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The Enforcement of Intellectual Property in Free Trade Agreements:
The next step in the progression of IP protection

by

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Abstract

This paper explores the implications that Free Trade Agreements (FTAs) have on Intellectual Property (IP) rights. It is commonly believed that Free Trade Agreements, in their nature of lowering barriers to international trade, lead to many instances of IP infringement. These cases span throughout trade and hurt business profits and images. This problem has been addressed in the past through the creation of the World Trade Organization (WTO) leading to measures passed called the Trade-Related Aspects of Intellectual Property Rights, or TRIPS. These measures began the process of protecting the high value assets of companies and worked to promote trade between nations of varying development.

However, in recent years, it has become apparent that the TRIPS measures are not completely addressing the problems of IP protection, especially in the case of FTAs. In order to diagnose the problems fully, I look into various case studies of FTAs between the United States and other countries. By varying the choices between developed, underdeveloped, Latin American, North American, and Asian countries, I have looked into a large sample size of different situations to gain a clearer picture and isolate the problems better.

After looking the DR-CAFTA, the US-Chilean FTA, US-Brazilian Agreements, and NAFTA, it becomes clear that the problems in IP protection stem from three main sources: 1. Lack of enforcement measures 2. Differences in governmental development/motivations 3. Faulty legislative and drafting process of FTAs.

After revealing these problems, I propose that the best ways in which countries taking part in FTAs can protect IP rights is through creating a step-by-step economic developmental process, creating better enforcement measures with set times and contingency clauses, and finally changing the governments' mindset on IP protection measures as investments rather than costs.

The effects of implementing these measures will not only help protect the IP of current companies partaking in FTAs, but will incentivize countries to grow together in an organic way. By aligning the economic interests of countries this way, the world economy will benefit. This benefit will expand trade and production as more companies desiring higher IP standards begin taking advantage of free trade. As a whole, industries such as pharmaceuticals and agriculture will expand as companies expand internationally, reaching areas that would otherwise be untouched through fear of lost profits. As a whole, the next step in IP protection, the increase of enforcement measures, is a large shift in the right direction for a more global and open economy where everyone can benefit.

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Introduction

Free Trade Agreements (FTAs), as they lower boundaries of trade between nations, have consistently shown a gap in intellectual property (IP) protection. Companies have recognized this clear negative trade off as they often avoid taking advantage of FTAs. Companies fear that trading and setting up manufacturing in Free Trade Zones increases the chance of intellectual property infringement, creating generics and "knock off" copies of their valuable products. This lack of IP protection exists due to the significant difference in government development between nations participating in FTAs. In order to make FTAs more effective in encouraging trade in the international economy, companies need to trust that their products' designs and formulas are safe. To do this, certain measures should be taken in order to bolster current IP protection. Including economic incentives for less developed countries to increase IP protection and revising the FTA negotiation process, will strengthen IP protection greatly. If these key measures are implemented correctly, more companies may take advantage of the benefits FTAs, increasing world trade.

An inquiry into the effects that FTAs have on IP protection requires a proper understanding of the history of international trade and intellectual property protection. After analyzing the progression of IP protection in history, especially through the lens of Free Trade Agreements, I will then explore four different trade agreements in detail, analyzing the problems they face in terms of IP protection for companies. After looking at the development of countries in the DR-CAFTA Agreement, the US-Chilean FTA, and the US-Brazilian trade agreement and understanding the underlying reasons for IP rights protection issues in those countries and their economic implications, I will then evaluate

the NAFTA agreement between the United States and Canada to show an example where even first world countries encounter IP protection problems. Once the protection problems that FTAs create have been diagnosed, I will analyze the US-Singaporean FTA. That is an example of an agreement that has worked extremely well for both parties involved in terms of IP protection. Once the reasons behind this success story have been ascertained d and properly understood, I will close with suggestions on how the Free Trade Agreement draft process should be fundamentally changed in order to better protect all stakeholders involved.

Context and History of IP Protection in FTAs

In order to properly address the problems with Free Trade Agreements with regards to IP rights protection, one must first look at the current measures that affect IP protection and the history of IP protection itself. Understanding the development of IP protection throughout the years is essential in analyzing the next step in reform to benefit countries involved in FTAs.

From the beginnings of the studies of modern economics of Adam Smith, it has been understood that free trade allows different countries to take advantage of comparative advantages, thus lowering aggregate prices of goods and benefiting the consumer. After this generally accepted idea from *The Wealth of Nations* was proposed to lawmakers, countries began removing barriers to trade and tariffs set into place during the colonial era in order to exploit these advantages and benefit (Irwin, 1). However, despite these measures to open up trade, illegal means through smuggling and copying still existed throughout the world. According to George Reid Andrews, in Buenos Aires,

Argentina in the 1800s, networks of contraband trade against the permission of the Spanish Royal government existed in order to form trade with countries such as Britain and Portugal (Andrews, 11-12). Since this time, countries in Latin America have been categorized as promoting contraband trade and lacking intellectual property protection.

As economies developed over time and trade closely connected markets, complex trading markets in London and New York developed. When these organized trading institutions suffered a collapse in the early 20th century, leading to an American Great Depression, many countries involved in trade realized their exposure to the risk of trade with the United States. As a result, many countries began setting up barriers to protect themselves from international trade exposure. In reaction to this, the United States and other countries founded the General Agreement on Tariffs and Trade (GATT) following World War II. The goal of this organization was to further globalize the world economy and lower barriers to trade through a multilateral trade agreement (Irwin, 2). By 1995, GATT was transformed into the World Trade Organization (WTO), which would have huge implications on IP protection in all forms of trade agreements.

