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Ensuring the Trans-Pacific Partnership Becomes a Gold-Standard Trade Agreement

BY STEPHEN J. EZELL | AUGUST 2012

Negotiators must continue to focus foremost on crafting an agreement capable of serving as a model for regional integration throughout the Asia-Pacific region and as a foundation upon which a stronger set of global trade rules can be built.

The fourteenth round of negotiations toward the Trans-Pacific Partnership (TPP) Agreement begins in September 2012. The United States is doing the right thing in pursuing deeper economic and trade integration with key Asia-Pacific partners; but the effort will only be worth it if it concludes with a gold-standard trade agreement that sets the standard for future trade deals the United States enters into.

The TPP involves 11 Asia-Pacific region countries—Australia, Brunei, Canada, Chile, Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam, and the United States[1]—that have voluntarily come together to deepen economic integration and collaboration across the Asia-Pacific region by crafting a comprehensive, high-standard free trade agreement.[2] The TPP seeks to represent a model free trade agreement that can serve as a platform for broader regional integration by holding the potential to enroll additional partner countries, as evidenced by the fact that both Canada and Mexico have joined TPP negotiations just in the past year. U.S. trade with this region is vitally important, as TPP-member countries account for 34 percent of U.S. trade, while Asia-Pacific Economic Cooperation (APEC) countries account for 63 percent of U.S. trade.[3]

But while the TPP has the potential to be a model 21st century free trade agreement, it will only become so if it both includes and holds the nations that sign it to the very highest standards, including those regarding intellectual property rights (IPR) protection; liberalized trade in services; transparency and openness in government procurement practices; restrictions on preferential treatment toward state-owned enterprises (SOEs); elimination of a host of non-tariff barriers (NTBs), including barriers to foreign direct investment (FDI); and at least equal, if not greater, emphasis on enforcement as on market access.[4] If the TPP is to become more than just another trade agreement for countries to

join that they then proceed to ignore the parts they don't like, the countries participating must fully renounce mercantilist practices—such as discriminatory government procurement practices, standards or currency manipulation, imposition of NTBs, inadequate protection of IP rights, etc.—and truly open their economies to market-based trade.

As this report—which updates the Information Technology and Innovation Foundation's (ITIF's) May 2011 report, *Gold Standard or WTO-Lite? Why the Trans-Pacific Partnership Must Be a True 21st Century Trade Agreement*—documents, a number of significant outstanding issues remain to be negotiated and successfully concluded, especially those regarding IPR protection and enforcement as well as market access rights, if the TPP is to be regarded as a true 21st century trade agreement. Moreover, the past year has seen insufficient, albeit some, progress by TPP parties in removing trade barriers. For instance, six TPP parties remain on the United States Trade Representative's (USTR's) Special 301 Watch or Priority Watch Lists, which identify countries that provide inadequate intellectual property rights protections, signaling that significant intellectual property protection issues persist among TPP countries. Only two other TPP parties (besides the United States) have joined the Government Procurement Agreement (GPA). Significant barriers to foreign direct investment, especially in the telecommunications sector, remain in many TPP countries. In fact, a comparison of USTR's *2011* and *2012 National Trade Estimate Reports on Foreign Trade Barriers*—which documents countries' significant barriers to trade, whether they are consistent or inconsistent with existing international trade rules—reveals some improvement over the past year but more so the persistence of the majority of the previously documented trade barriers among TPP partners.

Ultimately, it would be a mistake for the United States to enter into a sub-standard TPP that offers only weak IP protections or that permits countries to maintain mercantilist practices; doing so would in fact be far worse than not joining the agreement.

While the United States has expressed urgency in completing the TPP, negotiators must continue to focus foremost on crafting an agreement capable of serving as a model for regional integration throughout Asia and the Pacific and as a foundation upon which a stronger set of global trade rules can be built. Given the ramifications, both for integration of the world's most economically dynamic region and for the trading system globally, the United States should seize the opportunity to do something new and groundbreaking with the TPP: develop a gold-standard trade agreement, not a bronze one, and insist that the countries that join it adhere to the very highest standards and thoroughly eschew mercantilist practices. Ultimately, it would be a mistake for the United States to enter into a sub-standard TPP that offers only weak IP protections or that permits countries to maintain their mercantilist practices; doing so would in fact be far worse than not joining the agreement.

This report examines several outstanding issues in TPP negotiations as well as the state of performance of TPP parties regarding intellectual property protection, services trade liberalization, openness to foreign direct investment and market access, open and transparent government procurement practices, non-preferential treatment of state-owned enterprises, and conventional tariff reductions.

Protecting Intellectual Property Rights in the TPP

TPP negotiators have made considerable progress over the prior 13 negotiating rounds in shaping the agreement, yet a number of complex issues remain, particularly those relating to the IPR provisions of the agreement. The outstanding IPR challenges include a range of important issues from protections for patents, copyrights, and trade secrets; to the protection of encrypted signals (e.g., the regulation of cryptography); to protections for biopharmaceutical products.[5] As the United States' negotiators move closer to finalizing the TPP, it is imperative that they seek to secure the highest standards of intellectual property rights protection, including on issues such as protecting trade secrets and providing 12 years of data exclusivity protection for novel biologic medicines. Doing so is important because securing strong IPR rights is in the interest of the United States, of the partner TPP member countries, and even of the broader world economy.

The combination of expanded free trade in a context of strong intellectual property rights is a powerful driver of innovation that spurs development of novel products and services.

Recognition of intellectual property rights is vital if global trade, foreign direct investment, and innovation are to thrive. Global innovation is maximized when intellectual property rights are adequately protected; but without adequate intellectual property protections, there will be less innovation overall and this hurts all nations.[6] Intellectual property rights represent a grand bargain. In exchange for receiving exclusive rights for a limited period of time, innovators are required to disclose their knowledge, as opposed to keeping it secret, and this creates knowledge spillovers that help others to innovate. The spillover effects to society from such innovative activity are tremendous, as a number of studies have found that the rate of return to society from corporate research and development (R&D) and innovation activities is at least twice the returns that the company itself receives.[7] But by allowing innovators to capture an adequate portion of the benefits of their innovative activity, intellectual property rights endow innovators with the resources (and incentive) to pursue the next generation of innovative activities, engendering a virtuous cycle of innovation.[8] This holds especially true for high-tech industries, such as the biopharmaceutical sector, which demonstrates one of the highest rates of R&D intensity (R&D as a percentage of sales) of any industry.[9] This means that the profits earned from one generation of biomedical innovation sow the seeds of investment in the next generation of biomedical innovation. But without adequate intellectual property protection, private investors would never find it viable to fund advanced research, because lower-cost copiers would be in a position to undercut the legitimate prices (and profits) of innovators even while still generating substantial profits on their own.[10] And, of course, this cycle only lasts once. Copiers can copy today's technology, but if the incentives to invest in tomorrow's technology are not there, there will be less to copy in the future, causing innovation—and progress—to stagnate.

Just as strong intellectual property rights encourage innovation, so too does an increase in access to open new markets for global trade. Open markets benefit innovative firms by increasing the size of the potential market over which a firm can leverage its innovation (e.g., economies of scale). By being able to earn a return on investment and gain profits from a larger global marketplace, innovative enterprises are better positioned to reinvest revenues in future generations of products, processes, and technologies that continue to push forward the global technology frontier, producing benefits for citizens in all economies.[11] This is especially important for innovation-based industries which normally

have relatively low marginal costs of production and high fixed costs due to the need for large investments in R&D (e.g., semiconductors, software, movies and music, biotechnology, pharmaceuticals, etc.) since larger markets can be served with overall declining average costs.[12] Thus, the combination of expanded free trade in a context of strong intellectual property rights is a powerful driver of innovation that spurs development of novel products and services—from life-saving biologics to life-enhancing mobile devices—benefitting citizens worldwide. Protection and enforcement of intellectual property rights therefore serves as the foundation for trade in high-tech products and services and for promoting innovation within TPP countries. This is why both the TPP and the IP rights it ultimately affords to innovators are so vitally important.

