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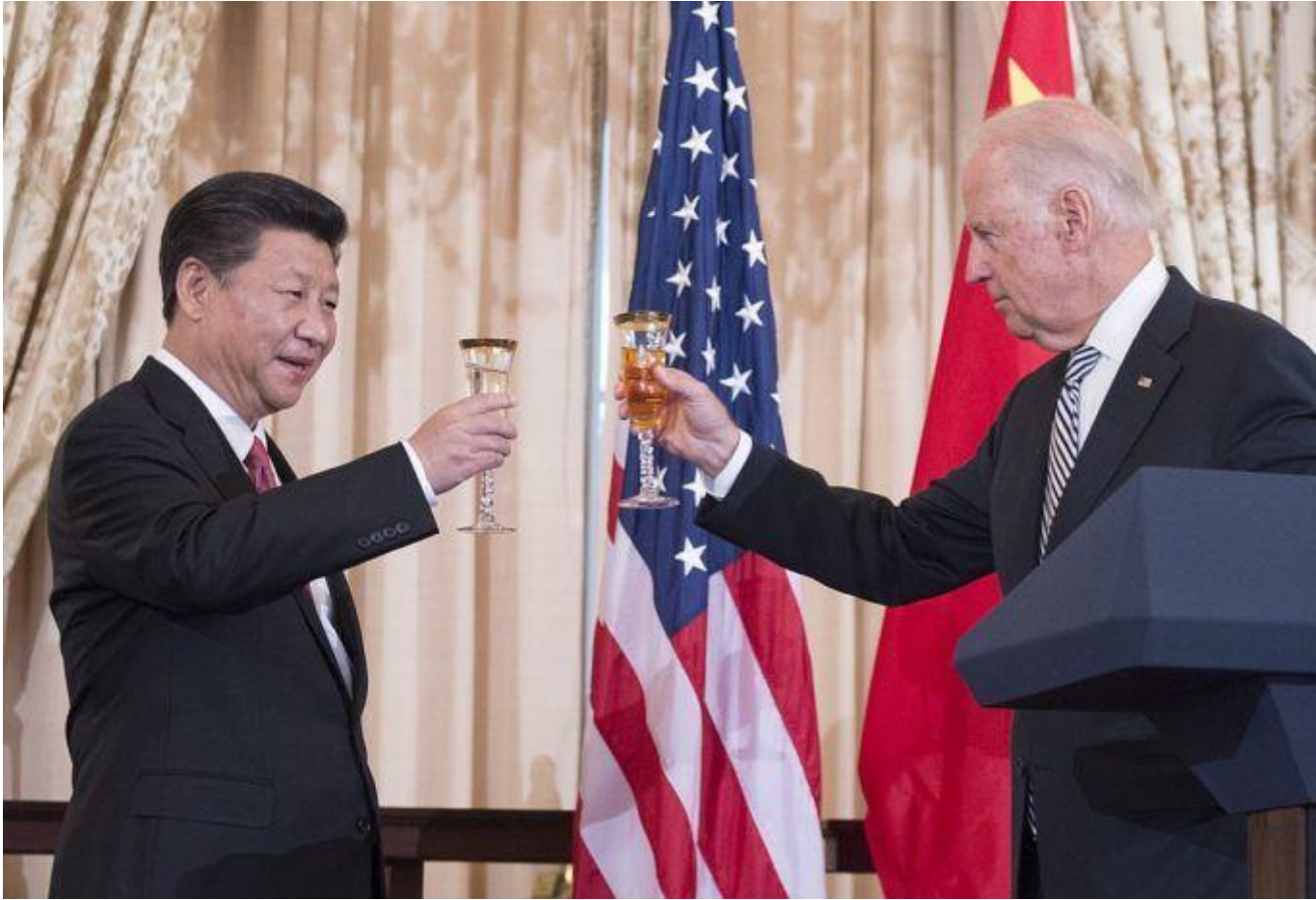
## **The US and China: A Productive Path**

### **Forward**

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The Biden administration, with the overwhelming support of the foreign policy establishment, seems determined to start a new Cold War with China. A new Cold War is likely to be bad news from the standpoint of inequality, world peace, and the climate crisis facing the planet. As with the last Cold War, it is likely to be driven by misunderstandings and deliberate misinformation. With so much at stake, it is important to head off a new Cold War, most importantly by correcting many misconceptions and laying out an alternative more productive path for future relations with China.

