

The Way Forward for Intellectual Property Internationally

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Countries with robust IP rights and protections must recognize that new energy, new tactics, and a new strategy are needed to encourage other nations to contribute more and detract less from global innovation.

KEY TAKEAWAYS

- IP rights have come under attack from a loose coalition of academics, nongovernmental organizations, multilateral groups, and others whose opposition threatens to undermine innovation, growth, and progress on key global challenges.
- IP opponents make specious arguments to falsely portray IP as a tool to benefit large corporations and developed countries at the expense of human freedom, the diffusion of ideas, and growth in developing countries.
- To maximize global innovation, the international community needs to forge a stronger and more wide-ranging consensus on the importance of IP to every country—developed and developing alike.
- Countries with robust IP rights should work together on all fronts to push back against opponents, make the case that IP is central to global progress, and strengthen the international framework of IP rules, norms, and cooperation.

INTRODUCTION

The global economy, including developed and developing nations alike, is becoming more innovation-driven—powered by knowledge, creativity, and technology, each of which is fundamentally supported by intellectual property (IP) and intellectual property rights (IPR) protections. And yet, over the past two decades, the policy debate over IP’s role has come under an increasingly active and coordinated attack, driven by IPR skeptics and opponents hailing from a variety of academic and multilateral institutions, nongovernmental organizations (NGOs), and some developing nations and policymakers therein. They have done much to advance a false narrative that strong and effective IP is a win-lose, buy-sell proposition, which only helps the developed “North” (as opposed to the underdeveloped “South”).

Yet if the international community is going to maximize global innovation—something that is critical if we are to make faster progress on commonly shared global challenges such as climate change, disease prevention and treatment, and economic growth—we will need a stronger and more wide-ranging consensus on the importance of IP to every country throughout the world. To maximize the role intellectual property can play in enabling innovation across the world, the countries that best recognize the essential link between the two—including the United States, Commonwealth nations, European Union members, Japan, Korea, Singapore, and others—need to revise and amplify efforts to build out and strengthen the international framework of intellectual property rules, norms, and cooperation. A new way ahead is needed to overcome and move beyond the status quo stalemate that defines the intellectual debate over IP in the global economy, which remains starkly and deeply divided along developed-developing country lines that were largely set 20 years ago with the signing of the Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement at the World Trade Organization (WTO).

Despite tremendous changes in technologies and business practices, as well as the need for greater global innovation to help address global policy challenges, the international framework and debate around IP largely pivots around the positions of IPR opponents who favor weak or nonexistent protections and enforcement, and who view IP as enabling monopolistic rents imposed by wealthy multinationals and rich nations. Playing the victim card, they seek to portray IPR as exploitative and favoring the rich North at the expense of the poor South. Opponents of stronger IP rights further advance the view that weak protection and forced redistribution of IP are shortcuts to economic development or paths to address important international challenges such as global warming and human health. But this framing—which is increasingly reflected in global dialogues—is fundamentally misguided and fails to recognize the long-term negative impacts such a policy framing would have on global innovation and productivity, while distracting attention and resources from far-preferable domestic policies that could genuinely support the development, deployment, adoption, and absorption of new technologies by emerging economies.

This report begins by establishing the essential link between IP and innovation (and trade and innovation), examining the scholarly literature documenting how robust IPRs benefit all nations (developed and developing alike), and by explaining why robust IPRs are essential to maximize the output of innovation globally, thus making IP a legitimate and fundamental component of trade

agreements and global trade governance. It then conceptualizes and characterizes opponents' ideological opposition to robust intellectual property rights, catalogs the different types of groups and organizations opposed to IPR, and shows how the debate over IP played out in recent negotiations over the Trans-Pacific Partnership (TPP) trade agreement. Finally, the report provides recommendations for the world's leading innovation nations to achieve a more robust intellectual property regime, and ultimately greater levels of innovation, internationally.

The report recommends that advocates of innovation and robust IPRs do the following:

- Reframe the debate to make the case that global trade is about maximizing global innovation and that ensuring robust intellectual property rights and protections are key to this;
- Directly rebut the most egregious anti-intellectual property assertions of IP opponents;
- Implement new strategies to advance a stronger global IPR regime, including an “all-points” strategy;
- Engage more like-minded allies; and
- Proactively assist developing nations with their efforts to become more innovation-driven economies, in part by increasing funding for targeted technical assistance and capacity building around IPR.

THE GROWTH OF INNOVATION AND INTELLECTUAL PROPERTY

Innovation represents the creation of new value for the world, whether that “value” is created through new technologies, new business models, new products and services, or new forms of social entrepreneurship. Innovation should be at the top of policymakers' agenda, as it is the principal driver of both long-term economic growth and improvements in quality of life. For instance, the U.S. Department of Commerce reported in 2010 that technological innovation can be linked to three-quarters of the U.S. growth rate since the end of World War II.¹ Similarly, two-thirds of United Kingdom private-sector productivity growth between 2000 and 2007 resulted from innovation.²

Intellectual property plays a key role in driving innovation and economic growth.³ Everywhere we go, we are surrounded by intellectual property. Trademarks signal the origin of products to consumers. Designs specify how products look. Copyrights enable artistic creations, such as books, music, paintings, photos, and films. Patents protect technical inventions in all fields of technology. Intellectual property's role has evolved into a force that influences a wide swath of demand and sectors, making it an increasingly influential framework condition that affects not only innovation, but also trade, competition, taxes, and other areas.⁴ The reality is intellectual property is mainstream and pervasive. In today's economy, the generation and management of knowledge plays a predominant role in wealth creation, particularly when compared with traditional factors of production such as land, labor, and capital.⁵

IP plays a key role in driving innovation and economic growth.

Intellectual property represents the main value component of many trade transactions.⁶ Indeed, global trade flows are increasingly dominated by knowledge-intensive goods and services, which are growing faster than capital- and labor-intensive flows.⁷ Global cross-border exports of commercial knowledge- and technology-intensive goods and services reached an estimated \$4 trillion in 2014, consisting of \$1.6 trillion of commercial knowledge-intensive services and \$2.4 trillion of exports of high-tech products.⁸ In fact, knowledge—rather than labor, capital, or resource-intensive components—represents about one-half of current global trade flows; and this knowledge-intensive component is growing faster, at about 1.3 times the rate of labor-intensive flows.⁹ This is partly due to the rise of knowledge-intensive business services—such as computer-related services (e.g., software and information processing), research and development (R&D) services, and business services (e.g., legal, accounting, and advertising)—which provide critical intermediate inputs into other economic activity. Research estimates that while services account for just 20 percent of gross exports worldwide, the share more than doubles to 41 percent when considering value-added exports.¹⁰

Although developed economies as a group dominate knowledge-intensive flows, developing countries' share is growing rapidly. China's knowledge-intensive flows are the world's second largest.¹¹ Indicative of a broadening distribution, a recent European Commission (EC) and Organization for Economic Cooperation and Development (OECD) report into intellectual property and the world's top 2,000 companies by R&D spending showed these companies' headquarters were distributed across 44 countries, while their subsidiaries were spread across more than 100 countries.¹² While multinationals may only represent one source of R&D investment, the broader trend is evident as emerging economies' world share of R&D expenditure increased from 12 percent in 1992 to 26 percent in 2010. Furthermore, as a common measure of innovative activity, patent applications filed by the residents of emerging economies at their national offices grew by 10.4 percent annually from 1992 to 2011, compared with 2.3 percent growth for OECD countries.¹³ In 2015, the World Intellectual Property Organization (WIPO) reported that IP offices in Asia received the bulk of world IP filings (for industrial designs, patents, trademarks, and utility models).¹⁴ In China alone, the number of patents increased from 600,000 in 2010 to almost 1.5 million in 2014, while the country also has the most active trademarks in the world and one-third of the world's industrial design registrations. In 2015, for the second consecutive year, Huawei Technologies of China was the top Patent Cooperation Treaty applicant, with 3,898 applications published.¹⁵

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Flows of knowledge and technology lie at the center of new networks driving production and innovation, notably with regard to global value chains (GVCs) and global innovation networks (GINs). GVCs refer to how companies move “material” goods and services (both final and intermediate) across borders. GINs represent how companies transfer intangibles and immaterial assets between countries. Of the two, GVCs are more prevalent and sophisticated as they reflect the trend of companies establishing international production and distribution networks for physical goods, while GINs relate to the more recent trend of firms developing and deploying intangible goods and R&D alongside these production networks, or elsewhere as part of dispersed, specialized global operations. The rise of GVCs and GINs reflects how technology and globalization have allowed businesses to change how they structure and manage their design, production, marketing, customer support, and other processes in order to optimize their competitiveness and innovation.

GINs are emerging as companies seek to leverage foreign knowledge, technology, and human capital by establishing international R&D facilities and local collaborative partnerships and networks.¹⁶ This not only reflects a change in how companies structure their own R&D, but in how they pursue innovation, as many companies open up their processes to greater collaboration and engagement with outside partners.¹⁷ Chemicals, electronics, business services, and wholesale and retail trade are some of the sectors most actively pursuing co-inventions and GINs. Companies in these and other sectors are establishing new interdisciplinary and cross-sectoral arrangements with suppliers, customers, universities, and government institutions.

Indicative of GINs is the rise of international co-inventions. The number of international co-inventions (wherein patents are filed in multiple countries under the Patent Cooperation Treaty) has increased from fewer than 2,000 in 1995 to 12,000 in 2013.¹⁸ While North America and Europe are home to many of these collaborations, a growing share come from Asia. Asia’s intra-regional and extra-regional co-inventions have both increased as these countries invest more in science, technology, and innovation, and as more European and American companies establish research and production networks throughout the region. Given the global nature of these networks, multinational corporations play a key role in driving this type of international innovation, although they are not the sole driver.¹⁹

While GVCs and GINs represent relatively new constructs, there is early evidence they will be central to future deliberations around trade and innovation policy. World Bank modeling shows a strong and positive correlation between bilateral trade and co-invention, suggesting interdependence between GVCs and GINs at the country level.²⁰ The inverse also holds true in that having no trade relationship with a partner country strongly decreases the propensity and extent of co-invention with that country. Furthermore, in contrast to previous research, the results indicate co-invention is more likely the larger the technological gap between trade partners, as less-innovative countries purposely set up links with stronger partners in order to access knowledge.

INTELLECTUAL PROPERTY UNDERPINS INNOVATION AND GROWTH

Intellectual property rights arrangements are well recognized, going back to the Middle Ages, as

enabling innovators to earn the returns necessary to continue to innovate and promote the availability of leading-edge technologies. Nobel laureate economist Douglas North, one of the foremost scholars of economic history, argues that the introduction of intellectual property rights had one of the most profound impacts on spurring economic growth in human history. North points out that average global economic growth rates for about one and a half millennia prior to the Industrial Revolution were essentially zero. Eighteenth-century elites in England had practically the same per capita income as their counterparts in third-century Rome.²¹ North has shown that the inflection point toward greater economic growth was the widespread development of patent systems in the 19th century.²² Gregory Clark, in his seminal book, *Farewell to Alms: A Brief Economic History of the World*, reached a similar conclusion that the introduction of IPRs was catalytic to turbo-charging global economic growth.²³

Robust intellectual property rights spur innovative activity by increasing the appropriability of the returns to innovation, enabling innovators to capture enough of the benefits of their own innovative activity to justify taking considerable risks. By raising the private rate of return closer to the social rate of return, intellectual property rights address the knowledge-asset incentive problem, allowing inventors to realize economic gain from their inventions, thereby catalyzing investment in knowledge creation. If innovators know that most of the benefits from their innovations would go to others without compensation, they would be much less likely and capable of engaging in future innovations. In addition, as they capture a larger portion of the benefits of their innovative activity, innovating companies obtain the resources to pursue the next generation of innovative activities. IP thus produces a number of positive benefits, including: 1) creating powerful incentives for domestic innovation; 2) inducing knowledge spillovers that help others to innovate; 3) ensuring a country's companies can focus on operating productively and innovating, instead of having to devote an undue amount of their time and resources to protecting their IP in an environment where it's at risk; 4) promoting the international diffusion of technology, innovation, and knowhow; and 5) boosting a country's levels of research and development, inbound foreign direct investment (FDI), and exports of goods and services.²⁴

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The evidence shows that strong intellectual property rights protections are vitally important for both developed and developing countries alike. As the definitive 2010 OECD review of the effects of intellectual property rights protections on developing countries, “Policy Complements to the Strengthening of IPRs in Developing Countries” found, “The results point to a tendency for IPR reform to deliver positive economic results.”²⁵ The OECD study found that developing-country IPR reforms concerning patent protection have tended to deliver the most substantial results, although

the results for copyright reform and trademark reform are also positive and significant. But to have the greatest impact on economic growth, IPR reforms must occur concomitantly with other positive complements, particularly ones regarding inputs for innovative and productive processes and the ability to conduct business. These include policies that influence the macro-environment for firms as well as the availability of resources (e.g., related to education), a country's legal and institutional conditions, and fiscal incentives.²⁶

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The following section details the broad swath of academic literature reviewing the relationships between IPR strengthening and trade, FDI, and technology transfer; IPR reform and innovation and R&D; and IPR reform and exports and industry growth, revealing the benefits of stronger IPR protections for developed and developing countries alike.

IPRs Strengthen Trade, FDI, and Technology Transfer

A wealth of academic research has documented the relationship between the strength of a country's intellectual property protections and the extent of trade, foreign direct investment, and technology transfer it enjoys.

