, rather than see employment fall. That $5.1b pot of cash is a lot lighter than it should be, and questions need to be asked about some spending from the COVID-19 Response and Recovery Fund (CRRF) – fishing cameras on boats is hard to tie to a pandemic recovery. Uncertainty remains over COVID-19 – we don’t know when it will end, but it’s increasingly obvious that this pandemic and its impact will reverberate across the world for a time yet. Alert Level 4 means we’ve pressed pause on the economy, but once we hit play again the same issues we had before Level 4 will re-emerge. Inflationary pressures will still be rising, the labour market will remain tight, and Kiwi spending will be high. Uncertainty means it’s hard to plan for what’s around the corner, but we still need to watch out for these emerging issues. But for now, the focus remains on dealing with Level 4. If you’ve got a spare moment this lockdown, start making plans for which local eatery is going to get a visit once we can move about again. Because at Level 4, the issue isn’t that New Zealanders don’t have money – in fact, we save up quite a bit being locked away. Instead, the issue is one of supply – the shops aren’t open, and we can’t purchase. Part of our resilience over the past 17 months has been from our decision as a society to support others. Buy local campaigns have helped inject not only money into Kiwi businesses, but also confidence that households are ready to spend, and that they want to see their local keep going. That’s why I’m confident that the economy will bounce back from this economic setback. Going hard and going early against COVID-19 remains the best response and provides the best health and economic outcomes so that we can reopen and get back towards more normal operations as quickly as possible. Our economy has shown itself to be resilient time and time again, meaning although the economy will take a hit, we’ll bounce back from this setback.

## Solvency Answers

**TL--Vaccines**

**No solvency and reject "empirical" claims -- vaccines require complex infrastructure to manufacture, not just patents**

**Hotez 5/10** [Peter J. Hotez, Maria Elena Bottazzi, and Prashant Yadav. "Producing a Vaccine Requires More Than a Patent," Foreign Affairs, 5-10-2021, accessed 8-8-2021, https://www.foreignaffairs.com/articles/united-states/2021-05-10/producing-vaccine-requires-more-patent] HWIC