State of IPR Protection among TPP Parties

Six TPP parties remain on USTR's Special 301 Watch or Priority Watch for failure to enact adequate IPR protections.

Unfortunately, several of the current and candidate TPP signatories have spotty IP protection records. The United States Trade Representative Office's *Special 301 Report* places countries that do not provide "adequate and effective" protection for U.S. intellectual property rights holders on either a Watch List or Priority Watch List. (Countries placed on the Priority Watch List are the focus of increased bilateral attention concerning the problem areas.) USTR's 2012 *Special 301 Report* places four TPP countries—Brunei, Mexico, Peru, and Vietnam—on the Special 301 Watch List, and two more—Canada and Chile—on the Priority Watch List, as Table 1 shows.[13] Unfortunately, the only change from the 2011 *Special 301 Report* was the removal of Malaysia from the Watch List; the six other TPP parties on the 2011 report remained on the 2012 report. If the TPP is to truly be a 21st century trade agreement, it can't include countries, or at least can't permit the practices of countries, consistently finding themselves on the United States' Special 301 Watch List for failure to adequately enforce intellectual property rights. If these countries wish to join the TPP, they need to get off the Watch List and stay off.

Status	TPP Party	Status	TPP Party
Watch List	Brunei	**Priority Watch List**	Canada
	Mexico		Chile
	Peru		
	Vietnam		

Table 1: TPP Parties' Statuses on USTR's Special 301 Watch or Priority Watch List[14]

For its part, Chile remains on the 2012 Priority Watch List because it has yet to adequately implement "an effective system to address patent issues expeditiously in connection with applications to market pharmaceutical products, to implement protections against the circumvention of technological protection measures, to implement protection for encrypted satellite signals, and to ensure that administrative and judicial procedures and deterrent remedies are made available to rights holders."[15] Canada remains on the Priority Watch List subject to review if Canada enacts long-awaited copyright legislation and if it strengthens its border enforcement efforts.[16] Mexico is on USTR's Watch List because "serious concerns remain, including with respect to the widespread availability of pirated

and counterfeit goods in Mexico."[17] Moreover, Mexico has "failed to implement its longstanding NAFTA obligations to provide an effective system for protecting against the unfair commercial use, as well as unauthorized disclosure, of undisclosed test or other data generated to obtain marketing approval for pharmaceutical products."[18] While Peru has enacted laws to criminalize the sale of counterfeit medicines, "the United States remains concerned about the widespread availability of counterfeit and pirated products in Peru in general, and notes that Peru needs to devote additional resources for IPR enforcement."[19] Moreover, since entry into force of the US-Peru Trade Promotion Agreement in 2008, Peru has failed to provide data protection for biologics even though the agreement calls for the parties to provide data protection. Vietnam did take steps in 2011 to improve its IP regulatory framework by passing decrees to strengthen copyright protection and border enforcement; however, as USTR notes, "widespread piracy and counterfeiting remains a serious concern, with piracy over the Internet a growing concern and counterfeit goods continu[ing] to be widely available in physical markets as well."[20] USTR's concerns over piracy in Vietnam are warranted because software piracy rates among several TPP parties remain exceptionally high, particularly in Malaysia, Mexico, Chile, Brunei, and Peru, in addition to Vietnam, as Table 2 illustrates. Members of a gold-standard TPP Agreement will need to bring down these software piracy rates significantly.

TPP Party	Unlicensed Software Units as Percentage of Total Software Units
United States	19
New Zealand	22
Australia	23
Canada	27
Singapore	33
Malaysia	55
Mexico	57
Chile	61
Brunei	67
Peru	67
Vietnam	81
TPP Average	**48.6**

Table 2: Software Piracy Rates among TPP Parties[21]

Another way to view the strength of countries' intellectual property protection systems is through the Park Index. While "consistent and comparable characterization of differences in IPRs across countries and over time is formidably difficult," as Iain Cockburn notes, the Park Index is a "pioneering study" that constructed a summary index of national IPRs for 110 countries from 1960 to 2005.[22] The Park Index presents the sum of five separate scores

for: coverage (inventions that are patentable); membership in international treaties; duration of protection; enforcement mechanisms; and restrictions (for example, compulsory licensing in the event that a patented invention is not sufficiently exploited).[23] The Park Index was designed to provide an indicator of the strength of patent protection in countries (though not the overall quality of countries' patent systems).[24] It provides a useful tool for measuring countries' progress at strengthening their IPR systems. The Park Index shows that the United States offers the strongest IPR protections among TPP parties, followed by Canada, and that other TPP parties have significant opportunity to strengthen their IPR regimes. However, it does point to positive movement over the past decade in the strength of IPR regimes in Malaysia, Mexico, Singapore, and Vietnam, although certainly more room for improvement remains.

TPP Party	Park Index (2005)	TPP Party	Park Index (2000)	TPP Party	% Change (2000-2005)
United States	4.88	United States	4.88	Malaysia	14.9
Canada	4.67	Canada	4.67	Mexico	5.4
Chile	4.28	Chile	4.28	Singapore	5.0
Singapore	4.21	Australia	4.17	Vietnam	4.5
Australia	4.17	Singapore	4.01	Australia	-
New Zealand	4.01	New Zealand	4.01	Canada	-
Mexico	3.88	Mexico	3.68	Chile	-
Malaysia	3.48	Peru	3.32	New Zealand	-
Peru	3.32	Malaysia	3.03	Peru	-
Vietnam	3.03	Vietnam	2.90	United States	-
Brunei	N/A	Brunei	N/A	Brunei	N/A
TPP Average	**4.00**	**TPP Average**	**3.90**	**TPP Average**	**7.45**

Table 3: Park Index Rating of Intellectual Property Protections[25]

Robust TPP IPR Protections Are Particularly Important to the United States

Maintaining strong IPR protections is particularly important to the United States because the U.S. economy is more IP-based than that of most other economies around the world. The United States does not specialize in low-cost commodity production where IP is a relatively insignificant factor of production. Moreover, as one of the few nations whose economy is at the production possibility frontier, innovation is the principal way for the U.S. economy to progress. By contrast, the competitive advantage of some TPP parties, such as Mexico, Peru, or Vietnam, tends to be more in low-wage production. If the TPP fails to include strong IPR protections and enforcement mechanisms, then the United States (not to mention Australia, Canada, or New Zealand) would be left with diminished competitive advantage while other countries would have at least two forms thereof: low

wages and access to free IP. The United States isn't going to be competitive on low-wage, low-cost production; it has to be competitive through IP-intensive industries, and a strong trading regime should acknowledge that.

As one of the few nations whose economy is at the production possibility frontier, innovation is the principal way for the U.S. economy to progress.

Indeed, IP-intensive industries are a key source of high-paying U.S. jobs, exports, and overall economic growth. IP-intensive industries directly support 27.1 million U.S. jobs, and indirectly support an additional 12.9 million jobs, meaning that IP-intensive companies support at least 40 million jobs, or 20 percent of all U.S. private sector employment.[26] Moreover, jobs in IP-intensive industries pay 42 percent more than the average U.S. wage.[27] IP-intensive industries exported more than $1 trillion worth of goods and services in 2011, accounting for approximately 74 percent of total U.S. exports that year.[28] In total, IP-intensive industries contribute over $5.1 trillion in economic output, accounting for nearly 35 percent of U.S. GDP in 2010.[29] Consequently, IP theft is extremely damaging to U.S. companies and to the overall U.S. economy. The Department of Commerce finds that theft of U.S. intellectual property tops $250 billion annually.[30] In fact, the U.S. International Trade Commission estimates that, in 2009 alone, Chinese theft of U.S. intellectual property cost almost one million U.S. jobs and caused $48 billion in U.S. economic losses.[33] Given the importance of IP-intensive industries to the U.S. economy, it is vitally important that the TPP include robust intellectual property rights protections.

