## Off

### 1

#### The California recall has given democrats optimal election strategy for the midterms to maximize gains – right-wing extremists winning primaries alienate moderates

Ronayne and Riccardi 9/15 (Kathleen Ronayne and Nicholas Riccardi; 9/15/21; AP News; *“Democrats see a midterm map in California recall success”*; accessed 9/19/21; <https://apnews.com/article/donald-trump-california-recall-california-campaigns-health-48a08f0362762dd53f8171c35c09f57b>; Kathleen Ronayne is a olitical reporter for The Associated Press with bylines from California to New Hampshire and swing states in between. Now covering the recall election of Gov. Gavin Newsom and California's influence on the national political debate; Nicholas is a political writer at the associated press) HB

Few Democrats were surprised to see Democratic Gov. Gavin Newsom swat down a Republican-driven recall campaign in bright-blue California. But they were pleased with how he did it. By making the race into a referendum on former President Donald Trump and his supporters’ “extreme” resistance to coronavirus precautions, Newsom offered a formula for survival that could translate to dozens of races in next year’s midterm elections, Democrats said. A healthy turnout, spurred by some late anxiety, showed Democrats remain eager to vote against the former president, even when he’s not on the ballot. California voters rejected the “Republican brand that is centered around insurrection and denying the pandemic,” said Rep. Sean Patrick Maloney, chairman of the Democratic Congressional Campaign Committee. Republicans said they saw nothing to worry about in the California results. Losing badly in a liberal stronghold isn’t much of a prediction of the party’s performance in battlegrounds like Florida or Georgia, they said. They argue they were saddled with a flawed candidate — talk radio host Larry Elder, the Republican frontrunner whom Democrats likened to a Trump clone in a state the former president lost by 30 percentage points and did little to appeal to moderate voters in swingy suburbs. But President Joe Biden and his party won’t have it as easy next year as Newsom did, said Ron Nehring, a former chairman of the California Republican Party who was harshly critical of Elder and worked for one of his rivals “Gavin Newsom had one opponent who he was able to define in the minds of enough swing voters,” he said. “No. 1, Biden himself is not going to be on the ballot and No. 2, he does not have a singular opponent.” On Wednesday, Biden embraced Newsom’s victory and his message. “This vote is a resounding win for the approach that he and I share to beating the pandemic: strong vaccine requirements, strong steps to reopen schools safely, and strong plans to distribute real medicines — not fake treatments — to help those who get sick,” Biden said in a statement. But there will be better test cases coming on how these messages play with voters. In November, voters in Virginia will choose between Democrat Terry McAuliffe, a former governor and longtime Democratic operative, and GOP businessman Glenn Youngkin. McAuliffe has been hammering Youngkin as too extreme for a state that has been growing more diverse, more suburban and more Democratic for years. California has similar demographic trends at play. In Orange County, long a GOP bastion, racial and ethnic diversity and the growing distaste higher-educated, wealthy voters have shown for Trump have opened the door to Democrats in the county — although the GOP won back two House seats there last year. The recall was failing in Orange County by 5 percentage points on Wednesday, although the vote count in California will go on for weeks and the final margins may change. Newsom and his Republican opponent John Cox essentially tied in the county in 2018. Even the incomplete the results buoyed Democrats. “We’re pretty excited about California, and it’s not because we thought we’re going to lose it — it’s because the margin is better than expected and it shows the Republican message is failing badly in swing districts,” Mahoney said. Still, it’s hard to draw too many conclusions from a single election in a state so liberal that Democrats held every statewide office even during Republican wave years of 2010 and 2014. “It’s like us boasting about beating a recall in Alabama,” quipped Matt Gorman, a former strategist with the National Republican Congressional Committee. Gorman said Democrats would only get so much mileage out of demonizing Republican nominees and trying to tie them to Trump. “Biden is the focus” of the midterms, Gorman said, noting how Republicans unsuccessfully tried to tie congressional Democrats to Nancy Pelosi in 2018, when she was only minority leader and didn’t control the House of Representatives. “It becomes less effective once they’re out of power.” “If inflation is high, gas prices are high and COVID is spiking, it’s going to be much harder” for Democrats to talk about Trump and Republican extremism in 2022, Gorman said. It will also be hard for Republicans not to talk about Trump. GOP primaries for Senate seats in Ohio, Georgia and Pennsylvania already are poised to be a competition for Trump’s base. House candidates have been clamoring for Trump’s endorsement. The former president hasn’t been shy about anointing favorites. Democrats are certain to use that against those candidates when they face a general election. “I think a sad reality of the modern GOP is that there are going to be a lot of Larry Elders on the ballot in 2022 because they’re going to win Republican primaries,” said Addisu Demissie, a Newsom campaign strategist. “When the alternative is extreme, you represent not just your base but the middle.”

#### The plan is politically unpopular – voters are divided which means that plans passage flips the major thin margins – vaccines proves

The Hill 5/4 (The Hill; 5/4/21; The Hill; *“Poll: Majority oppose proposal to temporarily waive intellectual property rights on COVID-19 vaccines”*; accessed 8/27/21; <https://thehill.com/hilltv/what-americas-thinking/551797-poll-majority-oppose-proposal-to-temporarily-waive-intellectual>) HB

A majority of voters oppose the proposal to temporarily waive intellectual property rights on COVID-19 vaccines, a new Hill-HarrisX poll finds. The survey comes as the Biden administration faces mounting pressure to support a proposal led by India and South Africa that would waive an international intellectual property agreement that protects pharmaceutical trade secrets. Backers of the move argue it would enable lower-income countries to manufacture the vaccines themselves while those opposed say it could make the vaccine less safe and damper production in existing locations. Fifty-seven percent of registered voters in the May 3-4 survey said they oppose the proposal to waive intellectual property rights on COVID-19 vaccines. By contrast, 43 percent of respondents said they support the proposal. Sixty-four percent of Republican voters along with 52 percent of both Democratic and independent voters said they oppose waiving the intellectual property rights of vaccines. "This is a complex issue with a remarkably sophisticated understanding by the public. The tension is as follows: On one hand you have the need to protect the intellectual property rights of the scientists and companies that brought about the fastest vaccine in history, and will likely need to produce new versions of the shot even faster to battle evolving strains," Dritan Nesho, chief researcher and CEO of HarrisX, told Hill.TV. "On the other hand there’s the need to save lives, reaching global heard immunity and providing access to the vaccine as broadly and equitably as as possible," Nesho continued. "Today a majority of 57 percent of U.S. voters would like to protect the intellectual property of vaccine makers, but as more and more people are vaccinated in advanced economies, voter pressure for broader and more equitable distribution will rise," Nesho added. "Already we see Democrats and independents here split on the issue of whether or not to waive IP rights to provide greater access to the vaccines." President Biden is expected to weigh in on the proposal at a World Trade Organization meeting on Wednesday. The most recent Hill-HarrisX poll was conducted online among 939 registered voters. It has a margin of error of 3.2 percentage points.

#### **A Republican win in 2022 shuts out climate action for decades**

Silverman 8/24 (Ellie Silverman; 8/24/21; The Washington Post; *“Climate activists fear this is the last chance to pass meaningful legislation”*; accessed 8/27/21; <https://www.washingtonpost.com/dc-md-va/2021/08/24/climate-biden-congress-protest/>; Ellie Silverman covers protest movements, activism and local news. At The Post, she has also covered local crime and courts. She has previously reported on retail, breaking news and general assignment stories for the Philadelphia Inquirer, her hometown paper. She graduated from the University of Maryland, where she reported for the Diamondback) HB

There is a rising frustration among many of those organizers, who say they helped turn out the vote in 2020 but are not seeing climate pledges translate into meaningful changes. They are worried that the opportunity to push through ambitious climate legislation will soon be gone — and that they may not have another chance. “He said he was the climate president,” Peltier — an Anishinaabe citizen of the Turtle Mountain Band of Chippewa and a member of the Indigenous environmental justice organization Honor the Earth — said outside the White House on Monday. “Now he doesn’t care.” Many climate activists have described an escalating sense of urgency to implement the sweeping changes needed to slow Earth’s warming, highlighted by the recent landmark report from the Intergovernmental Panel on Climate Change. U.N. Secretary General António Guterres called the report a “code red for humanity.” The pace of emissions shows the planet is on track to warm more than two degrees Celsius above preindustrial levels, which could trigger irreversible damage, according to the IPCC report. The Greenland ice sheet could collapse, and sea levels could rise more than six feet. There will be more of the climate-fed fires of this summer, deadly heat waves and devastating floods. Natalie Mebane read the IPCC report and thought of how much ground the climate movement in this country lost under President Donald Trump, whose administration allowed more pollution and weakened protections for wildlife. She worries Republicans will regain power in the 2022 midterms and thinks the slim window from now until then may be the final opportunity to see climate priorities passed through Congress. If not, it could be years before Democrats are in control — wasted time that Mebane fears could cause permanent devastation. “If the Democrats lose a single seat in the Senate, it’s over,” said Mebane, the associate director of U.S. policy for 350.org, an international climate group. “These years that we have right now is the last time that we can even make an impact and influence on climate change before it becomes runaway climate change that we have zero control over.” Biden has tackled greenhouse-gas emissions by proposing new federal goals and mandates to begin shifting the country toward electric cars, rejoined the Paris climate accord and revoked a federal permit for the Keystone XL oil pipeline. But activists point out Biden is still supporting Line 3, a tar-sands oil-pipeline expansion project that will be able to carry 760,000 barrels a day from Canada across northern Minnesota and into Wisconsin. They have called for him to revoke the permit, as he did with Keystone XL, and have protested for months, including on construction sites, chaining themselves to equipment and risking arrest. The White House did not respond to a request for comment. Earlier this month, the Senate approved the $1.2 trillion infrastructure bill with funding to tackle climate change, but many activists said the legislation has fallen short of dramatically addressing goals as lofty as this crisis demands. That does not mean Democrats should pass just any climate legislation, activists say — it has to include the right policies. Compromising on climate, they said, is not good enough. Though the bipartisan infrastructure bill apportions billions of dollars toward funding new public transit and electric-car charging stations, measures that are meant to cut climate-warming emissions, environmental organizations say it does not go far enough. They want to see legislation supporting Biden’s stated goal of replacing 100 percent of lead pipes and the replacement of all diesel school buses with clean electric ones. “It’s hard to square the scale of the problem with the solutions being discussed,” said Lukas Ross, program manager for the Climate and Energy Justice program at Friends of the Earth, another environmental group. “This is not the moment to bargain away the store in the name of passing anything.” Climate groups are focusing on the passage of a second bill through budget reconciliation, a process that would allow Democrats to pass more dramatic climate legislation without Republican support. Democrats in Congress are hoping to work in a clean-energy standard that would compel power providers to shift to wind, solar and other low-emission sources of energy to achieve 80 percent clean electricity by the end of the decade.

