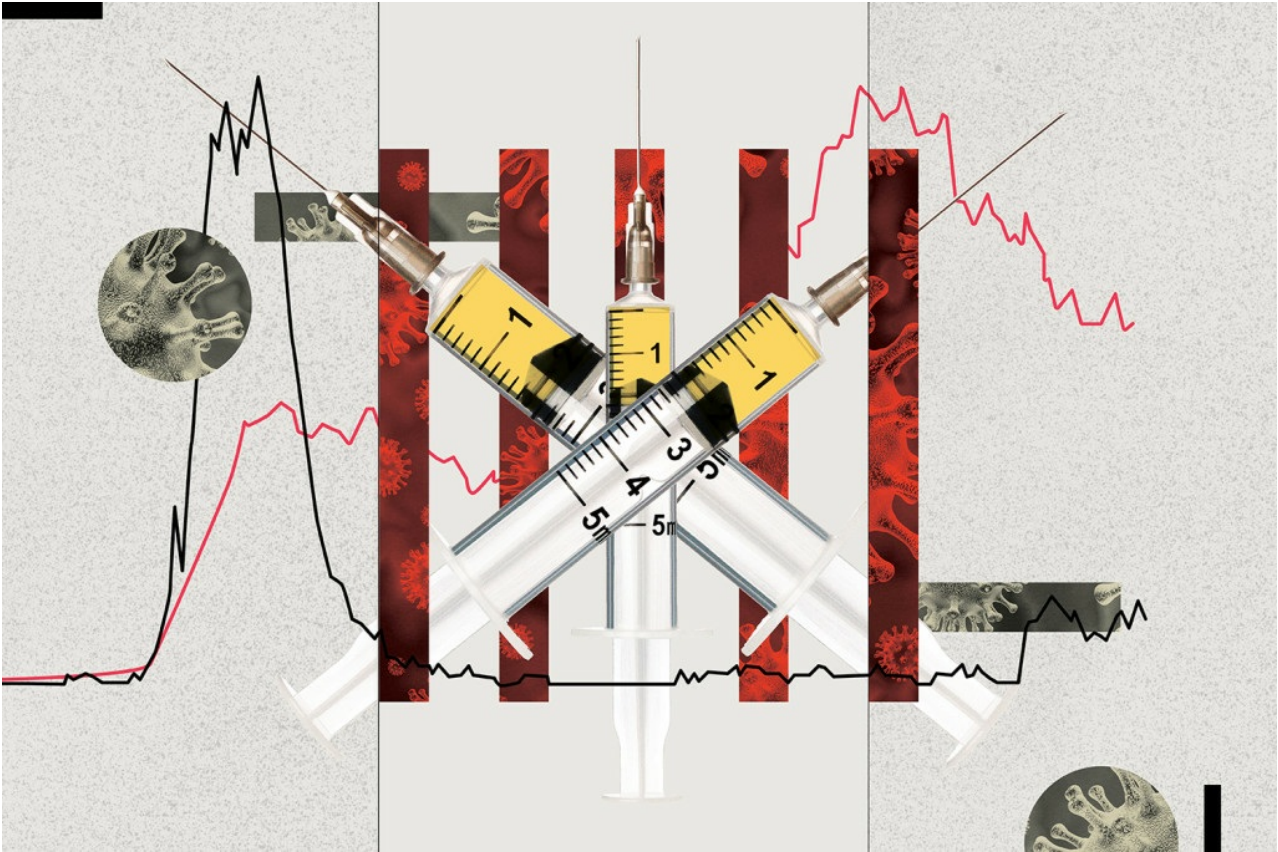


The World Is Winning—and Losing—the Vaccine Race

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Adam Tooze, *Foreign Policy*, September 19, 2020



Immunization to COVID-19 is supposed to solve our problems—but it's starting to trigger even bigger ones.

