## Disclosure Theory

#### New, un-disclosed affs are a voting issue –

#### I asked—screenshot in the doc

Graphical user interface, text, application, email, Teams

Description automatically generated

#### Testing – they make it impossible to adequately test the aff without adequate pre-round prep – favors newness over engagement – disclosure solves their offense – you can break new affs, you just have to disclose the plan text personally or disclose it on the wiki before round

#### Negative ground – they make negative ground concessionary to the goodwill of the aff and results in extremist generics that heavily skew ground in favor of the aff

No RVIs – they don’t get to win for following the rules

## CP

#### The member nations of the World Trade Organization ought to reduce intellectual property protections for medicines using the mechanisms described by MSF ’17:

MSF ’17 – Médecins Sans Frontières [Doctors Without Borders - Médecins Sans Frontières (MSF) is an international, independent, medical humanitarian organisation that delivers emergency aid to people affected by armed conflict, epidemics, healthcare exclusion and natural or man-made disasters.], “A Fair Shot for Vaccine Affordability: Understanding and addressing the effects of patents on access to newer vaccines,” September, 2017. Accessed Aug. 12, 2021. <<https://msfaccess.org/sites/default/files/2018-06/VAC_report_A%20Fair%20Shot%20for%20Vaccine%20Affordability_ENG_2017.pdf>> AT

Countries can take a variety of steps to promote competition in vaccine manufacturing and help mitigate the complex patent thickets that could block, delay or increase uncertainties around access to multiple sources of vaccines. Governments should adopt public health-oriented IP policies, making full use of TRIPS flexibilities in both substantive and procedural aspects of national patent laws. Countries should:

• Encourage and accelerate follow-on development and competition of vaccines and vaccine technologies through the introduction and use of broad Bolar exemptions. This will support an early start for research and clinical studies by follow-on manufacturers, and support independent follow-on research and development.

• Apply strict patentability criteria for vaccine and vaccine technologies in patent examination and judicial proceedings. Countries should closely scrutinise patent applications concerning common methods of treatment, dosage forms and claims concerning specific age groups. Countries should reject trivial changes to known vaccine technologies, or composition patent applications that merely present the assembly of more ingredients using a known technology.

• Implement robust pre- and post-grant opposition procedures in national patent law systems that allow greater public scrutiny and opportunities to challenge unmerited patent applications from an early stage. Procedures that allow third-party observation but lack a mandatory hearing requirement could be improved to provide better transparency and accountability to the public.

• Improve use of compulsory licencing. Governments should strengthen the mechanisms of issuing compulsory licences to facilitate the most expedited access to multiple sources of vaccines and to safeguard public health.

• Strengthen technical capacity to ensure patent examiners apply strict patentability criteria and screen out unmerited applications in a timely manner. This will provide clarity on the patent landscape concerning important vaccines and technologies.

• Increase transparency of patent office filings to enable third parties to better understand the IP landscape, especially through procedures to promote disclosure of non-proprietary biological qualifier names74 of vaccines. Prospective manufacturers will be able to make decisions more efficiently if they understand the IP landscape clearly. Government procurement decision making will also be improved by addressing the current information asymmetry.

• Make full use of LDCs’ exemption from mandatory patent protection to accelerate access to quality assured follow-on new vaccines and encourage competition to improve affordability of vaccines.

• Demand that international organisations like WHO, Gavi, the Pan American Health Organization (PAHO) and the United Nations Children’s Fund (UNICEF) improve technical support for countries to: identify legal barriers, use flexibilities under IP laws and improve transparency of patent information to facilitate follow-on development and foster robust competition for new vaccines.75

#### Triggers dispute settlement—their card says that the US does not like trade secrets being revoked

## Innovation DA

#### The pharma industry is strong now but patents are key for continued economic growth. Batell and PhRMA 14:

Batell and PhRMA {Battelle is the world’s largest nonprofit independent research and development organization, providing innovative solutions to the world’s most pressing needs through its four global businesses: Laboratory Management, National Security, Energy, Environment and Material Sciences, and Health and Life Sciences. The Pharmaceutical Research and Manufacturers of America (PhRMA) represents the country’s leading pharmaceutical research and biotechnology companies, which are devoted to inventing medicines that allow patients to live longer, healthier, and more productive lives.}, 14 – “The U.S. Biopharmaceutical Industry: Perspectives on Future Growth and The Factors That Will Drive It,” http://phrma-docs.phrma.org/sites/default/files/pdf/2014-economic-futures-report.pdf//marlborough-wr//