I will briefly go through the history of the economic relationship between China and the U.S. in the last two decades. Then I will describe the implications for inequality for the path Biden seems to be pursuing. The last part outlines an alternative, more cooperative path for relations with China.

### **The Trade Deficit with China: Donald Trump's Phony War**

China was admitted to the World Trade Organization in 2000 after a major battle in Congress over granting the country Permanent Normal Trading

Relations (PNTR), which was necessary for its admission. Much of the opposition came from the labor movement which argued that opening trade to China would lead to a large expansion of the trade deficit, costing manufacturing jobs. Since manufacturing had historically been a source of high-paying jobs for workers without college degrees, this would put downward pressure on the pay of non-college-educated workers more generally.

The mainstream of the economic profession ridiculed the idea that expanding trade with China could lead to any substantial job loss. For example, Gary Hufbauer, a prominent trade economist with the Peterson Institute for International Economics, dismissed the “extravagant claims” from the Economic Policy Institute (my former employer) that PNTR for China could lead to a loss of 813,000 jobs.

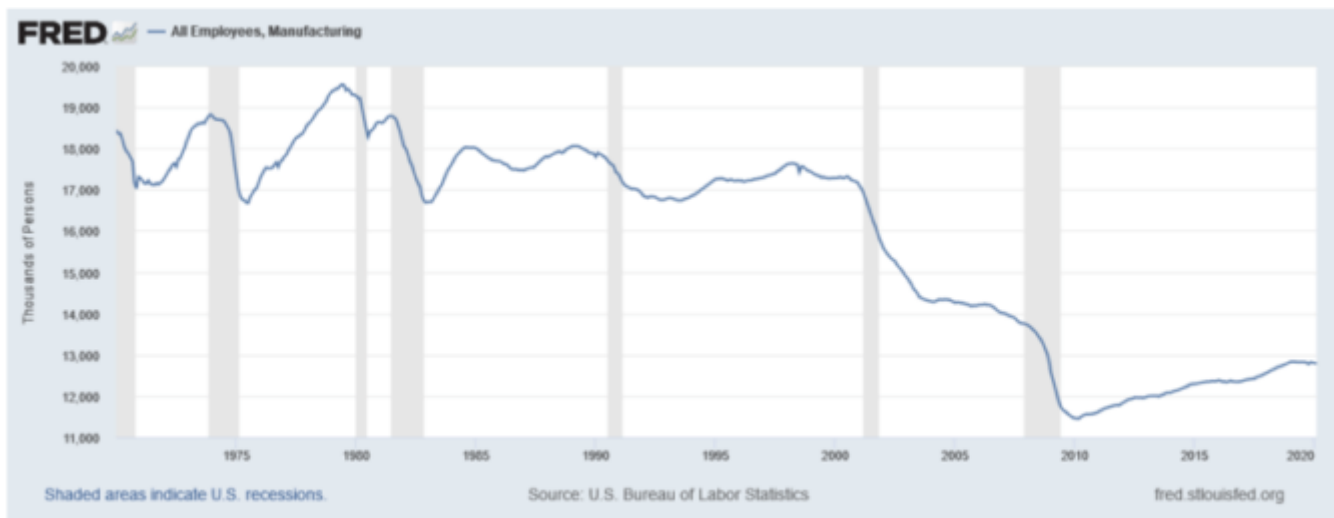
“The Economic Policy Institute (<http://www.EPI.org>) has advanced the most extravagant claims about the US bilateral trade deficit with China. Based on a count of 13,000 jobs lost per billion dollars of manufactured imports, the EPI asserts that current trade with China already costs the United States 880,000 high-wage manufacturing jobs. Then, extrapolating the US ITC’s estimate of the one-time percentage import and export trade changes for 10 years, the EPI asserts another 817,000 US jobs will be eliminated through PNTR and Chinese membership in the WTO.”