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Faced with a pandemic that paralyzed the world, a vaccine has always seemed like the obvious solution. A natural challenge demands a scientific fix. Unlike social distancing and lockdowns, a vaccine seems simple and uncontentious. Fire up the labs, pump up the bioreactors, and distribute billions of doses. In the coming weeks, we expect the first news of the decisive Phase III trials of the most promising COVID-19 vaccine candidates. The hope is that a successful vaccine would be a black box: a functional device that no one need second guess or closely inspect so long as it works.

But as it turns out, constructing and distributing a vaccine may solve a set of political and economic problems while also creating a set of new ones. We imagined that an effective inoculation would be a cause of celebration. It may turn out to be a symbol of

global injustice and a trigger for grievance across the world.

We can already see the outlines of the coming controversies. The United States has declared that it will not participate in the U.N.-sponsored COVAX program, which aims to jointly develop and equally distribute a vaccine to the world; Washington claims the program is too beholden to the WHO which it sees as corrupt. But questions have emerged about whether national governments can be trusted to oversee the vaccine race on their own. Russia has rushed to the front by giving approval to an unproven vaccine, hoping that tests results produced retrospectively will bear it out. (So far, the signs are good.) China has approved the first use of a vaccine in the ranks of its military, but due to lack of an actual active epidemic it is conducting its main trials in Brazil. There, President Jair Bolsonaro—though he is himself recovering from a bout of COVID-19—refuses to take the global scientific consensus seriously.

The Trump White House is gambling on an American national solution, but the U.S. pharmaceuticals industry has already signaled its discomfort with the administration's intentions. They have let it be known that they will not allow their vaccine candidates to go forward for FDA approval unless they themselves are wholly convinced that they are safe. That raises the inevitable question of whether the pharmaceutical industry's own commitment to prudence and fairness can be trusted.

What is being exposed is that political interests, big business, and public health are deeply linked. Stable solutions for public crises amid a maelstrom of conflicting interests, invisible risks, and uncertainty are never a quick fix. As the prescient sociologist, Ulrich Beck, warned us in the 1980s, in "risk society," politics are everywhere.



The powerful actors in this drama are the nation states and their publics, and Big Pharma. The global public health regime is a thin film. The WHO has a budget smaller than that of a single large hospital, one sixth that of the public health department of the U.S. state of Maryland. Under pressure, the result is something close to anarchy. This, you might say, is the norm in international relations. But, as constructivists scholars of IR remind us, anarchy is what we make of it. The question is whether nation states, politicians, science, business, and the public at large can organize themselves in such a way as to deliver a high-quality vaccine at affordable prices to all of the world's 7.8 billion inhabitants.

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It is a matter of urgent practical necessity. It is a question of legitimacy—of international and domestic order. It is also a decisive question for the future.

COVID-19 is bad. But it is not, after all, the proverbial “big one”—other, far more lethal, diseases are easily imaginable. We are certain to face more such global challenges, not just in public health but in climate policy as well. Our era, now widely described as the Anthropocene, is one in which we must reckon with the blowback from our comprehensive and destabilizing transformation of the natural environment. This blowback may come in the form of forest fires, parched summers of extreme heat and drought, the battering of mega hurricanes, or, as we have now experienced, the accelerated mutation of zoonotic (ie: non-human to human) viruses. We will need to rearrange the way we live, work, play, travel, feed, and house ourselves.

Each crisis will demand a combination of far-reaching responses—political, economic, social, cultural, and technical. Some questions we will want to put up for public debate. Others we will want to leave up to expert judgment and technical solutions—without the uncertain intervention of public scrutiny. Seen in these terms, the race to develop a vaccine is a test run for the political economy of the future.



Left: A man is among 6,000 people taking part in a trial of a Chinese-sponsored coronavirus vaccine at a converted convention center in Manama, Bahrain, on Aug. 27.