#### **US climate action is key to world wide action**

Beeler 19 (Carolyn Beeler; 9/18/19; PRI; *“Top US leadership is 'missing ingredient' in climate change action”*; accessed 8/27/21; <https://www.pri.org/stories/2019-09-18/top-us-leadership-missing-ingredient-climate-change-action>; Carolyn Beeler leads environment coverage for The World. She reports and edits stories focused on the people and places most impacted by climate change, and what they're doing to address it. She has reported from all seven continents and won national and regional awards for her breaking news and in-depth feature reporting. Before joining The World, Carolyn helped pilot the weekly health and science show, The Pulse, at WHYY in Philadelphia, and reported from Berlin for a year as a Robert Bosch Foundation fellow. She studied journalism at Northwestern University and got her start in radio as a Kroc fellow at NPR.) HB

World leaders will meet in New York next week for the United Nations Climate Summit, an event called by the Secretary-General to push for more and faster cuts to global greenhouse gas emissions. Notably missing at the summit: American leadership. Five years ago, a joint climate policy announcement from the US and China paved the way for the Paris climate accord to come to fruition after decades of failed attempts at an international climate pact. Then in June 2017, President Donald Trump announced that he would withdraw the US from the very same agreement his country had helped broker just a few years before. Under the rules of the accord, countries can announce the intention to leave, but must wait two years before being allowed to do so. Two years later, what impact has this policy whiplash had on the climate? Inside the US, that answer is relatively simple to quantify. Across the country, some 4,000 state and local governments, institutions and businesses have declared that, though the federal government intends to withdraw from the Paris climate agreement, they’re still on board with cutting emissions. One of those local governments is in Arlington, Massachusetts, where the town hall was illuminated green after Trump’s 2017 Paris withdrawal announcement. “We’ve come to the realization that if the federal government’s not going to do it, it’s going to fall to the local level,” said Adam Chapdelaine, Arlington’s town manager. “Somebody has to step up and be a leader.” Even before the Paris Agreement, the town has long worked to reduce its greenhouse gas emissions, from switching its street lights to LED bulbs to buying electric vehicles for its official fleet. Residents can opt-in to 100% renewable energy in their homes and the town is advocating for all-electric heating and cooling systems. Since the US federal government reversed its climate change policies, Arlington has gotten perhaps more ambitious: The town’s new high school is being designed to run on geothermal and solar energy and the whole town aims to go carbon-neutral by 2050. These state and local actions are being highlighted as “answering the global call to combat the climate crisis” by a coalition of sub-national actors formed by New York Mayor Michael Bloomberg and former California Gov. Jerry Brown. But these actions have only partly counteracted sweeping federal changes under the Trump administration. Trump has slashed regulations on emissions from power plants, air conditioners and refrigerators, and oil and gas drilling nationwide. He moved to revoke California’s ability to set its own strict vehicle emission rules on Wednesday, highlighting the limits of state-based action on climate change. So how does the emissions balance sheet tally up today, two years after the US backed away from the Paris agreement? Kate Larsen, a director at the independent research firm the Rhodium Group, said US carbon emissions are a few percentage points higher than they would have been if former President Barack Obama-era policies were in place. Projected forward five years, that gap will just grow. “Under the current set of Trump administration policies, the US is on track to achieve only about 14 to 17% emission reductions below 2005 levels in 2025,” Larsen said. That’s about half of the 26 to 28% emission reductions that the US promised in the climate accord. “[It's] a long way from the commitment that Obama reached in Paris,” Larsen said. Scientists say that to limit warming to 1.5 degrees Celsius and avoid the worst impacts of climate change, global emissions must be cut nearly in half by 2030. Inside the US, local action is partly, but not wholly, counteracting federal policies. The bigger question is how much global ambition to tackle the climate crisis will flag if the world’s largest historic emitter is no longer leading the push. Will countries, seeing the US doing less on climate change, do the same themselves? Under Obama, the US put its full diplomatic muscle into getting countries signed on to the Paris Agreement. “If you were a head of state from India, from China, or from anywhere and you were going to meet with the United States, you knew that you'd have to be prepared to speak about climate change and the Paris Agreement,” said Elan Strait, a former climate negotiator on the Paris Agreement who now works at the World Wildlife Foundation. By 2020, countries are requested to announce new carbon cuts as part of the Paris process. Those cuts have to be more ambitious if countries hope to meet the Paris Agreement goal of keeping warming “well below” 2 degrees Celsius and pursue efforts to limit warming to the scientist-recommended 1.5 degree Celsius. “I completely believe that the missing ingredient this time around is the United States leadership driving climate as a head-of-state agenda,” Strait said. Only when those 2020 climate pledges start rolling in will the international community start to see the full impact of the US climate policy reversal.

**Climate change causes extinction – ocean acidification, water and resource wars, econ collapse, and regional conflicts.**

Pachauri and Meyer 15 (Rajendra K. Pachauri Chairman of the IPCC, Leo Meyer Head, Technical Support Unit IPCC were the editors for this IPCC report, “Climate Change 2014 Synthesis Report” <http://epic.awi.de/37530/1/IPCC_AR5_SYR_Final.pdf> IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp)

SPM 2.3 Future risks and impacts caused by a changing climate Climate change will amplify existing risks and create new risks for natural and human systems. Risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development. {2.3} Risk of climate-related impacts results from the interaction of climate-related hazards (including hazardous events and trends) with the vulnerability and exposure of human and natural systems, including their ability to adapt. Rising rates and magnitudes of warming and other changes in the climate system, accompanied by ocean acidification, increase the risk of severe, pervasive and in some cases irreversible detrimental impacts. Some risks are particularly relevant for individual regions (Figure SPM.8), while others are global. The overall risks of future climate change impacts can be reduced by limiting the rate and magnitude of climate change, including ocean acidification. The precise levels of climate change sufficient to trigger abrupt and irreversible change remain uncertain, but the risk associated with crossing such thresholds increases with rising temperature (medium confidence). For risk assessment, it is important to evaluate the widest possible range of impacts, including low-probability outcomes with large consequences. {1.5, 2.3, 2.4, 3.3, Box Introduction.1, Box 2.3, Box 2.4} A large fraction of species faces increased extinction risk due to climate change during and beyond the 21st century, especially as climate change interacts with other stressors (high confidence). Most plant species cannot naturally shift their geographical ranges sufficiently fast to keep up with current and high projected rates of climate change in most landscapes; most small mammals and freshwater molluscs will not be able to keep up at the rates projected under RCP4.5 and above in flat landscapes in this century (high confidence). Future risk is indicated to be high by the observation that natural global climate change at rates lower than current anthropogenic climate change caused significant ecosystem shifts and species extinctions during the past millions of years. Marine organisms will face progressively lower oxygen levels and high rates and magnitudes of ocean acidification (high confidence), with associated risks exacerbated by rising ocean temperature extremes (medium confidence). Coral reefs and polar ecosystems are highly vulnerable. Coastal systems and low-lying areas are at risk from sea level rise, which will continue for centuries even if the global mean temperature is stabilized (high confidence). {2.3, 2.4, Figure 2.5} Climate change is projected to undermine food security (Figure SPM.9). Due to projected climate change by the mid-21st century and beyond, global marine species redistribution and marine biodiversity reduction in sensitive regions will challenge the sustained provision of fisheries productivity and other ecosystem services (high confidence). For wheat, rice and maize in tropical and temperate regions, climate change without adaptation is projected to negatively impact production for local temperature increases of 2°C or more above late 20th century levels, although individual locations may benefit (medium confidence). Global temperature increases of ~4°C or more 13 above late 20th century levels, combined with increasing food demand, would pose large risks to food security globally(high confidence). Climate change is projected to reduce renewable surface water and groundwater resources in most dry subtropical regions (robust evidence, high agreement), intensifying competition for water among sectors (limited evidence, medium agreement). {2.3.1, 2.3.2} Until mid-century, projected climate change will impact human health mainly by exacerbating health problems that already exist (very high confidence). Throughout the 21st century, climate change is expected to lead to increases in ill-health in many regions and especially in developing countries with low income, as compared to a baseline without climate change (high confidence). By 2100 for RCP8.5, the combination of high temperature and humidity in some areas for parts of the year is expected to compromise common human activities, including growing food and working outdoors (high confidence). {2.3.2} In urban areas climate change is projected to increase risks for people, assets, economies and ecosystems, including risks from heat stress, storms and extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, water scarcity, sea level rise and storm surges (very high confidence). These risks are amplified for those lacking essential infrastructure and services or living in exposed areas. {2.3.2} Rural areas are expected to experience major impacts on water availability and supply, food security, infrastructure and agricultural incomes, including shifts in the production areas of food and non-food crops around the world (high confidence). {2.3.2} Aggregate economic losses accelerate with increasing temperature (limited evidence, high agreement), but global economic impacts from climate change are currently difficult to estimate. From a poverty perspective, climate change impacts are projected to slow down economic growth, make poverty reduction more difficult, further erode food security and prolong existing and create new poverty traps, the latter particularly in urban areas and emerging hotspots of hunger (medium confidence). International dimensions such as trade and relations among states are also important for understanding the risks of climate change at regional scales. {2.3.2} Climate change is projected to increase displacement of people (medium evidence, high agreement). Populations that lack the resources for planned migration experience higher exposure to extreme weather events, particularly in developing countries with low income. Climate change can indirectlyincrease risks of violent conflicts by amplifying well-documented drivers of these conflicts such as poverty and economic shocks (medium confidence). {2.3.2} 2010 )