This dismissive attitude was common in the profession at the time. PNTR passed by a relatively narrow 237 to 197 vote in the House (the Senate margin was much wider). The near-unanimous support from the mainstream of the economic profession was almost certainly an important factor in determining the outcome of this vote.

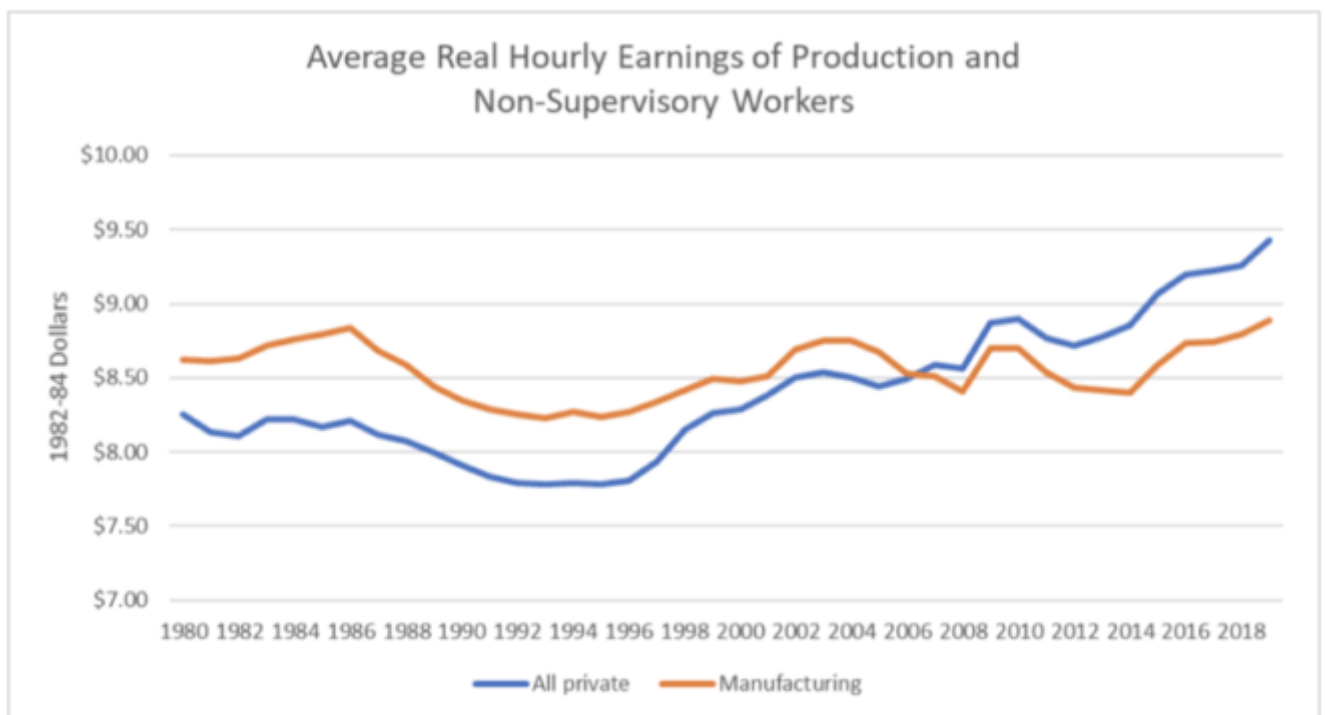
Contrary to the predictions of Hufbauer and other mainstream economists, the trade deficit in goods with China did in fact rise rapidly, growing from \$68.7 billion in 1999 to \$418.2 billion in 2018.<sup>[1]</sup> The story behind this increase is not complicated. In simple trade stories, when a country is running a large trade surplus with another country, we expect that the value of the currency of the surplus country will rise relative to the value of the deficit country. This makes the items produced in the surplus country relatively more expensive in international markets while making the items produced in the deficit country relatively cheaper.