The innovative biopharmaceutical sector provides an illustrative example of the importance of IP-intensive industries to the U.S. economy. The sector supports more than 7.4 million jobs and contributes $426 billion annually to U.S. GDP.[31] Exports from the U.S. biopharmaceutical industry totaled $49.4 billion in 2010, making it the fourth-largest exporter among IP-intensive industries.[32] The biopharmaceutical industry is one of the most R&D intense in the United States. In 2010, U.S. biopharmaceutical firms' R&D investments totaled $67.4 billion.[33] Measured by R&D expenditures per employee, the U.S. biopharmaceutical sector leads all other U.S. manufacturing industries, investing more than ten times the amount of R&D per employee than the average U.S. manufacturing industry.[34] When R&D is measured as a percentage of sales, the life sciences sector has a higher rate of R&D intensity, at 12.2 percent, than any other American industry except semiconductors.[35] In total, biopharmaceutical firms' investments in the discovery of new medicines accounts for nearly 20 percent of all domestic R&D funded by U.S. businesses, according to the National Science Foundation.[36] This extremely high R&D intensity explains why the biopharmaceutical sector alone accounted for 5 percent of all U.S. patent applications granted in 2009—a rate seven times greater than the sector's contribution to U.S. GDP.[37] Finally, biopharmaceutical (and broader medical) innovation has contributed profoundly to improvements in global human health, benefitting both the developed and developing world. In fact, recent studies have attributed up to half of all welfare gains worldwide during the 20th century to the introductions of new medical knowledge and technologies, including drugs.[38]

Biotechnology represents the future of medicine, with science just beginning to harness the power of biology and new tools such as genome sequencing, proteomics, and recombinant DNA techniques to create breakthrough medical discoveries and therapeutic treatments.[39]

One of the most promising frontiers is biologics. Biologics—such as the medicines Avastin, Herceptin, and Rituxan to treat cancers—are large, complex molecules made from human or animal proteins which are grown in living systems, such as microorganism, plant, or animal cells. Unlike traditional pharmaceutical drugs, which involve smaller molecules that operate largely on the basis of chemical reactions and that work by treating the consequences of a disease, biologics work by blocking diseases earlier in their development, in the immune system. And since they can be tailored to individuals taking the medicine, biologics constitute an important step toward realizing the vision of personalized medicine.[40] But as biologics are large, complex molecules that must be manufactured within living tissues, the resulting protein is unique to the cell lines and the specific process used to produce it, and even slight differences in the manufacturing of a biologic can alter its nature.[41] Therefore, the intellectual property components of a biologic include both the structure of the molecule itself and the process for how to reliably, safely, and consistently manufacture the molecule at scale in living tissues.

The difficulty of developing and manufacturing a biologic is unparalleled in the field of medicine and pharmacology. Developing an innovator biologic therapy is an arduous, risky, and expensive process. For instance, 15 years elapsed between the scientific discovery of the angiogenic growth factor VEGF and Avastin's approval as the first angiogenesis treatment for cancer.[42] For biologics that do complete the approval process, the cost to build specialized manufacturing facilities represents an additional cost beyond R&D costs that can range from $90 million to $450 million or more.[43] Yet the vast majority of biologic medicines never make it to the approval stage. Less than 15 percent of biologics move from initial pre-clinical studies to clinical trials,[44] and the probability of success for those drugs that do reach clinical development is just 30 percent. Given the time, risk, and expense involved in developing biologics, studies find that the break-even time for biologics manufacturers to recover the average cost of development, manufacturing, promotion, and the cost of capital for a representative portfolio of biologics ranges from 12.9 to 16.2 years and averages 14.6 years.[45] However, this long break-even timeframe means that biologics makers have a limited amount of time in which to recoup their investment before their intellectual property rights expire.

And while patents constitute an important form of intellectual property protection for biologics, they are not sufficient to create the environment needed to support large-scale investment in biologic R&D. First, because biologics are structurally complex molecules which are closely tied to a specific manufacturing process, many biologic patents are process patents or relatively narrowly constructed product patents. This means that biologics patents are susceptible to being circumvented by small changes to the molecule or to the process of making it. As Kathleen Kelleher notes, "The complexity of most biologics may allow a biogeneric manufacturer to design around an innovator's patents, but still secure regulatory approval through its "biosimilarity" to the pioneer (original) biologic."[46] Because patents fail to provide the same certainty for biologics as they do for traditional pharmaceutical drugs, they do not necessarily assure that biologics will enjoy the same length of time on market before facing competition from generics.[47] Second, patents do not safeguard the intellectual property involved in developing the extensive clinical trial data and results required to prove the safety and efficacy of a biopharmaceutical product.

For instance, the safety and efficacy data that must be provided by innovator companies to gain the U.S. Food and Drug Administration's approval of a biologic can take more than a decade to compile and requires an average of more than $1.2 billion in pre-approval R&D.

For these reasons, biologics constitute unique products that merit high levels of intellectual property protection. This has been recognized in U.S. law through the bipartisan Biologics Price Competition and Innovation Act (BPCIA), which became law as part of the Patient Protection and Affordable Care Act, and which affords 12 years of data exclusivity on novel biologic medicines. Data exclusivity protects the actual investment needed to prove the safety and efficacy of a biopharmaceutical product, ensuring that the costly clinical trial results and data developed by the biologics' innovator during the drug approval process cannot be used (during the 12-year period ensuing drug approval) by competitors seeking to secure approval for a third-party product.[48] The United States' TPP negotiators should ensure that the TPP includes data protection provisions reflecting those embodied in U.S. laws and standards.

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U.S. policymakers enshrined 12 years of data exclusivity for biologics in recognition of the need to maintain adequate incentives for biologics makers to invest in uncertain R&D activities while at the same time making room for competition by creating a path for biosimilar manufacturers to bring biosimilars to market. As the National Academies of Science and Engineering wrote in its *Rising Above the Gathering Storm* report, "It is critical that a balance be struck in finding an appropriate period of exclusivity such that innovation is stimulated and sustained but patients have access to generic-drug-pricing structures."[49] The National Academies report recommended this data exclusivity period should be at least 10 to 11 years and further suggested that "research should be taken to determine whether this period is adequate, given the complexity and length of drug development today."[50] Subsequent research, such as that performed by Duke University economist Henry Grabowski, has found that a representative biologic would not recoup its R&D costs with a data exclusivity period of less than 12 to 14 years.[51]

If the Trans-Pacific Partnership Agreement fails to include 12 years of data exclusivity for biologics, then U.S. biopharmaceutical firms will both lose protections already granted under U.S. law and be placed at a competitive disadvantage to foreign, particularly European, biologics manufacturers. That's because the European Union (EU) has enacted a 10-year data exclusivity period for both new chemical entities and new biological entities before generic copies or biosimilars can be approved.[52] (The EU provides an eleventh year of data exclusivity for significant new indications that are approved within the first 8 years after approval.)[53]