On May 5, President Joe Biden announced that the United States would support an international bid to waive intellectual property rights to vaccines for the duration of the coronavirus pandemic, thereby ostensibly allowing other countries to ramp up production even of the sophisticated technology behind the Pfizer-BioNTech and Moderna vaccines against COVID-19. Many in the global health community and developing world welcomed the decision as a victory for greater equity in vaccine distribution, in which middle- and low-income countries are lagging far behind wealthy ones. But the jubilation may be premature. The drive for intellectual property waivers originates in part from the world’s experience fighting the last war, against HIV/AIDS. Patent pools, intellectual property waivers, and other liberalizing mechanisms were urgent in assuring equity of access to lifesaving drugs during that epidemic. But these tools are better suited to medicines and other pharmaceuticals than to vaccines. Producing vaccines—particularly those as technologically complex as the messenger RNA (mRNA) inoculations against COVID-19—requires not only patents but an entire infrastructure that cannot be transferred overnight. The sharing of patents is an important and welcome development for the long term, but it may not even be the most pressing first step. JUST OPEN THE SPIGOT At the turn of the millennium, multinational pharmaceutical companies were charging $10,000 per patient for a daily drug regimen that could keep those infected with HIV/AIDS alive. Those in low- and middle-income countries in Africa and elsewhere could access this cocktail only under limited circumstances. Then, in 2001, the Indian drug manufacturer Cipla Limited began producing versions of a triple antiretroviral drug cocktail for a mere $350. Cipla, in collaboration with Médecins Sans Frontières (Doctors Without Borders), helped usher in a new era of global access to essential medicines—one that justified relaxing or even ignoring international patents and other property rights to produce and distribute an important and lifesaving drug as a generic. Since that time, global health advocacy organizations have found increasingly sophisticated ways to work with multinationals in ensuring access to essential medicines for low- and middle-income countries. In the 2010s, the global health initiative Unitaid helped create a Medicines Patent Pool, in which pharmaceutical companies from all over the world offered antiretroviral drug licenses, thereby creating a path for developing generic versions so long as the patent holders received royalties. The mechanism supplied voluntary licenses to new producers even while protecting the legal rights of the drugs’ original manufacturers. Companies such as Gilead, for example, have supplied voluntary licenses for their antivirals directly to generic manufacturers, allowing for tiered pricing across countries. Barely any COVID-19 vaccines have been administered in the African continent or in low- or middle-income countries in Asia and Latin America. Global health professionals have understandably sought to ascertain whether a similar approach could help make the distribution of COVID-19 vaccines less lopsided. More than one billion vaccine doses have now been administered—but overwhelmingly to people living in just a few countries. More than half have been administered in the United States (250 million) and China (290 million) alone, followed by India (160 million), the United Kingdom (51 million), and Germany (32 million). In contrast, for all practical purposes, barely any COVID-19 vaccines have been [administered](https://www.nytimes.com/interactive/2021/world/covid-vaccinations-tracker.html) in the African continent or in low- or middle-income countries in Asia and Latin America. Global health advocates have responded to this inequity by seeking to apply the lessons they learned from antiretroviral drugs and demanding patent pools or other intellectual property waivers for COVID-19 vaccines. In March 2021, Médecins Sans Frontières organized protests at the World Trade Organization (WTO) headquarters in Geneva, unfurling a banner that read, “No COVID Monopolies—Wealthy Countries Stop Blocking TRIPS Waiver,” referring to the organization’s Agreement on Trade-Related Aspects of Intellectual Property Rights. The assumption underlying such demands is that intellectual property is a crucial barrier blocking vaccine developers, especially in low- and middle-income countries, from producing COVID-19 vaccines to scale—particularly the high-performing mRNA vaccines that Pfizer-BioNTech and Moderna currently produce. These vaccines elicit more than 90 percent protective immunity against both symptomatic illness and documented infection, including asymptomatic infection, with COVID-19. They are successfully driving the recovery of the United States, Israel, and other nations. But so far, mRNA vaccines are mostly invisible to Africa, Latin America, and low- and middle-income countries in other regions. The hope of those pushing for TRIPS waivers and patent pools is that these will unleash the technology to make the recovery global. IT TAKES A WHOLE ECOSYSTEM Intellectual property sharing may be helpful in the long term. But producing complicated biologics, especially innovative ones such as mRNA or adenovirus-vectored vaccines, is not solely a matter of patent access. Small-molecule antiviral drugs are comparatively straightforward: the multistep chemical processes through which they are synthesized are often fully detailed in published patents or scientific papers. Chemists and formulation experts can often synthesize and scale up production just from knowing the drug structure. But vaccines are different. Producing and manufacturing lipid-encased mRNA molecules, recombinant adenoviruses, or even the proteins or whole inactivated viruses used in older-generation vaccines requires a far higher level of sophistication than is needed for producing small-molecule drugs. Moreover, vaccine production must meet stringent requirements for quality control, quality assurance, and regulatory oversight. The **effective transfer of such complex technology requires a receiving ecosystem that can take years, sometimes decades, to build**. Countries seeking to ramp up vaccine production will need to train staff scientists and technicians. They will also need scientific administrators versed not only in basic research and development but also in detailed record keeping, including specific documentation practices such as batch production records. Moreover, they will need strong quality control systems and regulatory guardrails. Building such an infrastructure requires intensive training and often considerable financial investment and risk. It also takes time—by some estimates, vaccine development requires at least 11 years, and even then the probability that such efforts will result in bringing a vaccine to market is less than ten percent. Consider that the COVID-19 vaccines were themselves the outcome of decades of research and development. Few nations are prepared to take such risks. Only a handful of low- or middle-income countries currently have the capacity to produce new vaccines. Only a handful of low- or middle-income countries currently have the capacity to produce new vaccines. The most notable and largest is India, which currently makes the adenovirus-vectored vaccines developed by Janssen and by Oxford and AstraZeneca, as well as an older-technology recombinant protein vaccine and a whole inactivated virus vaccine. Manufacturers in Brazil, Cuba, and some Southeast Asian countries have experience producing childhood vaccines and may be able to develop the capacity to make COVID-19 vaccines as well. Other possibilities may develop elsewhere, including in the Middle East and Africa. But in the near term, such manufacturers will require financing, access to very large amounts of raw materials and supplies (possibly including relaxation of export controls), and some technical expertise in manufacturing and quality control if they are to produce the existing vaccines against COVID-19. Vaccinating India alone will require almost two billion doses, and more than 12 billion doses will be required to vaccinate the world. The emergence of new variants and the need for booster doses may increase demand even further. Whether mRNA vaccine technology can be scaled to produce billions of doses in 2021, or even by early 2022, remains entirely unknown, but the goal is worth pursuing. To this end, some kind of patent relaxation may be necessary, but far from sufficient. Would-be producers will need technical know-how, regulatory controls, and components that are currently in very short supply, such as nucleotides and lipids.