That sort of currency adjustment did not happen for the simple reason that China's government did not allow it to happen. China's central bank bought up several trillion dollars of US government bonds and other dollar assets in the first decade of the century.[2] This propped up the dollar, thereby preventing the sort of currency adjustment that we might expect between a country running a large trade deficit and a country running a large surplus. At the time, many other developing countries also effectively tied their currencies to the renminbi to maintain their competitive position relative to China. When China raised the value of its currency against the dollar, countries like Vietnam and Thailand also raised the value of their currency. This meant that China's decision to deliberately maintain an undervalued currency meant that other countries also under-valued their currency relative to the dollar, leading to higher trade deficits with these countries as well. The explosion in the trade deficit led to a sharp drop in manufacturing employment between 2000 and 2007, before the start of the Great Recession. The country lost more than 3.5 million manufacturing jobs between December of 1999 and December of 2007, the official start date of the Great Recession. (It lost another 2.3 million between December 2007 and February 2010, the employment trough of the Recession.)[3]

While manufacturing had been falling as a share of total employment since the start of the 1970s, actual levels of employment had changed little, apart from cyclical fluctuations, until the 2000s. From December of 1970 to December of 1999 the sector lost less than 30,000 jobs. This is shown in Figure 1. By contrast, the job loss associated with the rise in the trade deficit from 1999 to 2007 amounted to more than 20 percent of total employment in the sector. Autor, Dorn, and Hansen (2016) put the job loss associated with trade with China alone at 2.0 million.



The massive job loss in manufacturing had a predictable effect on wages. Many of the higher-paying union jobs were the ones that disappeared as the economy became more open to trade in manufactured goods. In other cases, workers were forced to take pay cuts to keep their jobs. The extent to which manufacturing offered higher-paying jobs for workers (mostly male workers) without college degrees, declined substantially over this period, as both the number of jobs and wage premium fell sharply.



Source; Bureau of Labor Statistics.

Figure 2 shows the real average hourly wage for production and non-supervisory workers in the private sector as a whole and for the manufacturing sector. As can be seen, workers in manufacturing enjoyed a 2.7 percent advantage by this measure in 1999. This imbalance flipped as the trade deficit expanded. By 2020, the average hourly wage for production and non-supervisory workers in manufacturing was 7.6 percent below the average for the private sector as a whole.

These numbers measure only money wages and ignore benefits, which still tend to be higher in manufacturing than elsewhere in the economy. However, even when these benefits are factored in, we have almost certainly a sharp decline in the manufacturing premium. In an analysis that attempted to factor in benefits, Mishel (2018) found a 7.8 percent straight wage premium for non-college-educated workers for the years 2010 to 2016, in an analysis that controlled for age, race, and gender, and other factors. That compares to a premium for non-college-educated workers of 13.1 percent in the 1980s. The analysis found that differences in non-wage compensation added 2.6 percentage points to the manufacturing wage premium for all workers, but the compensation differential may be less for non-college-educated workers since they are less likely to get health care coverage and retirement benefits. Since the ratio of money wages in manufacturing to the rest of the economy has continued to fall sharply in the years since this analysis, the manufacturing wage premium would almost certainly be far less in 2021.

There is one other important point on the quality of manufacturing jobs that is worth noting here. The unionization rates in manufacturing have plummeted over this period. In 2000, 14.9 percent of workers in manufacturing were union members compared to 9.0 percent for the private sector as a whole. The percent of union members in manufacturing had fallen to just 8.5 percent in 2020, only slightly higher than the 6.3 percent average for the private sector as a whole.

Also, the new jobs that have been created in manufacturing since the trough of the Great Recession have overwhelmingly not been union jobs. Until the pandemic hit in March of 2020, we had added back more than 1.6 million manufacturing jobs from the employment trough of the Great Recession in 2010. Nonetheless, the number of union members in manufacturing had fallen by almost 900,000.

This history is important because it shows that trade in general, and with China in particular, did have a very negative impact on the labor market prospects for a large segment of the working class. However, there are two important qualifications to the simple story that Donald Trump and his supporters are inclined to tell.

