# Grapevine Rd. 2

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#### Our thesis is that the collapse of capitalism is inevitable, it is a question of now or later: you should frame your decision through an anti-capitalist lens by centering the valorization of productivity that aff’s logic is founded upon.

Kuang 20 [Da Kuang and Changyi Huang are professors at the Huazhong University of Science and Technology, College of Marxism in Wuhan 430074, China. A Study of Marx’s Thought on the Speed of Capital Accumulation, Presented at the 2020 International Conference on Social Science, Economics and Education Research (SSEER 2020), Atlantic Press: Advances in Social Science, Education and Humanities Research Volume 455, 8-22-21, amrita]

III. CONTEMPORARY ENLIGHTENMENT: **CAPITALISM IS BOUND TO DIE OUT IN THE LONG-TERM STAGNATION OF CAPITAL ACCUMULATION** As we all know, Marx and Engels reached a most important scientific conclusion in the Manifesto of the Communist Party: **the death of the bourgeoisie and the victory of the proletariat are equally inevitable.** This is the famous “Two Necessities” principle of Marxism. If we study **Marx’s thought of the speed of capital accumulation, we will come to the conclusion that capitalism is bound to die out in the long-term stagnation of capital accumulation.** Wallerstein believes that **although the production for the purpose of pursuing profits has a history of thousands of years, this mode of production has never occupied a dominant position in these historical systems. Only capitalism regards the endless accumulation of profits as the fundamental feature of its own system**. Wallerstein pointed out that the capitalist system has been maintained for more than 500 years, and the fundamental policy of endless capital accumulation has been quite successful. However, **the historical stage based on this has come to an end, and the late capitalism is coming to an end.** Andrew Kleiman made **an empirical study on the change trend of American profit margin from 1929 to 2009. He believed that after the boom period of World War II, the capital profit margin of the whole economic system was indeed declining irreversibly.** Robert Brenner calculated the declining trend of manufacturing profit margin in the United States and Japan since the 1950s. Among them, **the average profit margin of manufacturing industry in the United States has more than doubled, and the average profit margin of manufacturing industry in Japan has more than tripled**. These empirical studies **confirm Marx’s idea that the rate of capital profit keeps falling and the rate of capital accumulation tends to stagnate.** The global financial crisis that broke out in 2007-2008 is the most serious crisis of capitalism since the great depression in the 1930s. **Although the crisis is presented in the form of finance, the underlying law is still “relative overproduction”, that is, trying to expand credit consumption to alleviate the contradiction between the expansion of production and the relative reduction of consumption capacity, accelerating the real estate and finance** The development of bubbles. But **this contradiction is only temporarily covered by bubbles, and after a long period of accumulation and fermentation, the crisis finally broke out**. After 10 years of evolution**, the capitalist world has not recovered from crisis and stagnation, but has expanded into a structural crisis of capitalism along the path of financial crisis → economic crisis → financial crisis → debt crisis.** At the same time, **contemporary capitalism also faces the absolute limit of capital accumulation caused by the crisis of population aging and ecological crisis**. According to statistics, in 2014, the total population of 28 countries in the EU was 508 million, of which 18.5% were aged over 65, 19.9% were aged between 50 and 64, and 38.4% were aged between 50 and 64. **The trend of population aging will inevitably lead to the extreme shortage of labor force, increase labor cost, and further reduce the profit margin of capital; and the ecological crisis will gradually become the same or even more serious problem as the economic crisis.** As the existing capital accumulation models all go bankrupt, **the speed of capital accumulation will inevitably further decline. The economic cycle theory of western mainstream economics interprets the capitalist economic crisis as a kind of normal economic fluctuation, and holds that capital can always overcome the crisis and stagnation, and then accelerate the accumulation again. This kind of circular movement, which only attributes capital accumulation to quantitative change, conceals a historical fact: the final result of the crisis and stagnation of capital accumulation is the qualitative change of capitalist ownership, which is an irreversible linear process**. Over the past 200 years, **the world economic crisis has occurred more than 20 times, some of which directly triggered the proletarian revolution**, some of which first broke out in war and then triggered the proletarian revolution. **For example,** the result of **the capitalist economic crisis in 1847 was the final explosion of the French Revolution in June;** The capitalist economic crisis of 1867-1868 first triggered the Franco Prussian War, and finally triggered the Paris Commune Revolution; the capitalist economic crisis of 1907-1908 first triggered the first World War, and finally triggered the October Revolution of Russia which opened a new era of human history in 1917; the capitalist economic crisis of 1929-1933 gave birth to the second World War, and finally the war As a result, Eastern European countries including East Germany, Yugoslavia, Poland, Hungary, Romania and other countries, as well as China, North Korea, Vietnam, Cuba, Albania and other countries have embarked on the socialist road. **In addition to the proletarian socialist revolution caused by the economic crisis, the capitalist internal system of ownership has also made major adjustments in response to the economic crisis.** From individual private capital to stock system, this is the first adjustment of capitalist ownership; from stock system to monopoly, this is the second adjustment of capitalist ownership; from private stock monopoly to capitalist state monopoly, this is the third adjustment of capitalist ownership; from capitalist state monopoly to international monopoly, this is the fourth adjustment of capitalist ownership. As a result, the capitalist ownership of means of production is becoming more and more like public ownership rather than private ownership. It is getting further and further away from the original private ownership and closer to public ownership. It can be predicted **that capitalism will inevitably die out in the long-term stagnation of capital accumulation. The ultimate fate of capitalism is to be replaced** by socialism.

#### COVID-19 is a symptom of the disease that is late-stage capitalism— it represents the intrinsic contradictions that have arisen within capitalist economies and the inevitable collapse.

Waitzkin 21 [Howard Waitzkin is at the Department of Sociology and Health Sciences Center, University of New Mexico, Albuquerque, New Mexico, USA, 2021, International Journal of Health Services, DOI: 10.1177/0020731420977711, 8-22-21 amrita]

The official narrative of COVID-19 states that the pandemic has caused the global capitalist economy to collapse, or at least to enter a deep recession and possibly a great depression, but is that correct? **A more accurate interpretation is that the pandemic has triggered a collapse that was going to happen anyway. For many years, the global capitalist economy has been crisis-ridden, unstable**, and “bubbly...subject to blowups.”1 **In August 2019, the interest yield on a 10-year US Treasury bond fell below that of a twoyear bond.** This inversion, indicating a **marked decline in investors’ confidence in long-term earnings, has preceded every recession since the 1950s.** These and other economic trends led the editors of Monthly Review to predict: “**There is now little doubt that the world economy is on the verge of a recession after a long sluggish recovery from the Great Financial Crisis of 2007– 09**.... In this instance, however, there lurks a bigger fear, the possibility of a financial Armageddon on the level of the Great Financial Crisis of 2008—or worse.”2 Conveniently, **the COVID-19 narrative assigns blame for the economic crash to a virus, taking attention away from the structural contradictions and instabilities that would have led to a crash in any case, as predicted for many months before the pandemic began.** The global capitalist **economy has switched to the expansion of finance capital and away from production of useful goods and services.** Financialization now creates “fictitious capital” such as packages of risk, derivatives, and futures. These fictional financial instruments involve gambles on the future valuation of an imaginary reality that does not correspond to any concrete economic good, service, or property. Global markets in financial instruments therefore become a more elite version of gambling that traditionally takes place in poker games, casinos, and racetracks. Creation of fictitious capital and **accumulation of capital through gambling create a vulnerability to burst financial bubbles and crashes like that of 2008.** That particular crash derived from the collapse of collateralized loan obligations: financial instruments that bundled housing loans for investment in global financial markets. **As the COVID-19 pandemic worsened, large investors spurred the rapid decline in prices of stocks and fictional financial instruments, as they rapidly sold off holdings that had become overvalued.** Later, **global stock markets have become more volatile while economic recession has deepened, throwing millions of people into unemployment, housing insecurity, and hunger. Blaming a virus for the crash mystifies the economic contradictions actually responsible for the abrupt end of the latest capitalist bubble**.3

#### The affirmative resets the cycle and rejuvenates short-term capitalist accumulation in two ways.

#### First, is false liberalism. The plan is representative of the idea that capitalism can be saved- eliminating “intellectual property protections” is a scheme that aims to boost falling rates of profit and improve rates of capital accumulation.