#### Tech transfer is key and not included under IP

Smith 05/05

(Laura Smith-Spark; Newsdesk Editor, CNN Digital; (05-05-21) Rich nations urged to share vaccine knowledge while WTO debates waiving patents; CNN; <https://www.cnn.com/2021/05/05/world/covid-19-vaccine-patents-wto-intl/index.html>; CKD)

Thomas Bollyky, director of the Global Health Program at the Council on Foreign Relations, told CNN on Friday that what's really needed to scale up global manufacturing of vaccines is technology transfer. "It's not just a matter of intellectual property. It's also the transfer of know-how," he said. "I don't think there's clear evidence that a waiver of an intellectual property is going to be the best way for that technology transfer to occur." Waiving patents will not work in the same way for vaccines as it has for drugs, Bollyky said. For HIV drugs, for example, manufacturers were more or less able to reverse engineer them without much help from the original developer. "It's very different for vaccines, where it's really a biological process as much as a product. It's hard to scale up manufacturing in this process for the original company, let alone another manufacturer trying to figure this out without assistance," he said. "It requires a lot of knowledge that's not part of the IP." The deal between AstraZeneca and the Serum Institute of India is a successful example of such technology transfer, Bollyky said, where the licensing of IP happened voluntarily. "The question is what can we do to facilitate more deals like the one between AstraZeneca and the Serum Institute of India to have this transfer," he said. Michael Head, senior research fellow in global health at the University of Southampton, in England, told CNN that increasing regional manufacturing capacity, particularly in the global south, was key -- and should be a focus between pandemics. "Sharing intellectual property during the pandemic is something that should happen but that doesn't resolve the issues," he said. "Manufacturing vaccines is hard. It's hard to rapidly set up a new site with all the equipment, infrastructure, all the vaccine ingredients, with suitable staff to produce a large number of high quality vaccine products." Philanthropist Bill Gates, a major supporter of [global Covid-19 vaccine equity](https://www.cnn.com/2021/02/05/world/covax-explainer-intl/index.html) through the Bill & Melinda Gates Foundation, also [told Sky News](https://news.sky.com/story/covid-19-bill-gates-hopeful-world-completely-back-to-normal-by-end-of-2022-and-vaccine-sharing-to-ramp-up-12285840) last month that he did not believe overriding IP rules was the answer. "There's only so many vaccine factories in the world and people are very serious about the safety of vaccines," he said. "The thing that's holding things back in this case is not intellectual property. There's not, like, some idle vaccine factory with regulatory approval that makes magically safe vaccines. You've got to do the trials on these things and every manufacturing process has to be looked at in a very careful way."

#### Equitable distribution of vaccines can’t combat disease spread because of other barriers like vaccine uptake, effectiveness, durability, eligibility factors, logistical problems, and mutations- ignore aff’s myopic promotions

MacLeod 2-10 [Iain MacLeod, co-founder and CEO of Aldatu Biosciences of Watertown, Massachusetts, which develops novel viral diagnostics, including those for pathogens such as SARS-CoV-2, and a research associate at the Harvard T.H. Chan School of Public Health. “Do the math: Vaccines alone won’t get us out of this pandemic.” February 10, 2021. <https://www.statnews.com/2021/02/10/vaccines-alone-wont-end-pandemic/>] AL

