## Innovation DA

#### *Patents spur new innovation and are crucial in closing the knowledge gap between rich and poor countries. Without IPP, there is no incentive to invent and new tech development falls short. WIPO 17*

Ensuring That, xx-xx-xxxx, "Innovation and Intellectual Property," No Publication, <https://www.wipo.int/ip-outreach/en/ipday/2017/innovation_and_intellectual_property.html>, 8-25-2021 //WHS-AC

**Inventions are the bedrock of innovation**. An **invention[s]** is a new solution to a technical problem and **can be protected through** [**patents**](https://www.wipo.int/patents/en/). Patents **protect the interests of inventors** whose technologies are truly groundbreaking and commercially successful, by **ensuring that an inventor [they] can control the commercial use of their invention**. An individual or company that holds a patent has the right to prevent others from making, selling, retailing, or importing that technology. This **creates opportunities for inventors to sell, trade or license their patented technologies** with others who may want to use them. The criteria that need to be satisfied to obtain a patent are set out in [national IP laws](https://www.wipo.int/wipolex/en/) and may differ from one country to another. But generally, to obtain a patent an inventor needs to demonstrate that their technology is new (novel), useful and not obvious to someone working in the related field. To do this, they are required to describe how their technology works and what it can do. A patent can last up to 20 years, but the patent holder usually has to pay certain fees periodically throughout that 20-year period for the patent to remain valid. In practice, this means that if a technology has limited commercial value, the patent holder may decide to abandon the patent, at which point the technology falls into the public domain and may be freely used. Patent information In addition to **recognizing and rewarding inventors for their commercially successful technologies**, patents also **tell the world about inventions**. In order to gain patent protection for their invention, the inventor must provide a detailed explanation of how it works. In fact, every time a patent is granted, the amount of [technological information](https://www.wipo.int/patents/en/faq_patents.html#info) that is freely available to the general public expands (see [Using and Exploiting Patent Information tutorial](https://www.wipo.int/tisc/en/etutorial/main.html)). WIPO is making this and other IP-related information freely available to the public through its global databases. The largest of these – it is also one of the largest in the world – is [PATENTSCOPE](https://www.wipo.int/patentscope/en/). It contains over 50 million patent applications that can be searched free of charge. The aim in making this information widely available is to **spark new ideas** and **promote more innovation,** and also **to help narrow the knowledge gap which exists in developing and least developed countries**.

#### *Innovation drives the future of the pharmaceuticals, advancing drug development and raising the health care bar. No innovation = no new medicines or vaccines. Buffery 15*

Dalia Buffery, xx-xx-xxxx, "The 2015 Oncology Drug Pipeline: Innovation Drives the Race to Cure Cancer," PubMed Central (PMC), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4489190/>, 8-26-2021 //WHS-AC

**“Innovation drives progress**,” suggests the US Food and Drug Administration (FDA) in its report on the 41 new molecular entities and new biologic pharmaceuticals that were approved in 2014.[1](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4489190/#R1) This perspective is echoed by the FDA's Center for Drug Evaluation and Research (CDER) **as the rationale for its support for innovation in the pharmaceutical industry**. The CDER states, “**The availability of new drugs and biological products often means new treatment options for patients and advances in health care for the American public**. For this reason, CDER **supports innovation** and plays a key role in **helping to advance new drug development**.” More recently, in a provocative article published in this journal and titled “Breaking the Bank: Three Financing Models for Addressing the Drug Innovation Cost Crisis,” Kleinke and McGee argue that **drug innovation is key to medical advances**, **especially in deadly diseases** such as cancer: to ensure continuing innovation in drug therapies, what is needed is not to halt funding innovation but rather to find a new way to pay for drugs. “**Innovative new treatments** designed to address serious diseases in targeted patient populations **represent the future of medicine.** Traditional payment methodologies need to change to keep pace with medical innovation,” Kleinke and McGee propose, offering 3 models for consideration that will help pay for drugs in a novel way and allow drug innovation to continue in its path. Reflecting on oncology drugs in its 2014 report, the IMS Institute for Healthcare Informatics (henceforth, IMS) **highlighted innovation as a key feature in the oncology pipeline**. According to that report, “Developers have brought innovation across cancer types and therapeutic approaches, including preventive vaccines. Pharmaceutical company investments remain high and cancer therapies account for more than 30% of all preclinical and phase 1 clinical development, with 21 new molecular entities being launched and reaching patients in the last two years alone. These new medicines have increased the complexity of treating cancer, leading to more combination therapies and additional lines of therapy.”