Strengthening IPR protection has been shown to correlate with increased trade.²⁷ For instance, Fink and Primo Braga found that IPR protection is positively associated with international trade flows, in particular of manufactured, non-fuel imports.²⁸ Other studies have found a positive association between IPR protection and trade flows in high-technology products.²⁹ Likewise, strengthening of IPR protection has also been connected with increased inflows of FDI. Cavazos Cepeda et al. found that a 1 percent increase in the protection of IPRs as measured by the Patent Rights Index (a measure of the strength of countries' IPR regimes) is associated with a 2.8 percent increase in the inflow of FDI.³⁰ Similarly, a 1 percent increase in trademark protection levels is associated with a 3.8 percent increase in incoming FDI; and a 1 percent increase in copyright protection yields a 6.8 percent increase in FDI.³¹ Moreover, the researchers identified a virtuous cycle between FDI and protection of IP, whereby improvements in the IPR environment are associated with improved economic performance—in particular with respect to FDI—and, in turn, further improvements in the IPR environment. Park and Lippoldt showed that stronger IPRs in developing countries are associated with an increase of technology-intensive FDI, while Awokuse and Yin provided a concrete example concerning the relationship of IPR protection in China to FDI inflows, concluding that IPR reforms in China have had a positive and significant effect on inbound FDI.³² There is also evidence that countries with similar levels of intellectual property protection trade more with one another.³³

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

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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 from the North by providing IPR protection for incoming products (although they note there is a need for redoubled R&D efforts in developed countries to spur needed innovations).⁴⁵

IPRs Strengthen Innovation

Intellectual property rights power innovation. For instance, analyzing the level of intellectual property protections (via the World Economic Forum's Global Competitiveness reports) and creative outputs (via the Global Innovation Index) shows that countries with stronger IP protection have more creative outputs (in terms of intangible assets and creative goods and services in a nation's media, printing and publishing, and entertainment industries, including online), even at varying levels of development.⁴⁶

IPR reforms also introduce strong incentives for domestic innovation. Sherwood, using case studies from 18 developing countries, concluded that poor provision of intellectual property rights deters local innovation and risk-taking.⁴⁷ In contrast, IPR reform has been associated with increased innovative activity, as measured by domestic patent filings, albeit with some variation across countries and sectors.⁴⁸ For example, Ryan, in a study of biomedical innovations and patent reform in Brazil, found that patents provided incentives for innovation investments and facilitated the functioning of technology markets.⁴⁹ Park and Lippoldt also observed that the provision of adequate protection for IPRs can help to stimulate local innovation, in some cases building on the transfer of technologies that provide inputs and spillovers.⁵⁰ In other words, local innovators are introduced to technologies first through the technology transfer that takes place in an environment wherein protection of IPRs is assured; then, they may build on those ideas to create an evolved product or develop alternate approaches (i.e., to innovate). Related research finds that trade in technology—through channels including imports, foreign direct investment, and technology licensing—improves the quality of developing-country innovation by increasing the pool of ideas and efficiency of innovation by encouraging the division of innovative labor and specialization.⁵¹ However, Maskus notes that without protection from potential abuse of their newly developed technologies, foreign enterprises may be less willing to reveal technical information associated with their innovations.⁵² The protection of patents and trade secrets provides necessary legal assurances for firms wishing to reveal proprietary characteristics of technologies to subsidiaries and licensees via contracts.

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The relationship between IPR rights and innovation can also be seen in studies of how the introduction of stronger IPR laws, with regard to patents, copyrights, and trademarks, affect R&D activity in an economy. Studies by Varsakelis and by Kanwar and Evenson found that R&D to GDP ratios are positively related to the strength of patent rights, and are conditional on other factors.⁵³ Cavazos Cepeda et al. found a positive influence of IPRs on the level of R&D in an economy, with each 1 percent increase in the level of protection of IPRs in an economy (as measured by improvements to a country’s score in the Patent Rights Index) equating to, on average, a 0.7 percent increase in the domestic level of R&D.⁵⁴ Likewise, a 1 percent increase in copyright protection was associated with a 3.3 percent increase in domestic R&D. Similarly, when trademark protection increased by 1 percent, there was an associated R&D increase of 1.4 percent. As the authors concluded, “Increases in the protection of the IPRs carried economic benefits in the form of higher inflows of FDI, and increases in the levels of both domestically conducted R&D and service imports as measured by licensing fees.”⁵⁵ As Jackson summarized, regarding the relationship between IPR reform and both innovation and R&D, and FDI, “In addition to spurring domestic innovation, strong intellectual property rights can increase incentives for foreign direct investment which in turn also leads to economic growth.”⁵⁶

BOX 1: INNOVATE FOR HEALTH: IP IS NOT THE PROBLEM, BUT PART OF THE SOLUTION

Many opponents of robust IPR rights view them as antithetical to the interests of developing countries in terms of access to medicines or the provision of national health care services. Yet the reality is that stronger IPR rights in developing nations actually unleash the power of developing-country innovators to contribute to solving health challenges both in their own nations and across the global economy.

First, opponents of IP fail to recognize that intellectual property rights matter for health care innovation in emerging economies. An Information Technology and Innovation Foundation (ITIF) and George Mason University Center for Intellectual Property Protection report, “How Innovators Are Solving Global Health Challenges,” provides 25 case studies that show innovators in developing countries relying on IP to invent and bring solutions to market.⁵⁷ The 25 case studies revealed a number of key themes, including that there is opportunity in adapting health care interventions for developing-country environments

where resources and infrastructure are scarce, and that local innovation and IP can contribute substantially toward providing both affordable and robust tests for diagnosing diseases and affordable interventions to meet basic needs in challenging environments.

Second, opponents of IP tend to ignore broader systemic issues that contribute to poor health care outcomes in developing countries. While cost is a central factor for policymakers in all countries, given resource scarcity, these trade-offs are not unique to health. The greater the resource scarcity, the greater the need for innovation. One of the biggest challenges policymakers and innovators in developing countries confront again and again is scarcity—in access to trained professionals, in transportation, and in other infrastructure. For example, reports estimate that as many as 1 billion people lack access to essential health care because of a shortage of trained health professionals.⁵⁸ A 2014 World Health Organization study estimated a shortage of 7 million public health care workers, with that number expected to rise to 13 million by 2035.⁵⁹ More than 80 countries currently fail to meet the basic threshold of 23 skilled health professionals per 10,000 citizens.⁶⁰ The challenge is even more daunting when it comes to specialists. For instance, Cameroon has fewer than 50 cardiologists supporting a population of over 23 million citizens.⁶¹ And Ethiopia, a country of some 90 million residents, is served by a single radiation-treatment center located in the capital of Addis Ababa.⁶² In other instances, individuals lack access to essential medicines, with cost being a relatively small part of the problem. For instance, in 2014, researchers at the University of Utrecht in the Netherlands found that, on average, essential medicines are available in public-sector facilities in developing countries only 40 percent of the time.⁶³ Again, the cost of medicines is far from the most serious problem in the provision of health care services in developing nations. Indeed, the vast majority of drugs—at least 95 percent—on the World Health Organization’s Essential Medicines list are off-patent, and thus potentially available in generic versions.⁶⁴ The problem, in much larger part, stems from countries’ underdeveloped health systems and the fact that many people live in rural areas far from care. Stronger IP rights create an environment wherein entrepreneurs can innovate to meet health challenges in their own nations, the benefits thereof spilling over to benefit the entire international community.

IPRs Strengthen Exports and Industry Growth

Academic research has also found that stronger IPR protections support exports from developing countries and faster growth rates of certain industries. Yang and Kuo argue that stronger IPR protection improves the export performance of firms benefitting from technology transfer. And in their research, Cavazos Cepeda et al. found that trademark protection has a statistically significant association in relation to the export turnover, sales, and total assets of firms studied. They also found a significant association between copyrights and export turnover. Moreover, they found “a positive influence of patent right protection on export turnover (e.g., sales) under certain specifications with respect to complementary policies.”⁶⁵

In cross-country studies, researchers have found that stronger patent rights are associated with faster company growth in IP-intensive industries such as pharmaceuticals. In fact, during the early 1990s, a one-standard-deviation increase in patent rights was associated with an increase in firm growth of 0.69 percent (an advantage amounting to nearly one-fifth of the average industry growth rate of 3.7 percent).⁶⁶

Consequences of Countries Not Enacting Robust IPR Protections and Enforcement

Nations that have not implemented—or do not enforce—robust intellectual property rights protections end up harming their economic development in at least three principle ways. First, they deter future innovative activity. Second, they discourage trade and foreign direct investment, which only hurts their own consumers and businesses, by both limiting their choices and inhibiting their enterprises' ability to access best-of-breed technologies that are vital to boosting domestic productivity. Third, in countries with weak IP protections, firms are forced to invest undue amounts of resources in protection rather than invention.

Ironically, developing countries' own economic development opportunities and intellectual property development potential are inhibited by their own weak intellectual property protections. For instance, the lack of effective protection for intellectual property rights in China has limited the introduction of advanced technology and innovation investments by foreign companies, thereby reducing potential benefits to local innovation capacity.⁶⁷ As Cavazos Cepeda et al. found in a case study of IPR protections in that economy, “China has made progress in strengthening the protection of intellectual property over the past two decades, as attested to by indicators such as the Patent Rights Index.... However, uncertainty around the protection of intellectual property [remains] an important deterrent for foreign as well as domestic firms engaging in R&D-related activities.”⁶⁸

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Some countries not on the global technological frontier have used a strategy of intellectual property theft as part of attempts to catch up. To be sure, while researchers such as Grossman and Helpman have found that intellectual property theft can indeed help countries in the short run, they also found that intellectual property theft stifles incentives to embark on home-grown technology development, thus hurting countries and making IP theft a very poor strategy in the long run.⁶⁹ Ultimately, as Cavazos Cepeda et al. concluded, countries in which “uncertainties in the IP environment persist [are] likely to fall short of their innovation potential,” as some firms may withdraw from innovative activities or divert energy into alternative approaches for IP protection.⁷⁰

Nevertheless, some developing nations persist in believing that having weak IP protections enables them to acquire valuable IP for a few high-tech exporting industries that can drive their economic growth. But aside from this representing, at best, a short-term strategy, it ignores evidence showing productivity growth within all businesses across a country's economy truly drives growth, versus changing the mix of a country's enterprises and industries toward higher-productivity ones. Indeed, about 80 percent of productivity growth comes from organizations improving their own productivity, and only about 20 percent comes from more-productive organizations replacing less-productive ones.⁷¹ McKinsey's 2010 report, "How to Compete and Grow: A Sector Guide to Policy," affirms this, finding that countries that outperform their peers do not have a more favorable sector mix, but rather have individual sectors that are more competitive and productive.⁷² In other words, it is not share that matters; it is productivity growth across all sectors. As such, instituting a weak IP regime in order to boost a few innovation-based industries runs the risk of ignoring the real engine of economic growth for developing countries: across-the-board productivity growth.

Developing countries can often do better by following a technology absorption or adoption strategy that seeks to help their enterprises catch up to the global frontier and best practice in application and use of already-existing technologies and production processes in their nations' key industries. That is why a critical mission for national innovation foundations in developing nations should be to promote "absorptive capacity" and help firms—especially small and medium-sized enterprises (SMEs)—increase their productivity by adopting best practices, processes, and technologies; training firms and entrepreneurs in innovation skills and competencies; promoting knowledge and technology transfer from universities and national laboratories to the private sector; and helping link domestic firms into global supply chains.⁷³

IMPLICATIONS FOR NATIONAL AND GLOBAL INNOVATION

As noted, robust intellectual property rights spur innovative activity by increasing the appropriability of the returns from innovation. Moreover, as they capture a larger portion of the benefits of their innovative activity, innovating companies obtain the resources to invest in the next generation of innovative activities. However, if competitors are able to enter and/or to remain in a market because they obtain an innovator's intellectual property at less than the fair market price (either through theft, coerced transfer, or government-mandated discounts), they are able to siphon off revenues that would otherwise go to innovators.

Therefore, what's at stake in the debate over intellectual property is nothing less than an essential framework condition for global trade and innovation.⁷⁴ With innovation truly the most important "good" for the future of the global economy and society, policymakers cannot afford to take it for granted. For innovation does not fall like "manna from heaven," as economist Robert Solow once suggested. Rather, innovation is the product not only of market incentives for innovators (enabled by IP protection), but also of other incentives, rules, and policies that collectively comprise complex national innovation systems. These include policies related not only to IP but also to scientific research, technology commercialization, investments in information and communications technology, education and skills development, taxes, trade, government procurement, competition,

and regulatory policies. Moreover, in an interconnected world, innovations in one country get applied in virtually all nations. For example, if an innovator in South Korea comes up with much better battery technology, the entire world benefits.