First, this is not a story of China winning and the US losing. The trade deficit was not about China doing evil things behind the back of the political leadership in the United States. The trade deficit was a story of both US manufacturers outsourcing to take advantage of low-cost labor in China and major retailers like Walmart setting up low-cost supply chains as a way to undercut their competition.

The manufacturers that were able to get cheap labor from China were big gainers from the trade deficit, as were Walmart and other major retailers. Also, workers who were not directly affected by the loss of manufacturing jobs, such as doctors, lawyers, and other highly paid professionals, benefitted from lower-cost manufactured goods, as well as lower-cost services in many areas due to downward pressure on the wages of less-educated workers.

For this reason, it is wrong to treat this period as a story of China winning its trade battles with the United States. China gained from its trade with the United States, but so did the top end of the income distribution in the United States.

The other important qualification is that this history is not reversible. The manufacturing premium for less-educated workers was largely a story of its extraordinary rates of unionization. Now that the sector does not have an especially high rate of unionization, the premium has been largely eliminated. And, as we have added back jobs in manufacturing, they have not been union jobs.

For these reasons, there is little reason to prefer jobs in manufacturing over jobs in any other sector of the economy. In the past, the fact that manufacturing jobs were more likely to be high-paying union jobs was a good reason to focus on preserving them and seeking to make the manufacturing sector a larger share of the economy. This is no longer true.

**The Get Tough with China Approach: Protectionism for the Highly Paid**  
The Biden administration has made clear that it intends to block imports from China in many high-tech sectors. While some restrictions can be justified as

necessary to protect military technologies, it is clear that these protections are mainly for economic reasons.

For example, the Biden administration pushed through a bill that would provide more than \$50 billion in subsidies to the semiconductor industry over the next five years. It also is planning a program for pandemic preparedness that would spend more than \$40 billion over the next decade developing vaccines, treatments, and tests that could be used in future pandemics. It has also left in place a wide variety of tariffs on Chinese imports, including an 18 percent tariff on solar panels, which is not helping the shift away from fossil fuels.

The subsidies for promoting technology in certain sectors are not necessarily bad economic policy. The US economy has benefitted enormously from publicly supported research and development in a wide range of areas including pharmaceuticals, aerospace, agriculture, and computers and software. There is likely to be a large dividend from future spending on research and development.

The key issue here is who will have control over the products developed with this money and how it is being promoted as a competition with China. At this point, there are not clear guidelines on how the Biden administration envisions ownership rights to the publicly funded R&D he is proposing, but there is little reason to believe that he envisions moving away from the current pattern. As it stands, the government puts up the funds for much of the most important, and risky, research, and then private corporations are able to benefit by claiming ownership of the finished product.

This sort of story can be seen most clearly in the case of Moderna and the mRNA vaccine it developed last year. The Trump administration, through Operation Warp Speed, paid Moderna over \$400 million to cover the cost of developing a vaccine and its initial Phase 1 and 2 trials. It then paid over \$450 million to pay for the larger Phase 3 trials, in effect fully covering Moderna's cost for developing a vaccine and bringing it through the FDA's approval process.

It was necessary for Moderna to do years of research so that it was in a position to quickly develop an mRNA vaccine, but even here the government played a very important role. Much of the funding for the discovery and development of mRNA technology came from the National Institutes of Health. Without its spending on the development of this technology, it is



almost inconceivable that any private company would have been in a position to develop an mRNA vaccine against the coronavirus.

In spite of this massive contribution from the public sector, Moderna has complete control over its vaccine and can charge whatever price it wants. It is likely to end up with more than \$20 billion in profit from sales of its coronavirus vaccine. According to Forbes, the vaccine had made at least three Moderna billionaires by the middle of 2021, with the company's CEO, Stephane Bancel, leading the way with an increase in his wealth of \$4.3 billion. The company's market capitalization was almost \$180 billion on September 22, up from just over \$7 billion before the start of the pandemic. If this is the model for the way public investments in R&D are treated going forward, then we can expect to see many more millionaires and billionaires created as a result of Biden's spending. Needless to say, there will be no shortage of economists and other policy types insisting that these extremes of wealth are just the inevitable result of technology, just as there was no shortage of policy types anxious to blame the huge loss of manufacturing jobs in the first decade of this century on technology.