Chinese drug giant Sinopharm began testing the inactivated COVID-19 jab in Bahrain earlier this month after starting a similar trial on 15,000 people in the nearby United Arab Emirates in July. MAZEN MAHDI/AFP via Getty Images Right: Researchers work in a lab at the Yisheng Biopharma company in Shenyang, China, on July 10, as Chinese labs race to create a coronavirus vaccine. NOEL CELIS/AFP via Getty Images

The challenge of developing the configuration of molecules that we need to tame the virus is significant. As of Sept. 4, there were 321 vaccine candidates under consideration, up from 115 on April 8. Most of these are tiny shoe-string operations by start-up biotech outfits. But 33 are already in clinical trials, and 280,000 test subjects have been enrolled in 470 sites in 34 different countries. Six are in Phase III trials, designed to confirm effectiveness and to weed out rarer side effects. Labs are running at top speed. Billions are being invested in high-capacity factories, even before vaccines are approved.

Though there seems every chance that a successful inoculation will emerge, doubts remain. Vaccines are tricky. Most drugs consist of a single molecule; biologics like vaccines are more complex. Proving their effectiveness and safety is difficult, and so is delivering a vaccine intact to huge populations. Pfizer's vaccine, if it works, must be kept at a steady temperature of minus 70 Celsius, a feat achievable only in the conditions of a high-tech hospital. The margin for error is infinitesimal and becomes even more so once we consider immunizing the entire world population of 7.8 billion. A vaccine which produced fatal side effects in only one thousandth of 1 percent of the world's population would kill 78,000 people.

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Even if it saved the rest, the deliberate administration of lethal injections to that number would likely be declared a disaster.

Though 321 candidate vaccines may seem like a large number, we have never successfully developed a coronavirus vaccine. Our working hypothesis seems to be that we have never tried hard enough. And one thing that the emergency has exposed is that we aren't geared up for the kind of biomedical push we need. COVID-19 has caused economic losses in the trillions of dollars. Billions of people were furloughed in March and April. Hundreds of millions were unemployed; many still are. Young people across the entire world are seeing their educations disrupted and put on hold. The World Bank estimates that without decisive remedial action, the price paid for the epic loss of human capital could rise to as high as \$10 trillion.

To offset the economic damage, governments have engaged in stimulus spending on a wartime scale. But is it the right size? The technological effort that would be warranted to meet this crisis would be on the scale of the Manhattan Project or the space race. NASA's budget peaked in 1966, at 0.7 percent of GDP. In relation to America's GDP in 2019, that would be \$160 billion. In round figures, scaled to present day GDP, the moonshot effort cost \$702 billion, comparable, to the initial program costs of the

Pentagon's behemoth F-35 fighter program. By comparison, to meet the COVID emergency, the most we seem to be able to usefully spend on vaccine development are a few tens of billions. As of early September, America's Operation Warp Speed claims to have disbursed \$10 billion.

Assuming that in the current emergency all available vaccine development capacity is actually used, we clearly need to build a bigger pipeline to enable an even more rapid response next time. Given current capacity, the scope for further spending now seems to be less on vaccine development than on the delivery systems—glassware, syringes, and the like—and above all in improved therapeutics. Over recent months, COVID mortality rates are improving. But nowhere near as much money has gone into drug development as has been plowed into vaccines.

According to one estimate by economists, an all-out strategy to incentivize the production of a COVID vaccine would involve spending of \$150-170 billion. But the current effort is not only undersized; it is also fragmented. The big worry of the moment is vaccine nationalism—the fear that self-interest will lead rich states with big science capacity to monopolize scientific results and monopolize supplies of vaccines further splintering the scientific effort.