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As ITIF argues in “Contributors and Detractors: Ranking Countries’ Impact on Global Innovation,” how countries decide, individually and collectively, to pursue innovation-based growth strategies holds significant implications for the global innovation system, given the world is essentially in the adolescent stages of a truly integrated global economy.⁷⁵ In large part, this is true because the policies countries enact to maximize their own innovation may not be the ones best suited to maximizing the global production of innovation, particularly when such policies are mercantilist in nature. As the Australian innovation economist Jason Potts noted, “National innovation policies strategically interact to form emergent de facto innovation policies.... The economics of the innovation problem—market failure in producing new knowledge and knowledge as a public goods problem—is inherently global because new ideas and their externalities are not easily contained by national borders.”⁷⁶

Countries that systemically prevent innovators from fully realizing the economic gains from their inventions are following a destructive, beggar-thy-neighbor “innovation mercantilism” that reduces global innovation. These countries seek prosperity by imposing protectionist, trade-distorting policies that tip market scales to expand domestic technology production, including by purposely weakening intellectual property rules and enforcement, compulsorily forcing companies to transfer the rights to their intellectual property or technology, or through the outright theft of intellectual property.⁷⁷

At the heart of many IPR opponents and innovation mercantilist country strategies is the discriminatory treatment of IP held locally versus by foreign firms. Countries using these strategies target foreign IP as part of an industrial strategy that seeks to help domestic firms acquire or imitate foreign technologies in order to allow them to move toward the technological frontier without paying for technology or paying below market value for it. In this way, innovation mercantilist countries use both sides of the “pro” and “anti” IP debate—they recognize the role IP plays in technological and economic development, but undermine foreign IP in order to obtain it in a zero-sum fashion, although they then support protection for exports from their domestic firms (including the IP embedded in their goods and services), as well as expect fair treatment in foreign markets for the IP held by their firms. (In other words, such countries want strong IP rules to apply only to other nations.)

Yet innovation mercantilism is a zero-sum game: It may bolster a country’s own economy, particularly in the short-term, but usually reduces the global stock of knowledge and innovation.

Innovation mercantilism does this as it prevents successful innovators from achieving the higher-than-normal profits that are necessary to incentivize the initial risky investment (so-called “Schumpeterian profits”). Because innovation is about risk and uncertainty, failure is common; for every Apple succeeding with an iPad, there are many IT companies that fail. Moreover, innovation industries face not just loss of market share from competition, but the loss of existence. This reality evokes Schumpeter’s dictum that “every piece of business strategy must be understood against the perennial gale of creative destruction.” For if firms were assured at best only normal returns on successful innovations, none of them would undertake the enormous risk of investing in them. This is especially the case in many developing countries where innovation is sorely needed.

A key reason innovation mercantilist practices are so damaging to global innovation is they disrupt and distort the economics of innovation-based industries. In particular, innovation-based enterprises and industries depend on the profits earned from one generation of innovation to finance investment in the next. For instance, the two most R&D-intensive industries in the United States are life sciences and semiconductors, each regularly investing over 20 percent of their revenues into R&D annually. They must do so because, as innovation-based industries, they compete predominantly not on lower costs but by inventing new-to-the-world, next-generation products. That is why the OECD finds that, “There exists a high degree of correlation between pharmaceutical sales revenues and R&D expenditures.”⁷⁸ (In fact, there exists an almost one-to-one (0.97) correlation between pharmaceutical R&D expenditures and sales.)⁷⁹ This also explains why academic research shows a statistically significant relationship between a bio-pharma enterprise’s profits from the previous year and its R&D expenditures in the current year and why the pharmaceutical firms with the greatest sales are also the ones with the largest R&D investments.⁸⁰

However, when countries implement practices such as introducing excess, non-market based competition into an economy or forced localization policies (i.e., requiring local production as a condition of market access) it distorts the economics of innovation-based industries, whether by enabling new entrants who do not have to compete on market-based terms or by adding unnecessary costs (i.e., forcing companies to open local data centers for the provision of digital services to comply with data localization policies). For instance, the Chinese government’s investment of over \$160 billion as part of its “2014 National Guidelines for Development and Promotion of the IC Industry,” which seeks to develop a Chinese semiconductor industry heavily backed by government funds, introduces non-market-based competition that has the potential to denude innovative firms’ ability to compete in global markets.⁸¹ As ITIF writes in, “China-Induced Global Overcapacity an Increasing Threat to High-Tech Industries,” rampant Chinese subsidies have distorted markets for a wide variety of goods, from solar panels and wind turbines to steel and auto parts.⁸² Similarly, for years the Korean government propped up DRAM producer Hynix, which went bankrupt and was saved twice by its creditor banks, which were majority-owned by the government. While this helped the Korean memory chip industry, it hurt the global chip industry because it contributed to significant global overcapacity, reducing sales and margins for other players.⁸³

While subsidies and state-induced overcapacity harm innovation-based industries, so too does IP infringement, IP theft, or the forced disclosure or transfer of technology or intellectual property as

a condition of market access for firms, as ITIF writes in “Global IP Infringement’s Significant Cost to the U.S. Economy.”⁸⁴ For instance, according to the United States Trade Representative’s Office, Chinese theft of American IP currently costs the United States between \$225 billion and \$600 billion annually.⁸⁵ Similarly, analysts estimate the cost of global cybercrime at over \$600 billion annually.⁸⁶ This is devastating for innovation. Because innovation-based industries fundamentally depend on knowledge and IP—software depends on source code, while biologics and pharmaceutical drugs depend on novel molecular or chemical compounds—IP theft fundamentally threatens the very existence of innovation-based firms, for if their IP is pilfered and used against them by competitors who have not had to incur the significant up-front R&D investment costs needed to create innovative products in the first place or can sell products or services with pilfered IP more cheaply, it deprives the genuine innovators from the ability to generate the market-based revenues they depend on to not only recoup their expensive upfront R&D costs, but finance future generations of innovations. These reasons explain why innovation mercantilist policies such as IP theft or coerced IP disclosure, excessive subsidies, introduction of non-market-based competition (among many others) are so insidious and deleterious for innovation-based industries.

Innovation mercantilist countries seek the easy path of not having to pay market price, or to just not pay at all, for the latest intellectual property and the technology it delivers.

Innovation mercantilists and IPR opponents further assume that firms can master all components of new technologies, including codified knowledge and knowhow, without the participation of foreign rights holders.⁸⁷ Thus, the intention of an innovation mercantilist strategy is not so much to maximize national- and global-level innovation and the role it plays in driving long-term economic growth, but to ensure innovation’s outputs—ideas, goods, services, and exports—are produced in one’s own country. From this view, “innovation” really just helps countries replace imports with domestic production and unfairly promote exports. Innovation mercantilist countries seek the easy path of not having to pay market price, or to just not pay at all, for the latest intellectual property and the technology it delivers. Yet this only harms global innovation (see insert for a brief review of “green mercantilism”).

BOX 2: THE MISGUIDED FOCUS OF THE GREEN MERCANTILISTS

The debate around intellectual property and climate change in international fora (such as the UN Sustainable Development Goals) is another example of a misguided focus on short-term goals (in this instance, low costs and local production) distracting and detracting from superior longer-term impact (thus undermining innovation that is tackling more important and longer-term challenges). In the rush to ramp up the development and

production of clean energy technologies, many countries and stakeholders have turned to a misguided, short-term strategy of “green mercantilism,” whereby countries enact policies that give their firms an unfair advantage in order to boost exports and limit imports of clean energy technologies. It is represented by “beggar-thy-neighbor” policies, including lax intellectual property enforcement, forced technology transfer, export subsidies, discriminatory standards, barriers to imports, and preferential treatment of domestic firms by their parent governments. Many of these policies result in barriers to entry that reduce the role economies of scale can play in helping innovative firms recover their up-front R&D investment costs by having access to large global markets.

In terms of technology transfer, green mercantilist countries require foreign firms seeking access to their market to relocate R&D facilities or explicitly transfer their technologies to domestic firms so domestic firms can more quickly gain technology-specific knowledge. For instance, in accordance with its “New Energy Vehicles” plan, China requires foreign electric vehicle makers to transfer IP to a Chinese automaker as a requirement of being granted access to China’s marketplace. These policies harm other nations but often benefit the country that practices them, especially in the short run and for the nation’s producers (as opposed to its consumers and taxpayers). But if the goal is to create ever-better clean energy, continual dependence on subsidies, especially of a mercantilist variety, is not the way. Driving innovation is. While green mercantilist practices may boost short-term deployment, such practices reduce the incentives and ability of firms to invest in fundamentally better clean energy technologies. As a result, a global clean energy industry propped up by green mercantilist policies may not only produce near-term growth in lower-quality, higher-cost technologies that cannot compete with fossil fuels without sustained government subsidies, it also makes it much more difficult to develop more advanced and competitive alternatives.

Looking ahead, innovation mercantilism and its policy components may become a more prevalent strategy unless countries are able to develop a new international framework that protects IP and increases the costs when countries field mercantilist practices. Otherwise, the vacuum created by the current framework—in terms of increasingly outdated and ineffective IP norms, rules, enforcement, and institutions—will undermine the level of innovation being produced in the global economy.

THE OPPONENTS OF ROBUST INTELLECTUAL PROPERTY RIGHTS AND PROTECTIONS

While it should be clear that intellectual property protection is key to national and global innovation, a diverse collection of organizations and individuals opposed to robust and modern intellectual property rights and protections is actively pushing their views across a broad range of forums and organizations. This has contributed to a complicated, confrontational, and inconsistent

norm-setting and rule-making process around intellectual property globally.

A fundamental fault line in the debate over intellectual property pertains to the need to achieve a reasoned balance between access and exclusive rights. Intellectual property allows rightsholders to prevent others from using their intellectual property without permission (for a limited period of time after that intellectual property's creation), meaning it involves a fundamental trade-off between short-term static efficiency (providing immediate, wide-ranging access to the IP for social and other purposes) and long-term dynamic efficiency (incentives to invest in new innovations). This fundamental trade-off is inescapable. Both involve legitimate public policy goals, but there is a clear conflict between them.⁸⁸

A fundamental fault line in the debate over intellectual property pertains to the need to achieve a reasoned balance between access and exclusive rights.

Scholars and advocates who support intellectual property engage in vigorous and reasoned debates about how to balance rights, exceptions, and limitations in both domestic law and trade agreements—albeit based around a shared understanding that intellectual property and its protection are critical. Their debate is essentially over where to draw certain lines, such as whether patents should be subject to a second review. However, the debate that prevails in many international forums and organizations is not focused on this nuanced balancing; rather, it is focused on advancing a wholesale diminution of intellectual property broadly, including with regard to both its role in supporting innovation and its connection to trade.

Ideological opponents who reject intellectual property rights make a number of specious arguments about how IP is a tool to limit growth in developing nations and how nations' IP provisions should be viewed as a totally sovereign, “behind the border” issue.

Coupled with the fact that many developing nations provide a welcome audience for such views, the IP opponents have been effective enough that a key framework condition for global innovation is now threatened. As such, any effort to establish new rules and norms around IP protection requires an analysis of their anti-IP ideology. Ideological opponents who reject intellectual property rights make a number of specious arguments about how IP is a tool to limit growth in developing nations and how nations' IP provisions should be viewed as a totally sovereign, “behind the border” issue. They thus try to paint IP as irrelevant to trade and an infringement on a state's right to use intellectual property however it wishes (mainly to pursue industrial policy and avoid foreign licensing fees). The following section characterizes opponents' ideological opposition to reasonable

IP rights and then catalogues the different types of organizations and entities opposed to intellectual property. It then uses the debate over IP in negotiations toward the Trans-Pacific Partnership agreement as a recent case study in how opponents seek to undermine efforts to improve IP rules internationally. In particular, the TPP debate was indicative of how opposition to intellectual property is often aligned with broader opposition to related issues, especially the role of trade agreements in enabling closer economic integration and the role played by large companies in the global economy.

Ideological Underpinnings of the Anti-IPR Coalition

Much of the debate over IP stems from different conceptions of economic theory and the processes of economic growth. These differing conceptions can be referred to as economic doctrines or ideologies.⁸⁹ As noted innovation economist Joseph Schumpeter once stated regarding ideology, “The majority of economists ... are ready enough to admit its presence, but like Marx, they find it only in others and never in themselves.”⁹⁰ In considering the way ahead for IP globally, it is therefore important to understand the ideology that shapes how proponents view the economy, what they consider important, and most importantly, what they believe to be correct versus misguided public policy, especially as it relates to providing access to innovations. The following section examines some of the central ideological and policy positions asserted by IPR opponents.

Claim: Intellectual property should be opposed due to its close connections to free trade, global economic integration, and large companies.

Many opponents of robust IP protection share two major characteristics: a distrust of big business and a skepticism for private markets. At the heart of this opposition lies the belief that intellectual property is a tool for “big business,” which most IP skeptics inherently oppose. At the same time, by arguing that robust IPRs only benefit big corporations, they assert their views as being the ones that best support average citizens and the broader public interest.

This is evident in their rhetorical attacks on “Big Pharma,” “Hollywood,” and multinational corporations generally, with their related advocacy for much greater regulation (or even breakup) of these businesses, which accompanies their discussions around IP, trade, and economic policy. The views of individuals such as Joseph Stiglitz, Dean Baker, and Arjun Jayadev are indicative. As the trio argued in a Project Syndicate article, “The IP standards advanced countries favor typically are designed not to maximize innovation and scientific progress, but to maximize the profits of big pharmaceutical companies and others able to sway trade negotiations.”⁹¹ As the United States Trade Representative’s Office participated in TPP negotiations in 2015, Stiglitz penned an op-ed in *The New York Times* alleging that ongoing negotiations toward the agreement were being influenced by a broad conspiracy designed to create higher drug prices, orchestrated by Big Pharma.⁹² Stiglitz continued, arguing, “Trade agreements are negotiated by the office of the United States Trade Representative, supposedly on behalf of the American people. Historically, though, the trade representative’s office has aligned itself with corporate interests.”⁹³ A letter

advanced by Public Citizen to countries' trade ministers on the sidelines of the 1999 WTO protests in Seattle captured this sentiment in its statement, "The WTO is dominated by a few powerful governments acting on behalf of their corporate elites."⁹⁴ In the title of his October 2018 paper published by the Center for Economic and Policy Research, Dean Baker asked, "Is Intellectual Property the Root of All Evil?"⁹⁵ A hint at his answer: maybe not of all evil in the world, but certainly most of it. The fact that many of these same commentators, academics, and NGOs also support the greater use of competition and antitrust policies to target large firms is a natural extension of this animus toward big business.