Compared to other capital-intensive, advanced manufacturing industries in the U.S., the biopharmaceutical industry is a leader in R&D investment, IP generation, venture capital investment, and R&D employment. Policies and infrastructure that helped foster these innovative activities have allowed the U.S. to seize global leadership in biopharmaceutical R&D over the past 30 years. However, as this report details, other countries are seeking to compete with the U.S. by borrowing and building upon some of these pro-innovation policies to improve their own operating environment and become more favorable to biopharmaceutical companies making decisions about where to locate their R&D and manufacturing activities. A unique contribution of this report was the inclusion of the perspective of senior-level strategic planning executives of biopharmaceutical companies regarding what policy areas they see as most likely to impact the favorability of the U.S. business operating environment. The executives cited the following factors as having the most impact on the favorability of the operating environment and hence, potential growth of the innovative biopharmaceutical industry in the U.S.: • Coverage and payment policies that support and encourage medical innovation • A well-functioning, science-based regulatory system • Strong IP protection and enforcement in the U.S. and abroad The top sub-attribute identified as driving future biopharmaceutical industry growth in the U.S. cited by executives was a domestic IP system that provides adequate patent rights and data protection. Collectively, these factors underscore the need to reduce uncertainties and ensure adequate incentives for the lengthy, costly, and risky R&D investments necessary to develop new treatments needed by patients and society to address our most costly and challenging diseases. With more than 300,000 jobs at stake between the two scenarios, the continued growth and leadership of the U.S. innovative biopharmaceutical industry cannot be taken for granted. Continued innovation is fundamental to U.S. economic well-being and the nation’s ability to compete effectively in a globalized economy and to take advantage of the expected growth in demand for new medicines around the world. Just as other countries have drawn lessons from the growth of the U.S. biopharmaceutical sector, the U.S. needs to assess how it can improve the environment for innovation and continue to boost job creation by increasing R&D investment, fostering a robust talent pool, enhancing economic growth and sustainability, and continuing to bring new medicines to patients.

#### COVID has kept patents and innovation strong, but continued protection is key to innovation by incentivizing biomedical research – it’s also crucial to preventing counterfeit medicines, economic collapse, and fatal diseases, which independently turns case. Macdole and Ezell 4-29:

Jaci Mcdole and Stephen Ezell {Jaci McDole is a senior policy analyst covering intellectual property (IP) and innovation policy at the Information Technology and Innovation Foundation (ITIF). She focuses on IP and its correlations to global innovation and trade. McDole holds a double BA in Music Business and Radio-Television with a minor in Marketing, an MS in Education, and a JD with a specialization in intellectual property (Southern Illinois University Carbondale). McDole comes to ITIF from the Institute for Intellectual Property Research, an organization she co-founded to study and further robust global IP policies. Stephen Ezell is vice president, global innovation policy, at the Information Technology and Innovation Foundation (ITIF). He comes to ITIF from Peer Insight, an innovation research and consulting firm he cofounded in 2003 to study the practice of innovation in service industries. At Peer Insight, Ezell led the Global Service Innovation Consortium, published multiple research papers on service innovation, and researched national service innovation policies being implemented by governments worldwide. Prior to forming Peer Insight, Ezell worked in the New Service Development group at the NASDAQ Stock Market, where he spearheaded the creation of the NASDAQ Market Intelligence Desk and the NASDAQ Corporate Services Network, services for NASDAQ-listed corporations. Previously, Ezell cofounded two successful innovation ventures, the high-tech services firm Brivo Systems and Lynx Capital, a boutique investment bank. Ezell holds a B.S. from the School of Foreign Service at Georgetown University, with an honors certificate from Georgetown’s Landegger International Business Diplomacy program.}, 21 - ("Ten Ways Ip Has Enabled Innovations That Have Helped Sustain The World Through The Pandemic," Information Technology & Innovation Foundation, 4-29-2021, https://itif.org/publications/2021/04/29/ten-ways-ip-has-enabled-innovations-have-helped-sustain-world-through)//marlborough-wr/