There will be some number of manufacturing jobs created as a result of this initiative. Someone has to manufacture the semi-conductors, vaccines, and other products developed with this funding and there is probably a greater likelihood that these factories will be located in the United States as a result of Biden's policies.

However, this is not much consolation. With manufacturing no longer providing a substantial wage premium for workers without college degrees, there is no more reason to value manufacturing jobs in these sectors than jobs in warehouses, distribution centers, or health care. With the right institutional support, any job can be a high-paying job, there is no reason to especially prize the manufacturing jobs that might be created through this initiative. In short, this is yet another path for furthering the upward redistribution we have been seeing for the last four decades. It is ironic that our policy elites have managed to flip 180 degrees on their core economic principles to continue the drive for upward redistribution. In the decade from 2000 to 2010, when "free trade" with China cost millions of manufacturing jobs and put downward pressure on the pay of less-educated workers more generally, free trade was a sacred mantra in elite policy circles.

Now that China is in a situation to pose a real threat in our most advanced industries, costing jobs of engineers, biochemists, and other highly educated workers, our elites are gung ho on a protectionist agenda to confront China. And, we are supposed to believe that it is just a coincidence that the main winners on both sides of this flip are those at the top of the income ladder. It is also important to note that motivating this agenda as a way to confront China inevitably poses risks. As the US seeks to shore up an anti-China economic and military front with its allies in Europe and Asia, there will always be a risk that mistakes and misjudgments can turn a Cold War into an actual war.

While rational people would recognize that any full-scale war between China and the United States would be disastrous for both countries and the world, political actors can get forced into positions from which it is difficult to back down while preserving their careers. The greater the background level of hostility between the two countries, the greater the likelihood that miscalculations can lead to actual war.

### **A Better Path: Cooperation in Developing Technologies to Save the Planet**

We can choose a better path in dealing with China going forward. Instead of wasting resources in military competition, and bottling up technologies in trying to gain economic advantage, we can look to have a path where we try to maximize cooperation between the superpowers, bringing in most of the rest of the world in the process.

The idea of sharing knowledge, rather than locking it down for private profit with patents, copyrights, and related protections, goes in the exact opposite direction of public policy for the last four decades. Nonetheless, it is important to get it on the table as pole in public debate. People have to recognize that there is an alternative to the path that Biden appears set on taking the country, which would have very different implications for both our dealings with China and also inequality in the United States.

The cooperative alternative would involve sharing technology, especially in areas where the world has a clear shared interest, such as limiting the damage from global warming and containing the pandemic, as well as health care more generally. The basic logic would be that the United States, China, and other countries we pull into the system would commit to spending a certain amount

of money to support research in the designated areas based on their GDP and per capita income.

For example, we could require that a rich country like the United States would contribute 1.0 percent of its GDP to research and development, or roughly \$210 billion a year, based on 2021 GDP. Middle-income countries like China might be expected to contribute a smaller share of their GDP, say 0.5 percent. For China, that would come to \$130 billion a year (on a purchasing power parity basis) based on its 2021 GDP. Poorer countries might be expected to make a token contribution, or pay nothing at all.

Obviously, it would be necessary to negotiate the exact formulas. There would also need to be some mechanism for dealing with countries that refused to participate, perhaps applying something like patent monopolies to countries that remained outside the network. (I outline some of the issues that would have to be dealt with here and in chapter 5 of *Rigged* [it's free].)

There are issues that would be difficult to hammer out in trying to work out arrangements for sharing along these lines, but the process of synchronizing rules on intellectual products is also very difficult now. The Trans-Pacific Partnership almost certainly would have been finalized at least two years sooner if not for the battles over the intellectual property rules that would be included in the pact.

The potential gains from this sort of sharing of knowledge and technology are enormous. Instead of looking to lock up new discoveries behind patent monopolies, a condition of getting funding should be that all results are posted on the web as quickly as possible so that researchers around the world could benefit. The Bermuda Principles of posting results on the web nightly, which the scientists working on the human genome project adopted, would be a useful model.