In other words, the United States would become a less attractive location for biopharmaceutical R&D, which would damage the competitiveness of a U.S. biopharmaceutical industry whose global leadership is already under threat, as starkly documented by two reports released in May 2012, ITIF's *Leadership in Decline: Assessing U.S. International Competitiveness in Biomedical Research* and Battelle's *The Biopharmaceutical Research and Development Enterprise: Growth Platforms for Economies Around the World.* Both reports note that an increasing number of countries are focusing

on the biopharmaceutical sector in their economic development, innovation, and science and technology strategies. ITIF's report notes that an increasing number of nations are outinvesting the United States as a share of GDP in biomedical research.[54] It finds that U.S. venture capital (VC) investment in biotechnology has fallen by 20 percent since 2007, even as biotechnology venture capital investment in China increased by 319 percent from 2009 to 2010 alone.[55] Battelle's report confirms ITIF's analysis, finding that the U.S. environment for biotechnology innovation is showing signs of relative weakening compared with other nations in such areas as net output, exports, publications, and patents.[56] The message from these reports is that the United States cannot take its leadership in biotechnology for granted. It must both continue to invest heavily in biomedical research and ensure it enacts and sustains a wide range of public policies—including those regarding tax, talent, and intellectual property issues—to support robust investment in biomedical innovation. Ultimately, if policymakers wish to stimulate innovation in biologic medicine, reducing the already scant potential of reward for developing a biologic is not a persuasive inducement.

If TPP-member countries wish to be those in which innovation flourishes, then they should seek to secure strong intellectual property rights protections.

Robust TPP IPR Protections Benefit All TPP Parties, and the World

The United States' TPP negotiators should insist on the strongest IPR protections not only because it is in the United States' interests, but also because doing so is in partner TPP countries' interests, and indeed those of the world. If TPP-member countries wish to be those in which innovation flourishes, then they should seek to secure strong intellectual property rights protections.

Indeed, academic evidence shows that there is a strong relationship between the strength of an economy's (in this case, a region's) intellectual property protections and the extent to which it participates in trade, foreign direct investment, and technology transfer. In particular, direct investment in new technology areas such as biotechnology, semiconductors, and computer software is significantly influenced by IPR policy environments.[57] For example, the United Nations Commission on Transnational Corporations (UNCTC) has found that weak IP rights reduce pharmaceutical and software investment.[58] Weak IPR rights reduce flows of all types of commercial activities—trade, foreign direct investment, and technology transfer—regardless of an economy's level of economic development.[59] By contrast, strengthening of intellectual property rights has been connected with both increased inflows of foreign direct investment and trade in high technology products.[60] In particular, stronger IPRs in developing economies are associated with an increase of technology-intensive FDI.[61] Branstetter, Fisman, and Foley find that stricter patent laws increase FDI, which increases economic growth more than the imitation growth potential of less robust patent laws.[62]

Stronger intellectual property rights also lead to increased levels of R&D and innovation, in developed and developing countries alike. A number of studies have found that R&D/GDP ratios are positively related to the strength of patent rights.[63] Cavazos Cepeda et al. find that for every 1 percent increase in the level of protection of IPRs in an economy (as measured by improvements to an economy's score in the Patent Rights Index), there was on average a 0.7 percent increase in the domestic level of R&D. Likewise, a 1 percent increase in copyright protection is associated with a 3.3 percent increase in domestic R&D

and a 1 percent increase in trademark protection is associated with a 1.4 percent increase in domestic R&D.[64] Ultimately, as a definitive 2010 Organization for Economic Cooperation and Development (OECD) review of the effects of intellectual property rights protections on developing economies found, "the results point to a tendency for IPR reform to deliver positive economic results."[65]

There is further evidence that changes in a countries' IPR regime may also be associated with a country's greater involvement in the manufacturing and trade of pharmaceuticals and other knowledge-intensive goods.[66] R&D activity in pharmaceuticals has historically been concentrated in countries with strong and enforceable intellectual property laws and has only just begun to grow in countries that have recently adopted OECD-style patent systems under the provisions of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement.[67] For example, Delgado, Kyle, and McGahan find that global trade in pharmaceuticals and related products has increased since the passage of the TRIPS agreement, relative to sectors identified as being less affected by its provisions.[68] Kyle and McGahan find evidence of more research on diseases in TRIPS-compliant countries as patent protections were implemented than on diseases in non-TRIPS-compliant countries. They also find that patent protection may foster the development of local firms in developing countries as well as partnerships between local and foreign firms from wealthier countries, thus promoting technology transfer and the dissemination of research.[69] Likewise, Ryan, in a study of biomedical innovations and patent reform in Brazil, finds that patents provided incentives for biomedical technology entrepreneurs to make risky investments into innovation and facilitated technology markets among public-private technology innovation networks.[70] Thus, stronger IPR provisions appear to be important drivers of biomedical R&D. If TPP-member countries such as Chile, Malaysia, Mexico, Peru, Vietnam, and others wish to take advantage of their tremendous natural biodiversity and spur development of indigenous biotechnology industries (in many cases moving beyond being solely generics manufacturers) just as Brazil has done, they should seek to secure robust IPR protections for biomedical innovation as part of the TPP.

In fact, there is evidence of rapid growth in biotechnology in many TPP countries. As Table 4 and Figure 1 show, the growth rate in biotechnology patents granted from 2004 to 2009 in Malaysia and Chile exceeded 50 percent and topped 13 percent in Singapore. These growth rates are significantly ahead of the United States', which actually experienced a 3 percent decline in biotechnology patents from 2004 to 2009. And while certainly the United States, given its sheer size, leads TPP parties in the number of biotechnology patents granted, when assessed as a size of their economies, Singapore actually has the highest level of biotechnology patent-intensity, followed by New Zealand and the United States at roughly comparable levels, as Table 5 shows.

TPP Party	% Growth Rate (2004-2009)	% Growth Rate (1999-2009)
Malaysia	72.6	53.7
Chile	55.5	40.8
Singapore	13.8	16.7
New Zealand	-0.1	-0.9
Australia	-1.1	0.4
Mexico	-1.1	6.8
Canada	-2.6	-3.7
United States	-3.0	-2.5
Brunei	N/A	N/A
Peru	N/A	N/A
Vietnam	N/A	N/A
TPP Average	**16.8**	**13.9**

Table 4: Growth Rates in Biotechnology Patents[71]

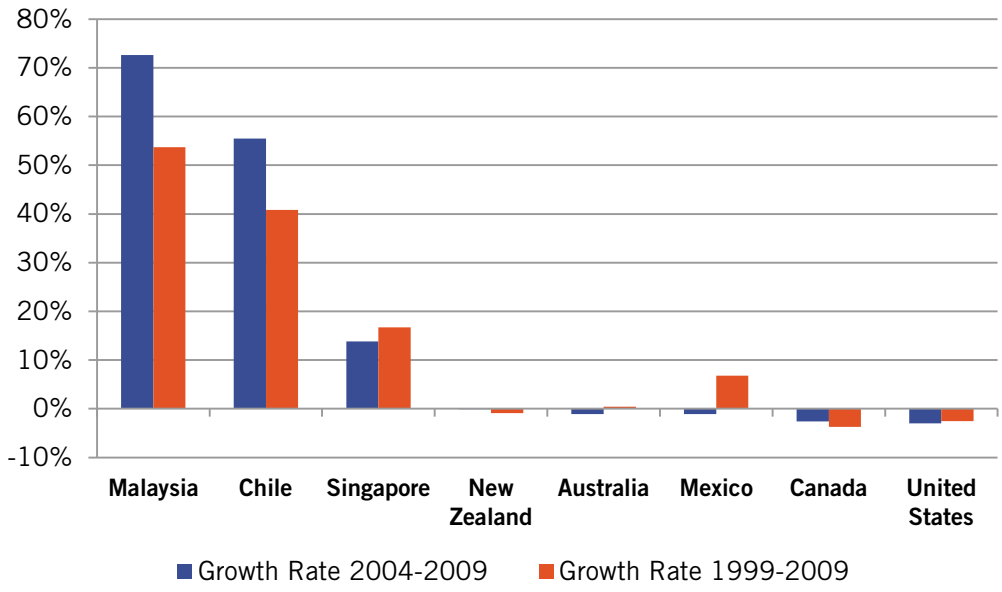

Figure 1: Growth Rates in Biotechnology Patents among Select TPP Parties

To be sure, it's important that citizens worldwide have access to affordable medicines. In this regard, it's worth noting that 98 percent of the drugs on the World Health Organization's (WHO) Essential Medicines List are already off-patent, including ones treating the largest causes of mortality in developing counties, and also that the Doha Declaration put in place measures to provide access to medicines in case of national health