Gilbert 19 [Geoff Gilbert is a Professor of Law in the School of Law and Human Rights Centre at the University of Essex. He was Head of Department between 2000-2003 and 2011-13. In 2012, he was appointed a Professorial Visiting Fellow at the University of New South Wales in Sydney. He was Editor-in-Chief of the International Journal of Refugee Law from 2002-15 and is co-Editor-in-Chief as of September 2019; he also sits on the Advisory Board., “Free trade” is today’s imperialism by the 1 percent, 1-13-2019,No Publication,https://www.bilaterals.org/?free-trade-is-today-s-imperialism, 8-21-2021 amrita]

As Lawrence Summers, economic adviser to the Clinton and Obama administrations, points out, the GATT/WTO free trade regime has been so successful that today’s free trade agreements aren’t even about the traditional obstacles to free trade, as these obstacles are already effectively eliminated in most countries. **Instead, today’s agreements involve protecting the property rights (especially the intellectual property rights) of multinationals and harmonizing the regulatory regimes across countries with which multinationals must comply. In other words, today’s free trade agreements are about enforcing the unequal economic relationships that global North corporations have continued to enjoy since the times of colonialism. The most egregious example of global North countries using the WTO to codify their colonial unequal economic relationships is the Trade-Related Aspects of Intellectual Property Rights (TRIPs), an agreement that is part of the WTO. TRIPs extend patent, copyright and trademark protections to all WTO members — effectively the entire world economy.** However, **the global North is a net intellectual property producer and the global South is a net intellectual property consumer. TRIPs’ intellectual property protections extend to goods like pharmaceuticals**, digital technology hardware and software, and most art and media entertainment**. Intellectual property protections allow the global North corporations that own the patents, copyrights and trademarks for these products to maintain monopoly control over them. Global North corporations can charge high prices for pharmaceuticals and digital technology to global South consumers, transferring wealth to global North corporations. Further, intellectual property protections make it impossible for global South corporations to compete with global North corporations to produce these goods, meaning that global North corporations can continue to monopolize the profits**. Since the post-WWII restructuring of the international economy, global South countries have needed to find capital to develop their own industries. **The GATT/WTO free trade framework bars global South countries from creating policies that can help their own industries develop their own surplus capital, as described above, so global South countries have resorted to borrowing money from the financial sector**. The IMF and the World Bank have promoted and subsidized global North banks lending to global South countries, and have only made capital available to global South countries if they accept the conditions of the North’s free trade policies, as well as privatization of any state-owned businesses and deregulation of their economies. **Through the work of GATT/WTO, the IMF and the World Bank, global South governments and corporations have been kept in the unequal economic position developed during colonialism.** As Vijay Prashad explains, US and Western militaries have also helped to expand free trade throughout the world by supporting military dictators and military coups throughout Asia, Africa and Latin America. **This economic and military violence is the visible hand the global North governments and corporations have used to concentrate the world’s wealth**. This visible hand explains how global North, and especially US, corporations continue to own and control a disproportionate amount of the most profitable industries in the global economy.

#### Second is WTO legitimacy. The plan is a colonialist revision that re-packages the WTO as a legitimate organization that can overcome its insidious past towards a future of equal free trade—that decks class consciousness.

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Free Trade Imperialism: **Continuing the Unequal Trade of Colonialism With mass global South resistance to colonialism increasing in the early 1900s and intensifying in the aftermath of the world wars, global North corporations and governments no longer needed colonialism.** From their perspective, moving toward the international economic model that would become free trade was much more cost-effective. As the US sociologist Johanna Bockman writes of US government and business elites in the aftermath of the second world war, **“[They] supported neither free trade nor globalization imagined as a level playing field with flows moving evenly around the globe. Instead, they supported the international neocolonial system through the [General Agreement on Tariffs and Trade (GATT)], while using the rhetoric of free trade and modernization to support US national interests.”** Roughly 70 years after the global North created the post-second world war international order, global North corporations continue to own and control a disproportionate amount of the most profitable industries in the global economy. Though many US commentators warn of the rise of Brazil, Russia, India and China, US corporations, in 2013, still had leading positions in 18 of the 25 most profitable industries. Moreover**, US corporations are dominant in the most profitable advanced industries, including banking and financial services, aerospace and defense, chemicals, computer hardware and software, insurance, pharmaceuticals, heavy machinery, and oil and gas.** While the US has roughly 5 percent of the world’s population and 25 percent of the global share of gross domestic product, US corporations likely control far more than 25 percent of the profit-producing capital in the world. **These profits are concentrated among the shareholders of multinationals incorporated in the US, which, according to one estimate, are at least 85 percent owned by US citizens. These profits are not being shared with vast majority of people in the world, most of whom do not own any wealth, let alone shares in corporations.** Global North and US multinational dominance of the world economy is not an accident, as global North governments and multinationals have used the international institutions they created following the second world war to continue to dominate the world economy. **These institutions include the United Nations; the GATT, which has since become the World Trade Organization (WTO); the International Monetary Fund (IMF); and the World Bank. The WTO is the main international institution that makes and enforces trade policies. The core GATT/WTO principles are “non-discrimination” and “national treatment.**” Non-discrimination means that countries will not use their trade policies to discriminate between goods that are produced in different foreign countries. National treatment means that countries will not use their trade policies to favor products produced in their own country over products produced in any other country. As described above, global North countries used their trade policies to promote the products of the corporations based in their countries for centuries. **The free trade principles of non-discrimination and national treatment deny the ability of any country to use those same policies today. This allows global North corporations to ensure that global South governments will not create policies that can help their own corporations develop the wealth they need to compete**. **Additionally, since the GATT/WTO free trade framework facilitates continued global North corporate control over advanced industries, global North corporations are far more likely to develop the high-tech industries of the future, as they own the profits from today’s advanced industries which they can invest in research and development.**

#### But capitalism can’t be saved. The short-term rejuvenation simply pushes back the long-term inevitable collapse which dooms us to death by climate change before the revolution can happen—this card is amazing and also preempts all their “cap solves climate change” answers. #amritaisthebest

Foster 18 [John Bellamy Foster, John Bellamy Foster is a professor of sociology at the University of Oregon and also editor of Monthly Review. He writes about political economy of capitalism and economic crisis, ecology and ecological crisis, and Marxist theory. “Making War on the Planet.” Monthly Review. September 1, 2018. <https://monthlyreview.org/2018/09/01/making-war-on-the-planet/> recut 8-22-2021 amrita]