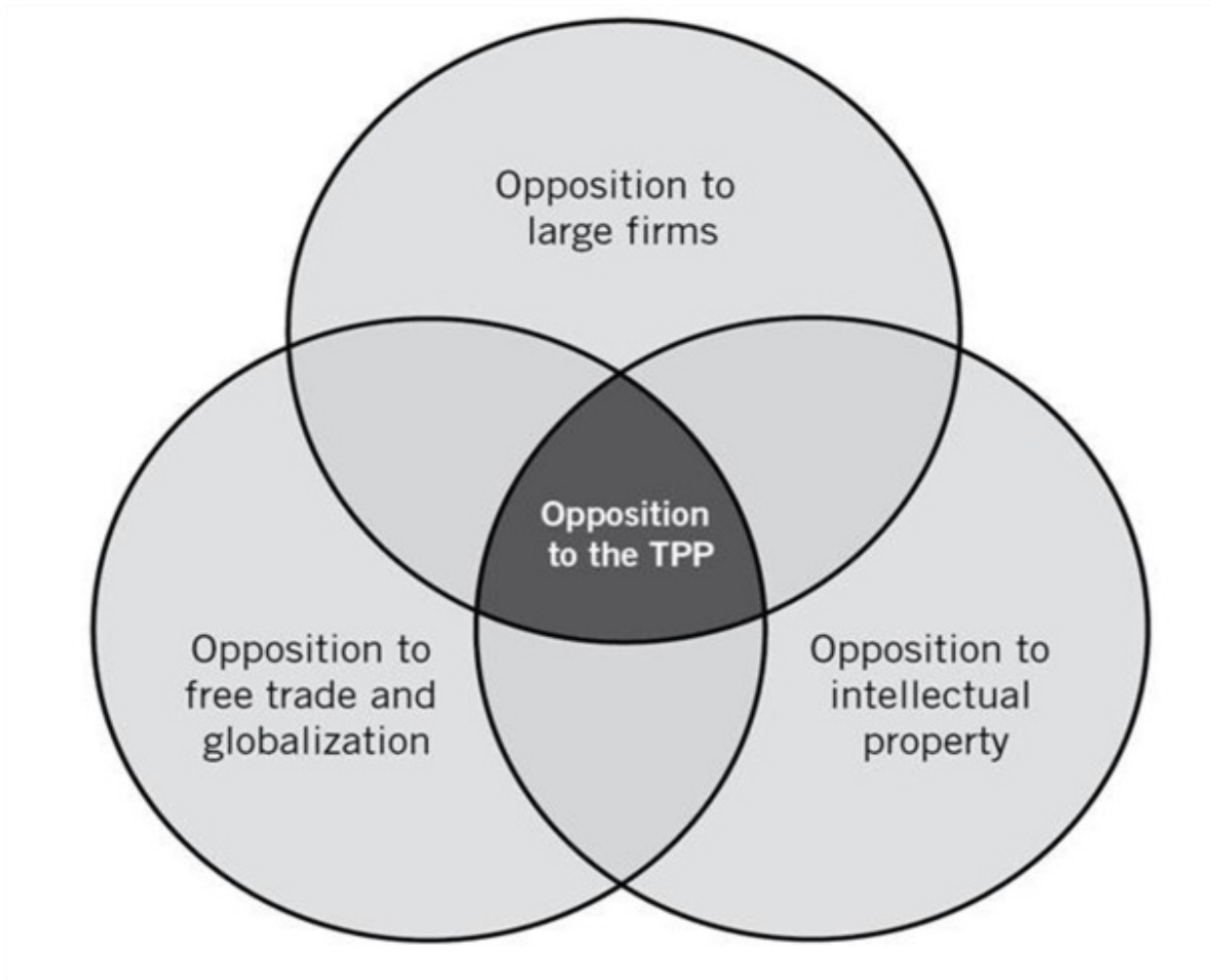
But to portray intellectual property provisions in trade agreements as the tool of large corporations is, first of all, an *ad hominem* attack and therefore irrelevant. It also reflects how critics do not want to acknowledge the broader role IP plays in terms of employment and economic growth. For if they did, it would be much harder for them to prevail in the court of public opinion. Not only do IP opponents argue incorrectly that the lion's share of benefits from IP go to corporate profits and not broader, societally enhancing innovation, they also disingenuously associate intellectual property only with certain industries and firms, such as large film studios or life-sciences firms, even though intellectual property is essential throughout an economy—to firms both large and small, traditional and high-tech, and goods and services-based alike.⁹⁶ Indeed, intellectual property empowers firms of all sizes.⁹⁷ Yet it is not just that the skeptics' dislike big business, their opposition to IP rules in the TPP (as a proxy for trade agreements generally) represent a convergence of three forces: their opposition to IP, their opposition to free trade and globalization generally, and their opposition to large firms (see Figure 1).

IP skeptics believe there is no overlap between company interests and worker interests. It is as if none of the revenues from the creation, delivery, and marketing of content—whether it be for a movie, a video game, or an album—go to the tens of thousands of artists, technicians, and others directly or indirectly involved in their creation. In this way, it exposes the fact that opponents ignore the broader role intellectual property plays beyond the end products people commonly associate with IP: that peoples' jobs rely on the innovation and creativity embedded in innovative products and services. From a cross-sectional perspective, such ideological opposition is related to a form of "progressive localism," which is rooted in an economic doctrine that desires an economy predominately composed of small firms (ideally worker- or state-owned), supported by big government, and protected from global competition. This localism favors national firms over transnational firms and local firms over national firms as a matter of principle.

IPR opponents also argue that there is no overlap between a company's ability to innovate and consumer interests. Yet consumers have an interest not only in low prices (which in theory they could get if all IPRs were abolished) but in the production of intellectual property, creating the next great movie, the next hit song, the next breakthrough drug, etc. For instance, Frank Lichtenberg found in his 2014 report, "Pharmaceutical Innovation and Longevity Growth in 30 Developing and High-Income Countries, 2000–2009," that pharmaceutical innovation accounted for 73 percent of the 2000–2009 increase in life expectancy at birth across 30 countries (1.27 years of the 1.73-year increase).⁹⁸ In the case of Colombia, a decade of pharmaceutical innovation reduced the number of years of potential life lost before age 70 from natural causes in 2013 by 142,318

years. Similarly, new drugs launched in Colombia from 2006 to 2012 reduced the number of medical procedures in 2015 by 13.9 percent.⁹⁹ In other words, innovative drugs can significantly improve quality of life and reduce health care system costs for nations. In short, by arguing that IPRs only benefit businesses—and principally only big businesses—anti-IPR advocates seek to be on the side of the angels. That is why they fight so hard to advance a narrative that creativity, content creation, and innovation are not dependent on IPR. For them, consumers and workers can have it all: weak IP rights and more and better intellectual property (and thus innovation) production. If only that were true.

Figure 1: The Concentric Circles of Opposition to Strong IP Provisions in Trade Agreements



Claim: Intellectual property undermines human rights, in part by limiting “human freedom,” especially online.

Many NGOs and their advocates oppose intellectual property, as they consider it an attack on human rights, especially free speech and individuals’ rights to participate in science and culture. There is an obvious need to ensure intellectual property laws balance protection, enforcement, and access, and consider different economic and societal interests, yet the debate involving IP and

human rights is often far removed from nuance and careful analysis; and is usually based on inflamed passion and misinformation. This line of criticism of IP has gotten louder and more intense over the last decade in part due to the rise of “tech populism,” which as ITIF argued in its report, “How Tech Populism Is Undermining Innovation,” draws its strength from individuals’ fears, misunderstandings, or distrust, appealing to the prejudices of crowds and relying on demagoguery, distortion, and groupthink.¹⁰⁰

While there are many strands to this broad opposition, two notable flashpoints emerge: enforcing copyright online, and intellectual property and the international human rights debate. The Internet is certainly one of the most important platforms for free speech and expression. Yet, indicative of the ideological divide, many proponents of weak or nonexistent intellectual property believe all information (copyright-protected or not) should be free, and governments should not only turn a blind eye to digital piracy, but also actively tie the hands of companies that seek to limit digital piracy.¹⁰¹ In addition to this, many opponents equate the unfettered dissemination of copyrighted-protected material (i.e., piracy) as free speech and expression. For example, in a response to the efforts by content firms to fight back against theft of their intellectual property, Christopher Mims, in an article for *MIT Technology Review* titled “Hollywood Hates Your Freedom,” wrote, “Hollywood clings to an antediluvian notion of how media should be created and distributed,” as if he knows best and has the right to determine their business models.¹⁰² In this vein, tech populists support weakening copyright protections because tech populists focus almost exclusively on how they personally benefit from weaker laws (more free content), ignoring the damage to content production from copyright infringement.

A related line of criticism is that intellectual property protections are an attack on free speech. These advocates see many IP provisions as a constraint on the U.S. approach to “fair use” (how exemptions and limitations to copyright are allowed for such uses as commentary, criticism, parody, news reporting, research, and scholarship).¹⁰³ Rather than seek to find an appropriate balance between IPR rights and free speech, which the United States has largely sought, IP opponents seek wholesale diminution of IP protections. This is despite the fact that the United States and many other countries use the same core criteria in international treaty law—the Berne Convention’s “three-step test”—to design their own approach to such exemptions and limitations, whether under a fair use, fair dealing, or a related approach.¹⁰⁴

Within international forums, many advocates view intellectual property and human rights as two regimes that are fundamentally in conflict.¹⁰⁵ This is an especially popular view in the United Nations (UN) human rights system.¹⁰⁶ UN Human Rights Council special rapporteurs frequently criticize intellectual property protection and enforcement measures due to their perceived impact on freedom of expression, food, and health, and the very broad criteria of the right to enjoy the benefits of scientific progress and their applications.¹⁰⁷ This view of intellectual property is largely based on a static and short-term view of innovation and technology: If an invention with wide societal value exists, there is a human rights imperative to make this invention widely available at little to no cost. Yet this view ignores the long-term ramifications such a policy would have on future generations of invention. Debates around human rights are often based on a very clear delineation of positive and negative duties of states, using a rhetoric of absolutes and

unconditional entitlement. This entrenches the skeptics in absolute opposition, rather than permitting a recognition that intellectual property is a valid feature of the international system and that there exist mechanisms to balance outcomes that support their interests. This human rights-based opposition to IP rights, often in concert with economic concerns, is most clearly apparent in international debates around the interrelated issues of trade, development, technology transfer, and access to medicines (as elaborated on subsequently).

Some IP skeptics (such as the Electronic Frontier Foundation and some at the Cato Institute) also argue that intellectual property protection and enforcement impugns upon personal freedom.¹⁰⁸ “What right do others have to tell me I cannot copy a piece of music or a blueprint of a product?” Such proponents focus on maximizing self-interest and personal freedom, not the broader public interest—which is something they deny exists. Their view is that powerful interests, especially big business and big government, will prevent socially useful rules from being established. As noted, they distrust the private sector, but go a step further because they also distrust the public sector because they believe government is ineffectual and overbearing. Moreover, such libertarians often erroneously reject IP rights as simply being government-granted monopolies. As a result, they decry even the most pragmatic of IP solutions. Represented here are the “Internet exceptionalists” who do not want common-sense rules that apply offline to apply online, and who ultimately believe (or hope) the Internet heralds the end of IP rights.¹⁰⁹

Claim: Intellectual property harms innovation by limiting the diffusion of ideas and technologies.

Given the central role technology and innovation play, intellectual property represents a central point of contention in the debate about the best way to support economic development, especially in emerging economies. Proponents of weak intellectual property protection and enforcement view the twain as an essential part of a broader economic framework that sees imitation and the theft of intellectual property as a shortcut to technological upgrading and economic restructuring (typically from agriculture to export-focused manufacturing activities). In their ideal framework, the state uses weak intellectual property in an effort to improve the productivity of firms in specific sectors (typically export-focused, low-value manufacturing) as part of protectionist-minded industrial development strategies. In line with this, IPR opponents tend to make three main points: developed countries (“the North”) purposely wield IP as a political and economic tool, in such a way as to prevent others (“the South”) from using it; this power dynamic is central to the lack of development and innovation in developing countries; and as developing countries have less money, developed countries should hand over their IP and technology for cheap or free.

IPR opponents blame developed countries (especially the United States), as they view these countries as using IP as a form of “economic imperialism.” This is a mainstay position for opponents who remain entrenched in the traditional “North vs. South” view of international relations, economics, and political policy. This view is well articulated by Argentinean law and economics scholar (and head of the prominent anti-IP NGO, the South Centre) Carlos Correa, who contends, “The monopoly rights granted by intellectual property rights [are] regarded as an instrument to avoid further catching-up based on imitative paths of industrialization; that is, as a

tool to freeze the comparative advantages that had so far ensured U.S. technology supremacy.”¹¹⁰ Unfortunately, this view permeates the positions of many developing-country representatives to organizations such as the World Intellectual Property Office, WTO, and of course, UNCTAD. As this report outlines, this view of IP provides a misguided approach to economic development that diverts attention and resources from domestic policies that could actually support the development, deployment, adoption, and absorption of new technologies by emerging economies.