emergencies.[72] But it's also critical that medicines exist to treat a wide variety of diseases and conditions; and that requires substantial investment in biopharmaceutical R&D. If countries wish to stimulate innovation in potentially groundbreaking biologic medicines that hold the promise to tackle some of the most intractable diseases, including cancer and Alzheimer's, it's vital they structure a system that affords innovators fair incentives to invest in biological R&D while at the same time ensuring reasonable patient access, in developed and developing countries alike, to biologic medicines. As ITIF notes in *Innovation Economics: The Race for Global Advantage*, innovation is in part about balancing the interests of current and future generations.[73] A nation focused only on the present generation would not invest in the future (and conversely a nation focused only on the future would not invest in the present). And so it is with medicines; while we must be concerned with addressing current challenges with the medicines available today, we must also be concerned with continuing to invest in solutions to diseases and conditions which have not yet been solved. Doing so requires preserving sufficient incentives to invest in biomedical research. As the report *Wealth, Health and International Trade in the 21st Century* concludes, "Conferring robust intellectual property rights is, in the pharmaceutical and other technological-development contexts, in the global public's long-term interests. Without adequate mechanisms for directly and indirectly securing the private and public funding of medicines and vaccines, research and development communities across the world will lose future benefits that would far outweigh the development costs involved."[74]

TPP Party	Biotech Patents per Billion US$, GDP (2009)
Singapore	0.47
United States	0.28
New Zealand	0.27
Australia	0.18
Canada	0.17
Malaysia	0.10
Chile	0.07
Mexico	0.01
Peru	0.00
Brunei	N/A
Vietnam	N/A
TPP Average	**0.17**

Table 5: TPP Party Biotechnology Patents Per GDP, 2009[75]

Trade Secret Provisions in the TPP

Trade secrets, or "know how," are critical to the competitiveness of high-tech companies from many TPP countries across sectors as diverse as complex manufacturing, clean energy, defense, biotech, information and communications technologies (ICT), and food and beverages. In fact, one estimate placed the value of trade secrets owned by U.S. companies at $5 trillion.[76] Trade secrets are especially important to start-up companies and small business enterprises because, unlike patents, they can be protected without registration or formalities. But once disclosed, trade secrets lose all their value to their owners. So they must be carefully protected, especially as competitors are eager to get access to them and some foreign governments are becoming adept at forcing the disclosure of sensitive information to advance national policy goals.

Unfortunately, the theft of trade secrets—sometimes undertaken as part of state-sponsored industrial espionage—has been increasing rapidly. For instance, German authorities documented a 40 percent increase in industrial espionage cases between 2009 and 2010.[77] This increase in trade secret theft is in part due to the ease of information gathering and sharing through new communication technologies, but also due to the greater motivation of nations like China that seek to become technology leaders.[78] To address this issue, the TPP should require parties to criminalize the willful theft of trade secrets.[79]

Further, some governments have conditioned the approval of FDI, joint ventures, or the sale of certain ICT products on the disclosure of confidential information, including trade secrets. Information required for submission to authorities as part of these countries' product certification or licensing programs (which typically lack robust procedures to protect the information) often includes source code, product content, and design information—all highly proprietary "know how." Accordingly, the TPP Agreement should include language that prevents TPP parties from pressuring foreign companies to "disclose sensitive information as a requirement for setting up a joint venture" or "as a condition of investing."[80] Further, the TPP should build on the product certification provisions included in Section 9 of the Korea-United States Trade Agreement (KORUS) and Article 5 of the WTO Agreement on Technical Barriers to Trade by placing the burden on TPP parties to clearly and thoroughly justify the submission of trade secrets as part of their product approval requirements. This approach would minimize unnecessary demands for trade secrets as a condition of market access, while ensuring that any justified demands are coupled with the right of affected business entities to promptly appeal the request for such information to a separate regulatory body.

Non-tariff Barriers, Services Trade Liberalization, and Foreign Direct Investment Restrictions

While countries worldwide have made progress in reducing tariffs in the wake of the Uruguay Round of global trade liberalization, the effect of those decreases has been tempered by a corresponding rise in non-tariff barriers. In fact, though they are difficult to measure, it is likely that non-tariff barriers now have a greater detrimental impact on world trade than tariffs do.[81] Non-tariff barriers refer to measures other than tariffs which result in a distortion to trade, including quantitative restrictions, price controls, subsidies, non-tariff charges, unwarranted customs procedures, currency manipulation, and the

discriminatory application of technical standards. Other NTBs that seek to restrict trade include controls on foreign direct investment; forced technology or intellectual property transfer as a condition of market access; forced local production as a condition of market access; discriminatory rules and regulations, including those pertaining to health and safety standards; weak intellectual property protection; and unfair import licensing requirements.[82] Thus, NTBs are particularly deleterious to market-based trade. Accordingly, the TPP should seek wherever possible to eliminate discriminatory standards, discriminatory, industry-specific market distorting subsidies, regulatory distortions, and other non-tariff barriers that prevent effective access for U.S. goods and services in foreign markets. Among TPP parties, barriers to trade in services, barriers to foreign direct investment/ownership, and barriers to trade in information and communications technologies (ICTs) constitute three of the most significant NTBs that should be addressed as part of a gold-standard TPP Agreement.

Barriers to Services Trade among TPP Parties

It is likely that non-tariff barriers now have a greater detrimental impact on world trade than tariffs do.

Services account for an increasing share of economies' employment, GDP, and economic growth. In fact, on average among APEC economies, services now account for twice as large a share of GDP than manufacturing industries. Unfortunately, services sector restrictions remain with regard to several sectors in TPP countries, notably in financial services, telecommunication services, transportation services, and audiovisual services.[83] In fact, the *2012 National Trade Estimate Report on Foreign Trade Barriers* (like the *2011 Trade Estimate* report before it) notes that almost every would-be U.S. TPP partner places significant barriers on trade in services. For example, Australia mandates that at least 80 percent of the total advertising time screened in a year from 6:00 a.m. to midnight be Australian-produced.[84] Malaysia's restrictions on foreign accounting, architectural, audiovisual and broadcasting, financial, legal, engineering, and retail trade services remain. For instance, foreign lawyers may not practice Malaysian law, nor may they affiliate with local firms or use the name of an international firm, and foreign architectural firms can only operate in Malaysia as joint venture participants.[85] In Mexico, foreign companies must form joint ventures with Mexican partners to receive authorizations (called "concessions" under Mexican law) to provide satellite-based telecommunication services—a policy that "serves as a barrier to market entry for new competitors" and that "may make many services economically infeasible."[86] New Zealand's and Peru's barriers to competition in wireless communications through high mobile termination rates remain.[87] Singapore continues not to permit foreign law firms to practice Singapore law or litigate in local courts unless specifically approved to do so and continues to impose barriers on foreign banks' use of local ATM networks.[88] While Vietnam did change its law in 2012 to permit foreign ownership of express delivery services, it continues to restrict foreign investment in cinema construction and operation and it subjects films to censorship before public viewing—a process it operates without transparency or the right of appeal.[89]

Table 6 shows TPP countries' scores on the GATS (General Agreement on Trade in Services) Commitments Restrictiveness Index, which measures the extent of GATS commitments for all 155 services sub-sectors as classified by the GATS. Economies are scored from 0 (unbound or no commitments) to 100 (completely liberalized). The United

States significantly leads TPP parties in services trade liberalization, followed by Australia, New Zealand, and Canada. Several countries, including Chile and Brunei, record very low scores on the GATS Commitments Restrictiveness Index.