A short fuse is burning. At the present rate of global emissions, the world is projected to reach the trillionth metric ton of cumulative carbon emissions, breaking the global carbon budget, in less than two decades.[1](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en1) This would usher in a period of dangerous climate change that could well prove irreversible, affecting the climate for centuries if not millennia. Even if the entire world economy were to cease emitting carbon dioxide at the present moment, the extra carbon already accumulated in the atmosphere virtually guarantees that climate change will continue with damaging effects to the human species and life in general. However, reaching the 2°C increase in global average temperature guardrail, associated with a level of carbon concentration in the environment of 450 ppm, would lead to a qualitatively different condition. At that point, climate feedbacks would increasingly come into play threatening to catapult global average temperatures to 3°C or 4°C above preindustrial levels within this century, in the lifetime of many individuals alive today. The situation is only made more serious by the emission of other greenhouse gases, including methane and nitrous oxide. The enormous dangers that rapid climate change present to humanity as a whole, and the inability of the existing capitalist political-economic structure to address them, symbolized by the presence of Donald Trump in the White House, have engendered a desperate search for technofixes in the form of schemes for geoengineering, defined as massive, deliberate human interventions to manipulate the entire climate or the planet as a whole. Not only is geoengineering now being enthusiastically pushed by today’s billionaire class, as represented by figures like Bill Gates and Richard Branson; by environmental organizations such as the Environmental Defense Fund and the Natural Resources Defense Council; by think tanks like the Breakthrough Institute and Climate Code Red; and by fossil-fuel corporations like Exxon Mobil and Shell—it is also being actively pursued by the governments of the United States, the United Kingdom, China, and Russia. The UN Intergovernmental Panel on Climate Change (IPCC) has incorporated negative emissions strategies based on geoengineering (in the form of Bio-energy with Carbon Capture and Storage, or BECCS) into nearly all of its climate models. Even some figures on the political left (where “accelerationist” ideas have recently taken hold in some quarters) have grabbed uncritically onto geoengineering as a deus ex machina—a way of defending an ecomodernist economic and technological strategy—as witnessed by a number of contributions to Jacobin magazine’s Summer 2017 Earth, Wind, and Fire issue.[2](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en2) If the Earth System is to avoid 450 ppm of carbon concentration in the atmosphere and is to return to the Holocene average of 350 ppm, some negative emissions by technological means, and hence geoengineering on at least a limited scale, will be required, according to leading climatologist James Hansen.[3](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en3) Hansen’s strategy, however, like most others, remains based on the current system, that is, it excludes the possibility of a full-scale ecological revolution, involving the self-mobilization of the population around production and consumption. What remains certain is that any attempt to implement geoengineering (even in the form of technological schemes for carbon removal) as the dominant strategy for addressing global warming, subordinated to the ends of capital accumulation, would prove fatal to humanity. The costs of such action, the burden it would put on future generations, and the dangers to living species, including our own, are so great that the only rational course is a long ecological revolution aimed at the most rapid possible reduction in carbon dioxide and other greenhouse gas emissions, coupled with an emphasis on agroecology and restoration of global ecosystems, including forests, to absorb carbon dioxide.[4](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en4) This would need to be accompanied by a far-reaching reconstitution of society at large, aimed at the reinstitution on a higher level of collective and egalitarian practices that were undermined by the rise of capitalism. Geoengineering the Planet Under the Regime of Fossil Capital Geoengineering as an idea dates back to the period of the first discoveries of rapid anthropogenic climate change. Beginning in the early 1960s, the Soviet Union’s (and at that time the world’s) leading climatologist, Mikhail Budyko, was the first to issue a number of warnings on the inevitably of accelerated global climate change in the case of industrial systems based on the burning of fossil fuels.[5](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en5) Although anthropogenic climate change had long been recognized, what was new was the discovery of major climate feedbacks such as the melting of Arctic ice and the disruption of the albedo effect as reflective white ice was replaced with blue seawater, increasing the amount of solar radiation absorbed by the planet and ratcheting up global average temperature. In 1974, Budyko offered, as a possible solution to climate change, the use of high-flying planes to release sulfur particles (forming sulfate aerosols) into the stratosphere. This was meant to mimic the role played by volcanic action in propelling sulfur into the atmosphere, thus creating a partial barrier, limiting incoming solar radiation. **The rationale he offered was that capitalist economies, in particular, would not be able to curtail capital-accumulation-based growth, energy use, and emissions, despite the danger to the climate**.[6](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en6) Consequently, technological alternatives to stabilize the climate would have to be explored. But it was not until 1977 when the Italian physicist Cesare Marchetti proposed a scheme for capturing carbon dioxide emissions from electrical power plants and using pipes to sequester them in the ocean depths that the word “geoengineering” itself was to appear.[7](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en7) Budyko’s pioneering proposal to use sulfur particles to block a part of the sun’s rays, now known as “stratospheric aerosol injection,” and Marchetti’s early notion of capturing and sequestering carbon in the ocean, stand for the two main general approaches to geoengineering—respectively, solar radiation management (SRM) and carbon dioxide removal (CDR). SRM is designed to limit the solar radiation reaching the earth. CDR seeks to capture and remove carbon to decrease the amount entering the atmosphere. Besides stratospheric aerosol injection, first proposed by Budyko, another approach to SRM that has gained influential adherents in recent years is marine cloud brightening. This would involve cooling the earth by modifying low-lying, stratocumulus clouds covering around a third of the ocean, making them more reflective. In the standard scenario, a special fleet of 1,500 unmanned, satellite-controlled ships would roam the ocean spraying submicron drops of seawater in the air, which would evaporate leaving salty residues. These bright salt particles would reflect incoming solar radiation. They would also act as cloud condensation nuclei, increasing the surface area of the clouds, with the result that more solar radiation would be reflected. Both stratospheric aerosol injection and marine cloud brightening are widely criticized as posing enormous hazards on top of climate change itself, while simply addressing the symptoms not the cause of climate change. Stratospheric aerosol injection—to be delivered to the stratosphere by means of hoses, cannons, balloons, or planes—would alter the global hydrological cycle with enormous unpredictable effects, likely leading to massive droughts in major regions of the planet. It is feared that it could shut down the Indian monsoon system disrupting agriculture for as many as 2 billion people.[8](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en8) There are also worries that it might affect photosynthesis and crop production over much of the globe.[9](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en9) The injection of sulfur particles into the atmosphere could contribute to depletion of the ozone layer.[10](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en10) Much of the extra sulfur would end up dropping to the earth, leading to acid rain.[11](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en11) **Most worrisome of all, stratospheric aerosol injection would have to be repeated year after year. At termination the rise in temperature associated with additional carbon buildup would come almost at once with world temperature conceivably rising by 2–3°C in a decade—a phenomenon referred to as the “termination problem.”**[12](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en12) As with stratospheric aerosol injection, **marine cloud brightening would drastically affect the hydrological cycle in unpredictable ways**. For example, it could generate a severe drought in the Amazon, drying up the world’s most vital terrestrial ecosystem with incalculable and catastrophic effects for Earth System stability.[13](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en13) Many of the dangers of cloud brightening are similar to those of stratospheric aerosol depletion. Like other forms of SRM, it would do nothing to stop ocean acidification caused by rising carbon dioxide levels. The first form of CDR to attract significant attention from economic interests and investors was the idea of fertilizing the ocean with iron, thereby boosting the growth of phytoplankton so as to promote greater ocean uptake of carbon. There have been a dozen experiments in this area and the difficulties attending this scheme have proven to be legion. The effects on the ecological cycles of phytoplankton, zooplankton, and a host of other marine species all the way up to whales at the top of the food chain are indeterminate. Although some parts of the ocean would become greener due to the additional iron, other parts would become bluer, more devoid of life, because they would be deprived of the nutrients—nitrate, phosphorus, and silica—needed for growth.[14](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en14) Evidence suggests that the vast portion of the carbon taken in by the ocean would stay on the surface or the intermediate levels of the ocean, with only a tiny part entering the ocean depths, where it would be naturally sequestered.[15](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en15) Among the various CDR schemas, it is BECCS, because of its promise of negative emissions, which today is attracting the most support. This is because it seems to allow nations to overshoot climate targets on the basis that the carbon can be removed from the atmosphere decades later. Although BECCS exists at present largely as an untested computer model, it is now incorporated into almost all climate models utilized by the IPCC.[16](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en16) As modeled, **BECCS would burn cultivated crops in order to generate electricity, with the capture and underground storage of the resulting carbon dioxide. In theory, since plant crops can be seen as carbon neutral—taking carbon dioxide from the atmosphere and then eventually releasing it again—BECCS, by burning biomass and then capturing and sequestering the resulting carbon emissions, would be a means of generating electricity while at the same time resulting in a net reduction of atmospheric carbon. BECCS, however, comes into question the moment one moves from the abstract to the concrete.** The IPCC’s median-level models are projected to remove 630 gigatons of carbon dioxide from the atmosphere, around two thirds of the total emitted between the Industrial Revolution and 2011.[17](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en17) This would occur on vast crop plantations to be run by agribusiness. **To remove a trillion tons of carbon dioxide from the atmosphere as envisioned in the more ambitious scenarios would take up a land twice the size of India (or equal to Australia), about half as much land as currently farmed globally, requiring a supply of freshwater equal to current total global agricultural usage.**[18](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en18) The costs of implementing BECCS on the imagined scales have been estimated by climatologist James Hansen—who critically notes that negative emissions have “spread like a cancer” in the IPCC climate models—to be on the order of hundreds of trillions of dollars, with “minimal estimated costs” ranging as high as $570 trillion this century.[19](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en19) The effects of BECCS—used as a primary mechanism and designed to avoid confrontation with the present system of production—would therefore be a massive displacement of small farmers and global food production. Moreover, the notion that the forms of large-scale, commercial agricultural production presumed in BECCS models would be carbon neutral and would thus result in negative emissions with sequestration has been shown to be exaggerated or false when the larger effects on global land use are taken into account. BECCS crop cultivation is expected to take place on vast monoculture plantations, displacing other forms of land use. Yet, biologically diverse ecosystems have substantially higher rates of carbon sequestration in soil and biomass than does monocrop agriculture.[20](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en20) An alternative to BECCS in promoting carbon sequestration would be to promote massive, planetary ecological restoration, including reforestation, together with the promotion of agroecology modeled on traditional forms of agriculture organized around nutrient recycling and improved soil management methods.[21](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en21)This would avoid the metabolic rift associated with agribusiness monocultures, which are less efficient both in terms of food production per hectare and carbon sequestration. Another commonly advocated technofix, carbon capture and sequestration (CCS), is not strictly a form of geoengineering since it is directed at capturing and sequestering carbon emissions of particular electrical plants, such as coal-fired power plants. However, **the promotion of a CCS infrastructure on a planetary scale as a means of addressing climate change—thereby skirting the necessity of an ecological revolution in production and consumption—is best seen as a form of planetary geoengineering due to its immense projected economic and ecological scale**. Although CCS would theoretically allow the burning of fossil fuels from electrical power plants with no carbon emissions into the atmosphere, **the scale and the costs of CCS operations are prohibitive.** As Clive Hamilton writes in Earthmasters: The Dawn of the Age of Climate Engineering, CCS for a single “standard-sized 1,000 megawatt coal-fired plant….would need 30 kilometers of air-sucking machinery and six chemical plants, with a footprint of 6 square kilometers.”[22](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en22) Energy expert Vaclav Smil has calculated that, “in order to sequester just a fifth of current [2010] CO2 emissions we would have to create an entirely new worldwide absorption-gathering-compression-transportation-storage industry whose annual throughput would have to be about 70 percent larger than the annual volume now handled by the global crude oil industry, whose immense infrastructure of wells, pipelines, compressor stations and storage took generations to build.”[23](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en23) **Capturing and sequestering current U.S. carbon dioxide emissions would require 130 billion tons of water per year, equal to about half the annual flow of the Columbia River. This new gigantic infrastructure would be placed on top of the current fossil fuel infrastructure—all in order to allow for the continued burning of fossil fuels**.[24](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en24) A Planetary Precautionary Principle for the Anthropocene If today’s planetary ecological emergency is a product of centuries of war on the planet as a mechanism of capital accumulation, fossil-capital generated geoengineering schemes can be seen as gargantuan projects for keeping the system going by carrying this war to its ultimate level. Geoengineering under the present regime of accumulation has the sole objective of keeping the status quo intact—neither disturbing the dominant relations of capitalist production nor even seeking so much as to overturn the fossil-fuel industry with which capital is deeply intertwined. Profits, production, and overcoming energy poverty in the poorer parts of the world thus become justifications for keeping the present fossil-capital system going, maintaining at all cost the existing capitalist environmental regime. The Promethean mentality behind this is well captured by a question that Rex Tillerson then CEO of Exxon Mobil Corporation asked—without a trace of irony—at an annual shareholders meeting in 2013: “What good is it to save the planet if humanity suffers?”[25](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en25) The whole history of ecological crisis leading up the present planetary emergency, punctuated by numerous disasters—from the near total destruction of the ozone layer, to nutrient loading and the spread of dead zones in the ocean, to climate change itself—serves to highlight the march of folly associated with any attempt to engineer the entire planet. The complexity of the Earth System guarantees that enormous unforeseen consequences would emerge. As Frederick Engels warned in the nineteenth century, “Let us not…flatter ourselves overmuch on account of our human victories over nature. For each such victory nature takes its revenge on us. Each victory, it is true, in the first place brings about the results we expected, but in the second and third places it has quite different, unforeseen effects which only too often cancel the first.”[26](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en26) In the face of uncertainty, coupled with an extremely high likelihood of inflicting incalculable harm on the Earth System, it is essential to invoke what is known as the Precautionary Principle whenever the question of planetary geoengineering is raised. As ecological economist Paul Burkett has explained, the strong version of the Precautionary Principle, necessarily encompasses the following: (1) The Precautionary Principle Proper, which says that if an action may cause serious harm, there is a case for counteracting measures to ensure that the action does not take place. (2) The Principle of Reverse Onus, under which it is the responsibility of those supporting an action to show that it is not seriously harmful, thereby shifting the burden of proof off those potentially harmed by the action (e.g. the general population and other species occupying the environment). In short, it is safety, rather than potential harm, that needs to be demonstrated. (3) The Principle of Alternative Assessment, stipulating that no potentially harmful action will be undertaken if there are alternative actions available that safely achieve the same goals as the action proposed. (4) All societal deliberations bearing on the application of features 1 through 3 must be open, informed, and democratic, and must include all affected parties.[27](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en27) It is clear that geoengineering promoted in a context of a capitalist regime of maximum accumulation would be ruled out completely by a strong Precautionary Principle based on each of the criteria listed above. There is a near certainty of extreme damage to the human species as a whole arising from all of the major geoengineering proposals. If the onus were placed on status quo proponents of capitalist geoengineering to demonstrate that great harm to the planet as a place of human habitation would not be inflicted, such proposals would fail the test. Since the alternative of not burning fossil fuels and promoting alternative forms of energy is entirely feasible, while planetary geoengineering carries with it immense added dangers for the Earth System as a whole, such a technofix as a primary means of checking global warming would be excluded by that criterion, too. Finally, geoengineering under the present economic and social system invariably involves some entity from the power structure—a single multi-billionaire, a corporation, a government, or an international organization—implementing such action ostensibly on behalf of humanity as a whole, while leaving most affected parties worldwide out of the decision-making process, with hundreds of millions, perhaps billions, of people paying the environmental costs, often with their lives. In short, geoengineering, particularly if subordinated to the capital accumulation process, violates the most sacred version of the Precautionary Principle, dating back to antiquity: First Do No Harm. Eco-Revolution as the Only Alternative As an extension of the current war on the planet, a regime of climate geoengineering designed to keep the present mode of production going is sharply opposed to the view enunciated by Barry Commoner in 1992 in Making Peace with the Planet, where he wrote: “If the environment is polluted and the economy is sick, the virus that causes both will be found in the system of production.”[28](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en28) There can be no doubt today that it is the present mode of production, particularly the system of fossil capital, that needs to change on a global scale. In order to stop climate change, the world economy must quickly shift to zero net carbon dioxide emissions. This is well within reach with a concerted effort by human society as a whole utilizing already existing sustainable technological means—particularly when coupled with necessary changes in social organization to reduce the colossal waste of resources and lives that is built into the current alienated system of production. Such changes could not simply be implemented from the top by elites, but rather would require the self-mobilization of the population, inspired by the revolutionary actions of youth aimed at egalitarian, ecological, collective, and socialized solutions—recognizing that it is the world that they will inherit that is most at stake. Today’s necessary ecological revolution would include for starters: (1) an emergency moratorium on economic growth in the rich countries coupled with downward redistribution of income and wealth; (2) radical reductions in greenhouse gas emissions; (3) rapid phase-out of the entire fossil fuel energy structure; (4) substitution of an alternative energy infrastructure based on sustainable alternatives such as solar and wind power and rooted in local control; (5) massive cuts in military spending with the freed-up economic surplus to be used for ecological conversion; (6) promotion of circular economies and zero-waste systems to decrease the throughput of energy and resources; (7) building effective public transportation, together with measures to decrease dependence on the private automobile; (8) restoration of global ecosystems in line with local, including indigenous, communities; (9) transformation of destructive, energy-and chemical-intensive agribusiness-monocultural production into agroecology, based on sustainable small farms and peasant cultivation with their greater productivity of food per acre; (10) institution of strong controls on the emission of toxic chemicals; (11) prohibition of the privatization of freshwater resources; (12) imposition of strong, human-community-based management of the ocean commons geared to sustainability; (13) institution of dramatic new measures to protect endangered species; (14) strict limits imposed on excessive and destructive consumer marketing by corporations; (15) reorganization of production to break down current commodity chains geared to rapacious accumulation and the philosophy of après moi le déluge; and (16) the development of more rational, equitable, less wasteful, and more collective forms of production.[29](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en29) Priority in such an eco-revolution would need to be given to the fastest imaginable elimination of fossil fuel emissions, but this would in turn require fundamental changes in the human relationship to the earth and in the relationship of human beings to each other. A new emphasis would have to be placed on sustainable human development and the creation of an organic system of social metabolic reproduction. Centuries of exploitation and expropriation, including divisions on the basis of class, gender, race, and ethnicity, would have to be transcended. The historical logic posed by current conditions thus points to the necessity of a long ecological revolution, putting into place a new system of sustainable human development aimed at addressing the totality of needs of human beings as both natural and social beings: what is now called ecosocialism.