To better understand the role of IP in enabling solutions related to COVID-19 challenges, this report relies on 10 case studies drawn from a variety of nations, technical fields, and firm sizes. This is but a handful of the thousands of IP-enabled innovations that have sprung forth over the past year in an effort to meet the tremendous challenges brought on by COVID-19 globally. From a paramedic in Mexico to a veteran vaccine manufacturing company in India and a tech start-up in Estonia to a U.S.-based company offering workplace Internet of Things (IoT) services, small and large organizations alike are working to combat the pandemic. Some have adapted existing innovations, while others have developed novel solutions. All are working to take the world out of the pandemic and into the future. The case studies are: Bharat Biotech: Covaxin Gilead: Remdesivir LumiraDX: SARS-COV-2 Antigen POC Test Teal Bio: Teal Bio Respirator XE Ingeniería Médica: CápsulaXE Surgical Theater: Precision VR Tombot: Jennie Starship Technologies: Autonomous Delivery Robots Triax Technologies: Proximity Trace Zoom: Video Conferencing As the case studies show, IP is critical to enabling innovation. Policymakers around the world need to ensure robust IP protections are—and remain—in place if they wish their citizens to have safe and innovative solutions to health care, workplace, and societal challenges in the future. THE ROLE OF INTELLECTUAL PROPERTY IN R&D-INTENSIVE INDUSTRIES Intangible assets, such as IP rights, comprised approximately 84 percent of the corporate value of S&P 500 companies in 2018.4 For start-ups, this means much of the capital needed to operate is directly related to IP (see Teal Bio case study for more on this). IP also plays an especially important role for R&D-intensive industries.5 To take the example of the biopharmaceutical industry, it is characterized by high-risk, time-consuming, and expensive processes including basic research, drug discovery, pre-clinical trials, three stages of human clinical trials, regulatory review, and post-approval research and safety monitoring. The drug development process spans an average of 11.5 to 15 years.6 For every 5,000 to 10,000 compounds screened on average during the basic research and drug discovery phases, approximately 250 molecular compounds, or 2.5 to 5 percent, make it to preclinical testing. Out of those 250 molecular compounds, approximately 5 make it to clinical testing. That is, 0.05 to 0.1 percent of drugs make it from basic research into clinical trials. Of those rare few which make it to clinical testing, less than 12 percent are ultimately approved for use by the U.S. Food and Drug Administration (FDA).7 In addition to high risks, drug development is costly, and the expenses associated with it are increasing. A 2019 report by the Deloitte Center for Health Solutions concluded that since 2010 the average cost of bringing a new drug to market increased by 67 percent.8 Numerous studies have examined the substantial cost of biopharmaceutical R&D, and most confirm investing in new drug development requires $1.7 billion to $3.2 billion up front on average.9 A 2018 study by the Coalition for Epidemic Preparedness found similar risks and figures for vaccines, stating, “In general, vaccine development from discovery to licensure can cost billions of dollars, can take over 10 years to complete, and has an average 94 percent chance of failure.”10 Yet, a 2010 study found that 80 percent of new drugs—that is, the less than 12 percent ultimately approved by the FDA—made less than their capitalized R&D costs.11 Another study found that only 1 percent (maybe three new drugs each year) of the most successful 10 percent of FDA approved drugs generate half of the profits of the entire drug industry.12 To say the least, biopharmaceutical R&D represents a high-stakes, long-term endeavor with precarious returns. Without IP protection, biopharmaceutical manufacturers have little incentive to take the risks necessary to engage in the R&D process because they would be unable to recoup even a fraction of the costs incurred. Diminished revenues also result in reduced investments in R&D which means less research into cancer drugs, Alzheimer cures, vaccines, and more. IP rights give life-sciences enterprises the confidence needed to undertake the difficult, risky, and expensive process of life-sciences innovation secure in the knowledge they can capture a share of the gains from their innovations, which is indispensable not only to recouping the up-front R&D costs of a given drug, but which can generate sufficient profits to enable investment in future generations of biomedical innovation and thus perpetuate the enterprises into the future.13 THE IMPORTANCE OF INTELLECTUAL PROPERTY TO INNOVATION Although anti-IP proponents have attacked biopharmaceutical manufacturers particularly hard, the reality is all IP-protected innovations are at risk if these rights are ignored, or vitiated. Certain arguments have shown a desire for the term “COVID-19 innovations” to include everything from vaccines, therapeutics, diagnostics, and PPE to biotechnology, AI-related data, and educational materials.14 This could potentially open the floodgates to invalidate IP protection on many of the innovations highlighted in this report. However, much of the current discussion concerning IP focuses almost entirely on litigation fears or R&D incentives. Although R&D is an important aspect of IP, as previously mentioned, these discussions ignore the fact that IP protection can be—and often is—used for other purposes, including generating initial capital to create a company and begin manufacturing and, more importantly, using licensing agreements and IP to track the supply chain and ensure quality control of products. This report highlights but a handful of the thousands of IP-enabled innovations that have sprung forth over the past year in an effort to meet the tremendous challenges brought on by COVID-19 globally. In 2018, Forbes identified counterfeiting as the largest criminal enterprise in the world.15 The global struggle against counterfeit and non-regulated products, which has hit Latin America particularly hard during the pandemic, proves the need for safety and quality assurance in supply chains.16 Some communities already ravaged by COVID-19 are seeing higher mortality rates related to counterfeit vaccines, therapeutics, PPE, and cleaning and sanitizing products.17 Polish authorities discovered vials of antiwrinkle treatment labeled as COVID-19 vaccines. 