This is unfortunate, because economies that impose restrictions on trade in services (often in the interest of protecting certain specific services industries) do a disservice to enterprises throughout the rest of their economy by making it more expensive and difficult to access best-of-breed services that may be available from foreign services providers. Moreover, economies that preclude or limit trade in services miss out on the dynamic innovation-promoting effects that trade engenders by promoting competition among enterprises. Economies that shield their domestic services sectors from foreign competition will only experience lower rates of innovation in their services sectors, and thus lower rates of productivity and economic growth across the economy as a whole.[90]

The extensive limitations on trade in services documented here are not consonant with the spirit of trade liberalization envisioned by the Trans-Pacific Partnership and need to be significantly curtailed by partner countries.

TPP Party	GATS Commitments Restrictiveness Index (High Score Best)
United States	65.2
Australia	59.0
New Zealand	52.2
Canada	51.1
Mexico	35.9
Vietnam	30.2
Malaysia	25.4
Peru	24.6
Singapore	22.7
Chile	9.51
Brunei	4.35
TPP Average	**34.6**

Table 6: GATS Commitments Restrictiveness Index, 2009[91]

The extensive limitations on trade in services documented here are not consonant with the spirit of trade liberalization envisioned by the Trans-Pacific Partnership and need to be significantly curtailed by partner countries. A gold-standard TPP Agreement must secure commitments from member countries to significantly liberalize trade across all services sectors, enabling services to be delivered more cost effectively, efficiently, and flexibly across all markets in TPP member countries.

Restrictions on Foreign Direct Investment/Ownership among TPP Parties

A vital component of market access is economies' openness to both inward and outward foreign direct investment. Competitive domestic markets let foreign firms compete in their markets and encourage foreign direct investment.[92] Research shows that FDI can

contribute significantly to regional innovation capacity and economic growth, in part through the transfer of technology and managerial know-how.[93] For example, Dahlman suggests that higher rates of FDI can explain the relatively higher technological growth rates of East Asian economies.[94] Coe, Helpman, and Hoffmeister find that a developing economy's productivity growth is larger the greater its foreign R&D investment.[95] This is in part because multinationals can better attain both economies of scale and scope that enables them to be more productive than domestic-only firms, particularly in small- and mid-sized economies. In other words, FDI builds international linkages and knowledge networks that augment innovation both domestically and around the globe. Therefore, it's essential that economies not only open their borders to inward foreign direct investment, but also that they allow domestic firms to invest overseas.

There are two ways in which economies can stifle FDI. The first, foreign equity restrictions, entails direct controls on foreign ownership. The second way is through domestic laws and regulations that make it difficult for foreign-controlled businesses to operate. Unfortunately, several TPP parties continue to impose substantial restrictions on foreign direct investment/ownership.

Some of the most significant barriers to FDI remain in the telecommunications sector. APEC's May 2011 *Investing Across Borders* report addresses market accessibility in the telecom sector, which can be measured by examining the maximum foreign participation or ownership allowed in a country's telecom sector, as Table 7 shows.[96]

TPP Party	Foreign Equity Ownership Index, Telecommunications
Chile	100.0
New Zealand	100.0
Peru	100.0
Singapore	100.0
United States	100.0
Mexico	74.5
Australia	63.2
Vietnam	50.0
Brunei	49.0
Canada	46.7
Malaysia	39.5
TPP Average	**74.8**

Table 7: Foreign Equity Ownership Index, Telecommunications[97]

While 5 of the 11 TPP parties have fully liberalized telecommunications markets, substantial barriers to foreign equity ownership remain in the other 6 countries. For instance, Canada maintains a 46.7 percent limit on foreign ownership of suppliers of facilities-based telecommunications services, except for submarine cable operations.[98] In fact, of all *OECD* countries, Canada ranks last in its level of telecommunications market liberalization. Elsewhere in the TPP, Australia caps foreign equity interest in Telestra, its largest telecom, at 35 percent, with individual investors only allowed to own up to 5 percent of the company; Malaysia entitles foreign companies to acquire only up to a 30 percent equity stake in facilities-based telecommunications operators; Mexico's Foreign Investment Law limits foreign ownership in the wireline segment to 49 percent; and Vietnam caps foreign ownership of private networks at 70 percent.[99]

TPP Party	Investing Across Sectors (100=Best; 0=Worst)	TPP Party	Starting a Foreign Business (100=Best; 0=Worst)	TPP Party	Arbitrating Commercial Disputes (100=Best; 0=Worst)
Chile	100.0	New Zealand	95.0	Singapore	90.1
New Zealand	100.0	Canada	93.6	Canada	89.5
Peru	99.1	Australia	93.1	New Zealand	82.3
Australia	96.2	Singapore	88.8	Australia	81.7
United States	95.2	United States	81.9	Malaysia	81.1
Singapore	88.6	Peru	70.0	Peru	81.1
Brunei	86.7	Malaysia	69.8	United States	80.7
Canada	81.4	Mexico	69.3	Chile	77.5
Vietnam	68.8	Chile	68.7	Mexico	72.2
Malaysia	67.5	Vietnam	56.8	Vietnam	68.0
Mexico	63.8	Brunei	52.4	Brunei	N/A
TPP Average	**86.1**	**TPP Average**	**76.3**	**TPP Average**	**80.4**

Table 8: Openness to Inward and Outward Foreign Direct Investment[100]

Table 8 ranks TPP parties regarding their broader, economy-wide openness to both inward and outward FDI. Countries' FDI regimes are evaluated across three categories according to the methodology of the global Investing Across Borders project of the World Bank Group. The first category, Investing Across Sectors, corresponds to FDI equity restrictions. The latter two categories correspond to the ease with which foreign nationals can establish and operate businesses. Australia, Canada, New Zealand, Singapore, and the United States generally score highly across the board. Chile and Peru score highly in foreign equity ownership, yet perform less well when it comes to their business environments. Economies that restrict foreign ownership and provide a poor regulatory environment for foreign

enterprises include Malaysia, Mexico, and Vietnam. The TPP Agreement should assiduously seek to remove barriers to inward and outward foreign direct investment among member countries.

Trade in ICT Products and Services among TPP Parties

Information and communications technologies have become a central driver of innovative new services and business models, productivity improvements, and economic growth in both developed and developing economies.[101] ICT has empowered the creation of innovative new business models—many previously fundamentally impossible to execute without ICTs such as the Internet—that have unlocked tremendous value for businesses, customers, and society alike. In fact, ITIF estimates that the annual global economic benefits of the commercial Internet alone equal $2 trillion—more than the global sales of medicine, investment in renewable energy, and government investment in R&D, combined.[102]

Membership in the Information Technology Agreement should be a condition of membership in the TPP.