### 2

#### The Dollar is dominant now without a rival – but without policy reevaluation that may change

Hopkins ‘20

Chris Hopkins is a former Adjunct Professor of Finance at the University of Tennesee at Chattanooga and a weekly finance columnist for the Chattanooga Times Free Press. Hopkins, Chris. “Personal Finance: Is the U.S. Dollar's Dominance at Risk?” Timesfreepress.com, 3 June 2020, www.timesfreepress.com/news/business/aroundregion/story/2020/jun/02/us-dollar-dominance-risk/524378/. // Phoenix

For the past 75 years, the U.S. dollar has enjoyed a unique status as the preeminent global currency. Used broadly in international commerce and widely held by sovereign governments, the Greenback remains by far the most important currency and as such conveys special benefits to the American economy. But nothing is constant, and a confluence of structural changes internationally and U.S. policy errors is calling into question the sustainability of the dollar's rule, with potentially profound implications.

The United States emerged from World War II as the dominant power, and institutionalized its hegemony in a new global financial and currency system agreed to by the victorious nations at a conference in Bretton Woods, New Hampshire. The Bretton Woods Agreement of 1944 created the World Bank and the International Monetary fund, and established the U.S. dollar as the essential currency of international exchange and trade. This special status was derisively dubbed the "exorbitant privilege" by the French Finance Minister in 1960. But this privileged role has allowed the United States to finance its massive debt without serious negative impact and has contributed to improved standard of living and higher real incomes for average Americans, at the expense to some degree of the rest of the world.

Now the world is changing. The United States comprised 40% of global GDP in 1960; today it makes up 25%. China is steadily ascending, now accounting for 15% of the world economy and growing more rapidly, while the European Union roughly equals the U.S. in output. Pressure is mounting from our economic competitors to reduce the dollar's dominance in exchange and trade transactions and reserve holdings by foreign governments.

As the size of the American economy declines relative to other major players, structural changes are afoot as well. China has been aggressively modernizing its antiquated banking system and has taken a lead in alternative payment processing, essentially leaping directly from cash to mobile payments (credit cards never really gained a foothold in China). In addition, China has launched the world's first central bank backed cryptocurrency, the e-RMB, which it hopes will eventually displace some dollar transactions.

The vast majority of the world's oil trade is conducted in U.S. dollars, but that may be changing too. In 2018, China began buying some of its massive oil imports in its own currency, the Yuan. Meanwhile, Russia is working to reduce its dollar reserve holdings and has increased its own stockpile of Chinese Yuan. And Russia is now China's largest oil supplier.

Perhaps as important as sheer economic size, a currency's reserve status depends upon the perception of stability and trust afforded to the issuing country. Modern currencies are no longer backed by hard assets like gold, but derive value only by "fiat" based on confidence in the issuer. In this regard, the United States has taken actions that are puzzlingly detrimental to confidence in the dollar.

President Trump did not create the disturbing trend toward nationalism and protectionist isolation, but his administration has compounded the damage. Beginning with United States withdrawal from the Trans Pacific Trade deal and continuing with a trade war and increased bellicosity toward other nations, global supply chains are shifting and adjusting to the new reality, potentially reducing dependence on the dollar as bilateral trade in other currencies increases.

Furthermore, recall that the reserve status of the dollar depends upon our perceived stability and trustworthiness in the eyes of our trading partners. Clearly, we have forfeited much of that confidence and to some degree abdicated our global leadership in recent years. A reserve currency depends upon trust, and trust in the United States is presently diminished. China in particular is stepping into the breach.

The exorbitant privilege has allowed America to finance its enormous debt with relatively little adverse impact. It is easy to issue large amounts of debt when the world clamors for your currency and you have the ability always to print more. The loss of reserve status would change that. First, the dollar would devalue, sparking price inflation and a decline in real incomes for Americans and higher interest rates for home and car loans. But more painfully, the cost of financing our debt will soar as demand for U.S. Treasury Bonds dwindles, forcing us to pay ever higher rates in order to attract buyers. With the national debt on a 5-year pace to reach $30 trillion and limited ability to print money, the longer term implications are staggering.

A major shift away from the dollar is not imminent, as there are currently no viable options. China must implement significant legal protections and market reforms before the Yuan becomes a competitor, and most other currencies are simply too small. But absent a reexamination of American policy and priorities and the restoration of American leadership, the direction of the trend is not promising.

#### IPR is key for U.S Dollar Centrality – it allows US firms near if not complete monopolies pushing dollars into international markets and stabilizing US financial influence

Schwartz ‘19

Schwartz, Herman Mark (2019). American hegemony: intellectual property rights, dollar centrality, and infrastructural power. Review of International Political Economy, (), 1–30. doi:10.1080/09692290.2019.1597754 // Phoenix

Mechanism one relates to Strange’s (1989) financial power: US current account deficits generate the dollar centrality that network analyses reveal through self-reinforcing dynamics prior to the network. US current account deficits result from deep seated domestic institutional arrangements in current account surplus economies that produce chronic domestic demand shortfalls. The more those export-led economies run surpluses with the United States, the more dollars they accumulate; the more dollars they accumulate, the more dollars flow through their banking systems back into dollar assets and liabilities; the more dollar assets and liabilities those banks hold on their balance sheets, the more those banks both rely on the Federal Reserve Bank (FED) as a lender of last resort or a supplier of outside money during (the inevitable) crises, and the more their staff develop habitus (Bourdieu, 1977) or the routinized behaviors at the heart of infrastructural power (Mann, 1986) that support continued use of the dollar in non-crisis times; the more those banks lend in dollars, the more counterparty debtor economies are drawn into use of the dollar; a parallel habitus emerges among export firms that reinforces use of the dollar in a Hirschman (1945)-like dynamic. If suppliers (or debtors) are borrowing those recycled dollars, they will demand payment in dollars to meet their liabilities. Contemporary late developers similarly need export markets to grow, and the United States constitutes both the biggest import market and biggest net importer in the global economy (netting intra-EU trade). This mechanism originates from institutional responses to the problem of late development and not, via lower transaction costs, the emergent network of dollar claims and liabilities itself. That said, surely dollar acceptability faces limits set by persistent US current account deficits? Prudent actors might well balk at accepting more assets denominated in a currency at risk of sustained depreciation (Bergsten & Williamson, 2004). Indeed, the 1960s Triffin dilemma pitted declining confidence about the dollar as a store of value given rising US inflation rates and a declining productivity gap between the United States and its main competitors against the need for global liquidity supplied by a US current account deficit. Today, as Eichengreen (2010) has argued, centrality for the dollar faces a similar collective action problem among holders of dollar-denominated assets – why do US current account deficits not motivate individual countries with relatively smaller dollar holdings to defect for fear of depreciation or capital losses? In today’s flexible exchange rate world, only above average US economic growth and/or profits for the firms constituting the bulk of equity market capitalization validates confidence in dollar assets. Because economic activity is organized through capitalist markets, the critical issue for differential growth (Nitzan, 1998) and asset validation is always: ‘who gets the profits and in what proportion’? Mechanism two is thus about profits, which corresponds to Strange’s (1989) productive power. US firms capture a disproportionate share of global profits, and within this firms with robust intellectual property rights (IPRs – patent, copyright brand and trademark) capture a disproportionate share of US and global profits. Here compliance with international trade treaties protecting IPRs is the focal point or center of gravity for this disproportionality. IPRs give some US firms monopoly or near monopoly power in the global (and local) commodity chains they construct. The extension of US IPR law through various trade treaties (Drahos & Braithwaite, 2003; Sell, 2003; Sell & Prakash, 2004) allows US IPR firms to capture a disproportionate share of global profits via that monopoly power. This shifts claims on value added towards those firms, concentrating profits into a small number of US firms. Though we explore this below in more depth, US firms account for a disproportionate 33.9% of cumulative profits generated by any firm appearing on the Forbes Global 2000 list from 2006 to 2018 and firms in sectors characterized by robust IPRs account for a disproportionate 26.6% of those profits. Profitability thus also rests on infrastructural power, via compliance with trade treaties and enmeshment in global value chains orchestrated by US firms. As with bank behavior, this compliance is not purely voluntary (Gruber, 2000), but rather reflects a gradient in which mutually beneficial cooperation shades into coercion as the proportion of local firms benefiting from those treaties declines. US firms are not the only ones that possess marketable intellectual property. Non-US firms that also benefit from robust global IPRs broaden the global political coalition for creating and expanding those IPRs. Yet US firms tend to control the commodity chains in which those foreign firms participate. These two mechanisms are connected: the first explains why non-US actors receive dollars (more precisely, dollar-denominated assets) and the second explains why they opt to hold those assets; put differently, the supply of and demand for dollars. The two mechanisms transform the exorbitant burden – current account deficits associated with use of the dollar as the international reserve currency – back into an exorbitant privilege. They represent a transfer of real resources back to the US economy in exchange for promises to pay back something in the future. Finally, though we will not explore this in depth, these two mechanisms are also linked to the military side of US power, where a similar logic of dominance over potential peer rivals has driven science policy and technological innovation. Put bluntly, a military-innovation complex (c.f. Eisenhower’s military-industrial complex (Hozic, 1999; Hurt, 2010; Mazzucato, 2015; Weiss, 2014)) is the research foundation for the high profit US IPR firms that in turn feed a substantial portion of cash back into the IMS. As with all such systems of power, these structural strengths contain endogenously generated weaknesses and face on-going challenges from the less powerful. Financialization and profit strategies built on IPRs endogenously produce income inequality among firms and people, which erodes compliance, potentially slows growth and destabilizes the global financial system. Domestically, the current account deficits necessary for a dollar-centric IMS (Germain & Schwartz, 2014) generated part of the anger motivating the populist voting bloc that elected Trump. In turn, the Trump Administration’s erratic trade policy, its assaults on parts of the military-innovation complex, and, most significantly, its efforts to eviscerate financial regulation simultaneously threaten the dollar’s role in the IMS and US firms’ ability to capture global profits.3 The Trump administration is one logical consequence of current account deficits that have hollowed out manufacturing employment and limited upward mobility to a narrow slice of the US population. The paper thus has four sections corresponding to the issues: Why does infrastructural power matter? Why the IMS? Why IPRs? The conclusion considers critical endogenous sources of decay.