18 In Mexico, fake vaccines sold for approximately $1,000 per dose.19 Chinese and South African police seized thousands of counterfeit vaccine doses from warehouses and manufacturing plants.20 Meanwhile, dozens of websites worldwide claiming to sell vaccines or be affiliated with vaccine manufacturers have been taken down.21 But the problem is not limited to biopharmaceuticals. The National Intellectual Property Rights Coordination Center has recovered $48 million worth of counterfeit PPE and other products.22 Collaborative efforts between law enforcement and manufacturers have kept numerous counterfeits from reaching the population. In countries with strong IP protection, the chances of counterfeit products reaching the market are significantly lower. This is largely because counterfeiting tends to be an IP-related issue, and these countries generally provide superior means of tracking the supply chain through trademarks, trade secrets, and licensing agreements. This enables greater quality control and helps manufacturers maintain a level of public confidence in their products. By controlling the flow of knowledge associated with IP, voluntary licensing agreements provide innovators with opportunities to collaborate, while ensuring their partners are properly equipped and capable of producing quality products. Throughout this difficult time, the world has seen unexpected collaborations, especially between biopharmaceutical companies worldwide such as Gilead and Eva Pharma or Bharat Biotech and Ocugen, Inc. Throughout history, and most significantly in the nineteenth century through the widespread development of patent systems and the ensuing Industrial Revolution, IP has contributed toward greater economic growth.23 This is promising news as the world struggles for economic recovery. A 2021 joint study by the EU Intellectual Property Office (EUIPO) and European Patent Office (EPO) shows a strong, positive correlation between IP rights and economic performance.24 It states that “IP-owning firms represent a significantly larger proportion of economic activity and employment across Europe,” with IP-intensive industries contributing to 45 percent of gross domestic product (GDP) (€6.6 trillion; US$7.9 trillion).25 The study also shows 38.9 percent of employment is directly or indirectly attributed to IP-intensive industries, and IP generates higher wages and greater revenue per employee, especially for small-to-medium-sized enterprises.26 That concords with the United States, where the Department of Commerce estimated that IP-intensive industries support at least 45 million jobs and contribute more than $6 trillion dollars to, or 38.2 percent of, GDP.27 In 2020, global patent filings through the World Intellectual Property Organization’s (WIPO) Patent Cooperation Treaty (PCT) system reached a record 275,900 filings amidst the pandemic, growing 4 percent from 2019.28 The top-four nations, which accounted for 180,530 of the patent applications, were China, the United States, Japan, and Korea, respectively.29 While several countries saw an increase in patent filings, Saudi Arabia and Malaysia both saw significant increases in the number of annual applications, with the top two filing growths of 73 percent and 26 percent, respectively.30 The COVID-19 pandemic slowed a lot of things, but it certainly couldn’t stop innovation. There are at least five principal benefits strong IP rights can generate, for both developing and developed countries alike.31 First, stronger IP protection spurs the virtuous cycle of innovation by increasing the appropriability of returns, enabling economic gain and catalyzing economic growth. Second, through patents—which require innovators to disclose certain knowledge as a condition of protection—knowledge spillovers build a platform of knowledge that enables other innovators. For instance, studies have found that the rate of return to society from corporate R&D and innovation activities is at least twice the estimated returns that each company itself receives.32 Third, countries with robust IP can operate more efficiently and productively by using IP to determine product quality and reduce transaction costs. Fourth, trade and foreign direct investment enabled and encouraged by strong IP protection offered to enterprises from foreign countries facilitates an accumulation of knowledge capital within the destination economy. That matters when foreign sources of technology account for over 90 percent of productivity growth in most countries.33 There’s also evidence suggesting that developing nations with stronger IP protections enjoy the earlier introduction of innovative new medicines.34 And fifth, strong IP boosts exports, including in developing countries.35 Research shows a positive correlation between stronger IP protection and exports from developing countries as well as faster growth rates of certain industries.36 The following case studies illustrate these benefits of IP and how they’ve enabled innovative solutions to help global society navigate the COVID-19 pandemic.