The idea that science advances most rapidly when it is open should not seem far-fetched. We benefit from having as many eyes as possible on new discoveries and innovations so that researchers can build on successes and uncover flaws.

We got some great examples for this view in the pandemic. Pfizer reported in February that it had found a way to alter its production process that cut its production time by 50 percent. It also discovered that its vaccine did not have to be super-frozen at minus 94 degrees Fahrenheit, but instead could be kept in a normal freezer for up to two weeks. It also discovered in January that

its standard vial contained six vaccine doses, not the five that it had expected, causing one-sixth of its vaccines to be thrown out at a time when they were in very short supply.

Imagine Pfizer had open-sourced its whole production process. These discoveries would almost certainly have come considerably sooner, allowing many more people to be vaccinated. There are undoubtedly other efficiencies that could be discovered both about Pfizer's vaccine and the vaccines produced by other manufacturers, if engineers around the world could review their production methods.

Of course, the biggest gain from having open-sourced the technology would have been that manufacturers around the world would have been able to produce all the vaccines. We likely could have had enough vaccines for the whole world by the first half of 2021. This could have saved millions of lives and prevented hundreds of millions of infections.

This logic applies to health care more generally. Why would we not want every researcher in the world to have full access to the latest developments in the areas where they work? Are we worried that a researcher in China or Turkey might develop an effective treatment for a particular cancer or liver disease before researchers in the United States? There doesn't seem an obvious downside to going this route.

The same applies to climate technology. We should want researchers to be able to quickly build on each other's innovation in wind and solar energy, as well as energy storage. Slowing global warming is a shared crisis. We should want to do everything possible to develop the best technology and to have it installed as widely as feasible.

There are other areas of research where cooperation may prove more difficult. For example, we may want to keep more control over communications technologies that could have military uses. But, at the very least, health care and climate are two major areas of research where both China and the US, as well as the rest of the world, can benefit from having shared and open research. And, if we can successfully implement a system of cooperative technology development in these two areas, we should be able to find other areas of the economy where we can adopt similar systems.

There also is an important potential side benefit to going this route. Back in the 1990s, when we were debating more open trade between the United States and China, many advocates of the trade path we took argued that China would

become more liberal and democratic if it had a strong growing economy. The argument was essentially that there was a link between capitalist economies and liberal democracies.

In retrospect, that argument has not held up very well. China has seen very strong growth for the last four decades. Its economy is more than five times as large as it was when it was admitted to the WTO in 2000. Yet, China is no one's image of a liberal democracy. It's not even clear that it has become more open in the last two decades.

This history should make anyone cautious about making broad claims on political evolution in China as a result of its economic progress, but there is an important difference about the route outlined here. If China were to engage in large-scale exchanges of knowledge and research in health care, climate, and possibly other areas, it would mean that tens of thousands of their researchers were in regular contact with their counterparts in the United States and other liberal democracies.

Most of the actors in China's manufacturing export boom in the first decade of this century were low-paid (by US standards) and relatively uneducated workers in factories. In this story of collaborating in some of the most sophisticated areas of technology, the main actors are highly educated and relatively well-paid workers. They will be the parents, siblings, and children of the people holding positions of political power in the country's government. It is reasonable to believe that they might have more influence in pushing for a more open and liberal society than poorly educated workers in a textile factory.

Again, anyone should be very cautious in making strong claims about how a particular economic policy will lead China to a path of liberal democracy. But it is reasonable to believe that having relatively privileged actors in its economy in regular contact with their counterparts in the West could have a positive impact on the country's politics from the standpoint of promoting liberal democratic values.

There is one group that is likely to be a loser from going this path of cooperative technological development: the most highly paid scientists and engineers, as well as CEOs and shareholders of the companies that are directly affected. To be clear, under a system along the lines outlined here, there is every reason to believe that accomplished researchers would still be well-paid, with the most successful likely getting high six-figure or even seven-figure

salaries. There would still be plenty of profits available to companies that contract to do research in these areas, just as companies that contract to design weapon systems for the Pentagon can make very healthy profits.