Status	TPP Party	Status	TPP Party
Signatories	Australia	**Non-Signatories**	Brunei
	Canada		Chile
	Malaysia		Mexico
	New Zealand		
	Peru		
	Singapore		
	United States		
	Vietnam		

Table 9: TPP Parties' Participation in the WTO's Information Technology Agreement[103]

Accordingly, it is imperative that enabling free, market-based trade in ICT products and services be a core tenet of the Trans-Pacific Partnership Agreement. Here, TPP parties should be inspired by the World Trade Organization's Information Technology Agreement (ITA), a novel trade agreement in which participating nations completely removed tariffs on eight categories of ICT products (including semiconductors, computers, and telecommunications equipment). The ITA has been one of the most successful trade agreements ever undertaken.[104] As ITIF documented in *Boosting Exports, Jobs, and Economic Growth by Expanding the ITA*, since the ITA's launch in 1996 there has been a tremendous disparity in the growth of ICT product and services exports between ITA-member countries and non-ITA-member countries. As the report notes, "While ITA membership does not guarantee that a country will be a strong ICT exporter, it does appear to be associated with stronger ICT exports."[105] For these reasons, membership in the Information Technology Agreement should be a condition of membership in the TPP.

Table 9 shows the statuses of TPP parties in the Information Technology Agreement, noting that 8 of the 11 TPP parties are signatories to the agreement. Only Brunei, Chile, and Mexico are non-signatories to the ITA.

But while the ITA should serve as a starting point for securing open trade in ICT products and services across TPP countries, a gold-standard agreement must go further. In particular, the TPP Agreement should ensure that enterprises and individuals can move and maintain information and data across borders in a reliable and secure manner. Given the importance of international flows of data and information, the TPP should secure rights for cross-border information and data flows (while ensuring that legitimate privacy, security, and intellectual property rights are protected). Further, the TPP Agreement should allow business enterprises from TPP parties to transact business through e-commerce platforms without having to establish a commercial presence in each country. The TPP should also prohibit requirements that businesses must use local computing infrastructure, such as servers, as a condition of doing business or making an investment in a TPP country, or engaging in e-commerce or cross-border trade. This would mark the first time that protection of cross-border data flows has been negotiated in a U.S. trade agreement.

A country's membership in the TPP should also be contingent on its being a signatory to the WTO's Government Procurement Agreement.

Some governments have recently relied on overbroad or unfounded security concerns to justify regulation that can discriminate against foreign ICT products and create significant trade barriers. This trend has increasingly applied to the encryption capabilities of ICT products, as nearly all ICT products contain cryptographic capabilities. Yet the vast majority of businesses use encryption for email and database security, data transfer, and online payments. Consumers use it to protect and secure their personal information held in smart phones, computing tablets, or on the Internet. Governments use it to provide secure online services. Encryption has become the foundation of Internet and e-commerce development, and thus a key driver of economic growth.

Thus, the TPP Agreement should address the issue of data encryption. Because burdensome or discriminatory regulation of encryption can impair consumer access to the most secure products, TPP parties should commit to the unrestricted import, use, and sale of products with cryptographic capabilities in the commercial market.[106] Such a commitment would ensure that consumers and businesses operating in TPP countries can purchase the best ICT products, technologies, and systems available in the global marketplace for security and privacy. This is important because access to leading-edge technologies is ultimately the best defense against online crime, fraud, and theft.

If and where regulation is necessary, a global, cooperative approach to encryption should be sought, to avoid disrupting the global digital infrastructure, and to create an environment in which consumers and businesses have trust in online commerce. Such regulation should neither include requirements to transfer or provide access to a particular technology, production process, or other proprietary knowledge, nor mandate a particular technology or standard that is not based on a relevant international standard.

Open and Non-discriminatory Government Procurement

A core principal of market-based trade is that government purchases should be made on the basis of the best value for government, not on the basis of national preferences. The WTO's Government Procurement Agreement prohibits restrictions on government purchases between member countries, stating that companies in other signatory countries will be treated no less favorably than domestic companies in accordance with the principles of national treatment and non-discrimination. It is therefore a concern that only 2 of the 10 other TPP parties, Singapore and Canada, are signatories to the GPA, as Table 10 shows. Australia, Chile, Malaysia, and New Zealand are observers of the GPA, meaning that they participate in the discussions at the meetings and follow the proceedings of the WTO Committee on Government Procurement, but are not obliged to fulfill commitments related to the Agreement. Australia is the only major industrialized country that is not a GPA signatory.[107] To its credit, Malaysia became a GPA observer on July 18, 2012. Brunei, Mexico, Peru, and Vietnam are neither signatories nor observers of the GPA. A country's membership in the TPP needs to be contingent on its being a signatory to the WTO's Government Procurement Agreement.

Status	TPP Party	Status	TPP Party
Signatories	Canada	**Non-Members**	Brunei
	Singapore		Mexico
	United States		Peru
Observers	Australia		
	Chile		
	Malaysia		
	New Zealand		
	Vietnam		

Table 10: TPP Members' Participation in World Trade Organization's Government Procurement Agreement[108]

One reason for this is that high rates of preferential treatment in government procurement continue to exist among TPP parties. For example, in Brunei, "The [government procurement] award process often lacks transparency, with tenders sometimes being not awarded or re-tendered for reasons not made public."[109] Malaysia's official policy still allows government procurement to support blatantly mercantilist national public policy objectives, such as forcing the transfer of technology from foreign to domestic industries, reducing the outflow of foreign exchange, providing advantages to local companies in the service sector, or boosting Malaysia's export capabilities.[110] Malaysia's lack of transparency in government decision-making and procedures has impeded U.S. firms' access to the Malaysian market. Vietnam's continued "lack of transparency, accountability, and media freedom, along with widespread official corruption and inefficient bureaucracy," remains a serious obstacle to foreign business activities, including the ability to compete for

government procurement contracts.[111] Elsewhere, discriminatory practices also remain evident with regard to procurement of foreign pharmaceuticals by the national health systems of several TPP parties, including Australia and New Zealand.[112] For example, foreign stakeholders continue "to express strong concerns about New Zealand's Pharmaceutical Management Agency's (PHARMAC's), regulatory process, including the lack of transparency, timeliness, and predictability in the funding process and for unreasonable delays in reimbursing new products."[113]

Non-preferential Treatment of State-Owned Enterprises

State-owned enterprises and state-supported enterprises (SSEs) represent a major challenge to the United States' international competitiveness, not because such enterprises are paragons of efficiency or innovation, but because they are all too often recipients of unfair subsidies and protections by their governments. In fact, the U.S. National Intelligence Council's *Global Trends 2025: A Transformed World* report argues that, by 2025, "state capitalism" in the form of "state-directed economies" is likely to be a major threat to the United States.[114] Indeed, in economies in which state-owned enterprises account for a disproportionate share of economic activity, private market-based economic activity is substantially distorted.

In economies in which state-owned enterprises account for a disproportionate share of economic activity, private market-based economic activity is substantially distorted.

The TPP represents an important opportunity to develop more adequate and effective rules governing the operation of SOEs and SSEs so that companies from all countries can compete on equal footing under terms of "competitive neutrality."[115] Competitive neutrality—a key principle advocated in the OECD's work on SOEs and corporate governance[116]—holds that government-supported business activities should not enjoy net competitive advantage over their private sector competitors. Strong provisions regarding the treatment of state-owned enterprises are especially vital if the TPP is to expand in the future to include nations such as China or India.

Specifically, the TPP should clarify the scope and coverage of national treatment, explicitly subjecting state-influenced entities to a robust national treatment obligation. The goal is to preclude policies and practices that benefit state-supported firms and entities and give them unfair advantage over private firms in competing for market access in their home markets, in cross-border transactions, and in third markets.[117] In addition, the existing procurement exemption of the national treatment obligation should be modified to prevent misuse of the provision that could allow wide swaths of state behavior to escape the basic non-discrimination obligation. Specifically, the procurement exemption should be replaced with a more limited exception to national treatment for purchases by and for the use of identified government agencies and covered entities.[118]

Whether or not countries like China or India ultimately join the TPP, writing the agreement so that it precludes preferential treatment of state-owned enterprises remains extremely important, in part because several current TPP parties exhibit extensive SOE or SSE activity in their economies. As one attempt to measure this, *The Economic Freedom of the World* report uses an index of government enterprise and investment based on the number, composition, and share of output supplied by state-operated enterprises and government investment as a share of total investment. Economies are ranked from 10 to 0.