#### Dollar centrality caps global conflict - prevents great power war

Dr. Salvatore Babones 17, Professor of Sociology at the University of Sydney, “Money Talks: The Rise of Geoeconomics Is Playing Right Into Washington’s Hands”, World Politics Review, 10/3/2017, https://www.worldpoliticsreview.com/articles/23295/money-talks-the-rise-of-geoeconomics-is-playing-right-into-washington-s-hands

Geopolitics is dead. Long live geoeconomics. Since the turn of the millennium, the geoeconomics of sanctions and sweeteners has slowly been replacing the geopolitics of diplomacy and war. With U.S. forces actively engaged across a wide swath of Africa and the Middle East, the transition from geopolitics to geoeconomics may not seem all that obvious. But on closer inspection, it becomes clear that military intervention these days is limited to places that lack functioning economies that can be effectively sanctioned. Most of the world, and all of the economically productive world, lies in the sphere of geoeconomics.

That economically productive section of the world, spanning the Atlantic and Pacific basins with North America at its center, incorporates more than 80 percent of global GDP into an interwoven fabric of transnational production networks. In this zone of integration, outright war is obsolete as a tool of foreign policy. Those who suggest that the “great powers” of today might repeat the mistakes of 1914 and stumble into war fail to understand that 21st century economic integration is much deeper than the international trade of the early 20th century. It’s hard to imagine China invading Taiwan when Taiwanese firms employ more than 15 million people in China itself.

The U.S. still maintains by far the most powerful—and most expensive—military force in the world. China will find it very difficult to catch up, even more so as its economic growth slows. But military power is less and less the main source of American influence in the world. If the U.S. was the preeminent geopolitical power of the 20th century, it is the geoeconomic behemoth of the 21st. The U.S. may account for a declining share of global GDP, but its corporations increasingly dominate global value chains and its institutions hold overwhelming sway at international forums. Just as important, the U.S. is at the center of the financial, technological, educational and other networks that form the backbone of the 21st-century global economy.

The centrality of the U.S. in the 21st-century economy makes it a new kind of sanctions superpower.

Geoeconomic power is generated more by centrality than by sheer size, and the centrality of the U.S. in the 21st-century economy makes it a new kind of sanctions superpower. Few people are even aware of EU sanctions that are not part of larger American-coordinated efforts. Countries don’t worry much about being the target of Russian economic sanctions, and China tends to offer economic carrots rather than punish with economic sticks. The EU, Russia and China all have some geoeconomic power, but only the U.S. has the power to exclude individuals, firms or even entire countries from participation in the larger global economy. In the realm of geoeconomics, the U.S. isn’t just a major player, or even the lone superpower. Quite simply, it exercises many of the functions of a global government.

The New Middle Kingdom

The U.S. is in effect the spider at the center of the web of the integrated global economy. This position makes it disproportionately influential and by far the most powerful player in the new great power game of geoeconomics. The dominance of the U.S. dollar is well known, and the global financial system has been centered on the U.S. since the end of World War I, when France, Germany and the United Kingdom all found themselves financially dependent on New York, America’s financial capital. But today the virtual infrastructure of the internet, operating systems, app stores and the entire online economy is also centered on the U.S., as are the worlds of higher education, science, medicine, publishing, business services and a host of other “post-industrial” industries.

From Asia to Europe, the giants of China, Japan and Germany also host key nodes in the 21st-century economy, but American firms and institutions predominate because they occupy leading positions not just in one or two fields, but in nearly every field simultaneously. This generates network effects that multiply American influence. What’s more, many of the leading firms and institutions that are not American are based in countries that are closely allied to the United States. Twenty-two of the 28 EU member states are also members of NATO; Canada, Australia, Japan and South Korea are all close U.S. allies; Taiwan is in effect a U.S. protectorate.

The world’s only major economic power that is not a U.S. ally is China, but China is highly dependent on investment from and exports to the U.S. and its allies. Many of the most productive and profitable niches in China’s own economy are foreign-owned, with China’s moribund state-owned enterprises claiming the majority of what remains. Even China’s world-class internet companies are locked into an American-managed industrial infrastructure. Google search may be blocked in China, but 99 percent of Chinese mobile phones run Google’s Android or Apple’s iOS operating system.

The centrality of the U.S. in what has been called the “zone of integration” created by the globalization of the world’s economy is a new phenomenon, but it’s not unprecedented. In the premodern era, before the emergence of a single global economy, the world was fragmented into separate regional economies. One of those regional economies was the East Asian economy centered on China. The English word for China descends from the ancient Roman and Greek name, “Sinae,” or the “the land of the Qin,” named for China’s founding Qin Dynasty (221-206 B.C.). But in Chinese, China is simply Zhongguo, the “Central State” or, more poetically, the “Middle Kingdom.” Premodern China was always at the center of its own world.

In all the other major languages of East Asia, China is also called by some variant of Zhongguo. Some other countries even defined themselves in relation to China. Japan is the “land of the rising sun”—as seen from China. The “nam” in Vietnam means “south,” placing Vietnam to the south of China. Japan and Vietnam, along with Korea, Mongolia, Tibet and much of Southeast Asia, once formed an integrated economic region centered on China. The Chinese name for this area, which represented the world as seen from China, was tianxia, meaning “sky-encompassed” or “all under heaven.”

By the time of the Ming Dynasty (A.D. 1363-1644), the Chinese tianxia was an integrated economic zone covering all of East Asia and extending at times into the Indian Ocean as far west as Somalia and Tanzania. This precursor to globalization with China at the center was the historical inspiration for Chinese President Xi Jinping’s One Belt, One Road initiative, known as OBOR. The two components of OBOR—the Silk Road Economic Belt and the 21st-Century Maritime Silk Road—are explicitly designed to put China back at the economic center of the Afro-Eurasian landmass. The Chinese government clearly appreciates the geoeconomic value of centrality.

The problem for China is that although the OBOR strategy of “build it and they will come” might work for the physical infrastructure of ports and railways, it is not an effective way to improve China’s position in the virtual infrastructure of the 21st-century economy. Centrality in human networks depends very little on physical connectivity. China can send all the rail cars in the world chugging across Central Asia to Western Europe, but it won’t change the fact that Western Europeans are more likely to use Facebook than WeChat—and more likely to educate their children in North America than in China.

The fact that Chinese parents are themselves beating down the doors to educate—and even give birth to—their children in North America makes the prospect of a new Chinese tianxia even more remote. Instead, as Chinese individuals seek out the most advantageous positions for themselves and their families in global economic networks, they reinforce the centrality of the U.S. in those networks. As a result, the U.S. is becoming a kind of new Middle Kingdom of what might be called an American Tianxia. The emerging American Tianxia is very different in language, culture and politics from the old Chinese tianxia, but it does share one crucial trait: the leveraging of network centrality into world-spanning geoeconomic power.

The Zone of Irrelevance

The historian Wang Gungwu, writing in 2013, was the first to suggest that the Chinese term tianxia might be applied to today’s American-centered world. He described the word tianxia as depicting “an enlightened realm that Confucian thinkers and mandarins raised to one of universal values that determined who was civilized and who was not” and suggested that today’s American Tianxia performs the same function. Replace “Confucian thinkers and mandarins” with “political pundits and NGOs” and you get the point.

The globalized people who participate in the networks of the American Tianxia—the journalists, think tankers, businesspeople, academics and other opinion leaders who are much more closely tied to the U.S. than to, say, Syria or North Korea—get to mold the image of nations and their leaders, with clear results. It’s no mystery what they think of Assad, Kim Jong Un or Abu Bakr al-Baghdadi—or even Vladimir Putin and Recep Tayyip Erdogan, who are skating on thin ice. By contrast, Saudi and Emirati attempts to stigmatize Qatar have fallen flat, since Qatar is in many ways the most liberal of the Gulf states. And with a reported 11,000 U.S. military personnel based in Qatar, it is unlikely that the U.S. would ever bring its full geoeconomic power to bear against the Qatari government. Reversing his initial condemnation of Qatar, even U.S. President Donald Trump is now offering to mediate the dispute.