#### *New vaccine technology development is key to mitigate the outbreak of infectious diseases, without them pandemics will be catastrophic. Excler, Saville, Berkley, & Kim 21*

Excler, JL., Saville, M., Berkley, S. et al. Vaccine development for emerging infectious diseases. Nat Med 27, 591–600 (2021). <https://doi.org/10.1038/s41591-021-01301-0> //WHS-AC

**Vaccines are the cornerstone of the management of infectious disease outbreaks** and are the **surest means to defuse pandemic and epidemic risk**. The faster a vaccine is deployed, **the faster an outbreak can be controlled**. As discussed in the previous section, the standard vaccine development cycle is **not suited to the needs of explosive pandemics**. New vaccine platform technologies however may shorten that cycle and make it **possible for multiple vaccines to be more rapidly developed, tested and produced**[**34**](https://www.nature.com/articles/s41591-021-01301-0#ref-CR34). Table [2](https://www.nature.com/articles/s41591-021-01301-0#Tab2) provides examples of the most important technical vaccine platforms for vaccines developed or under development for emerging viral infectious diseases. **Two COVID-19 vaccines were develope**d using mRNA technology (Pfizer–BioNTech[35](https://www.nature.com/articles/s41591-021-01301-0#ref-CR35) and Moderna[36](https://www.nature.com/articles/s41591-021-01301-0#ref-CR36)), **both showing safety and high efficacy**, and now with US Food and Drug Administration (FDA) emergency use authorization (EUA)[37](https://www.nature.com/articles/s41591-021-01301-0#ref-CR37),[38](https://www.nature.com/articles/s41591-021-01301-0#ref-CR38) and European Medicines Agency (EMA) conditional marketing authorization[39](https://www.nature.com/articles/s41591-021-01301-0#ref-CR39),[40](https://www.nature.com/articles/s41591-021-01301-0#ref-CR40). While **innovative and encouraging** for other EIDs, it is too early to assert that mRNA vaccines represent a universal vaccine approach that could be broadly applied to other EIDs (such as bacterial or enteric pathogens). While COVID-19 mRNA vaccines are a useful proof of concept, gathering lessons from their large-scale deployment and effectiveness studies still requires more work and time. While several DNA vaccines are licensed for veterinary applications, and DNA vaccines have shown safety and immunogenicity in human clinical trials, no DNA vaccine has reached licensure for use in humans[41](https://www.nature.com/articles/s41591-021-01301-0#ref-CR41). Recombinant proteins vary greatly in design for the same pathogen (for example, subunit, virus-like particles) and are often formulated with adjuvants but have longer development times. Virus-like particle-based vaccines used for hepatitis B and human papillomavirus are safe, highly immunogenic, efficacious and easy to manufacture in large quantity. **The technology is also easily transferable**. Whole inactivated pathogens (for example, SARS-CoV-2, polio, cholera) or live attenuated vaccines (for example, SARS-CoV-2, polio, chikungunya) are unique to each pathogen. Depending on the pathogen, these vaccines also may require biosafety level 3 manufacturing (at least for COVID-19 and polio), which may limit the possibility of technology transfer for increasing the global manufacturing capacity. Other vaccines are based on recombinant vector platforms, subdivided into nonreplicating vectors (for example, adenovirus 5 (Ad5), Ad26, chimpanzee adenovirus-derived ChAdOx, highly attenuated vectors like modified vaccinia Ankara (MVA)) and live attenuated vectors such as the measles-based vector or the vesicular stomatitis virus (VSV) vector. Either each vector is designed with specific inserts for the pathogen targeted, or the same vector can be designed with different inserts for the same disease. The development of the Merck Ebola vaccine is an example. ERVEBO is a live attenuated, recombinant VSV-based, chimeric-vector vaccine, where the VSV envelope G protein was deleted and replaced by the envelope glycoprotein of *Zaire ebolavirus*. ERVEBO is safe and highly efficacious, now approved by the US FDA and the EMA, and WHO prequalified, making VSV an attractive ‘platform’ for COVID-19 and perhaps for other EID vaccines[26](https://www.nature.com/articles/s41591-021-01301-0#ref-CR26) although the −70 °C ultracold chain storage requirement still presents a challenge. Other equally important considerations are speed of development, ease of manufacture and scale-up, ease of logistics (presentation, storage conditions and administration), technology transfer to other manufacturers to ensure worldwide supply, and cost of goods. Viral vectors such as Ad5, Ad26 and MVA have been used in HIV as well as in Ebola vaccines[42](https://www.nature.com/articles/s41591-021-01301-0#ref-CR42). Finally, regulatory authorities do not approve platforms but vaccines. Each vaccine is different. However, with each use of a specific technology, regulatory agencies may, over time, become more comfortable with underlying technology and the overall safety and efficacy of the vaccine platform, allowing expedited review and approvals in the context of a pandemic[43](https://www.nature.com/articles/s41591-021-01301-0#ref-CR43). With COVID-19, it meant that the regulatory authorities could permit expedited review of ‘platform’ technologies, such as RNA and DNA, that had been used (for other conditions) and had safety profiles in hundreds of people. A heterologous prime–boost (HPB) vaccine approach has been extensively explored for HIV[44](https://www.nature.com/articles/s41591-021-01301-0#ref-CR44) and Ebola vaccines[42](https://www.nature.com/articles/s41591-021-01301-0#ref-CR42). It is being investigated for COVID-19 vaccines with the Oxford–AstraZeneca AZD1222 and Gamaleya Sputnik V COVID-19 vaccines[45](https://www.nature.com/articles/s41591-021-01301-0#ref-CR45) or with the Pfizer–BioNTech vaccine ([https://www.comcovstudy.org.uk](https://www.comcovstudy.org.uk/)). Other HPB combinations might be considered involving mRNA, DNA, viral vector-based and protein-based vaccines. This may offer the potential benefit of improving the immune response and avoiding mutlidose reactogenicity or anti-vector immune responses. Additionally, people previously vaccinated with the standard regimen (for example, single or two dose) could be offered a booster immunization with a different vaccine. This might mitigate current shortages in vaccines, particularly in low- and middle-income countries (LMICs). Such a matrix of HPB possibilities deserves further consideration by manufacturers, funders and regulators supported by clinical trial studies and assessment of implementation challenges. **Important improvements** could speed up availability. Standardized labeling of vaccines so that they can be interchanged across countries and regions, date of production rather than expiration so that shelf life can be tracked, three-dimensional bar coding to allow critical information to be updated, standard indemnification and liability language that would allow agreement with all manufacturers, a no-fault compensation mechanism for serious adverse events related to vaccine administration, and regulatory harmonization are **all critical and being worked on as part of the COVID-19 vaccine response and must be optimized for future outbreaks**.