#### Endorse a dictatorship of the proletariat. Global capitalism’s inequities can only be fully purged once its intrinsic contradictions expose themselves and allow for the collapse of the bourgeoisie state. A dictatorship is required to solidify our transition to communism and is why you should reject any perm that attempts to preserve the state apparatus.

Revolution 73 Proletarian Dictatorship Vs. Bourgeois “Democracy”; Encyclopedia of Anti-Revisionism On-Line; Revolution; May 1973; Edited by Paul Saba; <https://www.marxists.org/history/erol/ncm-1/pd-v-bd.htm>; CE

This situation can only be reversed by socialist revolution to overthrow capitalist rule. The first task of this revolution is to smash the power of the bourgeois state through the armed might of the workers and their allies. The bourgeoisie and its armed forces are disarmed. The political structure and the courts and bureaucracies of the bourgeois state–and all its rules and regulations aimed at enslaving the people–are abolished. Once in power the working class moves to socialize the ownership of the means of production-making them the common property of society–to resolve the basic contradiction of capitalism, to break down the obstacles capitalism puts in the way of progress, and makes possible the rapid development of society. Socialism is a higher form of society than capitalism, and is bound to replace it all over the world, just as capitalism replaced the feudal system of landlords and serfs. In the process of socialist revolution the working class and its allies builds up their own state machine, the dictatorship of the proletariat. Workers are armed and organized into people’s militias and armed forces. The capitalists and their enforcers are punished for their crimes against the people. This dictatorship imposed by the working class on the former exploiters and over new capitalist elements who arise under socialism is absolutely necessary in order to crush their resistance and prevent them from wrecking socialism and restoring their rule. Although this country’s capitalists like to point to the Soviet Union today and say, “This is what communism means,” the dictatorship of the proletariat is not what exists in the Soviet Union today. The working class was once in power in the Soviet Union and was building a powerful socialist society which was the bright hope of workers around the world. But the capitalist class was able to stage a comeback, when a new bourgeoisie seized power in the mid-’50s and turned the Soviet Union back from a socialist country to a capitalist country. Today the Soviet Union, as well as Cuba and most Eastern European countries under its thumb, are examples of bourgeois dictatorships. They disguise themselves as socialist countries where the working class rules, but in reality a new capitalist class rules and enforces its strict dictatorship over the working class. The dramatic events in China since the death of Mao Tsetung and the arrest of those most closely associated with him are signs of the fact that a new bourgeoisie has seized the reins in China and is attempting to steer this country, too, down the capitalist road. The dictatorship of the proletariat is qualitatively different from the bourgeois state that exists in the U.S. and the Soviet Union and other capitalist countries. Its purpose is not to enforce exploitation and the rule of a tiny minority. The proletarian state for the first time in history means the rule of the majority, the working class, allied with all of the oppressed. At the same time that there is a dictatorship over the former capitalist exploiters there is the unparalleled extension of real democracy for those oppressed by capitalism–the working people. The proletarian state is a million times more democratic than even the most democratic capitalist state. No longer do a handful of parasites run society for their own private profit and the working class sets out to transform all of society. To accomplish this the government is set up and run by workers, and the press, television stations, schools, etc., which the capitalists use to mold public opinion and shore up their rule, are stripped from them and become the common property of the working class and the masses of people. Since the working class and the socialist society built under its leadership represent the interests of the great majority of society, the workers openly proclaim their rule and openly dictate to their former exploiters and tormentors. The rule of the working class cannot be exercised by deceiving the masses of people, but only by their active involvement in every part of the political life of society and raising their political consciousness. But socialism is not a Utopia. It replaces capitalism, but cannot do away in one stroke with the inequalities, the old selfish ideas and the remnants of capitalism. Socialism itself is only the lower stage and transition to a still higher form of society, communism, where there will no longer be any classes, and, therefore, there will no longer be any need for the dictatorship of the proletariat. During this entire transition period, the working class must maintain and strengthen its rule over the former exploiters and the new bourgeois elements that arise under socialism, prevent them from subverting the new society and restoring the old, and overcome the remaining influences of their dog-eat-dog, “look out for number one” philosophy. When everyone in society can share equally in mental and manual work, in producing goods and services and managing the affairs of society; when the outlook of the working class, putting the common good above narrow, individual interests, has become “second nature” to members of society; when goods and services can be produced so abundantly that money is no longer needed to exchange them and they can be distributed to people solely according to their needs; then society will have reached the stage of communism. Classes will have been completely eliminated, and the state as such will be replaced by the common administration of society by all its members. As this happens, throughout the world, mankind will have scaled a great mountain and will look out on a whole new horizon. The experience of the socialist countries, the Soviet Union under the leadership of Lenin and Stalin and the People’s Republic of China during the lifetime of Mao Tsetung, has shown that the working class can overthrow the exploiters and run society in the interests of the masses of people. The fact that the rule of the working class was overthrown in the Soviet Union and now temporarily in China also shows how stubborn the class struggle is under socialism and the need for the proletarian dictatorship to be maintained. Communism will show that the people can do away completely and forever with the institutions and influences of capitalism and all other forms of class society. Karl Marx, founder of communist philosophy and of the revolutionary workers movement, wrote, “The existence of classes is only bound up with particular phases in the development of production . . . the class struggle necessarily leads to the dictatorship of the proletariat. . . [and] this dictatorship itself only constitutes the transition to the abolition of classes and to a classless society. ”

## Econ DA

#### Economy’s recovering now – Delta and inflation are challenges but surmountable

Sully 8/19 - Evan Sully, 8/19/21, Reuters, U.S. leading indicator points to further economic recovery in July, https://www.reuters.com/world/us/us-leading-indicator-points-further-economic-recovery-july-2021-08-19/ WJ

(Reuters) -A gauge of future U.S. economic activity increased in July, suggesting the economy continued to expand from the recession caused by the coronavirus pandemic even in the face of a resurgence in cases fueled by the Delta variant.