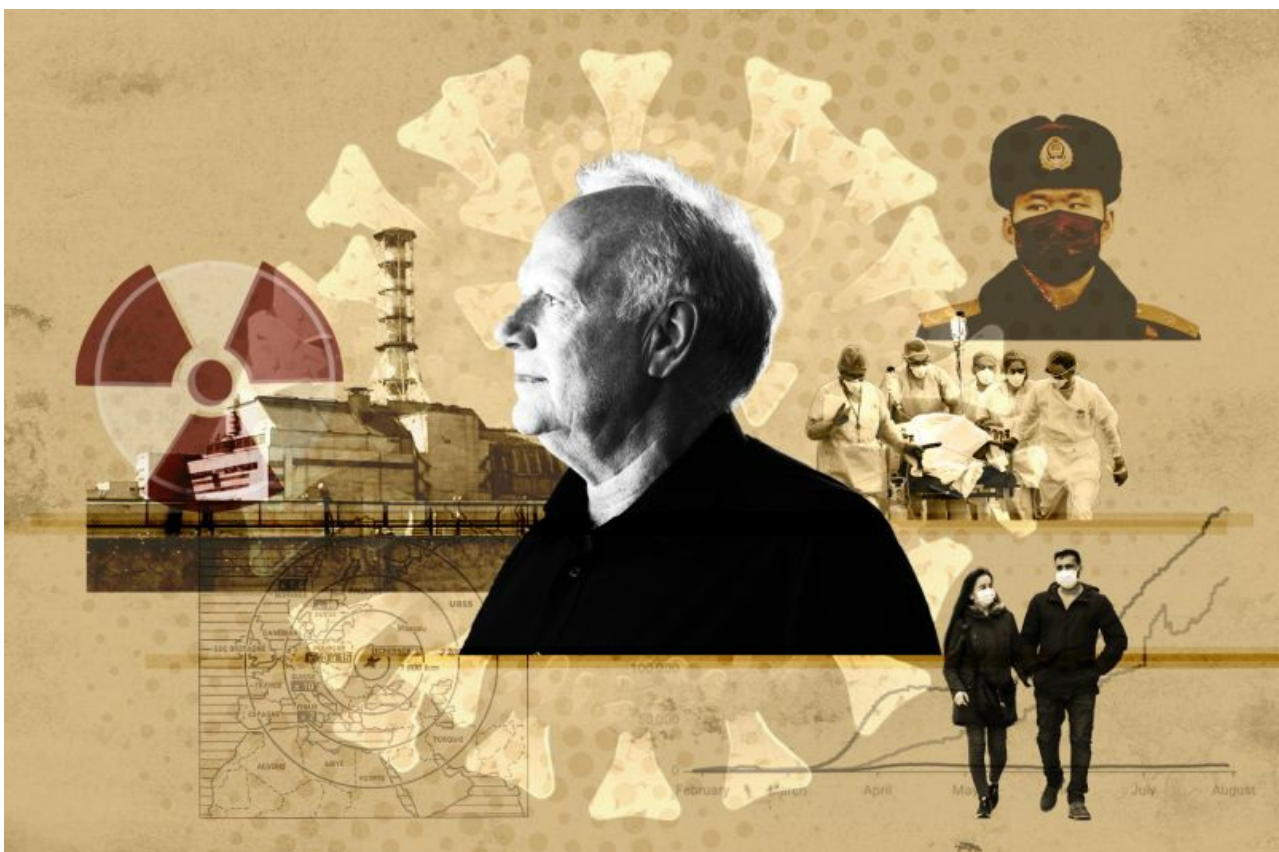
A woman walks inside the Research Centers of America, which is conducting COVID-19 vaccine trials, in Hollywood, Florida, on Aug. 13. CHANDAN KHANNA/AFP via Getty Images

Under President Donald Trump, the United States has emerged as a poster child of vaccine nationalism. But in this, as in so many things, Trump is too easy to hate. The United States is not the only power slow to join the collective U.N. effort; China and Russia have been dragging their feet too. But nation state involvement in vaccine

development is anything but an aberration. The main capacity for drug development—for turning fundamental scientific research into effective and safe medicines—lies in the laboratories of Big Pharma. And for profit-driven businesses, vaccine development is a very risky commercial proposition. It is made more difficult by the IP and patent protection that firms use to protect their research and development, and the fact that costs to get a biologic approved by the FDA have risen year by year. Previous candidates for a coronavirus vaccine, such as SARS, have fallen victim to the so-called valley of death—the agonizing interval in drug development when potential candidates are subject to three rounds of testing followed by the FDA’s protracted approval process. All told, industry experts reckon that the normal outlay for the development of a vaccine through all four stages of approval is upward of \$1 billion. And there is no guarantee of success.