IPR opponents paint developing countries as the victim when they argue that developed countries should hand over IP, as they contend the state (i.e., the broader public) in developing countries should have the freedom to exploit or undermine intellectual property, especially if it is to address key societal issues. It (again) shows how IPR opponents pursue a state-directed model of development, often involving protectionism, import-substitution, and other traditional industrial development strategies. Also, by focusing on the supposed political power and role of developed-country governments, it reveals a central point that goes to the core of ideological opposition to intellectual property: a recognition (and disdain) for the fact that firms (not governments) hold the private rights to the intellectual property embedded in most technology. Such IP is held by private-sector enterprises and driven by market forces, rather than the state or local community. In their eyes, intellectual property represents a static cost to be minimized or avoided.

Reveals a central point that goes to the core of ideological opposition to intellectual property: a recognition (and disdain) for the fact that firms (not governments) hold the private rights to the intellectual property embedded in most technology.

In summary, this North-South power dynamic and negative-sum view of intellectual property leads many opponents to frame and view the debate through the singular (distorted) lens of the distribution of technology and its forced redistribution by the state.

Organizational Groupings

While the dynamics and specifics of ideological debates around various facets of intellectual property may differ, opponents of IP can generally be categorized into five major groups: academia, nongovernmental organizations, international organizations, national governments, and individual officials within governments. The following section cannot list every opponent of IP, but showcases examples from some of the most strident opponents of IP in these organizations.

Academia

A large and active group of academics in both developed and developing nations working on intellectual property issues see IP as something to be weakened, removed, and generally opposed,

often due to cross-sectoral concerns over development and access to medicine, human rights (especially freedom of expression online), and the digital economy (especially copyright online). In Canada, these include academics such as Jeremy de Beer, Carys Craig, Michael Geist, Richard Gold, David Lametti, and Ariel Katz. In the United States, Jagdish Bhagwati, James Boyle, Rebecca Eisenberg, Wendy Gordon, Michael Heller, Larry Lessig, David Kaye, Paul Krugman, Eben Moglen, Ruth Okediji, Pamela Samuelson, Tim Wu, and Jonathan Zittrain are emblematic of this group.¹¹¹

Duke University's James Boyle argues for a traditional and stagnant view of IP that ignores piracy being a prominent feature (as it has become easier and more common) and that therefore national and international laws need to catch up and improve in order to address modern technology and business practices. Boyle views IP as a North-South dynamic, and essentially contends that IP is not positive for the interest of developing countries.¹¹² Ruth Okediji, a professor of Law at the University of Minnesota Law School, thinks international IP rules stifle economic development (preferring "policy space" for state-directed industrial development strategies) in a traditional North-South paradigm, recommending that developing countries resist engaging in trade agreements with IP provisions, as she sees them as "a global agenda to gain complete control of how public knowledge goods are created, disseminated and used."¹¹³ Larry Lessig, professor of Law and Leadership at Harvard Law School, called on WIPO to overhaul the copyright system, which he says does not and never will make sense in the digital environment, asserting that "information should be free" and "reading, lending, or reselling a book is not 'fair use'—it is free use. They are unregulated acts."¹¹⁴

Nongovernment Organizations

There exists a broad and diverse range of advocacy organizations that actively support the removal or weakening of intellectual property protections. Many NGOs, such as the Center for International Governance Innovation, the Electronic Frontier Foundation (EFF), the Free Software Foundation, Knowledge Ecology International, Mediciens Sans Frontieres, the Open Media Organization, Public Knowledge, and the South Centre, among others, were founded, in part, to oppose the role intellectual property plays in extending private rights over what they classify as public goods.¹¹⁵ Much of what drives these organizations is a short-term view that policy should make IP free or deeply discounted, in part, to ensure the "fairer" distribution of goods and services, while failing to acknowledge the longer-term and broader implications such an approach would have on innovation. Some NGOs are issue specific (such as opposing copyright online, pharmaceutical patents, or tech transfers to developing countries), while others are cross-sectional in their opposition to broader contexts IP may be just one aspect of (such as trade agreements).

Many anti-IP NGOs focus on development issues, seeing development as a largely redistributionist issue: if the "North" gains, the "South" loses and because the South is lagging, the goal of global policy should be to redistribute resources, including IP resources from the North to the South. These organizations are especially active at WIPO and WTO, and in United Nations agency discussions, sometimes, as in the case of the South Centre, working as advisors to developing

countries that oppose intellectual property at these agencies. The Geneva Declaration on the Future of WIPO (which arose from a workshop of like-minded NGOs and academics that met in Geneva in 2004 to discuss a development agenda for WIPO) summarizes the broad set of negatives and ills these NGOs associate with (and blame on) IP. The Declaration took an alarmist approach, stating that “humanity faces a global crisis in the governance of knowledge, technology and culture,” and that this crisis manifests itself in a number of key ways, including, “without access to essential medicines, millions suffer and die; morally repugnant inequality of access to education, knowledge and technology undermines development and social cohesion; anticompetitive practices in the knowledge economy impose enormous costs on consumers and retard innovation; concentrated ownership and control of knowledge, technology, biological resources and culture harm development, diversity and democratic institutions; [and] private interests misappropriate social and public goods, and lock up the public domain.”¹¹⁶

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Among this broad group of NGOs are the “anti-globalists,” who are most vocal in their opposition to the TPP (and who are active in opposing other trade agreements that contain IP) and most willing to engage in misleading negative messaging.¹¹⁷ This collection of voices, often under the banner of coalitions such as Expose the TPP, Stop the TPP, and Flush the TPP, fundamentally rejects a world in which multinational corporations are major producers and wherein global economies are tightly integrated.¹¹⁸ These coalitions include Public Citizen, the South Centre, EFF, and a diverse group of labor unions, environmentalists, and consumer, and human rights organizations.¹¹⁹ Anti-globalists oppose multinational companies, global supply chains, and global markets operating according to harmonized rules, and see the rise of a consumer-based global middle class as inherently suspect (i.e., as representative of the rise of a materialist and environmentally unsustainable society). For instance, EFF has railed against the TPP as a “secretive, multinational trade agreement that threatens to extend restrictive intellectual property laws.”¹²⁰ Instead of viewing trade agreements (such as the TPP) as the product of long-ongoing efforts by a broad group of countries to implement rules, including regarding intellectual property, periodically updated to reflect a modern and broadly harmonized framework to support a more productive and innovative global economy, many of these groups spin these provisions as being a sinister plan to harm consumers and workers—a much easier sell than if they argued their case on the basis of their animus toward corporations and globalization.

International Organizations

Many parts of the UN system are strongly opposed to intellectual property. Such ideological opposition to IP at the UN is perhaps best demonstrated by UNCTAD. For example, UNCTAD’s “2014 Trade and Development Report” stunningly contended, “Strong IP protection may have little

or no impact on innovation, while reducing the diffusion of foreign inputs and technologies and increasing their costs.”¹²¹ UNCTAD’s preferred approach to economic policy, including intellectual property, is indicative of many proponents of weak intellectual property in international organizations. These officials harken back to an earlier era that fundamentally distrusts companies (especially large and foreign ones) and market forces, and sees a central role for governments in guiding and managing large parts of an economy (i.e., central planning). Their preferred approach to economic policy uses protectionist measures to encourage import substitution, alongside state-directed infant-industry support programs, in order to foster export-led growth. In this economic model, developed countries hand over intellectual property and technology and act as markets for developing-country manufacturers. For these officials, IP rules (whether domestic or within trade agreements) represent a barrier to state-directed industrial policy that defines “policy space” as providing the ability to obtain the latest technology for free or below market cost in order to support local production.¹²² In this way, officials at UNCTAD advocate for a tried and failed set of economic and trade policies that ignore the success of today’s open, rules- and market-based trading system in reducing poverty and improving global living standards.

Other examples of UN agencies opposing robust intellectual property rights (often in tandem with opposition to trade, the existence of large companies, and other positions shared by opponents of intellectual property) include:

- The United Nations Human Rights Council has written about a “right to health framework” that includes a reference to technology transfers, despite being outside its mandate.¹²³ WIPO—the organization with this mandate to conduct IP-related work—has already reviewed the Post-2015 Development Agenda to identify which are most related to its work. For these, it will engage in relevant UN processes, in particular those of the Inter-agency and Expert Group on Sustainable Development Goals Indicators (IAEG-SDG) and the Technology Facilitation Mechanism.
- A 2016 United Nations Development Programme (UNDP) report called for reforming global institutions and trade and investment rules. In particular, it called for the reform of intellectual property so that it can create “space” for industrial policy. Indicative of the view that technology should be provided for free, the report explicitly identifies payments for IP royalties and licenses as a sign the system is not working. Lamentably, UNDP has taken this position instead of recognizing IP licenses as a means to facilitate technology transfer for environmental or other goals, and without considering the consequences for what its position would mean for trade, investment, and future generations of innovation.¹²⁴ In other words, the North should subsidize the South by giving valuable intellectual property away for free.
- In 2015, the United Nations Special Rapporteur in the field of cultural rights issued a report holding that the exclusivity and commercial nature of many products and services that are based on intellectual property should be disregarded if they deprive people from access to science and culture, stating that “unreasonably strong patent protection may constitute a violation of human rights.”¹²⁵

- In 2014, the United Nations Human Rights Council established an open-ended intergovernmental working group on transnational corporations, with a mandate to develop an legally binding (internationally) instrument to regulate these businesses according to human rights law.
- IP opposition can also involve these organizations actively advising governments of their preferred interpretation, even when it relates to an agreement an agency is not mandated to interpret, enact, and enforce. For example, WHO officials have advised the Colombian government on how to interpret TRIPS provisions on compulsory licenses.¹²⁶ In April 2017, UNCTAD, UNDP, and the Joint United Nations Programme on HIV/AIDS organized a joint workshop on tech transfer and public health to essentially advise a range of African countries on how to interpret TRIPS and use provisions such as those for compulsory licensing. It explicitly refers to the flawed United Nations High Level Panel (UNHLP) on Access to Medicines recommendations as the way forward.¹²⁷
- Weakened IP as part of technology transfer arrangements was discussed as a way to implement the SDGs at the UN Oceans Conference.¹²⁸
- UNITAID (an International Drug Purchase Facility established as an innovative funding mechanism to accelerate access to high-quality drugs and diagnostics for HIV/AIDS, malaria, and tuberculosis in countries with a high burden of those diseases) has used the UNHLP report as cover to further push ahead with work to advise countries on how to use compulsory licensing and other TRIPS flexibilities, as it views TRIPS as a barrier to access to medicines.¹²⁹ Mr. Celso Amorim, chair of UNITAID, was also an author of the UNHLP report on access to medicines.

Of course, it is not just United Nations agencies that look askance at IP. A 2002 World Bank report asserted that a fully implemented TRIPS Agreement would transfer more than \$20 billion of “rents” from developing countries “to major technology-creating countries—particularly the United States, Germany, and France—in the form of pharmaceutical patents, computer chip designs, and other intellectual property.”¹³⁰ But this confuses rents (e.g., such as having to pay to access a resource that does not own it) with legitimate income from productive activity that generates genuine value for developing nations, as noted previously with the example of how biopharmaceutical innovation has contributed to a significant improvement in health outcomes in Colombia.¹³¹

National Governments

The split between developed and developing nations represents the traditional divide in the international debate around intellectual property, with many of the latter generally opposing new and stronger intellectual property protections and enforcement. Within international institutions, developing countries often form ad hoc, issue-specific groups as well as institutionalized formal groups (such as the Group of 77) to advocate for their positions on intellectual property. Yet between developing nations, there are important differences in how countries engage in intellectual property and pursue it in a domestic context. Many developing countries, such as Brazil, India, and

South Africa, consistently engage in debate grounded in an ideologically hostile view of IP. Indian representatives have argued before the TRIPS Council that “WTO members should actually be prohibited from implementing more extensive protections than what’s required in TRIPS, if such additional protection would contravene the Agreement,” in other words arguing that TRIPS actually sets maximum ceilings in IP protections to which countries should be obliged. In 2018, South Africa’s ruling African National Congress resolved to adopt expropriation policies (including for intellectual property) without compensation. A 2018 draft of a revised South African IP policy weakened IPRs by making it more difficult to register patents and easier to break patents, and limiting remedies available to patent holders. The proposals also included amending patentability criteria to promote “genuine” innovation and issuing “workable” compulsory licenses for others’ IP via a nonjudicial review mechanism.¹³² Other countries, such as China, are less ideologically committed to the debate, although they use the language of the developing nations to oppose IP. Rather, the main intent for countries such as China is actively stealing foreign intellectual property and exploiting the current framework of rules to discriminate against foreign companies as part of a concerted strategy of innovation mercantilism.¹³³

Many developing countries, such as Brazil, India, and South Africa, consistently engage in debate grounded in an ideologically hostile view of IP.

Individual Government Officials or Departments

Even when a country’s government broadly and publicly supports robust intellectual property rights and enforcement, internal opposition and divergent opinions within national governments may work to undermine this position. Individuals or groups of officials inside government agencies (whether from developed or developing countries) often oppose a country’s formal position in supporting stronger and better intellectual property. For some, particularly those involved in development and diplomacy, weak IP is seen as a bargaining chip that can be “traded” to developing nations to either help them develop or as a trade for concessions on other issues (such as increased agricultural market access). These officials can directly or indirectly influence the outcomes they personally prefer during internal government discussions or as part of their own engagement in domestic and international meetings and events. For instance, Australia’s Productivity Commission (a quasi-independent advisory body) advocates for the removal of IP from Australia’s trade agreements, viewing it in a purely “balance-of-trade” perspective (i.e., Australia imports more IP than it exports, therefore IP-intensive imports should be reduced, in part by limiting IP provisions in the trade agreements Australia signs) and sees intellectual property protection as harming developing countries.¹³⁴ Likewise, even though the U.S. State Department as an institution has largely supported strong IP rights, some individuals in the department have argued for weak IP provisions along the lines that weak IP provisions would help the developing nations they are tasked with helping.