#### This sets a precedent that spills over to all future diseases – Hopkins 21:

Jared S. Hopkins {Jared S. Hopkins is a New York-based reporter for The Wall Street Journal covering the pharmaceutical industry, including companies such as Pfizer Inc. and Merck & Co. He previously was a health-care reporter at Bloomberg News and an investigative reporter at the Chicago Tribune. Jared started his career at The Times-News in Twin Falls, Idaho covering politics. In 2014, he was a finalist for the Livingston Award For Young Journalists for an investigation into charities founded by professional athletes. In 2011, he was a finalist for the Pulitzer Prize in Investigative Reporting for a series about neglect at a residential facility for disabled kids. Jared graduated from the Merrill College of Journalism at the University of Maryland-College Park with a bachelor's degree in journalism}, 21 - ("U.S. Support for Patent Waiver Unlikely to Cost Covid-19 Vaccine Makers in Short Term ," WSJ, 5-7-2021, https://www.wsj.com/articles/u-s-support-for-patent-waiver-unlikely-to-cost-covid-19-vaccine-makers-in-short-term-11620414260)//marlborough-wr/

The Biden administration’s unexpected support for [temporarily waiving Covid-19 vaccine patents](https://www.wsj.com/articles/u-s-backs-waiver-of-intellectual-property-protection-for-covid-19-vaccines-11620243518?mod=article_inline) won’t have an immediate financial impact on the companies making the shots, industry officials and analysts said. Yet the decision could mark a shift in Washington’s longstanding support of the industry’s valuable intellectual property, patent-law experts said. A waiver, if it does go into effect, may pose long-term risks to the vaccine makers, analysts said. [Moderna](https://www.wsj.com/market-data/quotes/MRNA) Inc., [MRNA -4.12%](https://www.wsj.com/market-data/quotes/MRNA?mod=chiclets) [Pfizer](https://www.wsj.com/market-data/quotes/PFE) Inc. [PFE -3.10%](https://www.wsj.com/market-data/quotes/PFE?mod=chiclets) and other vaccine makers weren’t counting on sales from the developing countries that would gain access to the vaccine technology, analysts said. If patents and other crucial product information behind the technology is made available, it would take at least several months before shots were produced, industry officials said. Yet long-term Covid-19 sales could take a hit if other companies and countries gained access to the technologies and figured out how to use it. Western drugmakers could also confront competition sooner for other medicines they are hoping to make using the technologies. A World Trade Organization waiver could also set a precedent for waiving patents for other medicines, a long-sought goal of some developing countries, patient groups and others to try to reduce the costs of prescription drugs. “It sets a tremendous precedent of waiving IP rights that’s likely going to come up in future pandemics or in other serious diseases,” said David Silverstein, a patent lawyer at Axinn, Veltrop & Harkrider LLP who advises drugmakers. “Other than that, this is largely symbolic.”

#### Pharmaceutical innovation is key to protecting against future pandemics, bioterrorism, and antibiotic resistance.

Marjanovic and Fejiao ‘20 Marjanovic, Sonja, and Carolina Feijao. Sonja Marjanovic, Ph.D., Judge Business School, University of Cambridge. Carolina Feijao, Ph.D. in biochemistry, University of Cambridge; M.Sc. in quantitive biology, Imperial College London; B.Sc. in biology, University of Lisbon. "Pharmaceutical Innovation for Infectious Disease Management: From Troubleshooting to Sustainable Models of Engagement." (2020). [Quality Control]

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

#### Bioterror causes extinction---quick innovation key

Farmer 17 (“Bioterrorism could kill more people than nuclear war, Bill Gates to warn world leaders” http://www.telegraph.co.uk/news/2017/02/17/biological-terrorism-could-kill-people-nuclear-attacks-bill/)