#### *Studies show new pandemics are on the way, much worse than COVID-19. Barnes, 21*

By, 6-23-2021, "US Army scientists warn worse pandemics are coming soon," TheHill, <https://thehill.com/changing-america/well-being/prevention-cures/559796-us-army-scientists-warn-worse-pandemics-are>, 8-29-2021 //WHS-AC

**Scientists studying coronavirus vaccines** at the Walter Reed Army Institute of Research are **warning that the pandemic could be followed by an even larger and potentially deadly viral outbreak**. Speaking at the Defense One 2021 Tech Summit on Monday, Kayvon Modjarrad, director of Walter Reed’s infectious diseases branch, argued that **the probability of this generation encountering another pandemic “is high**,” [Defense One reported](https://www.defenseone.com/technology/2021/06/may-not-be-big-one-army-scientists-warn-deadlier-pandemics-come/174853/). “We have seen the acceleration of these pathogens and the epidemics that they precipitate. And it may not be a coronavirus, **this may not be the big one,**” Modjarrad said, according to the outlet. “There may be something that's **more transmissible and more deadly ahead of us**.” “We have to think more broadly, not just about COVID-19, not just about coronavirus, but **all emerging infectious threats coming into the future,”** Modjarrad The team at Walter Reed has been working on developing vaccines not only for COVID-19 but also potential new viruses, according to Defense One. Researchers thus far have conducted testing of their spike ferritin nanoparticle, or SpFN, vaccine on nonhuman specimens, although the group is in the early stages of human trials. **“If we try to chase the viruses after they emerge, we're always going to be behind,**” Modjarrad said. Director for the Centers for Disease Control [Rochelle Walensky said](https://thehill.com/changing-america/well-being/prevention-cures/559670-cdc-director-says-vaccinations-make-adult-covid) at a press briefing on Tuesday that the availability of effective vaccines has made adult COVID-19 deaths “entirely preventable. "This new virus forced too many of our families to accept death as an outcome for too many of our loved ones, but now this should not be the case," Walensky added. CDC [data shows that 65 percent](https://covid.cdc.gov/covid-data-tracker/#vaccinations) of eligible U.S. adults have received at least one vaccine dose, while 45.3 percent of the total population has been fully vaccinated.