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The world may seem to be awash in conflict today, but terrible as those wars may be, they are concentrated in countries that are peripheral to the larger global economy. Conflict hotspots like Syria, Afghanistan, South Sudan, Ukraine, Myanmar and Yemen are only tenuously connected to the outside world and are completely excluded from sophisticated global production networks. They form what from a geopolitical perspective has been called the “zone of intervention” but which from a geoeconomic perspective might just as well be called the “zone of irrelevance.” Who wins these wars may make an enormous difference to the people who live in the countries affected, but it will have no meaningful impact on the larger global economy.

Geoeconomic stigmatization via the imposition of economic sanctions is also focused on countries that are relatively isolated from global economic networks. Autarkic Russia is routinely criticized for its democratic failures, yet globally networked China is not a democracy at all. It is perhaps no coincidence that while it costs the U.S. very little to sanction Russia, it would cost a fortune to sanction China. The distinction between civilization and barbarism in the American Tianxia may be based on the acceptance of universal values, but it is mainly American pundits and NGOs who make the distinction, and these days they’re much better networked with China than with Russia. As a result, China tends to get a pass from the Western expert class, at least for now. Russia does not.

The few remaining “hot” conflicts or crises that affect economically consequential areas of the world, like the ones in Iraq and North Korea, are legacies of 20th-century geopolitics. They also involve countries that are not themselves integrated into 21st-century value chains. Iraq may be oil-rich and North Korea surrounded by advanced economies, but neither is itself very well networked economically. Their very irrelevance, ironically, limits their susceptibility to geoeconomic pressure. Islamic State forces in Iraq must be confronted by military power precisely because they have no formal economy to govern, even if they have overseen a black market for oil. North Korea is similarly relatively immune to sanctions because its economy is so meager.

China is particularly careful to keep its geopolitical conflict zones clear of geoeconomic entanglements. China has broadly supported the U.S. in applying economic sanctions on North Korea because China no longer has any geopolitical use for North Korea. By contrast, in the South China Sea, where China does have geopolitical interests, it ensures that these do not interfere with the smooth functioning of important economic systems. It may be true that one-third of global ocean trade passes through the South China Sea, but it is less often pointed out that most of that trade is China’s. Thus China speaks loudly but carries a small stick when it comes to the possibility of real conflict in the South China Sea.

China’s recently resolved Doklam Plateau standoff on its border with India and Bhutan similarly illustrates China’s separation of geopolitics from economics. The Doklam Plateau is almost literally in the middle of nowhere. China’s road-building there was in many ways similar to its island-building in the South China Sea. Both represent the development of infrastructure in remote locations in order to establish a permanent Chinese presence in previously unoccupied territories. They are bold geopolitical provocations, but they are geoeconomically irrelevant. With China, as in the rest of the world, geopolitical conflicts are confined to the zone of irrelevance. In the parts of the world that matter, geoeconomics is the order of the day.

Belts and BRICS

With its OBOR initiative, China is at the forefront of moving from geopolitics to geoeconomics as the basis of its foreign relations. Unlike in the Doklam and the South China Sea, China has no territorial ambitions along its belt and road routes. Instead, it seeks to leverage economic statecraft for political gain. For example, not long after Chinese state-owned shipping company COSCO made a major investment in Athens’ port of Piraeus, the Greek government blocked an EU effort to criticize China’s human rights record. Similarly, at China’s behest the Dalai Lama has repeatedly been denied a visa to enter South Africa. South Africa is a major beneficiary of Chinese largesse that has gained entry into the BRICS summit club—joining Brazil, Russia, India and China—entirely at China’s behest.

The problem for China is that it does not control access to major global networks that people value for their own sake. As a result, China’s geoeconomic checkbook diplomacy is fundamentally transactional. This is very different from the classical Chinese tianxia, under which the countries of East Asia valued access to China’s learning, technology and unique products and thus were willing to accept the trappings of nominal Chinese suzerainty in exchange for the privilege of trading with China. In the old tianxia, China was the center of the world and could use that position to its advantage. In the new geoeconomics, China must pay full price to meet its foreign policy goals.

In its exercise of geoeconomic power, China rewards while the U.S. punishes.

The most recent BRICS summit in early September is a case in point. Just a week before the opening of the summit in Xiamen, in eastern China’s Fujian province, Chinese and Indian troops were facing off on the remote Doklam Plateau 1,700 miles to the west. But Xi presumably didn’t want to see the crisis disrupt an economic summit on his own home turf; early in his career he had served as deputy mayor of Xiamen and governor of Fujian. So he bought India off with a geopolitical withdrawal in order to meet his geoeconomic goals.

China can afford its many geoeconomic initiatives—the BRICS-sponsored New Development Bank, its own Asian Infrastructure Investment Bank, multiple OBOR initiatives, diplomatic offensives to isolate Taiwan—but the fact that it has to pay for them underlines the point that for China, geoeconomics is a costly game. China has to buy its friends. The U.S., by contrast, gets its friends for free. People are even willing to pay to join the U.S. “club,” as when countries buy U.S. airplanes or military hardware as the price of U.S. friendship.

In its exercise of geoeconomic power, China rewards while the U.S. punishes. That’s because the U.S. is in the enviable position that mere access to its geoeconomic infrastructure is valuable in itself. Countries are not paying China for the privilege of joining OBOR; China is paying them to join. China has effectively paid India to keep quiet and stay in the BRICS, paid Greece to plead its case at the EU, and paid dozens of African countries to allow Chinese state-owned firms to build infrastructure at below-cost rates. China even donated a new headquarters building for the African Union—and sent a Chinese crew to Addis Ababa to build it.

By contrast, more than a million international students—nearly a third of them Chinese—pay to study in the U.S., subsidizing American colleges while absorbing American values. More than 500 foreign companies are listed on the New York Stock Exchange, subjecting themselves to U.S. government oversight, and the U.S. dollar is on one side of the deal in 88 percent of all international currency transactions. The whole world relies on the American-dominated internet, the American-provided Global Positioning System (GPS) and American-owned computer and mobile phone operating systems. It is difficult to do business of any kind in today’s integrated economy without using U.S.-linked systems of one kind or another, which is why the U.S. is uniquely powerful in the imposition of economic sanctions.

Geoeconomics isn’t everything, and sanctions may not be able to solve all of the world’s geopolitical crises. Sometimes boots on the ground and missiles in the air are the only ways to achieve important policy and humanitarian goals. But geoeconomics is increasingly important, and in that realm, the U.S. is vastly more powerful today than postwar America was in its Cold War heyday. It is worth remembering that the U.S. at its geopolitical zenith struggled to contain an impoverished China in the Korean War and failed to contain an impoverished North Vietnam in Southeast Asia. Today, geoeconomic centrality gives the U.S. much more power to influence the policies and behaviors of other countries than military force ever did. Hegemony is dead. Long live centrality.

#### The perception of decline causes immediate lash-out - goes nuclear

Ken Jorgustin 14, MA in Political Science, History, and Economics from the University of West Florida, Retired Master Sergeant in the United States Air Force, Graduated Number One at the Academic Instructor School Air

War College, Maxwell AFB, “The Coming Collapse Of The Dollar, And A Time For War”, 12/26/2014, https://tinyurl.com/y32yc6o8

In my opinion we are witnessing an Empire end-time struggle of the U.S. dollar hegemony over the world – the result of which may become the end of the dollar as we know it and grave financial pain for the American citizen, or even worse, World War 3.

You’ve probably seen or heard the word ‘hegemony’ before. But what is hegemony? Hegemony is the political, economic, or military predominance or control of one state over others. We are seeing before our eyes – the most critical clash of our time – the increasingly desperate attempts to sustain global dollar hegemony and dominance. What you need to know is that this ongoing battle is coming closer to a tipping point. The dollar is going to collapse. One day.

You better do what you can to understand what’s really going on – to see through the propaganda and misinformation – and to prepare and protect yourself from the results of a global chess game and perhaps soon to be ‘checkmate’.

You’ve heard that desperate people do desperate things, but will we (the pawns) be led to major war while the protected elite call the shots? There is a looming collapse of the dollar and it will be caused by losing it’s reserve currency status. When the ‘currency war’ fails, the elites in desperation will lead us to the next major world war – which might even go nuclear. Why? Because the U.S. is not ‘playing’ with an Iraq this time. This time it’s playing with Russia, a major nuclear power with a strong military, in alliance with China. This time it’s different…

While the dollar is in a temporary rally, don’t be fooled. While the chess game may even take one to three years to play out till checkmate, once the ‘king’ is tipped over, once the dollar goes, the United States ’empire’ status is finished. Believe me – I do NOT wish for American hardship, as I am an American – but it’s just how I see the unfolding right now – and while I hope we do not suffer because of it, I do prepare for the uncertainty.

In case you didn’t know, the reason we (the United States) are able to sustain astronomical deficits, mind-boggling national debt, seemingly limitless spending on government and it’s programs, is because the dollar is the world’s currency reserve. For those who have not been paying attention, this notion has been slowly slipping, and is being challenged and seen for what it really is – and is facing serious challenges ahead. In fact serious is not strong enough a word – more like desperate.

The thing is, the elites are running out of moves in this chess game. Their spending policies (while having enabled an enormous dependent class of serfs), have destroyed much of the middle class – who themselves are just a paycheck or two away from serfdom. When the dollar falls down – even just a teetering – the tipping point will have been reached as the systemic house of cards collapses on itself while a state of anarchy erupts in the United States. The elites know this and they will do anything to keep it going until the very end. This is where our new apparent ‘enemy’ comes in… Russia.

The United States is making an enemy of Russia.