But it seems as if there is light at the end of the tunnel. As long as we maintain social distancing, keep wearing masks, and washing our hands, it feels to many as though we can hold on until we get vaccinated. I’m sorry to be writing the words that follow, but here they are: We can’t vaccinate our way out of this pandemic. And the myopic focus on achieving herd immunity through mass vaccination may even make it tougher for America — and the world — to defeat Covid-19. Don’t get me wrong: Mass vaccination is essential. But herd immunity is a numbers game. It is defined as the point at which community spread of a disease stops because unprotected individuals are surrounded by a “herd” of people who are immune to infection, making it difficult, if not impossible, for infected people to pass on the disease. Many experts have said we will achieve herd immunity when about 70% of the population is immune to SARS-CoV-2, the virus that causes Covid-19, either through vaccination or by having had Covid-19. How do we reach that number? It’s harder than it seems. For starters, while the Pfizer/BioNTech and Moderna vaccines showed about 95% efficacy in the clinical trials, **vaccine effectiveness** — how well a vaccine performs under real-world conditions — is likely to be lower for several reasons. One is that the people who participate in clinical trials are an imperfect representation of the whole population. They tend to be healthier, and younger. Real-world factors such as vaccine transportation and storage can also reduce vaccine effectiveness. Say the Moderna and Pfizer vaccines now being given across the country achieve 90% effectiveness. Vaccinating 70% of U.S. residents puts us at 63% immunity. So, we’ll need to vaccinate a full 80% of the population to reach the herd immunity threshold. **Additional vaccines are starting to be approved. Some of them have lower efficacy.** For instance, the AstraZeneca vaccine has about 70% efficacy, and Johnson & Johnson has reported that its one-dose vaccine has 66% efficacy. Their real-world performance could be lower still. If these vaccines become part of the mix in the U.S., actual protection will be lower than the estimated 90% we’d get from just the Moderna and Pfizer vaccines. There are other barriers to achieving herd immunity. Vaccine uptake — how many people actually get vaccinated — is far below the level we need, in part because Covid-19 beliefs have been politicized in the U.S. and a percentage of the population doesn’t even believe the disease is real. In a Kaiser Health News survey released near the end of January, 13% of Americans said they would “definitely not” get vaccinated, 7% would take the vaccine only if it was “required,” and another 31% would “wait and see how it’s working” before getting vaccinated. Not encouraging numbers for those hoping for a quick journey to herd immunity. Even when ample vaccine supplies are restored — perhaps by President Biden invoking the Defense Production Act — other factors will further drive down the number of people who get vaccinated. Eligibility factors currently exclude approximately 25% of U.S. residents from Covid-19 vaccination. The Pfizer vaccine can be administered only to those age 16 and up; for the Moderna vaccine, it’s those 18 and up. This represents approximately 20% of the population. Furthermore, although the CDC says that pregnant people may get vaccinated, it stops short of a clear recommendation. The decision is a “personal choice” left up to individuals and their health care providers. Excluding those currently ineligible for vaccination against SARS-CoV-2 due to age or other conditions leaves 75% of Americans with no restrictions on vaccination. Factoring in the 13% of Americans who definitely don’t want the vaccine and the 7% who would get it only if it was required means just 49.5% of Americans would have immunity in the near future. If half of those who are in a wait-and-see mode don’t get vaccinated — another 15% of the population — then we are looking at just 40% vaccine coverage of the currently eligible population, far below the 70% needed for herd immunity. And that’s even before considering that real-world vaccine effectiveness will be below clinical trial levels. The young people who aren’t cleared to get the Moderna and Pfizer vaccines have proven to be highly efficient asymptomatic spreaders of Covid-19. Leaving this population unprotected will enable the disease to continue to spread widely. Finally, we don’t yet know the durability of the immune response to the various vaccines. It may persist. Or it may wear off, leaving people vulnerable after they’ve been vaccinated and creating conditions for new outbreaks. If my years of global health work on the HIV/AIDS epidemic has taught me anything, it’s that even the best laid plans can’t anticipate every challenge. To vaccinate 75% of the U.S. population, approximately 248 million people — that’s nearly 500 million doses — are needed. And it means we need to be vaccinating nearly 2 million people a day so all of them are immune by the fall of 2021. As I write this, we’re vaccinating only about 1 million people a day. At that pace, Reuters estimates it would take until April 2022 for 75% of Americans to receive at least their first vaccine dose. And that’s only if everything goes well logistically (it won’t) and if there are no further mutations in SARS-CoV-2 that make combating it more difficult (there will be). It’s time to stop promoting the myopic belief that the unrealistic goal of herd immunity can be achieved in 2021 and start looking to reinforcing all aspects of the health care response as we start to concede that Covid-19 will become an endemic disease that will continue to lurk in the population. For the foreseeable future, that means continued physical distancing; occupancy limits in restaurants and other retail establishments; replacement of physical menus with smart phone-based menus to prevent surface spread of the virus, and more. We’ll also need to monitor people who have been vaccinated to gauge the durability of the immune system’s response and whether booster shots are necessary, as they are for tetanus and diphtheria. Finally, our nation’s public health infrastructure will need to be bolstered, putting in place new protocols to monitor for new variants of the virus as soon as they emerge. Can we defeat Covid-19? We can and we will. But setting sights on a near-term goal of achieving herd immunity ignores the math that governs the spread of disease. That approach is going to take a while. To get past Covid-19, we need to use all the tools available.