The Conference Board on Thursday said its index of leading economic indicators (LEI) rose 0.9% last month to 116.0. Economists polled by Reuters had expected an increase of 0.8%.

Even though the U.S. economy is forecast to grow this year at its fastest pace since the 1980s, there are signs the recovery could be cooling off. Supply-chain bottlenecks continue to slow manufacturing growth, and consumer sentiment plummeted in early August to a decade-low as Americans gave faltering outlooks on everything from personal finances to inflation and employment.

Meanwhile, consumer price increases slowed in July, the Labor Department said last week, but inflation overall remained at a historically high level amid supply-chain disruptions as well as stronger demand for travel-related services.

"The U.S. LEI registered another large gain in July, with all components contributing positively," said Ataman Ozyildirim, the Conference Board's senior director of economic research. "While the Delta variant and/or rising inflation fears could create headwinds for the U.S. economy in the near term, we expect real GDP (gross domestic product) growth for 2021 to reach 6.0% year-over-year, before easing to a still robust 4.0% growth rate for 2022."

The LEI's coincident index, a measure of current economic conditions, rose 0.6% in July after increasing 0.4% in June.

But the lagging index increased 0.6% last month after being unchanged in June and increasing 0.8% in May.

"Even with more moderate growth in the second half of the year, the economy’s momentum remains encouraging with constraints on labor supply easing, a trove of excess savings still waiting to be drawn down, and strong vaccine numbers that will insulate the economy from the worsening health situation more so than prior waves," said Mahir Rasheed, U.S. economist at Oxford Economics.

#### Biotech is resilient and fundamentals are strong – but this trend relies on innovation and investment

Cancherini et al 21 -- Laura Cancherini is a consultant in McKinsey’s Brussels office; Joseph Lydon is an associate partner in the Zurich office, where Jorge Santos da Silva is a senior partner and Alexandra Zemp is a partner, McKinsey, What’s ahead for biotech: Another wave or low tide?, April 30, 2021, https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/whats-ahead-for-biotech-another-wave-or-low-tide WJ

As the pandemic spread across the globe in early 2020, biotech leaders were initially pessimistic, reassessing their cash position and financing constraints. When McKinsey and BioCentury interviewed representatives from 106 biotech companies in May 2020,4 half of those interviewed were expecting delays in financing, and about 80 percent were tight on cash for the next two years and considering trade-offs such as deferring IPOs and acquisitions. Executives feared that valuations would decline because of lower revenue projections and concerns about clinical-trial delays, salesforce-effectiveness gaps, and other operational issues.

Belying this downbeat mood, biotech has in fact had one of its best years so far. By January 2021, venture capitalists had invested some 60 percent more than they had in January 2020, with more than $3 billion invested worldwide in January 2021 alone.5 IPO activity grew strongly: there were 19 more closures than in the same period in 2020, with an average of $150 million per raise, 17 percent more than in 2020. Other deals have also had a bumper start to 2021, with the average deal size reaching more than $500 million, up by more than 66 percent on the 2020 average (Exhibit 3).6

What about SPACs?

The analysis above does not include special-purpose acquisition companies (SPACs), which have recently become significant in IPOs in several industries. Some biotech investors we interviewed believe that SPACs represent a route to an IPO. How SPACs will evolve remains to be seen, but biotechs may be part of their story.

Fundamentals continue strong

When we asked executives and investors why the biotech sector had stayed so resilient during the worst economic crisis in decades, they cited innovation as the main reason. The number of assets transitioning to clinical phases is still rising, and further waves of innovation are on the horizon, driven by the convergence of biological and technological advances.

In the present day, many biotechs, along with the wider pharmaceutical industry, are taking steps to address the COVID-19 pandemic. Together, biotechs and pharma companies have more than 250 vaccine candidates in their pipelines, along with a similar number of therapeutics. What’s more, the crisis has shone a spotlight on pharma as the public seeks to understand the roadblocks involved in delivering a vaccine at speed and the measures needed to maintain safety and efficacy standards. To that extent, the world has been living through a time of mass education in science research and development.

Biotech has also benefited from its innate financial resilience. Healthcare as a whole is less dependent on economic cycles than most other industries. Biotech is an innovator, actively identifying and addressing patients’ unmet needs. In addition, biotechs’ top-line revenues have been less affected by lockdowns than is the case in most other industries.

Another factor acting in the sector’s favor is that larger pharmaceutical companies still rely on biotechs as a source of innovation. With the top dozen pharma companies having more than $170 billion in excess reserves that could be available for spending on M&A, the prospects for further financing and deal making look promising.

#### Pharma collapses without strong IP protections

Buckland 17 - Danny Buckland (award-winning journalist who writes about health, general features and news, shortlisted for the prestigious Mind Media Awards for his work covering mental health issues), April 26, 2017, “Patents are lifeblood of pharmas”, https://www.raconteur.net/legal/intellectual-property/patents-are-lifeblood-of-pharmas/ WJ

Pharmaceutical companies are staffed by ranks of attorneys, and the intellectual property (IP) specialist is now a pivotal position in the research and development (R&D) cycle that keeps a company profitable and new drugs flowing to patients.

Tighter regulatory frameworks and even tighter purse strings controlled by healthcare systems are putting the squeeze on pharma returns and limiting R&D budgets. Figures from analysts Deloitte in 2016 reported projected return on investment was at a six-year low while development costs had risen by almost a third.

The litany of market changes is vexing for the industry. The generation of blockbuster drugs, with massive returns, has ended, national healthcare budgets are receding, traditional management methods are being challenged and new players, such as electronics and software companies, are entering the arena.

“For pharmaceutical companies, the patent system is its lifeblood and it simply wouldn’t survive without it,” says Simon Wright, a patent attorney with J A Kemp and chairman of the Chartered Institute of Patent Attorneys’ life sciences committee. “The cost of getting a product to market is high and there is a high failure rate, so you are not going to get investment unless you can protect your product and innovation. Quite frankly, it would all collapse without good IP.”

#### Biopharmaceutical research is the bedrock of our economy – even minor reductions in income result in mass unemployment and butterfly effects

Sullivan 11 – Thomas Sullivan (Thomas Sullivan is Editor of Policy and Medicine, President of Rockpointe Corporation, founded in 1995 to provide continuing medical education to healthcare professionals around the world. Prior to founding Rockpointe, Thomas worked as a political consultant), July 12, 2011, Study Shows Importance of Biopharmaceutical Jobs For US Economy,” Policy and Medicine, http://www.policymed.com/2011/07/study-shows-importance-of-biopharmaceutical-jobs-for-us-economy-for-every-20-billion-loss-in-revenue.html WJ

Biopharmaceutical research companies produce the highest-value jobs, the types of jobs Americans want in the 21st century economy, the kinds of jobs that can drive future economic growth. No other sector has the ability to drive innovation, create high-quality jobs and provide new life-saving medicines for patients.

According to a recent report from the Battelle Technology Partnership Practice (TPP), “nationwide, the biopharmaceutical sector supported a total of 4 million jobs in 2009, including nearly 675,000 direct jobs. Battelle is the world’s largest non-profit independent research and development organization, providing innovative solutions to the world’s most pressing needs through its four global businesses.

TPP has an established reputation in state-by-state assessment of the biopharmaceutical sector, and has recently undertaken major impact assessment projects for the Human Genome Project, the nation’s biotechnology sector, and major bioscience organizations such as Mayo Clinic. TPP has also been active in provision of analysis to industry organizations, including the Council for American Medical Innovation, PhRMA and BIO-the Biotechnology Industry Organization.

Each job in a biopharmaceutical research company supported almost 6 additional jobs in other sectors, ranging from manufacturing jobs to construction and other building service jobs to contract researchers and child care providers. Together, this biopharmaceutical sector-related workforce received $258 billion in wages and benefits in 2009.

“Battelle also found that across all occupations involved in the biopharmaceutical sector, the average wage is higher than across all other private sector industries, due to the sector’s role as a ‘high value-added sector.” Specifically, the annual average personal income of a biopharmaceutical worker was $118,690 in 2009 as compared to $64,278 in the overall economy.

Additionally, the biopharmaceutical sector’s total economic output (including direct, indirect and induced impacts) was $918 billion in 2009. The sector generated an estimated $85 billion tax revenues in 2009—$33 billion in state and local and more than $52 billion in federal. This impact comprises $382 billion in direct impact of biopharmaceutical businesses and $535 billion in indirect and induced impacts (an output multiplier of 2.4—meaning that every $1 dollar in output generated by the biopharmaceutical sector generates another $1.4 in output in other sectors of the economy).