Bioterrorists could one day kill hundreds of millions of people in an attack more deadly than nuclear war, Bill Gates will warn world leaders. Rapid advances in genetic engineering have opened the door for small terrorism groups to tailor and easily turn biological viruses into weapons. A resulting disease pandemic is currently one of the most deadly threats faced by the world, he believes, yet governments are complacent about the scale of the risk. Speaking ahead of an address to the Munich Security Conference, the richest man in the world said that while governments are concerned with the proliferation of nuclear and chemical weapons, they are overlooking the threat of biological warfare. Mr Gates, whose charitable foundationis funding research into quickly spotting outbreaks and speeding up vaccine production, said the defence and security establishment “have not been following biology and I’m here to bring them a little bit of bad news”. Mr Gates will today (Saturday) tell an audience of international leaders and senior officers that the world’s next deadly pandemic “could originate on the computer screen of a terrorist”. He told the Telegraph: “Natural epidemics can be extremely large. Intentionally caused epidemics, bioterrorism, would be the largest of all. “With nuclear weapons, you’d think you would probably stop after killing 100million. Smallpox won’t stop. Because the population is naïve, and there are no real preparations. That, if it got out and spread, would be a larger number.” He said developments in genetic engineering were proceeding at a “mind-blowing rate”. Biological warfare ambitions once limited to a handful of nation states are now open to small groups with limited resources and skills. He said: “They make it much easier for a non-state person. It doesn’t take much biology expertise nowadays to assemble a smallpox virus. Biology is making it way easier to create these things.” The increasingly common use of gene editing technology would make it difficult to spot any potential terrorist conspiracy. Technologies which have made it easy to read DNA sequences and tinker with them to rewrite or tweak genes have many legitimate uses. He said: “It’s not like when someone says, ‘Hey I’d like some Plutonium’ and you start saying ‘Hmmm.. I wonder why he wants Plutonium?’” Mr Gates said the potential death toll from a disease outbreak could be higher than other threats such as climate change or nuclear war. He said: “This is like earthquakes, you should think in order of magnitudes. If you can kill 10 people that’s a one, 100 people that’s a two... Bioterrorism is the thing that can give you not just sixes, but sevens, eights and nines. “With nuclear war, once you have got a six, or a seven, or eight, you’d think it would probably stop. [With bioterrorism] it’s just unbounded if you are not there to stop the spread of it.” By tailoring the genes of a virus, it would be possible to manipulate its ability to spread and its ability to harm people. Mr Gates said one of the most potentially deadly outbreaks could involve the humble flu virus. It would be relatively easy to engineer a new flu strain combining qualities from varieties that spread like wildfire with varieties that were deadly. The last time that happened naturally was the 1918 Spanish Influenza pandemic, which went on to kill more than 50 million people – or nearly three times the death toll from the First World War. By comparison, the recent Ebola outbreak in West Africa which killed just over 11,000 was “a Richter Scale three, it’s a nothing,” he said. But despite the potential, the founder of Microsoft said that world leaders and their militaries could not see beyond the more recognised risks. He said: “Should the world be serious about this? It is somewhat serious about normal classic warfare and nuclear warfare, but today it is not very serious about bio-defence or natural epidemics.” He went on: “They do tend to say ‘How easy is it to get fissile material and how accurate are the plans out on the internet for dirty bombs, plutonium bombs and hydrogen bombs?’ “They have some people that do that. What I am suggesting is that the number of people that look at bio-defence is worth increasing.” Whether naturally occurring, or deliberately started, it is almost certain that a highly lethal global pandemic will occur within our lifetimes, he believes. But the good news for those contemplating the potential damage is that the same biotechnology can prevent epidemics spreading out of control. Mr Gates will say in his speech that most of the things needed to protect against a naturally occurring pandemic are the same things needed to prepare for an intentional biological attack. Nations must amass an arsenal of new weapons to fight such a disease outbreak, including vaccines, drugs and diagnostic techniques. Being able to develop a vaccine as soon as possible against a new outbreak is particularly important and could save huge numbers of lives, scientists working at his foundation believe.

## Case

#### WTO isn't key to future trade AND its current mechanisms are resilient

Drezner 13

Daniel W. Drezner is professor of international politics at Tufts University's Fletcher School and a contributing editor to Foreign Policy, Foreign Policy, December 3, 2013, "The End of Multilateral Trade?", http://www.foreignpolicy.com/posts/2013/12/03/the\_end\_of\_multilateral\_trade

This kind of story is both overly optimistic and overly pessimistic about the state of the WTO. It's overly optimistic in assuming that, even if something is negotiated in Bali (and the odds aren't great of that happening), it's unlikely that the WTO will ever be the focal point for comprehensive trade talks ever again. Even getting agreement on the "easy" parts of Doha has been super-hard. There's very little upside to making the WTO the focal point of new talks, especially given that most of the regional and bilateral trade talks have been of the "open regionalism" variety.