How IP Opponents Work to Gain Advantage

International intellectual property policymaking has grown more complex since the TRIPS agreement, in part due to the growing diversity of actors and forums engaging in intellectual property. The range of forums debating intellectual property has expanded horizontally across multilateral institutions and forums, and vertically down to regional, national, and subnational levels. Countries that support robust intellectual property rules have used vertical forum shifting in pursuing regional and bilateral trade agreements to account for stasis at WTO and WIPO, and built on work to animate existing rules by focusing on implementation and enforcement capacities (whether bilaterally through IP offices or aid agencies or through WIPO's technical assistance program).¹³⁵ Meanwhile, IP-skeptical NGOs, academics, advocacy groups, and their developing-country partners who favor weak or nonexistent intellectual property have pursued horizontal forum shifting by pushing their views on intellectual property across a broad cross-section of international organizations and forums that have not traditionally dealt with the issue. For these groups, legally binding text might not be the objective, but rather the reinterpretation of existing laws and the creation of new, nonbinding declarations, guidelines, recommendations, and other forms of soft law.¹³⁶ They do this in part because they want to work outside traditional organizations that focus on intellectual property—such as WIPO and WTO—which they do not view as sympathetic to their positions or to organizations whose mandates are more closely aligned with their political, social, and economic objectives.

This complicated, clashing, and inconsistent norm-setting and rule-making processes has contributed to the stasis in international IP rule making since TRIPS. What this crowded policymaking environment does is offer alternative venues—each with its own institutional features, subject matter competencies, and decision-making procedures—within which IP opponents can experiment to find a way to pursue their objectives and thereby further their efforts to undermine intellectual property.¹³⁷

This complicated, clashing, and inconsistent norm-setting and rule-making processes has contributed to the stasis in international IP rule making since TRIPS.

HOW THE IDEOLOGICAL BATTLE AFFECTS INTELLECTUAL PROPERTY AND TRADE

Intellectual property's relationship with trade is a key front in the IP ideological battle. Proponents of weak or non-existent intellectual property rules attack the link between intellectual property and trade despite the fact that countries have tied the two together since the earliest commercial agreements, which required protection for foreigners' property interests, including IP rights.¹³⁸

More recently, the collapse of the proposed Anti-Counterfeiting Trade Agreement (ACTA) in 2012, the stalling of the Transatlantic Trade and Investment Partnership in 2016, and the United States' withdrawal from the TPP trade agreement in 2017 emboldened IPR opponents. However, the central facts that led to these historical and modern agreements—that intellectual property rights are territorial in character and critical to trade—remain true today. This section analyzes this debate around IP and trade, and how the debate has played out in the context of the TPP.

Proponents of weak or non-existent intellectual property rules attack the link between intellectual property and trade despite the fact that countries have tied the two together since the earliest commercial agreements, which required protection for foreigners' property interests, including IP rights.

Critics of IP constantly try to frame IP as being irrelevant (or even, a barrier) to trade. A major line of this criticism is based around a 20th-century view of trade as being based around traditional manufactured goods facing tariffs when crossing borders. The general public often views trade along these lines, for many reasons, one being that modern trade (increasingly in services and knowledge) is intangible (and thus much harder to think of in connection to foreign markets). Many critics combine this traditional view of trade with a belief that intellectual property lies “behind the border,” where nations supposedly should have unlimited rights to do whatever they want. While this criticism has become more prominent in recent trade debates, it has existed since the earliest days of WTO. For example, hundreds of NGOs signed a joint letter at WTO's Third Ministerial Meeting in Seattle, in 1999, calling on members to remove TRIPS from WTO, contending, “There is no basis for inclusion of intellectual property claims in a trade agreement.”¹³⁹ A more recent example of this view comes from liberal economist Paul Krugman, who speaks for many critics when he asserts that the TPP “is not a trade agreement. It's about intellectual property and dispute settlement.”¹⁴⁰ Joseph Stiglitz stated, “These [trade] agreements go well beyond trade, governing investment and intellectual property as well, imposing fundamental changes to countries' legal, judicial, and regulatory frameworks...”¹⁴¹ Mixing a view of intellectual property (that it is a tax on developing countries on behalf of multinational corporations) and the traditional view of trade, economist Jagdish Bhagwati thinks that intellectual property rights should never have been included in the WTO agenda, claiming that, “Intellectual property protection is not a trade issue; and the WTO ought to be about lowering trade barriers and tackling market access problems that will often go beyond border measures to internal regulations: a thorny issue.”¹⁴²

Such opponents of IP persevere in their ideological attacks against the IP-trade connection, despite the fact that they are based on the since-unrealized fear that addressing trade-related, behind-the-border issues at WTO and other trade agreements would inevitably open the door to lower environmental protections and labor standards, leading to a “race to the bottom.” Many of these critics believe it is fine for WTO, such as the General Agreement on Tariffs and Trade before

it, to deal with traditional trade issues such as tariffs and market access (and actually some other behind-the-border issues related to investment or sanitary and phytosanitary measures), but just not to intellectual property.

But the reality is that what goes on “behind-the-border”—including with regard to intellectual property—is central to shaping trade in the 21st century (as detailed in previous sections). The idea that reducing a tariff on a widget is a legitimate part of a trade agreement but that reducing the ability of a nation’s citizens to steal the goods and services of another nation’s citizens or enterprises—that is, ensuring robust intellectual property enforcement—is not legitimate, is simply illogical. In fact, weak or nonexistent intellectual property protections and enforcement can act as a non-tariff barrier and cause substantial distortions in international trade, especially in the global digital economy.¹⁴³ That is why policy changes that remove impediments to the production or transfer of technological knowledge across borders should be viewed as analogous to countries’ reductions in tariffs that impede cross-border trade in goods.¹⁴⁴ To be effective, modern trade requires robust IP protections, because without them, producers would be less able to sell their products and services across borders. If a nation promulgates a weak IP regime and turns a blind eye to rampant piracy, imports of IP-based goods and services paid for with an export of money would by definition decline.

The idea that reducing a tariff on a widget is a legitimate part of a trade agreement but that reducing the ability of a nation’s citizens to steal the goods and services of another nation’s citizens or enterprises—that is, ensuring robust intellectual property enforcement—is not legitimate, is simply illogical.

Moreover, the rise of digital trade makes embedding intellectual property regimes in trade agreements imperative, as technology makes the sale of digital goods and services to foreign markets so much easier and cheaper—even as it also makes intellectual property theft much easier—regardless of firm size. Strong intellectual property protection and enforcement is critical to digital trade, as the incidence and cost of piracy remains significant to creators, particularly as reproduction technologies have improved and become cost efficient, while at the same time creation costs for some forms of digital content have increased. The reality is that intellectual property rights are uniquely trade-related and that modern trade in goods and services increasingly depends on intellectual property.

A Case Study: The Trans-Pacific Partnership Trade Agreement

Analyzing the debate surrounding the TPP’s intellectual property chapter is useful, as it represents a broad and prolonged effort to by the United States and 11 other countries to update intellectual property rules to address modern trade issues. The TPP’s proposed IP rules largely reflect existing laws in the United States and other developed member countries, such as Australia, Canada, and

Japan. Furthermore, those laws support the United States' and others' positions as among the world leaders in innovation, without undermining human rights and other public interests. Yet this has not prevented the TPP's intellectual property chapter from being subjected to a range of hysterical and baseless claims. Opponents' reactions to the TPP's proposed IP provisions reveal how the opposition is often tied to a broader and deeper ideological backlash, not just against intellectual property, but also to globalization and large corporations.

The reality is that intellectual property rights are uniquely trade-related and that modern trade in goods and services increasingly depends on intellectual property.

The TPP addresses IP issues because that is where a great many barriers to trade exist. The base level of global IP protection, as reflected in TRIPS and many WIPO IP treaties, was established in the 1990s, when the Internet and e-commerce barely existed. This is the case regarding digital trade (which often involves IP), particularly given that the first e-commerce sale was 24 years ago, (when a broken laser printer sold on AuctionWeb, eBay's predecessor, for \$14.83); that stands in stark contrast to global business-to-consumer e-commerce sales reaching \$1.92 trillion at year-end 2016. It is no surprise, therefore, that countries negotiating the TPP sought to include IP provisions that would protect the growing global trade in digital goods and services.

What the debate around the TPP's digital IP provisions reveals is that for many IP skeptics, the battle over intellectual property in trade agreements is simply an extension of their opposition to similar domestic laws in the United States and other developed countries. This is despite the fact that many of these laws have been in place for decades and reflect international norms. For many IP skeptics, their criticism of international intellectual property rules is not so much about calibrating the system and particular provisions as it is about their fundamental opposition to the role intellectual property plays in today's economy. Again, the nature of this opposition is not in nuance, evidence, or pragmatism. Many of the opponents are absolutists; they do not see IP rules as being about finding balance between access and protection. For them, absolute access to all content, even if the user does not have a legal right to that content, is a central goal. Any law, regulation, or trade agreement that works to ensure people cannot steal content with impunity is a law, regulation, or trade agreement they will reflexively oppose.

Following are three examples from the TPP IP debates related to technical protection measures (TPMs), copyright, and trade secrets.

Technical Protection Measures

TPMs are “digital locks” that protect access and copying controls for copyright-protected content and the devices and networks—such as Netflix, the Xbox, and Valve's Steam—that use them.

TPMs are not new; they build on provisions that are part of WIPO's Internet Treaties.¹⁴⁵ As WIPO outlined in its guide for the treaties, the application of TPMs is “a key condition for the protection, exercise, and enforcement of copyright in the digital networked environment.”¹⁴⁶ While people use devices and networks that rely on TPMs on a daily basis, critics see nothing but doom. Canadian academic Michael Geist, a promoter of weak IP protection, has called provisions that prohibit TPM circumvention “unquestionably the biggest and most controversial digital copyright issues.”¹⁴⁷ According to EFF, TPMs represent the “most threatening provisions” of the TPP's IP chapter, and are one of the main reasons the organization opposes the TPP.¹⁴⁸ EFF paints TPMs as a broad, sweeping evil that impede innovation, security, and basic user rights and expectations, while also claiming they fail to inhibit copyright infringement.¹⁴⁹ Despite the fact that the TPP includes a framework for how countries should allow exceptions (i.e., for when people may circumvent TPMs for legitimate noncommercial purposes), critics choose to focus on cases at the margins—limited cases where there may have been some legitimate adverse impacts from TPMs inhibiting legitimate research and tinkering—while refusing to acknowledge that TPMs play an overwhelmingly positive role in spurring digital trade (as opposed to digital theft).

Copyrights

Public Knowledge and other anti-IP critics have claimed that the TPP's copyright rules constitute an attack on free speech, as they do not include binding commitments to implement U.S. “fair-use” doctrine. Public Knowledge has claimed that the TPP's approach to fair-use provisions—which address how exemptions and limitations to copyright are allowed for such uses as commentary, criticism, parody, news reporting, research, and scholarship—is the “epitome of such overbroad copyright. protections, laying out restrictive provisions that weaken U.S. exceptions and limitations.”¹⁵⁰ But such criticism is false. In reality, the TPP's copyright provisions use the same core criteria to define fair use already employed around the world, as different legal systems and approaches mean there is no one-size-fits-all approach to defining fair use. In fact, that is why it is misguided to think that America's fair-use doctrine, which is based in complex and ongoing judicial interpretations, can simply be exported. The TPP protects fair use with the same core criteria—known as the “three-step test”—that have been part of international law for decades, as embodied in the Berne Convention, TRIPS, and other WIPO treaties.¹⁵¹ Again, this highlights opponents' broader opposition to the established role of IP.

Trade Secrets

Fight for the Future (FFTF) has argued, “This the trade-secret provision. is clearly intended to stifle whistleblowers and journalism covering the documents they expose—it could criminalize, for example, *The Guardian's* reporting on the documents they received from Edward Snowden.”¹⁵² EFF and FFTF wrote a joint letter that claimed, “The TPP's trade secrets provisions could make it a crime for people to reveal corporate wrongdoing ‘through a computer system.’” These claims—that TPP members want to use a trade agreement to target journalists and whistleblowers—are a good example of critics reading into the TPP what they want: namely, fear. It is worth noting that global news agencies have not joined this effort, as these claims ignore the robust laws in place in

the United States and elsewhere that protect employees from potential repercussions from disclosing illegal activities a firm may try to portray as “trade secrets.” First, the definition of a trade secret has not suddenly expanded to include activity that is not already in international law—in fact, the TPP uses the definition of trade secrets in TRIPS as a minimum. Second, the text of the TPP shows negotiators were cognizant of exactly this type of criticism when they included a footnote to the title of the trade-secret provision that states the entire provision is “without prejudice to a Party’s measures protecting good faith lawful disclosures to provide evidence of a violation of that Party’s law.”¹⁵³ Backing up this “good-faith” intention, the TPP’s transparency and anticorruption chapter includes provisions that state members shall adopt or maintain measures to protect whistleblowers.¹⁵⁴

THE WAY AHEAD

A policy framework that prioritizes global innovation will require the world’s leading innovative countries to recognize that there are major problems with the current stalemate and outdated approach to IP at the international level. First, by not advocating that countries should consider the global implications of their domestic innovation policies, too many countries have been allowed to enact mercantilist practices that detract from global innovation. Second, by not advocating for core principles and policies that support innovation at the global level, leading countries allow opponents of IP to undermine the increasingly outdated and ineffective rules undergirding IP at WIPO and WTO. Third, this complacency and policy stalemate has allowed IP skeptics to define and frame the debate—IP as a barrier to progress, short-term interests are paramount, IP is unfair—when in fact these arguments should be seen for what they are: anti-innovation, anti-growth, and anti-progress.