#### *Pandemics cause mass death and extinction. Pamlin and Armstrong 15*

Dennis Pamlin, Executive Project Manager Global Risks, Global Challenges Foundation, and Stuart Armstrong, James Martin Research Fellow, Future of Humanity Institute, Oxford Martin School, University of Oxford, February 2015, “Global Challenges: 12 Risks that threaten human civilization: The case for a new risk category,” Global Challenges Foundation, p.30-93, <https://api.globalchallenges.org/static/wp-content/uploads/12-Risks-with-infinite-impact.pdf>

4 Global A pandemic (from Greek πᾶν, pan, “all”, and δῆμος demos, “people”) is an epidemic of infectious disease that has spread through human populations across a **large region**; for instance **several continents**, or even **worldwide**. Here only worldwide events are included. A widespread endemic disease that is stable in terms of how many people become sick from it is not a pandemic. 260 84 Global Challenges – Twelve risks that threaten human civilisation – The case for a new category of risks 3.1 Current risks 3.1.4.1 Expected impact disaggregation 3.1.4.2 Probability Influenza subtypes266 Infectious diseases have been one of the **greatest causes of mortality in history**. Unlike many other global challenges pandemics have happened recently, as we can see where reasonably good data exist. Plotting historic epidemic fatalities on a log scale reveals that these tend to follow a **power law with a small exponent**: many plagues have been found to follow a power law with exponent 0.26.261 These kinds of power laws are **heavy-tailed**262 to a significant degree.263 In consequence most of the fatalities are accounted for by the **top few events**.264 If this law holds for future pandemics as well,265 then the majority of people who will die from epidemics will likely die from the **single largest pandemic**. Most epidemic fatalities follow a power law, with some extreme events – such as the Black Death and Spanish Flu – being even more deadly.267 There are other grounds for suspecting that such a highimpact epidemic will have a **greater probability** than **usually assumed**. All the features of an extremely devastating disease **already exist in nature**: essentially **incurable** (Ebola268), nearly always **fatal** (rabies269), **extremely infectious** (common cold270), and **long incubation periods** (HIV271). If a pathogen were to emerge that somehow **combined these features** (and influenza has demonstrated **antigenic shift**, the ability to combine features from different viruses272), its death toll would be extreme. Many relevant features of the world have changed considerably, making past comparisons problematic. The modern world has better sanitation and medical research, as well as national and supra-national institutions dedicated to combating diseases. Private insurers are also interested in modelling pandemic risks.273 Set against this is the fact that **modern transport** and **dense human population** allow infections to spread much more rapidly274, and there is the potential for urban slums to serve as breeding grounds for disease.275 Unlike events such as nuclear wars, pandemics would not damage the world’s infrastructure, and initial survivors would likely be resistant to the infection. And there would probably be survivors, if only in isolated locations. Hence the risk of a civilisation collapse would come from the **ripple effect** of the fatalities and the policy responses. These would include **political and agricultural disruption** as well as **economic dislocation** and damage to the world’s **trade network** (including the food trade). **Extinction risk** is only possible if the aftermath of the epidemic **fragments and diminishes human society** to the extent that recovery becomes impossible277 before humanity succumbs to **other risks** (such as **climate change** or **further pandemics**). Five important factors in estimating the probabilities and impacts of the challenge: 1. What the true probability distribution for pandemics is, especially at the tail. 2. The capacity of modern international health systems to deal with an extreme pandemic. 3. How fast medical research can proceed in an emergency. 4. How mobility of goods and people, as well as population density, will affect pandemic transmission. 5. Whether humans can develop novel and effective anti-pandemic solutions.