To put this export volume into perspective, 2010’s total biopharmaceutical exports of $46.7 billion compares favorably to other major U.S. exports including: automobiles ($38.4 billion in 2010 exports); plastics and rubber products ($25.9 billion); communications equipment ($27 billion) and computers ($12.5 billion).

In addition, the U.S. Congressional Budget Office noted that, “the pharmaceutical industry is one of the most research-intensive industries in the United States and that pharmaceutical firms invest as much as five times more in research and development, relative to their sales, than the average U.S. manufacturing firm.”

At over $105,000 in biopharmaceutical R&D per employee, the sector is way ahead of the average across all U.S. manufacturing which stands at about $10,000 per employee—and is far ahead of the second and third ranked sectors of “communications equipment” and “semiconductors, which respectively spend $63,000 and $40,000 per employee in R&D annually.

PhRMA Statement on Battelle Report

Consequently, Pharmaceutical Research and Manufacturers of America (PhRMA) President and CEO John J. Castellani issued a statement discussing the results from this report and the biopharmaceutical research sector’s impact on jobs and the American economy.

Castellani asserted that, “at a time when the U.S. is facing a jobs crisis, evidenced by the terrible employment numbers from last Friday, it is critical that our policymakers embrace dynamic and innovative business sectors such as the biopharmaceutical research sector and refrain from stifling job growth through shortsighted proposals such as government-mandated price controls in Medicare Part D.”

Specifically, the PhRMA CEO pointed to a new paper from the Battelle Technology Partnership Practice, which underscored the pharmaceutical sector’s tremendous contribution to America’s economy. Castellani recognized that, “startling potential job losses would result from undermining the business foundations of biopharmaceutical companies.”

He noted that the Battelle report estimated “that a $20 billion per year reduction in biopharmaceutical sector revenue would result in 260,000 job losses across the U.S. economy” and a $59 billion reduction in U.S. economic activity. As a result, Castellani recognized that, “as the President and Congressional leaders negotiate an important agreement on the debt ceiling and the future of the nation’s economy, it is critical that the jobs crisis is not exacerbated.”

For example, Castellani noted how “the President and some in Congress have proposed including government-mandated rebates in Medicare Part D as part of a debt ceiling agreement.” However, he recognized that “such a provision would have a dramatic negative effect on the economy and patients, and could undermine the success of the Part D program, which has very high beneficiary satisfaction and has cost far less than original government projections.”

He pointed to the “Battelle numbers, which clearly demonstrated that reducing the biopharmaceutical sector’s annual revenue by $20 billion would be a serious blow to employment.” Castellani added that, “while the research is not specific to any one policy or event, proposals being considered, such as government-mandated Part D rebates, would be expected to have revenue impact of this magnitude.”

Moreover, he noted that, “Part D is an unparalleled success, providing unprecedented access to life-saving medicines for seniors.” Accordingly, Castellani asserted that PhRMA does not “believe policies that discourage R&D and cutting-edge science and that will inevitably slow the development of needed new medicines are fair for seniors waiting for new treatments against our most challenging and costly diseases.”

Battelle Report

The Battelle Report quantifies the economic impact of the biopharmaceutical sector on the U.S. economy and jobs using input/output analysis, measures the direct and indirect impacts of the biopharmaceutical sector, and quantifies the economic impacts that would occur if biopharmaceutical revenues increase or decrease from significant changes in the business operating environment.

The report also highlights some of the functional impacts of the sector—the wide-ranging benefits provided through the biopharmaceutical sector’s contributions to enhancing human health, improving life spans and sustaining the high quality-of-life that Americans enjoy—and assesses the contributions of the biopharmaceutical sector to key areas of importance to our economy— innovation, product exports and quality of jobs produced.

The Battelle Report starts by recognizing that the biopharmaceutical sector has all of the characteristics for an ideal industry for economic growth and sustainability in the U.S. Specifically, the biopharmaceutical sector:

Grows in output and employment even in tough economic times

Provides high wage, good quality jobs

Is innovative and deploys high-technology to generate comparative advantage for U.S. companies

Generates significant exports that boost the U.S. economy

Has a strong supply chain that drives further economic growth across the economy through “multiplier effects”

Builds on America’s long-standing strengths and investment in fundamental and applied research

Encourages capital flows to sustain growth, and is profitable to provide funds for reinvestment into the research and development (R&D) cycle;

Generates federal, state and local taxes and other economic contributions that support public services

Is sustainable and not a major drain on global resources

Is geographically dispersed, providing opportunities for job creation and economic growth across many areas of the nation, not just a few selected places

Produces a product of value to society, something that improves the quality of life for humankind, including

Improved life spans (personal longevity)

Improved productivity resulting from prevention and effective management of disease and chronic conditions; and

Reductions in unnecessary hospitalizations resulting in potential cost-offsets elsewhere in the health care system.

Fundamental to major progress in human longevity, reducing the marginalization of individuals from disease and disability, and generally improving our quality-of-life, biopharmaceuticals are a unique contributor to societal and individual well-being.

Moreover, the output of the biopharmaceutical sector is highly valued by society because the sector develops and manufactures a broad-range of unique products to treat disorders and diseases that, were they to go untreated, can ruin individual quality of life, personal abilities and productivity. In many instances, biopharmaceuticals are central to helping to prevent and treat a range of public health issues, address pandemic risk and thereby support national economic security.

For example, innovation in the biopharmaceutical sector, combined with the diagnostic and treatment skills of U.S. healthcare professionals, has contributed to a lengthening of the average life span of Americans. In 1900, the expected life span of an American at birth was just 47.3 years. With the advent of more modern medicines and advanced medical knowledge, life expectancy at birth has seen a steady increase rising to 69.7 years in 1960, and 77.9 years in 2007.

In fact, the National Bureau of Economic Research reports that “there is a highly statistically significant relationship between the number of new molecular entities [drugs] approved by the FDA and increased longevity.” Furthermore, Lichtenberg found in a study of FDA data that “approval of priority-review drugs—those considered by the FDA to offer significant improvements in the treatment, diagnosis, or prevention of a disease—has a significant positive impact on longevity.”

Additionally, the American Hospital Association (AHA) notes that “advances in medicine contribute to national economic growth by helping Americans recover more quickly from injury and illness, avoid lost or ineffective work time due to flare-ups of chronic conditions, and live longer with higher quality of life.” Without effective medicines and treatments for illnesses, injuries, pain and chronic conditions, the productivity of the U.S. economy would clearly be greatly impaired. Biopharmaceuticals are a key contributor to a more productive and healthy America and U.S. economy.

Beyond direct employment in biopharmaceutical companies, the biopharmaceutical sector is the foundation upon which one of the United States’ most dynamic innovation and business ecosystems is built. A large part of the modern biomedical economy is built upon a robust foundation of biopharmaceutical companies that perform and support advanced biomedical and technological R&D, and act as the funnel and distribution engine for getting life-saving and quality-of-life-sustaining therapeutics to the marketplace.

Providing R&D impetus and funding, capital resources, technology licensing opportunities, and a sophisticated market access and distribution system, the biopharmaceutical sector is of central importance to the much broader biomedical and life sciences economy.

Fueled by private investment capital, venture capital investments, and public/private collaborations, and enabled by the U.S. open market system, the nation has been able to advance biomedical innovation, which in turn has led to new start-up companies, business growth and exports across the world.

Conclusion

Despite the tremendous success in the biopharmaceutical industry, emerging infectious diseases continue to present new challenges and a substantial volume of long-standing diseases such as cancer, diabetes, neurodegenerative diseases, psychiatric diseases, immunological diseases, etc. continue to demand novel treatments and improved therapeutics. There are millions of people suffering from diseases and disorders for which a therapy has yet to be found. The need for ongoing biopharmaceutical research and development is simply enormous.

The only way the U.S. economy can stay ahead of international competition is by using advanced R&D and innovation to drive the growth of high value-added industries. By leveraging investment in federal lab, university and industry R&D, our nation is able to produce high-value, typically technologically advanced products that the rest of the world values highly. In recent decades, life sciences have come to the fore as a leading driver of U.S. technological innovation and competitive advantage, and the biopharmaceutical sector is a key foundation of the life sciences innovation ecosystem.

#### Bipoharma collapse causes economic meltdown – it’s far worse than previous recessions

Howrigon 17 -- Ron Howrigon “(President and Founder of Fulcrum Strategies. He earned a Bachelor's degree in Business Administration from Western Michigan University and a Master's in Economics from North Carolina State University, focusing in the area of Health Economics) http://www.kevinmd.com/blog/2017/01/health-care-crash-u-s-economy.html, January 19 2017, WJ