A policy framework that prioritizes global innovation will require the world’s leading innovative countries to recognize that there are major problems with the current stalemate and outdated approach to IP at the international level.

If the world is going to maximize its potential for global innovation, it will need leading countries to recognize that new energy, new tactics, and a new strategy are needed to encourage more nations to do more contributing and less detracting from global innovation.¹⁵⁵ Moving forward will require several actions, including 1) a broader reframing of IP, trade, and innovation; 2) a coherent “all-points strategy” in which committed nations and their key innovation-supporting agencies and institutions actively advocate for IP and contest the activities of the IP skeptics on virtually every front; and 3) expanding “nonagreement” cooperation. These recommendations are in addition to the ongoing role trade agreements (whether bilateral or regional) can play in improving the international framework for intellectual property and innovation (given the likely lack of progress at

WIPO and WTO). If anything, as this report outlines, the role of IP provisions in trade agreements only gets more important with the increasing knowledge-intensity of modern trade and economic activity and the need for greater levels of global innovation.

Why a Targeted Approach to Supporting Global Innovation Is Needed

The world's leading innovation countries need a targeted, energized, and coordinated approach to support the broad goal of encouraging more countries to adopt policies that promote (and not detract from) global innovation. Ideally, new and changing global production and innovation networks would result in a commensurate debate at the multilateral level, such as at WIPO or WTO, over how to update current rules and institutional frameworks to support greater global trade and innovation. However, the ad hoc approach that largely defines some leading countries' approach to innovation and IP at the international level has proven ineffective in driving such an agenda. These countries need to change their approach if they ever hope to change the debate and the policy outcomes.

A targeted approach needs to reflect a level of pragmatism and flexibility for countries that want to implement higher-standard IP policies that support modern trade and innovation. While a new multilateral agreement on intellectual property or institutions (or a reformed WTO) offers the broadest potential benefits, it is subject to reality: The many factors outlined above, and those that have shaped intellectual property (and to some extent, trade policy more broadly) at the multilateral level since TRIPS, remain locked in place and are unlikely to change anytime soon. Not that they cannot be helpful in some areas and in the broader debate, but WTO and WIPO are unlikely to play a lead role in debating, negotiating, and enforcing new rules. This inevitably means the focus for those countries wanting to make progress on intellectual property, trade, and innovation needs to look toward bilateral or more narrow multilateral agreements and levels of cooperation between leading countries and their IP agencies and those wanting to enact domestic policies which contribute more powerfully to global innovation.

Reframing the Debate Around IP, Innovation, and Trade

The world's leading innovation countries need to actively and consistently engage in the global debate surrounding IP and innovation, and provide resources to back up that commitment. As noted, innovation does not fall like "manna from heaven." Rather, innovation is a product of intentional human action, complex national innovation systems, and strategies that seek to coordinate a range of disparate policies that impact the capacity and ability of both private and public actors to effectively innovate. Reframing the intellectual property debate back toward a focus on innovation (and content production) would require some significant shifts in international policymaking, including changes to how countries typically approach innovation, trade, and economic policy; removing the notion of developing-country "victimhood," as alleged by IP skeptics, and instead make the case for how skeptics' preferred approach actually undermines global innovation and human welfare; and how the traditional "North vs. South" dichotomy used by opponents of IP is wrong and distracts from how all countries can contribute to global innovation.

The starting point for maximizing global knowledge production and innovation is countries doing the right thing at home in terms of implementing the right policies in ways that maximize their innovation capacity, but without distorting global trade. Countries, regions, and cities around the world are increasingly focusing on what they can do to improve their ability to support innovation, while benchmarking their performance against global competitors on various innovation indices, as they consider reforms that would improve their ranking and overall performance.¹⁵⁶ How countries individually and collectively determine policies that relate to innovation will determine how they contribute to or detract from global innovation, and what this implies in terms of progress toward developing solutions to global challenges.¹⁵⁷ With innovation truly the most important “good” for the future of the global economy and society, policymakers cannot take it for granted.

From this, policymakers need to elevate innovation policy on the global stage to a similar level as trade when it comes to debates about how to optimize global economic growth and welfare. Most policymakers, economists, and pundits are well versed in the mantra that free trade boosts global economic welfare. But that same intellectual consensus does not exist when it comes to supporting innovation policies, such as robust intellectual property protections, that are key to maximizing global innovation. And while an increasing number of policymakers realize that innovation is central to economic growth and improved standards of living, many have not connected domestic and global approaches in the same way other policies are assessed from a trade perspective (i.e., as either protectionist or open to trade). This focus on the components that support innovation, especially intellectual property, would be a new lens through which to advance international economic and trade policy.

Policymakers need to elevate innovation policy on the global stage to a similar level as trade when it comes to debates about how to optimize global economic growth and welfare.

The United States and likeminded nations also need to clearly, consistently, and strongly push to reframe the debate around IP back toward a considered and holistic analysis of the international issues wherein intellectual property is a priority agenda item, whether this is in nations’ framing of their economic and trade policies or in the context of issue-specific debates, such as around technology transfer and access to medicines. In some areas, the United States and likeminded countries have shown this to be possible—as with the UN High-Level Panel on Access to Medicines. In other areas, such as with regard to improving intellectual property protection and enforcement in the digital economy, leadership has been wanting. Ultimately, the reactive, defensive, and ad hoc nature of the United States’ and likeminded countries’ current approach is failing to make progress on the broader narrative toward (weaker) intellectual property rights. This essentially cedes the debate to the many vocal and active proponents of weaker intellectual property, and the institutions in which this view has taken hold, allowing them to continue advocating their positions as being in the public interest.

Part of this revised engagement should involve IP-oriented nations pushing back on framing by IP opponents that strong IP benefits only large corporations and rich nations, and instead call them out on how their preferred approach harming knowledge production and innovation around the globe. Opponents tend to focus on disparities between developed and developing countries in the development and deployment of technology (arguing the disparity is fundamentally unfair) and assert that governments should be able to forcibly intervene to undermine intellectual property in order to “correct” this.¹⁵⁸ IP skeptics’ misguided position is appealing in its simplicity, as it is able to disregard the complexity of the respective issues being debated, and is often effective because it portrays them as being on the “side of the angels.” Such IP opponents need to be confronted with the reality that their positions are anti-innovation, and if widely implemented would lead to a worse, not better, situation for most of the world’s residents.

The United States and likeminded countries should develop a tailored strategy to identify stakeholders to engage as part of the effort to reframe the debate around IP, trade, and innovation, as the target audience in each country is not clearly bifurcated, both within and between developed and developing countries.

Many policymakers, especially those in developing countries, need to move toward an economic framework that focuses and elevates innovation policy and discards the traditional framing of intellectual property as a bargaining chip that countries should hold onto for trade negotiations with developed countries. This traditional (zero-sum) framing of intellectual property misses the point that IP is one part of a broader policy framework that is needed (along with institutional capacity, education, infrastructure, etc.) to support innovation and productivity growth. In fact, countries should make improving their intellectual property rules, enforcement, and administration separate from trade agreements part of their own economic policy reforms, simply because doing so would help their own economy and so should be part of countries’.

The target audiences for renewed engagement on an updated framing of intellectual property, trade, and innovation are many and varied—representing in many ways a mirror image of the typology of groups that oppose stronger IP outlined earlier. The United States and likeminded countries should develop a tailored strategy to identify stakeholders to engage as part of the effort to reframe the debate around IP, trade, and innovation, as the target audience in each country is not clearly bifurcated, both within and between developed and developing countries. Even within developing countries that have traditionally pushed for weak or no intellectual property protections, such as China, India, and South Africa, there are stakeholders—individual policymakers, academics, government agencies, trade associations, and research institutions—that recognize both the need to focus on innovation and that IP plays a key supporting role. For example, there can exist government agencies in developing countries that recognize that IP is a critical enabler of innovation, despite the country’s formal antagonistic position toward IP in international debates, such as between ministries of science and technology on one side and ministries of industry or

health on the other. There can also be cleavages between the positions held by a country's representatives at WTO, WIPO, and UNCTAD and officials from the respective agencies that actually work on economic policy, science and technology, and intellectual property back in the country's capital. Supporters of a robust IP system need to work to strengthen these voices.

It is not about North vs. South anymore, it is about whether one lives in a country where policymakers understand that robust intellectual property rights are beneficial for innovation and economic growth, or not.

In line with reframing the debate, the strategy for engagement should not be defined by a country's level of development, but rather on the positions held by its policymakers. The central message of this reframing should be that it is not about North vs. South anymore, it is about whether one lives in a country where policymakers understand that robust intellectual property rights are beneficial for innovation and economic growth, or not. It is also just as critical to focus on the broader policy framework around IP. Intellectual property does not operate in a vacuum. A patent by itself is not useful. It is the policy framework that allows countries to maximize the benefits of intellectual property (which is why focusing on capacity building is a key recommendation). A key target for revised and renewed engagement should be the development banks, UN agencies, and international conferences that deal with technology transfer issues and tend to frame IP as a distributional transaction, while disregarding the economic research that shows IP facilitates technology transfer and foreign technology is a key source of productivity gains for developing countries.

Developing an “All Points” Strategy for Intellectual Property

Reframing the debate over intellectual property will only work if the United States, the European Union, Japan, and other likeminded countries that recognize and value the role of IP are proactive, consistent, and persistent in doing so at each and every forum and agency wherein the issue is on the agenda. Such an “all points” strategy would reflect the fact that proponents of weak intellectual property are pursuing a similar strategy. However, IP opponents have been far more prominent, energized, and active in advocating for their preferred policies. Unfortunately, over time, this has negatively influenced the narrative around intellectual property and how it should be dealt with in international forums.

To be truly effective, a country needs to designate a senior lead officer and agency to drive a formal, coordinated strategy and message between the respective agencies responsible for domestic intellectual property administration, commerce, international trade, science and technology, and development, among others.

Identifying and engaging at each “point” requires a formal, coordinated, whole-of-government approach for each country engaged in this agenda. Each of these points of engagement requires a government agency and official with the right talking points, background materials, and direction. This type of internal coordination is common with many international issues, and may already be happening to some degree in many countries, although more often on an ad hoc or informal basis. To be truly effective, a country needs to designate a senior lead officer and agency to drive a formal, coordinated strategy and message between the respective agencies responsible for domestic intellectual property administration, commerce, international trade, science and technology, and development, among others. The U.S. Intellectual Property Enforcement Coordinator provides a useful model. By formalizing this coordination, a country also sends a signal—both internally and externally—that intellectual property is a priority and the government is taking a comprehensive and coordinated approach to engagement.

An all points strategy is needed as the ideological battle over intellectual property unfolds across an increasing number of fronts as international discussions on shared public policy concerns touch upon IP. Intellectual property policymaking has devolved from core agencies involved in IP and trade to a plethora of global, regional, and issue-specific organizations and events. The problem is many of these well-intentioned discussions may put at risk the actual technological innovation needed to address a wide range of public policy issues if the outcomes of these disparate forums feature a particular ideological view about intellectual property: that weaker is better. The diverse coalition of proponents for weaker intellectual property have targeted many of these discussions as part of their own efforts to change the status quo set of international rules and norm-making.

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A focal point for an all points strategy would obviously be the major multilateral organizations. In this context, the fact that WTO and WIPO are member-driven organizations is both an advantage and disadvantage. It is a disadvantage as progress (in terms of substantive new agreements on intellectual property protection and enforcement issues) requires broad agreement among the membership, while opposition takes only a few members. It is therefore easier for individual

countries or groups of countries to stymie or veto proposals or discussions on many new issues, negotiations, and programs. Such coalitions of countries and nongovernment organizations have been effective in shutting down pro-IP efforts. Likewise, the United States and other supporters of intellectual property have largely been able to shut down corresponding efforts to weaken current rules. It's a stalemate. However, this standoff actually suits the former parties' interests given that they prefer to maintain the status quo as it allows them more time to find ways to undermine current rules. While engagement at these organizations may not necessarily lead to concrete outcomes (and may be an exercise in frustration), officials from the United States and other countries need to remain engaged, as playing effective "defense" is the first step in identifying or creating the opportunities to make the case for better and more effective IP rules and enforcement.

As an extension of this, the United States and others need to ensure their engagement covers the full spectrum of organizations that discuss IP, as one consequence of the current stasis in the IP debate is proponents of weaker intellectual property rules have increased their efforts to target alternative forums that may not be based on member-state decisions and goals. These can take the form of a disparate range of settings within and outside of multilateral agencies in the form of conferences, committee discussions, projects, and studies that indirectly deal with IP as part of work on climate change, economic development, health, and other issues. While officials are well versed in their respective side of the standoff at WIPO and WTO, debating the issues at different forums raises the risk of a detrimental outcome for IP as it may involve officials that do not usually work on IP issues at the international level and so may not recognize proposals that target IP protections. While the outcomes of some of these engagements may be nonbinding and seem inconsequential, each event can influence the debate surrounding global norms on intellectual property if it leads to a statement, report, or other outcome that provides legitimacy to IP-weakening views.