Even when vaccines meet all the tests, save lives, and earn public acclaim, they do not normally make attractive business propositions. Overwhelmingly, most need is in poor developing countries where there is intense political pressure on prices. And if it succeeds, the demand for a vaccine extinguishes itself. Little wonder, then, that the main effort of commercial drug development is towards drugs for conditions like cancer that promise incremental extension of life for old people in rich countries, rather than TB, malaria or HIV, which ravage poorer countries.

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The Sociologist Who Could Save Us From Coronavirus

Ulrich Beck was a prophet of uncertainty—and the most important intellectual for the pandemic and its aftermath.

The Big Think |
Adam Tooze

States, on the other hand, have a long-established interest in collective public health, both at home and abroad. Public life simply cannot function without it. It is no coincidence that 25 percent of modern vaccines owe all or part of their development to the U.S. military. When you put boots on the ground, the bodies in those boots can't be allowed to get sick. It was entirely in keeping with that history that, to help contain Ebola in West Africa in 2014, the Obama administration mobilized the U.S. military and then put the resources of the National Institute of Health and Biomedical Advanced Research and Development Authority behind Merck's rapid-fire development of the rVSV ZEBOV vaccine. It did this out of general concern for security in West Africa, but also because it was only a matter of time before Ebola cases started popping up in the United States. The enlightened engagement of national security interests can have a dynamic effect in a health crisis—but not all assessments of security interests are so enlightened. In 2020, the United States may be seeking to monopolize a vaccine for use in America under Operation Warp Speed, headed by an official from the Defense Department.

But it's important to note that the Trump administration is not limiting its spending to American firms; it is spending lavishly on projects being run out of Oxford and others headquartered in Paris. The only candidates being ruled out are Chinese. All the rich nation states and the EU are contracting promiscuously with drug firms to secure vaccines.

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It is reminiscent of the boost that America's tech war with China over 5g has given to Nokia and Ericsson, Europe's leading suppliers of network hardware. Even if they are state-sponsored, networks of drug development reach across borders. The main lab work for vaccine development may be done in the United States, Europe, and China. But the field trials are global. Because they have so successfully repressed the virus at home, Chinese firms must contract with Brazil which has both a well-established public health system and a large-scale epidemic. Other trials are being run in Gulf states where the virus has run wild in migrant worker camps. When we reach the stage of mass manufacture, India will play a key role as one of the largest manufacturers of generic drugs. Deployment will rely on a huge labor force recruited from around the world. It may be scientists in rich countries who end up getting the credit, but developing and deploying a global vaccine will be a global effort. You don't have to be a cosmopolitan by conviction to see this as an opportunity to celebrate the world's collective capacity to get things done.



Left: Doctors work at the respiratory unit at the Chris Hani Baragwanath Hospital in Soweto, South Africa, on July 14. Six senior clinicians in the Faculty of Health Sciences at Wits University have volunteered to participate in South Africa's first COVID-19 vaccine trial. Right: Activists protest against COVID-19 vaccine trials in Africa at Wits University in Johannesburg, July 1. Laird Forbes/Gallo Images via Getty Images

But the real worry is what happens when we have a vaccine. Pandemics are by definition general problems, but when it comes to access to the vaccine, nation state egotism, and corporate interest compound deep problems of inequality. This is true even inside rich countries. Polling evidence from the United States confirms that in a country with private health care systems and patchy insurance coverage, it is not obvious that a large part of the population will be able or willing to pay for inoculation. Globally, the question of equity and access is even more acute. Once again to talk in terms of a “global system” for providing essential drugs is to indulge in euphemisms. What successes has been achieved in widening access—as with HIV/AIDs—have been the result of ad hoc and hard-fought political struggle.

As of Sep. 8, governments in rich countries have signed deals for 4 billion doses of vaccines. The United States leads the list with 800 million initial doses and options on another 1.6 billion doses. That is 8 doses of various vaccine candidate for every inhabitant. The administration's position, according to one unnamed source, modeled after the one recommended in the case of an airplane oxygen failure: America will help itself first before it helps others.