Countries with few SOEs and where government investment is generally less than 15 percent of total investment receive a 10, and countries where the economy is dominated by SOEs and government investment exceeds 50 percent of total investment receive a 0.[119]

On this measure, two TPP parties—Australia and Chile—score a 10, while another two score an 8—Canada and New Zealand. Peru, Singapore, and the United States each score a 7 and Mexico a 6. But Vietnam's score of 4 reflects a substantial number of state-owned enterprises operating in many sectors, including manufacturing, with government investment accounting for 30 to 40 percent of total investment in the economy. Malaysia's score of 0 reflects an even greater presence of SOEs and government investment accounting for greater than 50 percent of the economy's total investment.[120] Likewise, China scores a 0 on this measure, reflecting the fact that state-owned enterprises still account for about 40 percent of GDP, and an even greater share on other measures.[121] For example, the explicit state share of employment was 57 percent as of October 2010, and the state-owned Assets Supervision and Administration Commission indicates that the assets of its firms have grown from the equivalent of 60 percent of GDP in mid-2003 to 62 percent of GDP in mid-2010.[122] Whether existing or potential TPP parties are considered, it is imperative that the TPP ensure non-preferential treatment of state-owned enterprises among member nations.

TPP Member Country	Government Enterprise & Investment Rating	TPP Member Country	Government Investment as a Share of Total Investment in Economy (%)
Australia	10	Australia	11.2
Chile	10	Chile	13.9
Canada	8	Canada	18.0
New Zealand	8	New Zealand	19.4
Peru	7	United States	22.7
Singapore	7	Peru	24.3
United States	7	Mexico	26.6
Mexico	6	Malaysia	52.4
Vietnam	4	Brunei	N/A
Malaysia	0	Singapore	N/A
Brunei	N/A	Vietnam	N/A
TPP Average	**8**	**TPP Average**	**23.6**

Table 11: Government Investment as a Share of Total Investment in Economy, 2009[123]

Conventional Tariff Reduction

Finally, conventional tariff reduction remains important, and therefore the TPP should also seek to comprehensively reduce—if not entirely eliminate—traditional tariff barriers across-the-board, on low- and high-technology products alike. As Table 12 shows, some TPP parties saw progress in reducing their mean applied tariff rates between 2009 and 2010. Most Favored Nation (MFN) applied tariff rates came down by 2.5 percent in Mexico, 1.1 percent in Vietnam, 0.8 percent in Canada, and 0.7 percent in Australia, a positive trend that needs to continue. Nevertheless, MFN applied tariffs remain quite high in countries such as Malaysia, Mexico, and Vietnam, which have MFN applied tariffs of 8 percent, 9 percent, and 9.8 percent, respectively. Such tariff rates must come down significantly in countries that wish to be parties of a gold-standard trade agreement.

TPP Party	MFN Applied Tariff (%), 2010	TPP Party	MFN Applied Tariff (%), 2009	TPP Party	Change by Actual Tariff (%)
Singapore	0	Singapore	0	Mexico	-2.5
New Zealand	2.1	New Zealand	2.1	Vietnam	-1.1
Brunei	2.5	Brunei	2.5	Canada	-0.8
Australia	2.8	Australia	3.5	Australia	-0.7
United States	3.5	United States	3.5	Malaysia	-0.4
Canada	3.7	Canada	4.5	Peru	-0.1
Peru	5.4	Peru	5.5	Brunei	-
Chile	6.0	Chile	6.0	Chile	-
Malaysia	8.0	Malaysia	8.4	New Zealand	-
Mexico	9.0	Vietnam	10.9	Singapore	-
Vietnam	9.8	Mexico	11.5	United States	-
TPP Member	**4.8**	**TPP Average**	**5.3**	**TPP Average**	**-0.9**

Table 12: MFN Applied Tariff Rates, 2010[124]

One area of particular concern is high tariffs on high-tech, particularly ICT, products. For instance, Brunei imposes tariffs of 20 percent on printed circuit boards; Malaysia and Thailand place tariffs of 25 and 20 percent, respectively, on computer monitors; and Vietnam imposes tariffs of 14 percent on television, digital cameras, and video cameras.[125] Such high tariffs on advanced technology products only serve to damage these economies, causing other sectors to suffer. For example, for every $1 of tariffs India imposed on imported ICT products, it suffered an economic loss of $1.30 due to spillover effects.[126] As Kaushik and Singh found with regard to their study of ICT adoption in India, high tariffs did not create a competitive domestic [hardware] industry, but they did limit adoption of ICT in India by keeping prices high.[127] In other words, tariffs are particularly pernicious

when applied to ICTs, hurting the nations that impose them by raising the cost of ICT goods and services, thus causing businesses (and individuals) to invest less in ICT and thus lowering their productivity. While the TPP Agreement should be attuned to tariff reduction in general, it should be especially vigilant about precluding parties from placing high tariffs on advanced technology products, including ICTs, clean energy products or components (e.g., solar cells or hybrid batteries), or biopharmaceuticals and medical devices.

CONCLUSION

The TPP holds the potential to represent a transformative model trade agreement that charts the path for future trade agreements that are more comprehensive than current WTO-based agreements and that have stronger enforcement mechanisms. To achieve that vision, the TPP will have to include—and holds the nations that sign it—to the very highest standards, including those regarding renunciation of current manipulation; intellectual property rights protection; liberalized trade in services; removal of barriers to foreign direct investment/ownership; elimination of a host of other NTBs, including standards manipulation; transparency and openness in government procurement practices; restrictions on preferential treatment toward state-owned enterprises; and substantial conventional tariff reduction. More generally, both current TPP parties and any invited in the future must eschew mercantilist practices and demonstrate genuine commitment to market-based trade. As this report has shown, the combination of market-based free trade and robust intellectual property rights are powerful drivers of innovation that spur production of novel products and services which improve quality of life and standards of living for citizens worldwide. That is the promise of the TPP.

The Administration understandably desires to score a quick win on trade, particularly in an election year and with the country facing the prospect of prolonged unemployment and economic stagnation. Context is also critical as these negotiations continue: American unemployment stands at 8.3 percent and it is widely believed that free trade has the potential to help increase U.S. exports and create jobs. However, despite the TPP's importance and exigency, it is most important to get the TPP right. The Administration's trade negotiators should insist that the TPP truly be a 21st century agreement that includes the highest levels of IPR protection, transparency in government procurement practices, removal of NTBs, comprehensive market access provisions, and stringent enforcement mechanisms. That's the best way to empower U.S. enterprises, grow jobs, exports, and the economy, and ensure that the United States' long-term strategic and economic interests are realized. If the Trans-Pacific Partnership ends up being anything less than a gold-standard trade agreement, the United States should decline to join.

ENDNOTES

1. Canada and Mexico have been formally invited to join the TPP, although they must wait until after a 90-day consultation period (that will be completed in October 2012) before they can join formal negotiations. See: *Inside U.S. Trade*, "USTR Notifies Congress That Canada And Mexico Will Join TPP Talks," July 12, 2012, http://insidetrade.com/Inside-US-Trade/Inside-U.S.-Trade-07/13/2012/ustr-notifies-congress-that-canada-and-mexico-will-join-tpp-talks/menu-id-710.html.
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