You see, any nation that has chosen to NOT use the dollar as a currency medium of exchange is first hit with economic sanctions. If that doesn’t work they’re hit with attempted government overthrow by way of internal (provoked and assisted) revolution. If that doesn’t work, the bombs start dropping. The problem is, and the illustrating fact that the United States is so desperate, is that we’re doing it to Russia. We’re in phase 1 and 2 right now. Phase 3 will not end well.

#### Nuke war causes extinction

Edwards 17 [Paul N. Edwards, CISAC’s William J. Perry Fellow in International Security at Stanford’s Freeman Spogli Institute for International Studies. Being interviewed by EarthSky. How nuclear war would affect Earth’s climate. September 8, 2017. earthsky.org/human-world/how-nuclear-war-would-affect-earths-climate] **Note, we are only reading parts of the interview that are directly from Paul Edwards -- MMG**

In the nuclear conversation, what are we not talking about that we should be?

We are not talking enough about the climatic effects of nuclear war. The “nuclear winter” theory of the mid-1980s played a significant role in the arms reductions of that period. But with the collapse of the Soviet Union and the reduction of U.S. and Russian nuclear arsenals, this aspect of nuclear war has faded from view. That’s not good. In the mid-2000s, climate scientists such as Alan Robock (Rutgers) took another look at nuclear winter theory. This time around, they used much-improved and much more detailed climate models than those available 20 years earlier. They also tested the potential effects of smaller nuclear exchanges. The result: an exchange involving just 50 nuclear weapons — the kind of thing we might see in an India-Pakistan war, for example — could loft 5 billion kilograms of smoke, soot and dust high into the stratosphere. That’s enough to cool the entire planet by about 2 degrees Fahrenheit (1.25 degrees Celsius) — about where we were during the Little Ice Age of the 17th century. Growing seasons could be shortened enough to create really significant food shortages. So the climatic effects of even a relatively small nuclear war would be planet-wide. What about a larger-scale conflict? A U.S.-Russia war currently seems unlikely, but if it were to occur, hundreds or even thousands of nuclear weapons might be launched. The climatic consequences would be catastrophic: global average temperatures would drop as much as 12 degrees Fahrenheit (7 degrees Celsius) for up to several years — temperatures last seen during the great ice ages. Meanwhile, smoke and dust circulating in the stratosphere would darken the atmosphere enough to inhibit photosynthesis, causing disastrous crop failures, widespread famine and massive ecological disruption. The effect would be similar to that of the giant meteor believed to be responsible for the extinction of the dinosaurs. This time, we would be the dinosaurs. Many people are concerned about North Korea’s advancing missile capabilities. Is nuclear war likely in your opinion? At this writing, I think we are closer to a nuclear war than we have been since the early 1960s. In the North Korea case, both Kim Jong-un and President Trump are bullies inclined to escalate confrontations. President Trump lacks impulse control, and there are precious few checks on his ability to initiate a nuclear strike. We have to hope that our generals, both inside and outside the White House, can rein him in. North Korea would most certainly “lose” a nuclear war with the United States. But many millions would die, including hundreds of thousands of Americans currently living in South Korea and Japan (probable North Korean targets). Such vast damage would be wrought in Korea, Japan and Pacific island territories (such as Guam) that any “victory” wouldn’t deserve the name. Not only would that region be left with horrible suffering amongst the survivors; it would also immediately face famine and rampant disease. Radioactive fallout from such a war would spread around the world, including to the U.S. It has been more than 70 years since the last time a nuclear bomb was used in warfare. What would be the effects on the environment and on human health today? To my knowledge, most of the changes in nuclear weapons technology since the 1950s have focused on making them smaller and lighter, and making delivery systems more accurate, rather than on changing their effects on the environment or on human health. So-called “battlefield” weapons with lower explosive yields are part of some arsenals now — but it’s quite unlikely that any exchange between two nuclear powers would stay limited to these smaller, less destructive bombs.

## Case

### Solvency Dump

#### No Solvency

**1] Patent access assumes infrastructure that doesn’t exist**

Hotez 5/10

Peter J. Hotez, Maria Elena Bottazzi, and Prashant Yadav. "Producing a Vaccine Requires More Than a Patent," Foreign Affairs, 5-10-2021, accessed 9-18-2021, <https://www.foreignaffairs.com/articles/united-states/2021-05-10/producing-vaccine-requires-more-patent> HWIC rc // Phoenix

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

#### 2] Distribution takes way too long – can only being in 2022

Reuters 9/15

Reuters, 9-15, 21, <https://www.reuters.com/world/africa/exclusive-who-backed-vaccine-hub-africa-copy-moderna-covid-19-shot-2021-09-14/>, EXCLUSIVE WHO-backed vaccine hub for Africa to copy Moderna COVID-19 shot

Efforts to develop an African base for COVID-19 vaccine production will focus on trying to replicate Moderna's (MRNA.O) shot, but a lack of progress in talks with the U.S. company mean the project will take time, a senior WHO official told Reuters. The drive to produce vaccines in Africa is designed to help more developing countries access COVID-19 shots after rich nations bought up most of this year's supply. **Moderna said last October it would not enforce patents related to its shot during the pandemic,** raising hopes that other companies might be able to copy it and help boost COVID-19 vaccine production. **In practice, though, it is hard to replicate a vaccine without the information on how it is mad**e, and the World Health Organization-backed tech transfer hub in South Africa - set up in June to give poorer nations the know-how to produce COVID-19 vaccines - has so far not reached a deal with the company. "The talks have not yielded any results," Martin Friede, WHO Initiative for Vaccine Research coodinator, told Reuters. Moderna did not respond to a request for comment. The case highlights the challenges faced by the WHO as it battles to expand vaccine production to help address the glaring inequalities between rich and poor nations in the pandemic. More than three quarters of the 5.5 billion COVID-19 shots administered worldwide have gone to high and upper-middle income countries, which make up just over a third of the world's population. read more Currently only 3% of Africa is vaccinated, the African Union's top health official said last week, compared with more than half of the United States and three quarters of Spain. Friede said Mod**erna's vaccine had been chosen as an abundance of public information and its pledge not to enforce patents made the shot slightly easier to copy than some rivals.** "We have to make a choice now. The deadline is upon us; time to start ordering chemicals. We've chosen Moderna," he said. But even if the hub manages without Moderna's help, it could take more than a year to get a distributable vaccine as clinical trials would only begin in the latter half of 2022***,*** he added. In May, the United States said it would support waiving intellectual property rights for COVID-19 vaccines in order to help speed an end to the pandemic. But the idea has faced opposition from pharmaceutical firms, which argue they need to oversee any technology transfer due to the complexity of the manufacturing process. Pfizer (PFE.N) and its partner BioNTech (22UAy.DE) separately struck a deal in July for South Africa's Biovac to help make around 100 million doses a year of their COVID-19 vaccine for Africa. Their shot, like Moderna's, uses so-called mRNA technology. However, the deal is to "fill and finish" the vaccine, the final stages of production where the product is put into vials, sealed and packaged for shipping. It does not cover the complicated process of mRNA production, which Pfizer and BioNTech will do at their European plants. read more Neither responded to requests for comment. The WHO has been trying to persuade Moderna and Pfizer-BioNTech to join forces with its African tech transfer hub. But COVID-19 vaccine makers have warned that non-authorised producers would compete for vital raw materials and production gear that the established players - most of which have earned huge profits from vaccination - rely on. read more Hub consortium partner Afrigen Biologics will produce the initial batch of doses, before transferring the skills and technology to local manufacturing partner, Biovac Institute - both are Cape Town-based - which will mass produce the vaccines. "This is not something that we are asking industry to give us for free," Friede said about talks with the companies for access to information, adding that royalties, territorial limitations and other constraints could be built into a deal. Healthcare analysts doubt the plan can be mobilised quickly. **"There are many steps which will require lots of iterations before they can be ready for prime time commercial grade production," said Prashant Yadav, a global healthcare supply chain expert at the Center for Global Development** in Washington.

#### 3] Empirics - Moderna said they won’t enforce their patent last year and the pandemic is still raging on

Moderna ’20

“Statement by Moderna on Intellectual Property Matters during the Covid-19 Pandemic.” Moderna, Inc., 8 Oct. 2020, investors.modernatx.com/news-releases/news-release-details/statement-moderna-intellectual-property-matters-during-covid-19. // Phoenix

Moderna is a pioneer in the development of messenger RNA (mRNA) vaccines and therapeutics. From its inception in 2010, Moderna saw the potential of this new class of medicines to make a significant difference in patients’ lives. With the support of our investors we have invested billions of dollars into research and development to make mRNA medicines a reality. One of the exciting discoveries advanced by Moderna was the combination of mRNA and lipid nanoparticles (LNPs) to make vaccines, and the demonstration of this potential in human clinical trials for eleven different infectious disease vaccines since 2015. Those discoveries and the expertise we developed have uniquely positioned Moderna to respond to the COVID-19 pandemic quickly. Information on our work toward a COVID-19 vaccine can be found [here](https://www.modernatx.com/modernas-work-potential-vaccine-against-covid-19).

As a company committed to innovation, Moderna recognizes that intellectual property rights play an important role in encouraging investment in research. Our portfolio of intellectual property is an important asset that will protect and enhance our ability to continue to invest in innovative medicines. A summary of our intellectual property can be found [here](https://www.modernatx.com/mrna-technology/modernas-intellectual-property). A selection of representative issued US patents relevant to our mRNA-1273 vaccine against COVID-19 is available [here](https://www.modernatx.com/patents).