This may seem hard-headed, but is it wise? Given the huge global publicity accorded to COVID, given the way that it has been defined as a challenge for humanity as a whole, a failure to ensure an equitable distribution of the vaccine will tarnish the reputations of those who monopolize the cure and further shred the legitimacy of the global institutions that are supposed to ensure fair play.

For the last 20 years, in response to the HIV crisis and broader indignation at the injustices in global health, a long list of civil society groups, NGOs, mega-donors, health charities, UN organizations, and a handful of rich national governments—including the United States—have mobilized to promote drug and vaccine development and mass inoculation. Their motives vary from national interest, to global justice, economic development, commercial profit, and the comprehensive eradication of dangerous diseases. 2020 is the final year of the first decade-long Global Vaccination Action Plan. A cluster of charities, including the Gates Foundation, the Wellcome Trust, the GSK foundation, and initiatives like CEPI have sunk resources into bridging the valley of death. A fleet of new vaccines, including for malaria and HIV, are within sight of the finish line. On August 25, after four year without a case, Africa was declared free of the wild polio strain.

The U.N.'s COVAX initiative for COVID is a direct continuation of these collective efforts. But even though it has enrolled states that represent the vast majority of the world's population, including rich backers like Germany, Norway, and Japan, the

United States has chosen to denounce it as a WHO-led front for China. Unfortunately, China has so far also remained aloof. And even within such collective efforts, hierarchies persist. When the joint COVAX effort yields its first results, rich countries will receive the standard allocation of shots, based on a head count of 20 percent of their population, with no further questions asked about what they do with their doses. Poor countries that receive their vaccines at subsidized rates are expected to follow a strict hierarchy of priorities for vaccination laid down by the WHO. For rich and poor, different rules.

Rich countries may be able to secure stocks of the vaccine for themselves, but if their policy stops there it will be a stark provocation to the vast majority of humanity, with uncertain consequences. At one end of the spectrum, border restrictions and mobility may come to hinge on inoculations available only to some. At the other an ongoing COVID epidemic will compound problems of underdevelopment and poverty that already provide grounds for grievance and radicalization in many parts of the world. It is not just normative considerations, but prudence that ought to dictate fair distribution of the vaccine.

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Global public opinion is a force to be reckoned with. China and Europe appear to grasp the significance of paying lip service to this fact. It is not clear that the Trump administration does. It is quite conceivable that operation Warp Speed, were it to succeed and to allow the United States to monopolize an effective vaccine, could turn into a soft power disaster.

Perhaps the most vivid expression of how broken the system is, are the weird fantasies circulating around the world about Bill Gates. The paranoia is absurd and grotesquely defamatory. But it should also be seen as expressing a profound unease with the reality that gives such outsized influence over public health policy to the world's second richest man. That oligarchs should be interested in medicine is not unprecedented, as any history of the Rockefeller and Ford foundations would attest. They too attracted their share of opprobrium and suspicion. But how can it be legitimate or reasonable that the Bill and Melinda Gates Foundation is today one of the largest contributors to the budget of the WHO? How can it be legitimate that crucial research on life and death issues is shaped by the interests, however sincere and well-meaning, of a single immensely wealthy couple?

That oligarchic wealth has been allowed to intrude into areas that affect literally everyone's survival is not paranoia, but a fact. The challenge is to transform QAnon-style conspiracies into a serious conversation about the politics of life and death.



Left: Scientists work at the an antibody laboratory plant where an experimental coronavirus vaccine will be produced for Latin America in Garin, Argentina, on Aug. 14.

JUAN MABROMATA/AFP via Getty Images Right: Workers pack syringes at the Hindustan Syringes factory in Faridabad, India, on Sept. 2, as India's biggest syringe manufacturer ramps up production anticipating a surge in demand as the race to find a coronavirus vaccine accelerates. JSAJJAD HUSSAIN/AFP via Getty Images

Given the momentum behind the COVID vaccine push, it seems reasonable to expect that a pharmacological solution will emerge. But as things stand, rather than marching arms-linked towards a glorious collective triumph over COVID, humanity will arrive at that victory in a shambolic and messy procession. It will not be an inspiring spectacle.