On the other hand, the "slippery slope" argument of the WTO losing relevance is also way overplayed. Such a statement omits two very important facts. First, even if there's no further WTO-guided liberalization, the rounds negotiated to date constitute far more liberalization than what can be achieved in the future. In other words, the WTO rules still govern a lot of trade, and further liberalization won't erode the WTO's bailiwick that much.

Second, the WTO's Dispute Settlement Understanding remains the ne plus ultra of enforcement arrangements in global governance. Contrary to the WSJ story, there is zero evidence that WTO enforcement has weakened as Doha bogged down or as protectionism increased after 2008. That part of the trade system is still working pretty well.

For decades, trade commentary has implicitly embraced the "bicycle theory" - the belief that unless multilateral trade liberalization moves ahead, the entire global trade regime will collapse because of a lack of forward momentum. The last decade -- and particularly the post-2008 period -- suggests that there are limits to that rule of thumb. It is possible for the WTO to matter less on jump-starting multilateral trade negotiations while still mattering a great deal in enforcing the rules of the game.

#### The WTO doesn’t solve trade or conflict.

Hutchinson 13 — Martin Hutchinson, Business and Economics Editor at United Press International, Former Investment Banker at Citigroup, MBA from Harvard University, B.A. in Mathematics from Cambridge University, 2013 (“WTO Becoming Useless,” *Asia Times,* September 24th, Accessible Online at http://www.atimes.com/atimes/Global\_Economy/GECON-01-240913.html, Accessed On 09-28-2016)

It hasn't really worked as planned. In the prosperous 1990s, the WTO's trade adjudication mechanisms functioned well, but since 2001 it has become increasingly ineffectual. However, even at the top of the global boom in 1999, when a new round of trade talks was supposed to be launched, the meeting was disrupted by unexpected protests by the West's economic illiterates and the world's leaders wimped out of setting the new round in progress. After the shock of the 9/11 attacks, a new Doha Round was launched, but it has made little progress and is now moribund. There appear to be a few sticking-point issues, including (i) agriculture, where the pampered farmers of the US, the EU and Japan will not open their markets to cheaper Third World produce; (ii) services, where India, Brazil and many emerging markets will not open their markets to more-efficient Western producers; and (iii) intellectual property, where the emerging markets with some justification regard the patent and intellectual property systems of the West as vulgar systems of rent extraction. Since the 2008 recession, trade barriers have risen rather than fallen, with the WTO providing only feeble opposition. What's more, when the WTO needed a new leader in May 2013, instead of selecting a Mexican with a good track record, instrumental in negotiating the North American Free Trade Agreement, the world's emerging markets selected a protectionist Brazilian. (Each country in the WTO has one vote, a spurious excess of democracy. Voting should be trade-weighted, thereby encouraging countries to open their markets and contribute more to world trade.) Roberto Azevedo may surprise us, but it's more likely that he will bring to the WTO the protectionist, statist economic principles that have made Brazil ever the growth economy of the future, never except fleetingly of the present.

#### Dollar centrality high now

Watts 6/21

Watts, William. “Why the U.S. Dollar Is Soaring - and What's next - AFTER Fed's Change in Tone.” MarketWatch, MarketWatch, 17 June 2021, [www.marketwatch.com/story/soaring-u-s-dollar-sparks-forex-market-rethink-after-fed-shifts-tone-11623955943. //](http://www.marketwatch.com/story/soaring-u-s-dollar-sparks-forex-market-rethink-after-fed-shifts-tone-11623955943.%20//) Phoenix

The U.S. dollar was on fire Thursday, extending gains a day after an unexpected shift in the Federal Reserve’s inflation and interest-rate outlook and raising doubts about the consensus view for a weaker currency in 2021.

“Up until yesterday the market consensus was pointing to a moderately softer value of the DXY dollar index over the course of the coming 2 quarters,” said Jane Foley, senior FX strategist at Rabobank, in a note. “The price activity in the USD (U.S. dollar) crosses today suggests that a revaluation of positioning is currently taking place.”