Similarly, the United States and others need to not only identify the forums wherein IP and innovation are part of the agenda, but also recognize (and if possible, prevent) the appointment of officials to key policymaking positions in these forums on the basis of their approach to IP and innovation. For example, in 2017, the executive board of UNITAID agreed to provide a number of anti-IP NGOs, such as the multi-million-euro-grant South Centre, to advocate for developing countries to undermine TRIPS through overly broad use of the agreement's flexibilities.¹⁵⁹ In a similar fashion, the UNDP asked prominent IP skeptic (and current head of the South Centre) Carlos Correa to write its official report on "Guidelines for the Examination of Patent Applications Relating to Pharmaceuticals," which advocates countries use patentability requirements and exceptions to undermine IP.¹⁶⁰ Nations that support robust IP need to be equally—if not more—supportive of pro-IP organizations. There are a wide variety of organizations globally, including think tanks and advocacy organizations, that support robust IP. IP-supporting nations should help them extend their voices, including by sponsoring speeches and meetings in various forums, both in Geneva and in developing nations.

The UNHLP on Access to Medicines is another prominent example of how opponents of intellectual property have tried to use alternative mechanisms to support the changes they want.

Established by former United Nations Secretary General Ban Ki-moon, the UNHLP focuses exclusively on intellectual property from the perspective of patent rights being a barrier to access to medicines, without looking at any number of the more-serious issues that factor into this issue, such as how governments and their health care systems (public and private) procure, distribute, and disseminate those medicines.¹⁶¹ Even in its blinkered approach, the UNHLP did not recognize the fundamental role intellectual property plays in the discovery of new medicines; the damage biopharmaceutical price controls do to the machinery of the medical discovery process; the need to invest more in both biomedical research and public health systems; and the need to reduce tariffs and taxes on biopharmaceutical products. Instead of holistically examining all the issues that affect access to medicines, the panel’s guidance is to examine the alleged “policy incoherence” between intellectual property rights, innovation, and affordable access to medicines. The UNHLP should be seen as a political enterprise given its failure to acknowledge existing work in this space, never mind that the three authoritative organizations that work on the cross-cutting issues of intellectual property, health, and trade—WTO, WIPO, and WHO—coauthored a report in 2013 that provided a holistic analysis of the issue and the many factors that affect access to medicines.¹⁶² While this issue is ongoing, and opponents have not been successful in having it formally adopted as part of future work at WHO or other organizations (due largely to opposition from the United States and others), it has not stopped proponents of weaker intellectual property from trying to use the formal and prominent nature of the report as a way to get it and its central tenets to form the basis of future work at the WHO and elsewhere.

Nonagreement Cooperation: Connecting With the Growing Interest in Innovation

One way to change the framing around intellectual property would be for the United States and likeminded nations to tap into the growing number of countries—such as Costa Rica, Estonia, and Peru—which have made innovation a priority and are looking for policy ideas, including on IP. In fact, at least 50 countries worldwide have created special agencies or foundations to maximize the innovation output of their enterprises and organizations—and virtually all of these countries have also articulated national innovation strategies.¹⁶³ But to achieve this, the United States and likeminded countries will need to develop a more comprehensive and proactive strategy to engage—whether individually or collectively—with these countries to harmonize existing procedures and processes, and build institutional capacity to more effectively administer and enforce intellectual property rules.

A more considered and active strategy for cooperation on IP will help countries that want to improve their innovation systems by sharing experiences, policies, and capacity-building efforts. These countries understand that relying on markets shaped by price signals alone will not generally be as effective as public-private partnerships in spurring higher productivity and greater levels of innovation. A wide range of studies have shown domestic policies such as support for a robust science and engineering workforce, an entrepreneurial culture, public investment in research, and favorable tax treatment of R&D all foster innovation.¹⁶⁴ This type of engagement is mutually beneficial, as the receiving country improves its ability to leverage IP to support innovation, while the leading countries receive the assurance that intellectual property—whether foreign or domestic—will be better protected in the future. More of this type of cooperation complements the binding

rules established in trade agreements, as they can help ensure these rules or those enacted unilaterally are enacted and operationalized; helping to ensure these rules do not just exist on paper. It is also a useful complement, both to trade agreements and supporting innovation, as not every intellectual property issue that may impact trade and innovation can be dealt with in a trade agreement.

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Each country’s lead intellectual property agencies—such as the U.S. Patent and Trademark Office and the European Union Intellectual Property Office—should take a leading role in operationalizing this strategy to engage with developing countries interested in improving their intellectual property systems. This would complement, and extend, similar convening and capacity building work being performed by WIPO. Existing arrangements outline how this type of engagement by specialist IP offices could be achieved. The “five IP offices” (IP5) of the European Union, Japan, Korea, China, and the United States should work together to improve the efficiency of the examination process for patents worldwide. The heads of the IP5 offices meet annually to decide on strategy and review progress. They also operate a number of working groups on various patent-assessment issues and potential harmonization efforts.¹⁶⁵ Related to this, the U.S. Patent and Trademark Office expanded its Office of International Patent Cooperation with a new division that focuses on international outreach. In addition, one or more leading nations should work with a third party to organize a global innovation policy conference that would focus on these nations and help them learn from each other, including how to develop a stronger IP system.

In an ideal world, WIPO and WTO would take on this type of cooperation and engagement because of their broad membership and technical expertise. But due to institutional and ideological reasons, both organizations are inherently limited in what they can do. WIPO does (and can continue to) play a constructive role in providing technical advice and capacity building, on request, to member states on intellectual property laws and other issues. While this work has largely escaped critique, the ideological opposition that has come to define the debate on intellectual property at both organizations largely stops or stymies deliberations around new IP rules and enforcement, or expanded programs of engagement and cooperation.

Increasing Funding for Targeted Technical Assistance and Capacity Building

The world’s leading innovative countries need to support their case for renewed emphasis on IP and innovation by providing new or higher levels of targeted funding to help developing countries that are genuinely committed to improving their economies’ ability to develop, use, and administer

intellectual property. WIPO’s technical assistance portfolio is a prime vehicle for renewed funding and activity given its work on patents, trademarks, industrial designs, geographic indications, and copyrights. The WIPO technical assistance work focuses on three main areas of activities: national IP strategies, policy and legislative advice, and IP office business solutions.¹⁶⁶

WIPO has long-term relationships with a number of key donor countries through its Funds in Trust (FIT) program, wherein they provide developing countries and countries with economies in transition FITs for human capacity building projects and technical assistance. Donors often use FITs to target programs for specific issues, countries, and regions of interest. Some of the world’s leading innovation nations provide significant funds for WIPO’s FIT program, while others are clearly absent (see Figure 2). For 2018–2019, Australia, China, France, Italy, Japan, Mexico, Portugal, Korea, and Spain all contributed resources to the FIT. There are some obvious omissions from the list of FIT donors, such as the United States, Germany, Norway, and Sweden. If the United States wants to be a global leader in trade and innovation, and wants others to follow in its footsteps, it is vital that America contributes to the program as well. The USPTO contributed 63,000 swiss francs (approximately \$61,000 at the time) in 2017.

Figure 2: Amount Contributed by Developed Countries to the WIPO Funds-in-Trust Program¹⁶⁷

Country	Amount Contributed (US \$)
Japan	\$17,400,000
Korea	\$4,350,000
France	\$1,000,000
China	\$748,000
Australia	\$664,000
Spain	\$440,000
Italy	\$368,000
Mexico	\$144,000
Portugal	\$63,800
United States	0

For example, Australia uses its FIT to improve IP and innovation systems in the Asia-Pacific region. The fund was established in 2012 through a \$2 million AUD contribution from the Australian government funded under Australia’s multilateral “Aid for Trade” program. A further contribution of \$3 million AUD was made in 2015 to continue to advance WIPO’s Development Agenda through

the delivery of technical assistance.¹⁶⁸ Meanwhile, Japan has long used FIT to provide a range of technical assistance and capacity building to developing countries in the Asia-Pacific and Africa.¹⁶⁹

The world's leading innovation countries should evaluate their bilateral development programs relating to IP and their approach to multilateral mechanisms such as the FIT at WIPO to see where they can amplify their efforts. One aspect of this would be for developed countries to contribute to a global fund to further support the program. Countries could pool their funds to target research in specific topics or regions (much like FIT donors get WIPO to provide technical assistance on particular issues in particular regions). As with other international development-focused programs, donor countries could build assistance into aid programs and resources. This effort certainly should not be the primary responsibility of any one country, but the United States and other developed countries have the ability to contribute to the FIT to make a global Established (previously Experimental) Program to Stimulate Competitive Research (EPSCOR) a reality, further driving science, technology research, and IP globally.

Proposal for a Global Program to Support Scientific Research in Developing Countries

A targeted program that supports well-justified and supported scientific research activity in developing countries would offer a valuable and productive tool for policymakers to improve their domestic capacity to engage in innovative activity and develop and use intellectual property. The existing U.S. program EPSCOR provides a model that relevant international institutions and leading donor countries (as well as private firms, potentially) could use in working together to support promising centers of research in the developing world, thereby improving their ability to compete for other research funds and conduct increasingly advanced research activities. A global EPSCOR-like program would demonstrate the international community's commitment to science and technology innovation research in the less-developed parts of the world. However, at the heart of such a program would be a demonstrated commitment to the protection of intellectual property.

The U.S. Congress established EPSCOR at the National Science Foundation (NSF) in 1978 to address congressional concerns about an “undue concentration” of federal R&D funding in certain U.S. states. The program is designed to help institutions in eligible states build infrastructure, research capabilities, and training and human resource capacities to enable them to compete more successfully for open federal research and development-funding awards. Eligibility for NSF EPSCOR funding is limited to states (including some territories and the District of Columbia) that received 0.75 percent or less of total NSF research and related activities funds over the most recent three-year period.¹⁷⁰ EPSCOR is a proven, successful model four other U.S. government agencies have replicated as part of efforts to encourage research in specific areas across the United States, including the Department of Energy, National Aeronautics and Space Administration, U.S. Department of Agriculture, and the National Institutes of Health. EPSCOR programs were also previously active at the Environmental Protection Agency and the Department of Defense. In 1979, EPSCOR received about \$1 million in funding. In 2015, it and EPSCOR-like programs at other agencies received a collective annual program budget of over \$500 million.¹⁷¹

Submitting a proposal to the United States' EPSCOR program involves a number of steps and stakeholders, in part, to assure they are well-developed. EPSCOR proposal evaluations follow the merit-based, peer-review process used for the vast majority of NSF's competitive awards. Each relevant U.S. state sets up an EPSCOR body, which tends to involve local researchers, universities, and institutions, to solicit and develop research proposals to submit to the central funding body within NSF (or the other U.S. government agencies). There are two primary review processes. The first option is for the local program to be divided up by region, with each participating state or group of states soliciting proposals from local researchers, and then requesting money from the central funding body (such as NSF). The second option is for proposals to be submitted directly to a review board based on the area of research involved, which entails multiple review boards composed of qualified academic, government, and industry experts. In either case, the review board has the power to approve, reject, or solicit research proposals for support and funding.

A global EPSCOR could be funded through a number of different mechanisms and stakeholders. The institutional framework for this program could be a specialized program under WIPO, given its relationship with key donors and its mission being "to lead the development of a balanced and effective international IP system that enables innovation and creativity for the benefit of all."¹⁷² Donors could fund this program through an additional FIT arrangement specifically made to support such a global EPSCOR. Just as EPSCOR started under NSF and extended to other specific agencies, so could a global EPSCOR, such as with health-specific programs (managed by WHO) and environment-specific issues (managed by UN Environment).

Crucial to a global EPSCOR would be a transparent process, an expert review board, and clear rules for country eligibility and project criteria. Only countries with a proven track record and commitment to protecting and supporting intellectual property would be eligible—not scofflaw countries that use policy to undermine intellectual property, such as through compulsory licenses or forced technology transfers. The program should be open to the countries that have taken clear steps to improve their domestic policy framework, IP enforcement, and research capacity, such as through WIPO technical assistance and other mechanisms.

CONCLUSION

Just as post-World War II trade agreements aimed at facilitating access to foreign markets for physical goods in a deliberate effort to maximize the gains from comparative and competitive advantage, so would the approach outlined in this paper seek to do this for services and knowledge-based goods, but with the aim of maximizing innovation. However, there is nothing inevitable about the process of countries pursuing ever-closer economic integration or working to address modern barriers to trade and innovation.

Policymakers face a similar challenge in deciding what policies they should enact to give their workers and firms the best opportunity to thrive. IP-based innovation should be a key focal point in the process. As part of this, countries need to recognize that they can support their own ability to

innovate and compete in new technology without undermining the ability of others to successfully compete and contribute to the world's overall ability to drive innovation. These goals are not mutually exclusive.

Furthermore, as it relates to the traditional dichotomy that still permeates the ideological opposition to intellectual property at the international level, it is not about "North vs. South" anymore, it is about whether one lives in a country whose policymakers understand that stronger intellectual property rights are beneficial for innovation and economic growth. Recognizing this, countries need to adjust their traditional pursuit of economic policy, including intellectual property, at the international level, and pursue a new approach, as the costs of the status quo (in terms of the rules set by TRIPS) and stasis (in terms of new rules and debates) will only continue to rise as the gap between these rules and modern technology and business practices grows.

The ideas outlined in this report make the case for the world's top innovators to lead the charge in shaping a new agenda, and explain how they can achieve this. The ideas are based on some degree of continuity with current trade policies and institutions, and to a degree on new ones. At its heart, the strategy recognizes that leading countries need to take charge in order to break through the stalemate at the multilateral level, and to not allow opponents' ideological anchoring to hold back efforts to build an international framework for intellectual property that better supports global innovation.

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