But is there a better way of resolving a pandemic? One can easily imagine a progressive answer: Tax immense fortunes properly. Build well-resourced, publicly funded health infrastructure. Fund competing teams in universities and labs around the world, to produce publicly available research unencumbered by IP and patent protection. Coordinate public funding and regulatory supervision to move rapidly through the necessary testing phases. (Taking all 141 vaccine candidates for the most serious non-COVID emerging diseases to Phase II trials would require a commitment of circa \$35.25 billion—approximately the budget Congress has appropriated for the Ford-class aircraft carrier program.) Then, having found effective and safe vaccines, use the full force of competition amongst manufacturers to eliminate excess profit and cut costs. Reward scientists with prizes and public honors—and not just scientists. There should be COVID campaign medals for the millions of women and men around the world, from scientists to lab technicians to cleaning staff, who will ultimately be involved in delivering the medical solution. Judging from the evening pot banging in many cities in the spring of 2020, there is a deeply felt global need to celebrate a collective effort.

As a plan, it is unambiguous and sensible. The question is, what is the political power that would implement it? Are there forces in the existing ramshackle reality that might push in the direction of such a response? Politicians, and citizens willing to put public pressure on them, have a role to play, of course. But they are not our only decision makers. Much depends on the strategy of the business sector and the technological resources it mobilizes—and the strategy of global capital more generally.

Among the business interests at stake is, most obviously, the pharmaceutical industry itself. It is one of the most profitable but also the least popular group of corporations in the world. At the same time, they know that their business model depends critically on trust in the efficacy of the complex medicines they deliver. This is why the pledge by drug companies not to participate in any premature rush to deliver a vaccine ahead of the U.S. election is highly significant. It expresses their collective interest in maintaining the authority of the drug approval regime in the United States. Companies like Pfizer look back on a 150-year history. They have time horizons that extend beyond those of the current incumbent in the White House. Tampering with the credibility of FDA approval processes poses a very direct and general threat to the business model not just of one firm, but of the entire industry. When it comes to drug development, however, individual drug companies are still more interested in competition than collective action.

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A few have agreed to work in partnership. But when it came to signing up to the U.N.'s IP pooling regime, there were no takers. This should be no surprise: Cooperation may not be in the interests of the firms.

But what about those who own them? If we imagine firms in the manner of family franchises, then rivalry is irradicable. But that is not the reality of modern capitalism. The dominant shareholders in big corporations are institutional investors who juggle giant portfolios, in which every firm is held alongside its rivals and the pharma sector is balanced against a variety of others. This changes the game. What is good for one individual firm may not be good for the whole. The fund managers who run these portfolios have an interest in maximizing the aggregate on their stock holdings, not the performance of individual stock.

In April, faced with the dramatic shock of the COVID lockdown, the powerhouses of the asset management industry including world-leaders BlackRock, Fidelity, Aviva, Janus Henderson, and Europe's largest asset manager, Amundi, as well as a coalition of smaller firms managing \$2.5 trillion between them, demanded cooperation from the pharma firms. Research results should be shared and there should be a collective hold on the enforcement of relevant patents.

As one fund manager put it, a cooperative response to the global COVID crisis was an "acid test of the suitability and sustainability of the current business model" of the pharma industry. The vaccine race is a make or break legitimacy test for the industry. But more than that, the world economy needs a fix. Without it, the broad-based, trillion-dollar portfolios of the asset managers cannot prosper. Commentator Matt Levine was tempted to suggest that this strategic move by the fund managers opened a new era, one in which the managers of index funds became representatives and enforcers of the common good and thus the "vanguard of socialism."

To speak of socialism in this context is clearly premature. But the invocation of Marxism is not out of place. What those big funds do represent is a step towards the realization of what Friedrich Engels called the collective capitalist (*Gesamtkapitalist*)—the channeling of competitive interests into pursuit of a collective, systemic self-interest. For Marxists theorists, achieving that fusion is precisely what a well-run bourgeois state would do. It is a rare and fleeting event. And faced with COVID, the Trump administration has failed the test. A measure of that failure is the effort of ordinarily competitive business interests and fund managers to assume that role on their own, organizing cooperation among themselves.