The ICE U.S. Dollar Index [DXY, 0.03%](https://www.marketwatch.com/investing/index/DXY?mod=MW_story_quote), a measure of the currency against a basket of six major rivals, was up 0.9% at 91.94 Thursday afternoon, after trading at its highest since April 13. The dollar is building on a surge versus major rivals scored on Wednesday, after Fed policy makers penciled in [two rate hikes by the end of 2023](https://www.marketwatch.com/story/fed-now-sees-two-interes-trate-hikes-in-2023-11623866824?mod=mw_latestnews) and discussed the eventual tapering of the central bank’s asset buying program.

#### 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 is the backbone of heg – it creates dependency, allows the U.S to fund the military and bypasses policy trade offs

Costigan ‘17

Thomas Costigan, Drew Cottle, & Angela Keys. (2017). The US Dollar as the Global Reserve Currency: Implications for US Hegemony. World Review of Political Economy, 8(1), 104. doi:10.13169/worlrevipoliecon.8.1.0104 Lindale PP

This article contends that the dollar as the global reserve currency has been crucial to the operations of US hegemony during the post-World War II period. To investigate this issue, the theoretical perspective of World-Systems Analysis expounded by Immanuel Wallerstein (2011) is employed. The article also draws upon the theoretical work of Henry C.K. Liu who developed the term “US dollar hegemony” (Liu 2002). In this article, we argue that US planners from the Council on Foreign Relations (CFR) in conjunction with State Department officials pursued a deliberate plan to make the United States a global hegemonic power (Shoup and Minter 1977) and the dollar was the central currency of that hegemony (Engdahl 2008, 213). We demonstrate how the dollar evolved into a petro-currency through Nixon’s Saudi decision of 1973. The dollar was placed on the trajectory that it would follow for decades and became the source of conflict against the United States by its geo-political competitors (Durden 2014). We conclude by arguing that newly emerging strategic competitors

to US hegemony such as China, Russia and Iran are growing dissatisfied with the current oil trading arrangements. We do not argue that any of these nations are remotely in contention to replace the United States as world hegemon. However, we suggest that a significant blow could be dealt to the ability of the United States to maintain its hegemonic status should oil trading be carried out in currencies other than the dollar (Koenig 2015). If this were to occur to a large enough extent, the ability of the United States to exercise its foreign policy would be severely curtailed (National Intelligence Council [NIC] 2012). It would also demonstrate the critical importance of the US dollar in the exercise of US hegemony. In this article, we would like to move the dollar to the forefront of debate in understating how US hegemony in the postWorld War II period is constructed and maintained and its critical importance in a hegemonic US global agenda. The post-World War II era represented a radical paradigm shift in US foreign policy. This policy shift was defined by the “Grand Area” concept developed by the CFR in conjunction with planners from the US State Department. This programme saw the United States pursue a global hegemonic project (Shoup 1975). This pursuit was economic in nature; it would require binding together disparate regions of the world into a financial system that would centre upon, and serve the interests of, the US economy (Shoup and Minter 1977). US imperialism was the result of extensive planning on the part of the US government (Panitch and Gindin 2012, 72). The Bretton Woods Conference held in 1944 was the forum where a US-centric world system was instituted. The systems, institutions and arrangements that facilitate US hegemony were established at the Bretton Woods Conference. The most critical of these components for the functioning of US hegemony were the creation of the International Monetary Fund (IMF) and the World Bank, the adoption of the US dollar as the global reserve currency, and the “pegging” of the US dollar to the gold standard (Vasudevan 2008, 35). The Bretton Woods Conference instituted a world system where the US dollar was at the centre of the global economy; the value of a nation’s currency was determined in relation to the US dollar, and “most international transactions were denominated in dollars” (Engdahl 2008). The Grand Area strategy pursued by the United States was intended to defend US national interests in the aftermath of World War II. Those national interests were, in fact, US elite and corporate interests (Shoup and Minter 1977). After World War II, the United States designed a liberal international system in which it would be the primary beneficiary (Mastanduno 2009). Economics and security became inseparably linked for the United States, and the dollar was the core of this new paradigm. According to Mastanduno, as the global reserve currency, the US dollar became the “lynchpin” of Trans-Atlantic and TransPacific trade: This critical role for the dollar granted a well-understood privilege to U.S. policymakers. As long as other governments proved willing to hold dollars, U.S. external deficits could be financed essentially by printing money and lending it abroad, enabling the United States to pursue a variety of foreign and domestic policy objectives without necessarily confronting difficult trade-offs in the short term.