### Too Slow

#### Reducing IP rights aren’t quick enough to help the pandemic – legal battles slow the process – experts agree

Smith 05/05

(Laura Smith-Spark; Newsdesk Editor, CNN Digital; (05-05-21) Rich nations urged to share vaccine knowledge while WTO debates waiving patents; CNN; <https://www.cnn.com/2021/05/05/world/covid-19-vaccine-patents-wto-intl/index.html>; CKD)

But even as public pressure grows, some experts argue that handing over the IP rights for Covid-19 vaccines won't necessarily mean that more can be rapidly produced worldwide at large scale. US infectious diseases chief Anthony Fauci [told the UK's Financial Times](https://www.ft.com/content/2f41b122-5738-4707-a822-0d79276710c5) on Monday that he was not convinced that forcing companies to share their intellectual property was the most effective approach, warning that legal battles could slow the process. "Going back and forth, consuming time and lawyers in a legal argument about waivers -- that is not the endgame. People are dying around the world and we have to get vaccines into their arms in the fastest and most efficient way possible," he said.

#### Negotiations on a waiver will take too long

Mercurio 06-24

(Bryan Mercurio; Law Prof. at The Chinese University of Hong Kong; (06-24-21) The IP Waiver for COVID-19: Bad Policy, Bad Precedent; IIC on Springer Link; <https://link.springer.com/article/10.1007/s40319-021-01083-5>; CKD)

On 5 May 2021, the US reversed its position and announced that it would support a waiver for COVID-19 vaccines.[Footnote6](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn6) To be clear, this does not mean that the US supported the waiver as proposed by India and South Africa. Instead, the US has simply agreed to negotiate the perimeters of a waiver. Others, including the European Union (EU), Canada, Australia, Norway, Switzerland, the United Kingdom (UK) and even leading developing countries such as Brazil, Chile and Mexico remain opposed or lukewarm on the waiver.[Footnote7](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn7) The US dropping opposition does not mean the concerns of other Members will simply disappear – one would hope that these nations opposed the waiver for valid reasons and did not simply blindly follow the US. Indeed, many of the above-listed Members remain unconvinced that even such a draconian step as a waiver of IPRs would accomplish the goal of increased vaccine production.[Footnote8](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn8) For its part, the EU continues to favour an approach which makes better use of existing flexibilities available in the TRIPS Agreement.[Footnote9](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn9) Thus, those expecting quick agreement on the waiver will be disappointed. Negotiations at the WTO are always difficult and lengthy, and US Trade Representative Katherine Tai acknowledged that the “negotiations will take time given the consensus-based nature of the institution and the complexity of the issues involved”.[Footnote10](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn10) Issues of negotiation will include the scope of the waiver. Whereas the original proposal and its amended form extend the waiver beyond patents and vaccines to include nearly all forms of IP (i.e. copyright,[Footnote11](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn11) industrial designs and trade secrets) as well as to all “health products and technologies including diagnostics, therapeutics, vaccines, medical devices, personal protective equipment, their materials or components, and their methods and means of manufacture for the prevention, treatment or containment of COVID-19”[Footnote12](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn12) (with no requirement on how or the extent to which they are related to or useful in combatting COVID-19), the US and others seem to support a waiver limited to patents and vaccines.[Footnote13](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn13) The length of the waiver will also be a contentious negotiating issue, with proponents seeking a virtual indefinite waiver lasting until the Membership agrees by consensus that it is no longer required – meaning even a single Member’s objection to ending the waiver would mean the waiver continues to remain in force[Footnote14](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn14) – as will the request that any action claimed to be taken under the waiver is outside the scope of the WTO’s dispute settlement mechanism.[Footnote15](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn15) These provisions will almost certainly be opposed by other Members, who would perhaps agree to a time-limited waiver which could be extended rather than an unchallengeable indefinite waiver which will be difficult to reverse. The proposal also fails to mention anything in relation to transparency and notification requirements and lacks safeguards against abuse or diversion. These points will likely also prove contentious in the negotiations. With so many initial divergences and as yet undiscussed issues, the negotiations at best could be completed by the time of the next WTO Ministerial Conference, scheduled to begin on 20 November 2021. There is precedent in this regard, as previous TRIPS negotiations involving IP and pharmaceuticals were not fully resolved until the days before the Ministerial Conferences (in 2003 and 2005).[Footnote16](https://link.springer.com/article/10.1007/s40319-021-01083-5#Fn16) There is also a chance that the negotiations will continue past the calendar year 2021. The chance for a swift negotiation diminished with the release of a revised proposal by India and South Africa on 22 May 2021. As mentioned above, the proposal contains no limit as to product coverage, scope, notification requirements or safeguards and proposes that the waiver will remain in effect for what could be an indefinite period. This was not a proposal designed to engender quick negotiations and a solution. Instead, the proposal perhaps reveals India’s and South Africa’s true intent to use the COVID-19 pandemic as an excuse to roll-back IPRs rather than a good-faith effort to rapidly increase access to lifesaving vaccines and treatments around the world.