## CP

**The United States federal government should:**

**- substantially increase production and global distribution of the COVID-19 Vaccine, specifically providing all necessary vaccines to India and South Africa, and**

**- cooperate with allies to achieve increased production and global distribution of the COVID-19 Vaccine.**

**That comparatively solves better – IP rights don’t hinder vaccine cooperation, but manufacturing capacity is the current constraint.**

Hans **Sauer 6-17** [(Deputy General Counsel, Biotechnology Industry Organization.) “Web event — Confronting Joe Biden’s proposed TRIPS waiver for COVID-19 vaccines and treatments” <https://www.aei.org/wp-content/uploads/2021/06/210617-Confronting-Joe-Bidens-proposed-TRIPS-waiver.pdf?x91208&x91208>] TDI

But contrary to what Lori said, **there are genuine real problems in the supply chain** that are **not caused by patents**, that are simply caused by the unavailability and the constraints on existing capacity. There is in this world such a thing as maxed-out capacity that just can’t be increased on a dime. It’s not all due to intellectual property. This is true for existing vaccines as well as for vaccine raw materials. There are trade barriers. There are export restrictions that we should all be aware of and that we need to work on. And there are very real political, I think, interests in finding an explanation for how we got to this place that absolve governments around the world from their own policy decisions that they made in the past. In the United States, again, it was the declared policy of the previous administration, as well as this one, that we would vaccinate healthy college kids and go all down the line and offer a vaccine to everybody who wants it before we start sharing any with grandmothers in Burkina Faso. That was the policy. You can agree with it or disagree with it, but that was policy. We had export restrictions in place before a lot of other countries did. And that, too, contributed to unequal access of vaccines around the world. Another thing that was predictable was that politicians and governments around the world who want to be seen as proactive, on the ball, in control, for a long time were actually very indecisive, very unsure about how to address the COVID problem, which has so many dimensions. Vaccines are only one of those. But with respect to vaccines, not many governments took decisive action, put money on the table, put bets on multiple horses, before we knew whether these vaccines would work, would be approved. And it was governments in middle-income countries who now, I think, justifiably are concerned that they’re not getting fast enough access, who didn’t have the means and who didn’t have the decision-making structure to place the same bets on multiple horses, if you will, that were placed in the relatively more wealthy, global North and global West. But there is, I think, a really good and, with hindsight, predictable explanation of how we got to this place, and I think it teaches us something about how to fix the problem going forward. **So why will the waiver not work**? Well, first of all, with complex technology like vaccines, Lori touched on it, reverse engineering, like you would for a small molecule drug, is much more difficult if not impossible. But it depends very much more than small molecule drugs on cooperation, on voluntary transfer of technology, and on mutual assistance. We have seen as part of the pandemic response an unprecedented level of collaborations and cooperation and no indication that IP has stood in the way of the pandemic response. **The waiver proponents have found zero credible examples of where IP has actually been an obstacle,** where somebody has tried to block somebody else from developing a COVID vaccine or other COVID countermeasure, right? It’s not there. **Second, the myth of this vast global capacity to manufacture COVID vaccines that somehow exists** **out there is unsubstantiated** and frankly, in my opinion, untrue. But there is no such thing as vast untapped, idle capacity that could be turned around on a dime to start making COVID vaccines within weeks or even months. This capacity needs to be built; it needs to be established. And at a time when time is of the essence to beat this pandemic, starting capacity-building discussions is helpful, but it won’t be the answer to beat this pandemic. It will be the answer if we do everything right to beating the next pandemic. And if we learn any lesson of this, and then I will stop, is that the COVID waiver as well as the situation in which we find ourselves — if anything, it’s a reminder that we definitely have to take global capacity-building more seriously than we did in the past. That is true for the global North, as well as for middle-income countries — all of whom have to dedicate themselves much more determinedly to pandemic preparedness. And there’s a need to invest both in preparedness and in public health systems that hasn’t happened in the wake of past pandemic threats. This is what we will need to do. We will need to reduce export restrictions, and we will need to rededicate ourselves to preparing for the next pandemic. As far as this pandemic goes, **there are 11 vaccines around the world that are already being shot into arms, only four of which come from the global North. How many more vaccines do we want?** I don’t know, maybe 11 is enough if we start making more of them. But there are manufacturers around the world who know how to do this — including in China, including in India, and including in Russia. All developed their homegrown vaccines, apparently without interference by IP rights, right? **So let’s make more of those. I think that’s going to be the more practical and realistic answer to solving the problem**. And we need to lean on governments to stop export controls and to dedicate themselves to more global equity.