However, we would probably not see the vast fortunes that many individuals and companies have earned based on their patent monopolies. For example, we would probably not see scientists earning multi-billion fortunes that the top executives at Moderna were able to pocket in the pandemic. We also would be less likely to see a company's stock increase more than 2000 percent in a year and a half, adding \$170 billion to its market capitalization.

The smaller paychecks at the top, coupled with the elimination of all the waste associated with the patent system, will effectively mean higher paychecks at the middle and bottom. By my calculations, if we sold all prescription drugs in a free market, without patents or related protections, we would spend around \$80 billion a year. That is a saving of \$420 billion, or \$3,000 per family, compared with the \$500 billion a year that we now spend on drugs. That translates into a lot of additional money in the pockets of low- and middle-income people as a result of lower health care spending.

In short, going the route of cooperative development of technology with China is likely to not only reduce tensions between the world's two superpowers, but can be a major factor in reversing the upward redistribution of the last four decades. It can very directly lead to less money going to those at the top end of the income distribution and increased real wages for those at the middle and the bottom.

### **Another Trade Policy for the Rich? We Won't Get Fooled Again**

In the 1990s and 2000s, the leadership of both political parties pushed trade policies that were quite explicitly designed to redistribute income upward. They put US manufacturing workers in direct competition with low-paid workers in China and other developing countries, while largely protecting the most highly educated workers.

The predicted and actual effect of these policies was to put downward pressure on the wages of manufacturing workers, as it cost millions of jobs in the sector. Since manufacturing had historically been a source of relatively well-paying jobs for workers without college degrees, the drop in pay and loss of jobs in this sector put downward pressure on the wages of non-college-educated workers more generally.

As we move into a new decade, we are being promised a sharp turn to protectionist policies, with the protectionism most directly protecting some of the most highly paid and highly educated workers in the US economy. As a side benefit, we are told that this protection will mean more manufacturing jobs, although the sector no longer provides a substantial wage premium over jobs in other sectors.

Our political elites were able to get their way in pushing their trade agenda in the 1990s and 2000s, with devastating consequences for millions of workers. The consequences of their new agenda could be even more devastating since it is not only a path designed to further the upward redistribution of income, but also a path designed to put us in continual conflict with the world's other major superpower.

We were fortunate that the first Cold War never led to direct conflict between the United States and the Soviet Union, although it did lead to proxy wars that killed millions and cost trillions. We should not go down the same path again.

#### **Notes.**

[1] Many people have argued that the official bilateral trade figures overstate the actual deficit because much of the value-added in goods imported from China comes from other countries. The classic example is an Apple iPhone which might be assembled in China and then imported into the United States. Our trade figures would count the full value of the iPhone as an import from China.

While this does lead to an overstatement of the value of our imports from China, there is also an understatement for an analogous reason. When we import items from Japan, South Korea, or even Europe, it is likely that some of the value-added came from China. It is likely that the overstatement from counting the full value of finished goods imported from China exceeds the understatement from not counting the value-added in goods imported from third countries, it does not make sense to just count one source of bias in determining the size of the trade deficit.

[2] China's buying of dollar assets has often been referred to as currency "manipulation." This word implies that China's actions were somehow undercover and secretive. In fact, China quite explicitly pegged its exchange rate to the dollar and openly intervened to support this peg. It would be more accurate to say that China "managed" its exchange rate.

[3] There was a bizarre argument in policy circles as to whether the massive loss of manufacturing jobs from 2000 to 2007 was due to trade or technology. This argument was always strange (how can a trade deficit – which is not caused by rapid growth – not imply fewer jobs in manufacturing?), but it has gotten even stranger over time. To believe that the massive job loss from 2000 to 2007 was due to technology, it would be necessary to believe that somehow technology didn't cause job loss in manufacturing from 1970 to 2000, or in the years since 2010, but somehow in the years when we saw a rapid rise in the trade deficit, technology was causing large-scale job loss in manufacturing.

*This originally appeared on Dean Baker's [Beat the Press](#) blog.*

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