## Alt Causes

### Disease

#### Aff doesn’t attack all of the root causes of disease spread- lack of materials, equipment, and facilities when faced with skyrocketed demands means solving IP protections alone isnt enough

Brant & Burns 7-29-21 [Jennifer Brant, CEO and Founder of Innovation Insights, and Thaddeus Burns, Head of Life Science Government & Public Affairs at Merck and served in senior positions at the US Department of Commerce and the White House Office of the US Trade Representative, served as a member of the National Academy of Sciences Committee charged with preparing a report on the science and technology capabilities of the U.S. Department of State. “Trade restrictions are delaying the COVID response. The WTO must act.” July 29, 2021. <https://www.weforum.org/agenda/2021/07/wto-members-must-launch-new-work-to-reinforce-the-covid-response-in-november/>] AL

The COVID-19 pandemic hit at a time when bio-manufacturing was undergoing a process of democratization. Technological progress had enabled growing capacity in many countries including Brazil, Indonesia, South Africa, Tunisia, Argentina, and Egypt. By 2020, the business model for bio-manufacturing had fundamentally changed and it was becoming the norm for companies to distribute research, development and manufacturing across geographies and work with partners. As recently as 15 years ago, building a facility to produce biologics such as monoclonal antibodies or vaccines could require an investment of as much as €500m, and it would take up to 3 years to bring that facility online. New manufacturing technologies have made it cheaper and easier to build new facilities and to scale up existing ones. Today, an investment of €20m can get a bio-manufacturing plant up and running. Such changes are part of the reason the global community was able to launch production of new COVID-19 vaccines so quickly. The urgency of COVID-19 accelerated further innovations in bio-manufacturing equipment and processes, and compressed production time in a way that will have positive impacts in the future. But the pandemic also revealed major weaknesses in global value chains. It was difficult for manufacturers to keep up with the sudden surge for demand for raw materials and equipment, as many new research and development and manufacturing partnerships rapidly took off. To extend capacity, new employees, intensive training and collaboration, and more infrastructure were needed. The global community was faced with the reality that facilities cannot be built everywhere in an instant, and that there are bottlenecks in the supply chain. Government action in some cases made things worse. Some countries enacted export restrictions on COVID-related products, which made it extremely difficult to run a global supply chain. Another difficult issue has been the tariffs applied on biologics and the products needed for their manufacture. Eighteen months into the pandemic, biologics manufacturers are still trying to cope with a range of challenges. There is still surging demand for equipment and raw materials. In some cases, they have expanded manufacturing capacity to produce more equipment such as filters and bioreactors. This continues to require time and significant investments.