## Case

**1NC – Turn**

**Restricting IP protections undermines innovation and profit margins – turns case by precluding vaccine distribution to developing countries.**

**Cueni 12/10** [(Thomas, Director General of IFPMA, chair of the AMR Industry Alliance, Industry Co-Chair APEC Biopharmaceutical Working Group on Ethics, MA in politics from the London School of Economics) “The Risk in Suspending Vaccine Patent Rules,” New York Times, 12/10/2020] TDI

It is unclear how suspending patent protections would ensure fair distribution. But what is clear is that if successful, the effort would **jeopardize future medical innovation**, making us more vulnerable to other diseases.

Intellectual property rights, including patents, grant inventors a period of exclusivity to make and market their creations. By affording these rights to those who create intangible assets, such as musical compositions, software or drug formulas — people will invent more useful new things.

Development of a new medicine is **risky** and **costly**. Consider that scientists have spent decades — and billions of dollars — working on Alzheimer’s treatments, but still have little to show for it. The companies and investors who fund research shoulder so much risk because they have a shot at a reward. Once a patent expires, generic companies are free to produce the same product. Intellectual property rights underpin the system that gives us all new medicines, from psychiatric drugs to cancer treatments.

In trying to defend these rights, the drug industry has made mistakes in the past that have lost people’s trust. More than 22 years ago, for example, a group of drug companies sued the South African government for trying to import cheaper anti-AIDS drugs amid an epidemic. With price standing between patients and survival, the suit, which the companies eventually dropped, was a terrible misjudgment. The current situation is not parallel.

**Several major drug companies**, including AstraZeneca, GlaxoSmithKline and Johnson & Johnson, have pledged to **offer their vaccines on a not-for-profit basis** during the pandemic. Others are considering differential pricing for different countries. As of last month, four major pharmaceutical companies had already agreed to eventually produce at least three billion vaccine doses for low- and middle-income nations, according to one analysis.

In South Africa and India, pharmaceutical companies are already working with local partners to make their vaccines available. Johnson & Johnson has entered into a technology transfer partnership for its candidate vaccine with South Africa’s Aspen Pharmacare, and AstraZeneca has reached a licensing agreement with the Serum Institute of India to develop up to 1 billion doses of its vaccine for low and middle-income countries.

**Companies can afford to license patents for free, or sell drugs at cost, precisely because they know that their intellectual property will be protected**. That’s not a flaw in the system; it’s how the system ensures that pharmaceutical research will continue to be funded.

**IP protections are key to pharmaceutical investment in developing countries.**

**Ezell and Cory 19** [(Stephen, vice president, global innovation policy, at the Information Technology and Innovation Foundation, B.S. from the School of Foreign Service at Georgetown University, and Nigel, associate director covering trade policy at the Information Technology and Innovation Foundation, former researcher in the Southeast Asia Program at the Center for Strategic and International Studies, MA in public policy from Georgetown University) “The Way Forward for Intellectual Property Internationally,” Information Technology and Innovation Foundation, 4/25/2019] TDI

Academic research also signals a strong correlation between IPR and technology transfer. Lippoldt showed that **IPR strengthening in countries—particularly with respect to patents—is associated with increased technology transfer via trade and investment**.34 Research has revealed that a country’s level of intellectual property protection considerably affects whether foreign firms will transfer technology into it.35 That matters because the welfare gains from the importation of technology via innovative products, while differing across countries, can be substantial.36 For instance, **foreign sources of technology account for over 90 percent of domestic productivity growth in all but a handful of countries**.37 The research on this matter is clear and consistent. For example, a 1986 United Nations Conference on Trade and Development (UNCTAD) study found that direct investment in new technology areas such as computer software, semiconductors, and biotechnology is supported by stronger intellectual property rights policy regimes.38 (However, as this report later clarifies, subsequent UNCTAD reports have lamentably taken a more skeptical view toward IP.) A 1989 study by the United Nations Commission on Transnational Corporations (UNCTC) found that weak IP rights reduce computer software direct investment; and a 1990 study by UNCTC found that **weak IP rights reduce pharmaceutical investment**.39 Mansfield conducted firm-level surveys and found that perceptions of strong IP rights abroad have a positive effect on incentives to transfer technologies abroad. Likewise, survey research by the World Bank’s International Finance Corporation found that, with variations by sector, country, and technology, **at least 25 percent of American and Japanese high-tech firms refuse to directly invest, or enter into a joint venture, in developing countries with weak intellectual property rights**; and a later study confirmed those survey findings with actual foreign direct investment data.40 And an Institute for International Economics study of World Bank data concluded that weak intellectual property rights reduce flows of all these commercial activities, regardless of nations’ levels of economic development.41