Beyond Moderna’s vaccine, there are other COVID-19 vaccines in development that may use Moderna-patented technologies. We feel a special obligation under the current circumstances to use our resources to bring this pandemic to an end as quickly as possible. Accordingly, while the pandemic continues, Moderna will not enforce our COVID-19 related patents against those making vaccines intended to combat the pandemic. Further, to eliminate any perceived IP barriers to vaccine development during the pandemic period, upon request we are also willing to license our intellectual property for COVID-19 vaccines to others for the post pandemic period.

#### 4] Waivers don’t solve restrictive bilateral agreements or patent linkages- those restrict generic manufacturing and distribution

Bonadio 21 Enrico Bonadio, (Reader in Intellectual Property Law, City, University of London) and Dhanay M. Cadillo Chandler (Postdoctoral research fellow, University of Turku), 2/24/21, Intellectual property and COVID-19 medicines: why a WTO waiver may not be enough, The Conversation, <https://theconversation.com/intellectual-property-and-covid-19-medicines-why-a-wto-waiver-may-not-be-enough-155920>

There are other barriers that the waiver wouldn’t address. One is that some developing countries have entered into bilateral agreements, especially with the US, the EU and other industrialised nations. These have limited the ability of generics producers to manufacture and distribute cheap medicines. One example is that this has limited the freedom to rely on parallel imports. These usually guarantee the importation of cheaper medicines purchased in countries where the drugs are sold at a lower price. Also, certain free trade agreements have introduced provisions which prevent national drug regulatory authorities from registering and allowing the sale of generics if the medicine is still patented. This is the so-called “[patent linkage](https://www.drugpatentwatch.com/blog/patent-linkage-resolving-infringement/)”. Among the countries that have signed these agreements are those who are part of the Comprehensive and [Progressive Agreement for Trans-Pacific Partnership](https://link.springer.com/article/10.1007/s40319-018-0758-3). They include Brunei, Chile, Malaysia, Mexico, Peru and Vietnam. Other trade and partnership agreements have also obliged certain developing countries to provide an absolute protection of clinical [test data](http://www.hjil.org/wp-content/uploads/Nsour-FINAL.pdf) submitted to regulatory agencies to demonstrate the quality, safety and efficacy of new medicines. This strong exclusivity stops the manufacturers of generics from using such data while applying for their own marketing authorisation. This inevitably slows down the availability of cheaper drugs. Countries like Morocco, Jordan, El Salvador, Guatemala, Honduras and Nicaragua do protect such data as a consequence of trade agreements concluded with the US.

#### Double bind -

#### 1] Squo solves their offense – Biden giving vaccines away now

Sullivan 8/17

Sullivan, Kate. “US to Ship First of the 500 MILLION PFIZER DOSES BIDEN Pledged to Donate Globally.” CNN, Cable News Network, 17 Aug. 2021, www.cnn.com/2021/08/17/politics/first-of-500-million-pfizer-doses/index.html // rc Phoenix

The Biden administration on Tuesday is shipping the first of the 500 million Covid-19 doses that President Joe Biden pledged to share with countries around the world at the Group of Seven summit earlier this year.

The US is sending 488,370 doses of Pfizer to Rwanda through the global vaccination program called Covid-19 Vaccines Global Access, or COVAX, a White House official told CNN. This batch includes the first 188,370 doses of the 500 million Pfizer doses purchased by the Biden administration, the official said. The remaining 300,000 doses of Pfizer going to Rwanda come from existing US supply.

"Today, we are shipping over 488,000 doses of Pfizer to Rwanda, including the first 100,000 doses from @POTUS' 500 million shots pledged and purchased this summer. This is just the beginning," assistant press secretary Kevin Munoz tweeted on Tuesday morning.

The move is part of the President's effort to have America be an "arsenal of vaccines" in the fight against Covid-19. Biden has repeatedly stressed there are no strings attached with accepting the US-bought vaccines.

Officials have said that 200 million of the 500 million doses will be delivered by the end of this year, and the remaining 300 million doses will be delivered in the first half of 2022. About 75% of these vaccines will be shared with COVAX and about 25% will be shared directly with countries in need.

#### 2] Vaccines don’t work – Israel proves – variants are vaccine-resistant

Wadman 8/16

Wadman, Meredith. “A Grim Warning from Israel: Vaccination BLUNTS, but Does Not Defeat Delta.” Science, 16 Aug. 2021, [www.science.org/content/article/grim-warning-israel-vaccination-blunts-does-not-defeat-delt. //](http://www.science.org/content/article/grim-warning-israel-vaccination-blunts-does-not-defeat-delt.%20//) Phoenix

“Now is a critical time,” Israeli Minister of Health Nitzan Horowitz said as the 56-year-old got a COVID-19 booster shot on 13 August, the day his country became the first nation to offer a third dose of vaccine to people as young as age 50. “We’re in a race against the pandemic.”

His message was meant for his fellow Israelis, but it is a warning to the world. Israel has among the world’s highest levels of vaccination for COVID-19, with 78% of those 12 and older fully vaccinated, the vast majority with the Pfizer vaccine. Yet the country is now logging one of the world’s highest infection rates, with nearly 650 new cases daily per million people. More than half are in fully vaccinated people, underscoring the extraordinary transmissibility of the Delta variant and stoking concerns that the benefits of vaccination ebb over time.

#### Either a) vaccines work and squo solves or b) vaccines don’t work and they can’t solve

### Biowar Turn

#### Eliminating IPR greenlights access to dangerous information which could allow rogue actors to develop bioweapons immune to vaccines – viral vaccines in particular are high risk

Sandbrink et. al ’21

Sandbrink & Koblentz, 2021, Jonas B. Sandbrink, Future of Humanity Institute, University of Oxford, Trajan House, Mill St, Oxford, OX2 0AN, UK, Medical Sciences Division, University of Oxford, Medical Sciences Office, John Radcliffe Hospital, Headley Way, Oxford OX3 9DU, UK, Gregory D. Koblentz, cSchar School of Policy and Government, George Mason University, Van Metre Hall, 678 3351 Fairfax Drive Arlington, VA 22201, USA, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/> rc Phoenix

There are three dimensions of biological dual-use risks: 1) misuse of ostensibly civilian facilities, 2) misuse of equipment and agents, and 3) generation and dissemination of scientific knowledge with risk of misuse [34]. Historically, the dual-use potential of vaccines was tied to the dual-use potential of vaccine production facilities and equipment for production of threat agents for traditional inactivated or attenuated vaccines. This dual-use potential is illustrated by the historical example of Iraq repurposing fermenters from a veterinary vaccine production plant for botulinum toxin production in 1988.[34], [35] The Soviet Union also planned to use ostensibly civilian vaccine production facilities to produce biological warfare agents in the event of a war with the United States [36].

While over recent decades dual-use risks have generally been considered a niche concern in vaccine development, the focus of dual-use risk from vaccine research has shifted from the misuse of civilian facilities to the generation and dissemination of scientific insights with dual-use potential. One prominent example of vaccine research leading to the dissemination of dual-use insights was the synthesis of horsepox virus and its publication in 2018. This research was directed at the development of a better smallpox vaccine. However, as this was the first account of the synthesis of an orthopoxvirus, a virus in the same family and closely related to variola virus, the agent that causes smallpox, this research has lowered the barrier for individuals seeking to acquire the variola virus which has been eradicated from nature and is only known to exist at two secure repositories in the United States and Russia [37].

The increased concern around dual-use knowledge is driven by the fact that rapid advances in molecular biology, including DNA synthesis and gene-editing, continue to lower the barrier for viral engineering and synthesis [34]. Therefore, the risk from dissemination of dual-use insights on the modification of viral properties like transmissibility and immune evasion is amplified, as such insights might allow actors to create transmissible agents posing global or even existential threats. In comparison, the ability to produce large batches of toxins and non-transmissible viruses could be used to create harm at large but limited scale. While large-scale production has long been considered a key barrier to the weaponisation of existing viruses on the basis of knowledge on historical biological weapons programs, the potential for misuse of production technology would be limited to the proprietor of the facility in question [38], [39]. In contrast, once released into the public, scientific knowledge may inform malicious actors around the globe.

Dual-use aspects of research on novel platform vaccine technologies, which leverage recent advances in viral and nucleic acid synthesis and modification, have not been evaluated sufficiently to date. Hence, we here assess and compare the dual-use risk of different novel and traditional vaccine approaches (Table 1) and propose strategies to minimise biosecurity risks posed by vaccine platform technologies.

Compared to other vaccine approaches, we identify research on viral vector-based platforms as exhibiting relatively high dual-use potential. This is in particular due to the high concern we associate with the generation of knowledge on the modification of viral properties. As we discuss in more detail below, research on viral vector-based vaccines involves viral engineering which may inform modification of concerning agents such as variola virus and creates incentives for the generation of potentially concerning insights on conferring viral immune evasion. We classify research on rational attenuation approaches, which aims to create live attenuated viral vaccines with better genomic stability, as exhibiting medium to high dual-use potential. Research on synonymous codon replacement may not only lead to potential insights on enhancement of virulence, but importantly generates the synthetic biology tools necessary to conduct such enhancement, for example the ability to introduce many mutations simultaneously with high precision [26].

In the following section, we examine the dual-use potential of virally vectored vaccines to identify which particular lines of research raise concerns and how these concerns may be mitigated. Virally vectored vaccines may increase biosecurity risk through two routes: (1) generating particular insights with more direct dual-use potential and (2) spreading viral engineering capabilities which could enable misuse. Assessing this danger means looking at the incremental risk of further research into virally vectored vaccines, but also at the pre-existing margin of similar work and research. If vaccine platforms are a small part of all viral engineering or all immune-evasive work, the additional risk is commensurately less.