In recent history, the U.S. economy has experienced the near catastrophic failure of two major market segments. The first was the auto industry and the second was the housing industry. While each of these reached their breaking point for different reasons, they both required a significant government bailout to keep them from completely melting down. What is also true about both of those market failures is that, looking back, it’s easy to see the warning signs. What happens if health care is the next industry to suffer a major failure and collapse? It’s safe to say that a health care meltdown would make both the automotive and housing industries’ experiences seem minor in comparison. While that may be hard to believe, it becomes clear if you look at the numbers. The auto industry contributes around 3.5 percent of this country’s GDP and employs 1.7 million people. This industry was deemed “too big to fail” which is the rationale the U.S. government used to finance its bail out. From 2009 through 2014, the federal government invested around $80 billion in the U.S. auto industry to keep it from collapsing. Health care is five times larger than the auto industry in terms of its percentage of GDP, and is ten times larger than the auto industry in terms of the number of people it employs. The construction industry (which includes all construction, not just housing) contributes about 6 percent of our country’s GDP and employs 6.1 million people. Again, the health care market dwarfs this industry. It’s three times larger in terms of GDP production and, with 18 million people employed in the health care sector, it’s three times larger than construction in this area, too. These comparisons give you an idea of just how significant a portion health care comprises of the U.S. economy. It also begins to help us understand the impact it would have on the economy if health care melted down like the auto and housing industries did. So, let’s continue the comparison and use our experience with the auto and housing industries to suggest to what order of magnitude the impact a failure in the health care market would cause our economy. The bailout in the auto industry cost the federal government $80 billion over five years. Imagine a similar failure in health care that prompted the federal government to propose a similar bailout program. Let’s imagine the government felt the need to inject cash into hospital systems and doctors’ offices to keep them afloat like they did with General Motors. Since health care is five times the size of the auto industry, a similar bailout could easily cost in excess of $400 billion. That’s about the same amount of money the federal government spends on welfare programs. To pay for a bailout of the health care industry, we’d have to eliminate all welfare programs in this country. Can you imagine the impact it would have on the economy if there were suddenly none of the assistance programs so many have come to rely upon? When the housing market crashed, it caused the loss of about 3 million jobs from its peak employment level of 7.4 million in 1996. Again, if we transfer that experience to the health care market, we come up with a truly frightening scenario. If health care lost 40 percent of its jobs like housing did, it would mean 7.2 million jobs lost. That’s more than four times the number of people who are employed by the entire auto industry — an industry that was considered too big to be allowed to fail. The loss of 7.2 million jobs would increase the unemployment rate by 5 percent. That means we could easily top the all-time high unemployment rate for our country. OK, now it’s time to take a deep breath. I’m not convinced that health care is fated to unavoidable failure and economic catastrophe. That’s a worst-case scenario. The problem is that at even a fraction the severity of the auto or housing industry crises we’ve already faced, a health care collapse would still be devastating. Health care can’t be allowed to continue its current inflationary trending. I believe we are on the verge of some major changes in health care, and that how they’re implemented will determine their impact on the overall economic picture in this country and around the world. Continued failure to recognize the truth about health care will only cause the resulting market corrections to be worse than they need to be. I don’t want to diminish the pain and anguish that many people caught up in the housing crash experienced. I think an argument can be made, though, that if the health care market crashes and millions of people end up with no health care, the resulting fallout could be could be much worse than even the housing crisis.

#### Extinction

Tønnesson 15 Stein Research Professor, Peace Research Institute Oslo; Leader of East Asia Peace program, Uppsala University, 2015, “Deterrence, interdependence and Sino–US peace,” International Area Studies Review, Vol. 18, No. 3, p. 297-311

Several recent works on China and Sino–US relations have made substantial contributions to the current understanding of how and under what circumstances a combination of nuclear deterrence and economic interdependence may reduce the risk of war between major powers. At least four conclusions can be drawn from the review above: first, those who say that interdependence may both inhibit and drive conflict are right. Interdependence raises the cost of conflict for all sides but asymmetrical or unbalanced dependencies and negative trade expectations may generate tensions leading to trade wars among inter-dependent states that in turn increase the risk of military conflict (Copeland, 2015: 1, 14, 437; Roach, 2014). The risk may increase if one of the interdependent countries is governed by an inward-looking socio-economic coalition (Solingen, 2015); second, the risk of war between China and the US should not just be analysed bilaterally but include their allies and partners. Third party countries could drag China or the US into confrontation; third, in this context it is of some comfort that the three main economic powers in Northeast Asia (China, Japan and South Korea) are all deeply integrated economically through production networks within a global system of trade and finance (Ravenhill, 2014; Yoshimatsu, 2014: 576); and fourth, decisions for war and peace are taken by very few people, who act on the basis of their future expectations. International relations theory must be supplemented by foreign policy analysis in order to assess the value attributed by national decision-makers to economic development and their assessments of risks and opportunities. If leaders on either side of the Atlantic begin to seriously fear or anticipate their own nation’s decline then they may blame this on external dependence, appeal to anti-foreign sentiments, contemplate the use of force to gain respect or credibility, adopt protectionist policies, and ultimately refuse to be deterred by either nuclear arms or prospects of socioeconomic calamities. Such a dangerous shift could happen abruptly, i.e. under the instigation of actions by a third party – or against a third party. Yet as long as there is both nuclear deterrence and interdependence, the tensions in East Asia are unlikely to escalate to war. As Chan (2013) says, all states in the region are aware that they cannot count on support from either China or the US if they make provocative moves. The greatest risk is not that a territorial dispute leads to war under present circumstances but that changes in the world economy alter those circumstances in ways that render inter-state peace more precarious. If China and the US fail to rebalance their financial and trading relations (Roach, 2014) then a trade war could result, interrupting transnational production networks, provoking social distress, and exacerbating nationalist emotions. This could have unforeseen consequences in the field of security, with nuclear deterrence remaining the only factor to protect the world from Armageddon, and unreliably so. Deterrence could lose its credibility: one of the two great powers might gamble that the other yield in a cyber-war or conventional limited war, or third party countries might engage in conflict with each other, with a view to obliging Washington or Beijing to intervene.

## Case

#### Turn— COVID IP waiver undermines Innovation and underprepares us for future pandemics

Mercurio 21 Bryan Mercurio [Chinese University of Hong Kong - Faculty of Law], 15 March 2021, “WTO Wavier from Intellectual Property Protection for COVID-19 Vaccines and Treatments: A Critical Review”, https://poseidon01.ssrn.com/delivery.php?ID= 732088024087092091113064080127110089026050064018017000018 0031221260080940690 05111120099022017 06202305700711703012701708109509505 1090012016041007114071124113127008068012087073001083113027126083074031005 001016117022001025118004082004113091069075097031&EXT=pdf&INDEX=TRUE accessed 7/20/2021 EH

While waiving certain IPRs might in theory bring about immediate benefits for developing countries as they could theoretically have increased access to COVID-19 technologies, in practice achieving such a result is far from certain as other major factors – such as infrastructure, supply chains and production capabilities and capacity – may prove to be a major stumbling block distributing medicines and vaccines. Moreover, legal determinants such as the effectiveness of existing mechanisms in the international rules and the role that stable IPRs play in facilitating investment and innovation in medical development should also not be discounted in the rush to alleviate the health, economic and social devastation and uncertainty brought about by COVID-19. Thus, having reviewed the arguments put forward in favour of granting the waiver, this section argues that the IP waiver is unnecessary, would not alleviate the burden of access to effective and affordable medicines and vaccines and has the potential to significantly hamper R&D and innovation in the pharmaceutical sector. 1. An IP waiver would undermine R&D and innovation The IP system is designed to encourage and reward creativity and innovation while benefiting society as a whole. The idea is that IPRs stimulate innovation by “enabling innovators to capture enough of the benefits of their own innovative activity to justify taking considerable risks.” 23 Therefore, while in the short term waiving IPRs may arguably accelerate the distribution of goods and services – i.e. access to COVID-19 vaccines – in the long term undermining IPRs would eliminate the incentives that spark innovation, thus hindering the discovery and development of knowledge for new products or technologies that the world needs.24 An example that illustrates the significance of IP protection is the technology of synthetic mRNA, a genetic technology behind the COVID-19 vaccines of both Pfizer and Moderna. Synthetic mRNA is a genetic technology that has long held huge promise but has so far run into biological roadblocks. The concept of tweaking specific strands in synthetic mRNA to deliver desired results was first introduced in the 1990s, but at that time while it made sense in theory it often failed in the real world as synthetic RNA was notoriously vulnerable to the body’s natural defences and the synthetic RNA was very often destroyed before reaching its target cells. In some situations, the foreign materials even elicited an immune response that poses health risks for some patients. The solution, substituting one of the nucleosides (building blocks of mRNA) for a slightly tweaked version to bypass the body’s defence, was not discovered until 2005 and did not reach commercialization stage for another 15 years. Without the prospect of IP protection, it is simply unimaginable that scientists would devote the human and monetary resources into such R&D as there would have been no incentive to spend the time and effort on a promising but extremely challenging technology. Likewise, venture capitalists would refuse to invest billions of dollars into any research effort knowing that any other company could simply take the successful result and produce a medicine without paying for the R&D costs; in such a scenario, it would be virtually impossible to recoup the initial investment. Thus, without the promise of IP protection the technology underpinning the most advanced and promising COVID-19 vaccines would likely never have been developed. This point is of such importance that it is worth stating the obvious: IPRs have played a large role in the response to COVID-19; a response which has led to an incredible feat of humanity – the identification of the genome of a new pathogen and development of several treatments and promising vaccines within the space of a year. Without the promixse of financial gain, the level of R&D into the novel coronavirus would have been greatly reduced and innovation hampered and delayed. In short, the IP system encouraged a robust response to the threat from innovator companies and worked as designed. It would be unwise (if not reckless) to place the innovation system which has delivered results in record time in jeopardy only in exchange for what is at best short-term benefits.