Studies have also shown how the benefits of intellectual property extend to developing countries. Diwan and Rodrik demonstrated that stronger patent rights in developing countries give enterprises from developed countries a greater incentive to research and introduce technologies appropriate to developing countries.42 Similarly, Taylor showed that **weak patent rights in developing countries lead enterprises from developed countries to introduce less-than-best-practice technologies to developing countries**.43 Interestingly, the relationship goes in both directions. Branstetter and Saggi showed that strengthened IPR protection not only improves the investment climate in the implementing countries, but also leads to increased FDI in the country producing the original innovation.44 They concluded that IPR reform in the “global South” (e.g., developing countries) may be associated with FDI increases in the “global North” (e.g., developed countries). As northern firms shift their production to southern affiliates, this FDI accelerates southern industrial development, creating a cyclical feedback mechanism that also benefits the North. Another study by Liao and Wong, which focused on firm-level analysis, highlights the inter-relationship of IPR reform in developed and developing countries. Their study concluded that **developing countries can entice technology transfer**

The WTO already has processes in place to ensure access that balances IP and access, even during emergencies.

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As Jennifer Hillman of the Council on Foreign Relations observed, ordinarily the “inherent tension between the protection of intellectual property and the need to make and distribute affordable medicines” is “resolved through licensing, which allows a patent holder to permit others to make or trade the protected product—usually at a price and with some supervision from the patent holder to ensure control.”7 But, in public health emergencies, it may be impossible to obtain a license. In such cases, “compulsory licenses” can be issued to local manufacturers, authorizing them to make patented products or use patented processes even though they do not have the permission of the patent holders.8 After years of debate, WTO members clarified in the Doha Ministerial Declaration in November 2001 that each WTO member “has the right to grant compulsory licenses and the freedom to determine the grounds upon which such licenses are granted.”9 In August 2003, WTO members followed up on the 2001 declaration by adopting a waiver that allows poorer countries that do not have the capacity to make pharmaceutical products—and thus cannot benefit from compulsory licensing—to import cheaper generic drugs from countries where those drugs are protected by patent.10 In such a case, both the importing and exporting countries are excused from what would otherwise be their obligations under the TRIPS Agreement. This waiver was transformed into an amendment in the WTO IP rules in 2017.11 Compulsory licensing of medicines is not popular with private drug manufacturers because it is a derogation from the customary workings of market‐based capitalism. However, as these actions by WTO members in 2001, 2003, and 2017 illustrate, compulsory licensing is not a derogation from the balance struck by the members of the WTO between protecting IP rights and ensuring access to essential medicines. Rather, it is a crucial part of that balance. The balance struck in the WTO treaty includes the option of compulsory licensing during health emergencies.

*Any affirmative solvency would be short term as affirming will prevent the discovery of future medicines the world will need.*

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vaccines

In the short term, undermining private IP rights may accelerate distribution of goods and services—where the novel knowledge that went into making them already exists. But in the long term, undermining private IP rights would eliminate the incentives that inspire innovation, thus preventing the discovery and development of knowledge for new goods and services that the world needs. This widespread dismissal of the link between private IP rights and innovation is perhaps best reflected in the fact that although the United Nations Sustainable Development Goals for 2030 aspire to “foster innovation,” they make no mention of IP rights.19 As Stephen Ezell and Nigel Cory of the Information Technology and Innovation Foundation wrote, “A fundamental fault line in the debate over intellectual property pertains to the need to achieve a reasoned balance between access and exclusive rights.”20 This fault line is much on display in the WTO rules on IP rights. These rules recognize that “intellectual property rights are private rights” and that rules and disciplines are necessary for “the provision of effective and appropriate means for the enforcement of trade‐related intellectual property rights.”21 Yet, where social and economic welfare is at stake, WTO members have sought to strike a balance in these rules between upholding IP rights and fulfilling immediate domestic needs.