The foremost source of biosecurity risk from research on virally vectored vaccines is the creation of insights and knowledge with dual-use potential. For instance, work on virally vectored vaccines may lead to insights into the evasion of pre-existing anti-vector immunity. Such knowledge may be leveraged to engineer pathogens to evade pre-existing, potentially vaccine-induced, immunity.

Pre-existing anti-vector immunity is one of the major limitations of viral vector-based vaccines and therapeutics. Pre-existing vector-specific antibodies may neutralise viral vectors before their entry of host cells and hence may prevent the induction of immune responses against the encoded antigens [[12]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0060), [[13]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0065). Such pre-existing immunity may be induced by natural infection or by previous administration of a vector-based vaccine or therapeutic, therefore limiting the reusability of a given vector-based platform [[14]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0070). Accordingly, there exists a strong incentive to overcome this limitation, and many different approaches to circumventing pre-existing anti-vector immunity have been explored [[40]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0200). For instance, while adenovirus serotype 5 (Ad5) features desirable properties as a vaccine vector with regard to immunogenicity, there is a high prevalence of pre-existing anti-Ad5 immunity in the human population [[41]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0205). In order to circumvent this immunity, chimeric vectors have been created where hypervariable regions of Ad5 hexon protein are replaced with those from a less seroprevalent adenovirus serotype such as Ad48 ([Fig. 2](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/figure/f0010/) ) [[15]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0075). One could readily imagine how experience with and knowledge of the creation of chimeric vectors to evade pre-existing anti-vector immunity could be leveraged to create pathogens able to evade vaccine-induced immunity. The example of the creation of chimeric Ad5 may only be of limited concern from a dual-use perspective as adenovirus is a relatively less concerning pathogen and this approach of creating chimeric vectors is relatively pathogen specific. However, similar modifications of attenuated versions of highly pathogenic viruses may be readily translatable to modifying pathogenic versions of these viruses for evasion of pre-existing or vaccine-induced immunity. For instance, Miest et al created a recombinant oncolytic measles virus capable of evading pre-existing neutralising antibodies through exchange of envelope glycoproteins with those of canine distemper virus [[42]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0210). Similar insights into the creation of new “serotypes” of pathogenic viruses may emerge from research on overcoming anti-vector immunity in the context of virally vectored vaccines. Furthermore, efforts to overcome pre-existing anti-vector immunity may lead to more universal insights into strategies for evading pre-existing immunity that are applicable and translatable to a wide range of pathogens.

#### Modified bioweapons cause Extinction.

Millett and Snyder-Beattie 17 (Piers Millett and Andrew Snyder-Beattie; 2017; Health Security, Volume 15, Number 4; *“Existential Risk and Cost-Effective Biosecurity”*; accessed 8/13/21; <https://www.liebertpub.com/doi/pdf/10.1089/hs.2017.0028>; Piers Millett, PhD, is a Senior Research Fellow, and Andrew Snyder-Beattie, MS, is Director of Research; both at the University of Oxford, Future of Humanity Institute, Oxford, England.; page 374) HB rc // Phoenix

In the modern context, no single disease currently exists that combines the worst-case levels of transmissibility, lethality, resistance to countermeasures, and global reach. But many diseases are proof of principle that each worst-case attribute can be realized independently. For example, some diseases exhibit nearly a 100% case fatality ratio in the absence of treatment, such as rabies or septicemic plague. Other diseases have a track record of spreading to virtually every human community worldwide, such as the 1918 flu,10 and seroprevalence studies indicate that other pathogens, such as chickenpox and HSV-1, can successfully reach over 95% of a population.11,12 Under optimal virulence theory, natural evolution would be an unlikely source for pathogens with the highest possible levels of transmissibility, virulence, and global reach. But advances in biotechnology might allow the creation of diseases that combine such traits. Recent controversy has already emerged over a number of scientific experiments that resulted in viruses with enhanced transmissibility, lethality, and/or the ability to overcome therapeutics.13-17 Other experiments demonstrated that mousepox could be modified to have a 100% case fatality rate and render a vaccine ineffective.18 In addition to transmissibility and lethality, studies have shown that other disease traits, such as incubation time, environmental survival, and available vectors, could be modified as well.19-21 Although these experiments had scientific merit and were not conducted with malicious intent, their implications are still worrying. This is especially true given that there is also a long historical track record of state-run bioweapon research applying cutting-edge science and technology to design agents not previously seen in nature. The Soviet bioweapons program developed agents with traits such as enhanced virulence, resistance to therapies, greater environmental resilience, increased difficulty to diagnose or treat, and which caused unexpected disease presentations and outcomes.22 Delivery capabilities have also been subject to the cutting edge of technical development, with Canadian, US, and UK bioweapon efforts playing a critical role in developing the discipline of aerobiology.23,24 While there is no evidence of staterun bioweapons programs directly attempting to develop or deploy bioweapons that would pose an existential risk, the logic of deterrence and mutually assured destruction could create such incentives in more unstable political environments or following a breakdown of the Biological Weapons Convention.25The possibility of a war between great powers could also increase the pressure to use such weapons—during the World Wars, bioweapons were used across multiple continents, with Germany targeting animals in WWI,26 and Japan using plague to cause an epidemic in China during WWII.27 Non-state actors may also pose a risk, especially those with explicitly omnicidal aims. While rare, there are examples. The Aum Shinrikyo cult in Japan sought biological weapons for the express purpose of causing extinction.28 Environmental groups, such as the Gaia Liberation Front, have argued that ‘‘we can ensure Gaia’s survival only through the extinction of the Humans as a species. we now have the specific technology for doing the job. several different [genetically engineered] viruses could be released’’(quoted in ref. 29). Groups such as R.I.S.E. also sought to protect nature by destroying most of humanity with bioweapons.30 Fortunately, to date, non-state actors have lacked the capabilities needed to pose a catastrophic bioweapons threat, but this could change in future decades as biotechnology becomes more accessible and the pool of experienced users grows.31,3

### Access Turn

#### The plan leads to uncontrolled use of patented technologies, which turns vaccine access, and causes dangerous health consequences.

Crosby and Diamond ‘21

(Daniel Crosby JD@Washington University of Law, Evan Diamond JD@Harvard Law School M.S. Biochemistry@UPenn, Isabel Fernandez de la Cuesta JD@Complutense University Madrid, Jamieson Greer JD@University of Virginia Law School, Jeffery Telep JD@University of Florida, Brian White JD@University of Virginia, “Group of Nearly 60 WTO Members Seek Unprecedented Waiver from WTO Intellectual Property Protection for Covid-related Medical Projects” <https://www.jdsupra.com/legalnews/group-of-nearly-60-wto-members-seek-2523821/>, March 05)

Waiver risks uncontrolled use of patented technologies, without improving vaccine access. Pharmaceutical companies can provide, and have provided, licenses to distribute or scale-up production of COVID-19 vaccines and therapies at reduced cost. Such license agreements allow for expanded access in low- and middle-income countries, while also setting reasonable parameters

so that patents and other IP rights are used to address the specific medical needs of the COVID-19 pandemic at hand, and not for other purposes. License agreements also allow for orderly technology transfer, including of unpatented “trade secret” information and other critical “know-how,” that may be essential to efficiently producing and scaling-up safe and effective versions of technologically complex vaccines and biologic drug products. Under the present TRIPS waiver proposal, however, member countries could try to exploit an extraordinarily broad scope of IP and copy patented technologies so long as they are “in relation to prevention, containment or treatment of COVID-19.” For example, under an expansive reading of the proposed waiver language, a member country could try to produce patented pharmaceutical compounds that have other indicated uses predating COVID-19, if such compounds had later been studied or experimentally used for potential symptomatic relief or antiviral activity in COVID-19 patients. The same risks may be faced by manufacturers of patented materials or devices that have multiple uses predating COVID-19, but also may be used as “personal protective equipment” or components thereof, or in other measures arguably relating to COVID-19 “prevention” or “containment.”At the same time, it is unclear how the proposed TRIPS waiver could provide the technology transfer and know-how critical for making the complex molecules and formulations constituting the various COVID-19 vaccines. Vaccine manufacture undertaken by an unauthorized party without the proper processes and controls could result in a different product that is potentially ineffective or results in unwanted health consequences. And even if an unauthorized manufacturer could overcome those substantial hurdles to reverse-engineer and scale up a safe and effective vaccine copy, it would likely take substantial time and a series of failures to do so. Notably, several of the original COVID-19 vaccine developers have recently faced low product yield and other manufacturing challenges during pre-commercial scale-up efforts and the initial months of commercial production.

### Medical Inequality

#### IPR is not the cause of medicine inequality. Multiple alternative causes exist

Haugen 2021 [Hans Morten, Professor of International Diakonia at the VID Specialized University, Oslo, Norway, The Journal of World Intellectual Property, "Does TRIPS (Agreement on Trade-Related Aspects of Intellectual Property Rights) prevent COVID-19 vaccines as a global public good?" March 18, https://onlinelibrary.wiley.com/doi/10.1111/jwip.12187

This article analyzes the context for the allegation that IP is among the crucial factors in promoting health innovation globally, and not preventing the universal and equitable access to vaccines, even if supply of medicines is held by developed countries to be “difficult” (WTO Secretariat, 2020a). Biotechnology actors expressed criticism of the UN High-level Panel on Access to Medicines (2016), arguing that IP tends to be overemphasized in debates over access to medicines, ignoring the wider context of what impedes such access (International Council of Biotech Associations [ICBA], 2016; Biotechnology Innovation Organization [BIO], 2016). Hence, developed countries and biotech associations concur in identifying weak funding of health care and lack of manufacturing capacity as constituting the core of the problem of access (WTO Secretariat, 2020a; see also U.S. Department of State, 2016), as well as regulatory inefficiencies, trade policies and inadequate health insurance (ICBA, 2016).