#### Your own author “Brink Lindsey” says that patents don’t solve COVID vaccines

Lindsey 21 Brink Lindsey, Vice President - Niskanen Center, 6-3-2021, "Why intellectual property and pandemics don’t mix," Brookings, https://www.brookings.edu/blog/up-front/2021/06/03/why-intellectual-property-and-pandemics-dont-mix/ accessed 7/20/2021 EH

On May 5 the Biden administration announced that it would support waiving intellectual property protections for COVID-19 vaccines under the World Trade Organization’s Agreement on Trade-Related Intellectual Property Rights (TRIPS). Predictably, the move drew fiery condemnation from drug companies. In addition, many disinterested observers criticized the support for a TRIPS waiver as empty symbolism, arguing that vaccine patents are not the major obstacle hindering the currently flagging drive to make vaccines available around the world. Waiving patent protections is certainly no panacea. What is needed most urgently is a massive drive of technology transfer, capacity expansion, and supply line coordination to bring vaccine supply in line with global demand. Dispensing with patents in no way obviates the need for governments to fund and oversee this effort. Although focusing on these immediate constraints is vital, we cannot confine our attention to the short term. First of all, the COVID-19 pandemic is far from over. Although Americans can now see the light at the end of the tunnel thanks to the rapid rollout of vaccines, most of the world isn’t so lucky. The virus is currently raging in India and throughout South America, overwhelming health care systems and inflicting suffering and loss on a horrific scale. And consider the fact that Australia, which has been successful in suppressing the virus, recently announced it was sticking to plans to keep its borders closed until mid-2022. Criticisms of the TRIPS waiver that focus only on the next few months are therefore short-sighted: this pandemic could well drag on long enough for elimination of patent restrictions to enable new vaccine producers to make a positive difference. Furthermore, and probably even more important, this is almost certainly not the last pandemic we will face. Urbanization, the spread of factory-farming methods, and globalization all combine to increase the odds that a new virus will make the jump from animals to humans and then spread rapidly around the world. Prior to the current pandemic, the 21st century already saw outbreaks of SARS, H1N1, MERS, and Ebola. Everything we do and learn in the current crisis should be viewed from the perspective of getting ready for next time.

Waiving patent and intellectual property protections is not a panacea for global vaccine distribution

Bolle and Obstfield, 21 (Monica de Bolle (PIIE) and Maurice Obstfeld (PIIE), Maurice Obstfeld has been nonresident senior fellow at the Peterson Institute for International Economics since February 2019. He is the Class of 1958 Professor of Economics and former chair of the department of economics (1998–2001) at the University of California, Berkeley, where he has taught since 1991. He previously taught at Harvard University (1989–90), the University of Pennsylvania (1986–89), and Columbia University (1979–86).In addition to his academic positions, Obstfeld served at the International Monetary Fund (IMF) as economic counsellor and director of the research department5-12-2021, PIIE, "Waiving patent and intellectual property protections is not a panacea for global vaccine distribution", https://www.piie.com/blogs/realtime-economic-issues-watch/waiving-patent-and-intellectual-property-protections-not)//AK

The Biden administration's decision in early May 2021 to support temporary waivers of intellectual property rights (IPRs) on COVID-19 vaccines produced by the world's largest pharmaceutical companies is a welcome step intended to help countries with low access to vaccines. Unfortunately, however, the waivers by themselves will do little to aid global vaccination in the near term. In fact, these actions could be counterproductive if governments become complacent and fail to finance and organize vaccine supply chains worldwide, without which vaccines will not get to those who need them. As the pandemic has exploded in India and fears for Africa have intensified, the pressure on the United States, the European Union, and other advanced vaccine-producing countries to relax IP protections in World Trade Organization (WTO) agreements has intensified. Policymakers have also increasingly understood that no one is safe from COVID-19 until everyone is safe. Led by India and South Africa, the developing world ha[ve] been arguing on moral and practical grounds that IP waivers are essential to accelerating vaccine distribution and containing the pandemic worldwide. Absent widespread vaccination in less prosperous countries, experts say, all countries, even those with high vaccination rates, would remain vulnerable. But IP waivers alone will not necessarily accomplish that goal. Among the obstacles to getting wide distribution of vaccines are bureaucratic hurdles within the WTO, the difficulty for many poor countries of producing vaccines even if they have the legal right to do so, and the fact that vaccine production depends on global supply chains that cannot quickly be mobilized to deliver shots to low- and middle-income countries. Navigating the procedural obstacles to get WTO agreement on a streamlined mechanism for suspending IP protections is not as easy as it would seem. It is already possible to waive protections in the 1994 WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). But the WTO's track record suggests that roadblocks may lie ahead in expanding the scope of its waiver procedure. Since August 2003, the WTO has explicitly allowed emergency departures from the TRIPS agreement, enabling countries with manufacturing capacity to suspend IP protections to produce life-saving drugs and vaccines, not just for domestic use but also for export to countries that lack manufacturing capacity of their own. However, the process of negotiating the August 2003 decision—which created a temporary procedure for export waivers—took 14 months, and it was not until January 2017 that two-thirds of WTO members had ratified it as a formal amendment to the TRIPS agreement. Because of this painful negotiation process, the bureaucratic procedures for exercising IP flexibility are so cumbersome that there are very few instances of its use. The best known (though not very successful) example occurred with Canadian exports of an AIDS treatment to Rwanda in 2007. Complicating matters further has been the opposition of some major countries to revisiting the issue, as well as the likely need for WTO members to revise their domestic legal frameworks to accommodate patent waivers. These factors make it clear that renewed negotiations within the WTO are unlikely to yield results with the speed that the current health emergency demands or result in a meaningfully better framework. Recognizing the likely difficulty of negotiations, WTO Director-General Ngozi Okonjo-Iweala has suggested a December 3, 2021 deadline for completion—but like past initial deadlines in this space, this one could well prove overoptimistic. The second, and arguably more intractable, challenge is technical: Even if they overcome IP obstacles and get permission to produce vaccines, less prosperous countries lack the know-how, facilities, and trained personnel to produce them. Despite the abysmal decades-long record of vaccine distribution in those countries, existing TRIPS flexibilities have done nothing to improve the situation. A smoother IP waiver process might help, but only as a component of a broader effort. True, patent protection is the main obstacle to creation of generic small-molecule drugs, which chemists can synthesize. But other major obstacles exist for vaccines, which are biologics. For the latter category of drugs, an identical product requires an identical production technology, with most steps categorized as hard-to-replicate trade secrets rather than patentable innovations. Thus, Moderna announced in October 2020 that it would not enforce its COVID-19-related patents during the pandemic. But this step, however laudable, is of limited immediate help to would-be producers of a "generic" version of the Moderna vaccine. Without precisely replicating all steps of Moderna's production process, including the many quality controls, a generic version would have untested immunogenicity (the ability to induce the body to generate an immune response) and thus would require extensive clinical trials before release. Production glitches—such as those that afflicted the Janssen/Johnson & Johnson vaccine in the United States—could prompt widespread vaccine skepticism, damaging pandemic control efforts. The replication hurdle is especially high for the new and more sophisticated messenger ribonucleic acid (mRNA) vaccines, which have proven most effective against SARS-CoV-2 (the virus that causes COVID-19) and which are likely to provide the most adaptable platforms for the vaccines of the future. The genetic vaccines produced by Pfizer-BioNTech and Moderna require considerable technical knowledge and sophisticated techniques to generate a version of the viral spike protein that elicits a strong immune response.1 Therefore, from a biological standpoint, patent and IP waivers alone cannot resolve the existing lack of capacity in most countries to produce genetic vaccines at scale locally. A final challenge is that vaccine supply chains are intricate and global in scope. Different stages of vaccine manufacturing are spread across different parts of the globe, with various countries supplying key inputs and equipment. Patent and IP waivers cannot resolve export restrictions that these countries may decide to impose—and in fact have imposed—throughout the pandemic. Nor can poor countries with production waivers easily integrate into global supply chains. At the moment, current production capacity and quality standards continue to constrain global supply. A streamlined mechanism for IP waivers can be useful, but the back and forth of waiver negotiations within the WTO will prove counterproductive if it distracts from necessary immediate and longer-term measures to contain the pandemic and prepare for future threats. In the short run, global vaccine production by existing producers should be ramped up with more global sharing, and at subsidized prices for poor countries. All countries can start by renouncing export restrictions that threaten global supply chains. Rich countries must also step up to provide financial support for vaccine purchases and immunization programs and also to directly share vaccine doses that are now in oversupply. Political leaders in the rich countries should explain to their citizens that aiding poor countries is in their own interest. That is because the pandemic is producing potentially more transmissible and deadlier variants that will inevitably spread worldwide. Over the long run, the global community needs to build a cooperative infrastructure to address the likelihood of the current pandemic lasting a long time, while preparing for future pandemics that could arrive with increasing frequency. In February 2021, the Group of Seven nations proposed a global health treaty that would help create a framework for more effective and coordinated pandemic response. Systematic worldwide genomic surveillance of current and potential pathogens is one aspect of such a treaty that would be imperative in order to inform public health policymakers and guide rapid vaccine development. Another useful step could be a vaccine investment and trade agreement, as suggested by Thomas J. Bollyky and Chad P. Bown, which would enable countries to coordinate vaccine development, supply chains, and production to eliminate beggar-thy-neighbor policies and speed vaccine development and deployment worldwide. The public-private partnerships underlying such an agreement might incorporate reform of the TRIPS patent and IP flexibilities acceptable to all parties. Unfortunately, finance ministers and central bank governors did little more than rehearse broad principles at their April 2021 Group of Twenty (G20) meeting, even as the COVID-19 outlook has deteriorated in India and elsewhere. Italy will host the next important international public health meeting on May 21, 2021 at a Global Health Summit in Rome. Participants may consider proposals by the High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response, which the G20 established in January 2021 and which Dr. Okonjo-Iweala co-chairs. International engagement over patents and other IP protections will be immensely more beneficial as a component of much broader commitments to speed vaccine deployment in the near term and build a robust cooperative framework for ongoing pandemic response. By the time of their October leaders' meeting, G20 countries should be well along in implementing an ambitious global public health framework rather than squabbling over the narrower issue of IP protections.