Little has been heard of the initiative by the asset managers since the spring. But we are not privy to what is going on behind the scenes. And the coronavirus intervention was not the first of its type. In 2015, \$3.8 trillion in asset management heft joined NGOs in demanding that big pharma disclose more data from clinical trials.

The same idea recurs in the debate about the green energy transition. Given the deadlock of climate politics, perhaps technology and business initiative, fused in giant aggregations of capital can drive the transition. Oil majors like Exxon are big business, and an energy transition will be painful for them. But their specific concerns pale by comparison with the interest of BlackRock in the reproduction of the whole. Energy currently makes up less than 3 percent of the S&P500 stock exchange. Exxon was dropped from the Dow Industrial Average. Biotech, on a generous estimate, is 5 percent of the U.S. economy. It is not inconceivable that rather than as profit centers in their own right these sectors might come to be seen as service providers: anthropocenic utilities, so to speak. If the Great Depression spawned Fannie Mae to give public backing to American mortgages, the 2020 crisis could trigger a similar reaction in vaccine development. If taking full public ownership of vaccine development is too much to swallow, why not establish a “biotech Megafund,” which, if it were provided with the right public guarantees, could use the magic of financial engineering to engineer AAA-rated biotech bonds for sale to asset managers, insurance companies and pension funds? For once, might the dog actually wag the tail?

The idea of a collective capitalist consciousness, a form of organized capitalism emerging out of the mess of competition, is at least 100 years old. It has a deep inner logic and draws undeniable power from the macroscopic perspective afforded capitalists from their place at the center of our existing economic system. But that logic is counteracted by capitalism’s constant competitive tendencies, and the creative destruction of technological, social, and political change. Given the irrationality of politics in many places, the “independence” and “evidence-led” focus of giant fund managers, may be superficially appealing. But to count on them to deliver the solutions that we desperately need would be to hand power to a giant, unelected interest whose own stability is uncertain, whose interests are aligned only with the small minority of the population that own financial assets, and who lack even a shred of political legitimacy.

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The problem is not politics in general. Demands from the left for greater equity and democratic oversight and control may be uncomfortable, but they do not put in question the foundations of the system itself. Talk of socialism is not just irrelevant but scare-mongering. It is, in fact, symptomatic of the real problem, which is the abdication of right-wing politics as a manager of the general long-term interests of the capitalist system, and the willingness of nominally conservative politicians and business interests to ally themselves with irrational populist energies.

The United States is not the only site of this historic disconnect. The U.K. is another spectacular example. But the United States is of far greater systemic importance. And the U.S. problem did not start with Trump. It was visible already in the Republican turn against climate science in the 1990s. It burst into the open in 2008 when the McCain-Palin campaign destabilized the efforts of the Bush administration to scramble together a response to the financial crisis. We know how that drama ended in November 2008. We also know how limited were both the vision and the leverage that the Obama administration subsequently brought to bear in the subsequent reform of the financial system.

In 2020, the banks have, so far, proven robust. Led by the Fed, central banks around the world, took dramatic action to calm bond and equity markets. But the scale of the challenge we now face is far broader and even more systemic. As a health crisis, it exposed one of the key weaknesses of American society. Mercifully for the rest of the world, the broken politics of the United States are less central to the pandemic crisis in 2020 than they were to the malfunctioning of the global financial system in 2008. Europe and Asia have cordoned themselves off. Nevertheless, in an increasingly multipolar world the United States remains a key hub and the world is the poorer without America's contribution. A Trump victory would be a disaster for the global health effort. But beyond the short term, what matters in the November election is not just the defeat of Trump but the ability of the Democratic Party to harness a politically viable coalition for structural reform. The stakes are now clear: to create a political economy fit for the demands of the anthropocenic era to come.