The WTO was created in order to unify international trade standards and help developing countries have access to the same level of measures as developed countries. According to the 23rd Meeting of Health Ministers of Countries of SEAR, the WTO helps facilitate "trade as a tool for development… [and] the WTO rules were intended to create a 'level playing field' so that the full potential of trade could be realized" (Irwin, 2). This mission for the WTO shows that the organization facilitates many countries in their international trade measures, especially through the process of establishing FTAs with other countries. With agreements such as TRIPS, the WTO has shown that it is working

to expand international trade between developed and developing nations, while implementing standards of IP protection that most developed countries have. This creates challenges for developing countries, as increased IP protection creates higher product and investment costs for entering companies, thus more barriers to international trade. In order to incentivize developed companies to directly invest in developing countries, a balance must be struck between the two nations in the FTA rules concerning IP protection. An excerpt from *NAFTA: the first trade treaty to protect IP rights* describes the need for this balance in order for an FTA to work for both sides of the agreement:

> The rationale for incorporating intellectual property provisions in a trade agreement is to ensure that intellectual property law enforcement is consistent with free trade principles of market access and non-discrimination. Trade will be inhibited if the laws of one country do not protect the intellectual property of its trading partners, but over-zealous enforcement of intellectual property rights can also inhibit trade by putting importers at a competitive disadvantage.

If the IP protection is too costly, then the developing (and often economically fragile) country will lose its own incentive to join the agreement. On the other side of this agreement, if the IP measures favor the developing country, then some companies will not take advantage of the FTA out of fear of losing valuable assets through the creation of copied products, formulas, or illegal generics.

To further develop the context of the World Trade Organization in the history of Free Trade Agreements, one must look at the IP protection measures provided by the WTO. The TRIPS and TRIPS-plus measures directly affect the Free Trade Agreement negotiation process and create the standards for participating countries' IP rights protection. According to the Beatrice Lindstrom, the TRIPS provisions, which were passed in 1994 as Trade Related Aspects on Intellectual Property Rights, were created to

form a “uniform baseline for global intellectual property standards” (Lindstrom, 919). This new measure changed the way IP rights (IPR) were enforced throughout the world. According to the World Trade Organization, in order for a country to participate in the WTO, they must comply with TRIPS and adopt its measures into their own state laws (WTO TRIPS General Provision). The TRIPS agreement created a uniform standard for every WTO country, and is often used as the basis of measurement for IP protection for a country. Countries that comply with WTO, thus the TRIPS agreement, are considered to have better protection measures. Although this may be true, it is evident that TRIPS does not fully eradicate the IP protection problem that many companies face when establishing trade and manufacturing abroad.

Countries such as China, Costa Rica, Brazil, and Chile are all a part of the World Trade Organization, but still deal with problems protecting the intellectual property that companies bring to their country (wto.org). Because TRIPS might have relegated some IP problems, but not solved them all, other measures must be added or addressed in order to help continue the development of IP protection in FTAs.

As discussed, because of the efforts of the WTO with the TRIPS agreement and the inclusion of IP protection measures within FTAs themselves, it seems that the problem with IP protection is not that it is an unaddressed issue. The efforts by lawmakers to include IP protection to entice businesses do not seem to translate as well in actual protection. According to Exhibit 1, China and India have very little IP protection effectiveness, despite complying with the TRIPS agreement. In contrast, countries such as Japan and Singapore have very impressive coverage of IP protection.

In order to diagnose what is not working in these countries, these measures that they include in their FTAs must be compared. A country such as Japan is extremely dependant on its technology industry, and as a result, those companies can lobby and promote protection measures that help keep Japanese businesses protected. Since these Japanese businesses are founded and based in Japan, their incentives to keep intellectual property protected are much higher than those in a developing country such as China, whose economy relies more heavily on manufacturing than design. Because manufacturing companies are the largest number of firms participating in FTAs in China, it is evident that the incentives to protect the IP of companies is not as high or prioritized, as shown by Exhibit 1. Although the FTAs may have provisions in place in order to make sure a country such as China is not creating illegal copies of products, without the economic incentives or a reliance on a research and development business environment there, the framework of the government is just not set up to protect IP. This is a glaring problem that many developing countries face in this trade process. As shown by this example, the difference in IP protection between countries seems to not only be from the differences in overall development of the government, but also from the types of industries that grow within those countries.

Since IP protection is addressed in all FTAs drafted presently, the problem with it is not that it is not being implemented substantively. Thus, it can be determined that the main problem with IP protection lies in its enforcement, as it seems mere words on paper in agreements is not enough to prosecute those who infringe on the law and illegally copy intellectual property. Through the history of FTAs and IP protection, it is evident that there are periods of development for intellectual property rights that take a step in the

right direction in protecting companies. Through the 1990s, with the introduction of the WTO and the TRIPS agreements, IP protection was addressed substantively in the law. However, I suggest that countries now continue the process of strengthening IP protection now by focusing on the enforcement side, since this is the next step in development to foster trade and promote free trade. In order to see where FTAs falter in enforcing the IP rights law, one must look at examples of agreements between nations and discuss the reasoning behind the failure or success in protecting intellectual property.

DR-CAFTA Agreement: Substantive Coverage and IP Protection

An example of a problem of IP protection is within the DR-CAFTA agreement, which is an FTA between the United States, the Dominican Republic and Central American countries including Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua (Cerón and Godoy, 2). When looking into this agreement, one will have to look into how each country within the FTA with the US protects its intellectual property. After looking into the effectiveness of the TRIPS-plus measures that many DR-CAFTA countries have adopted, it is important also to note the levels of development, especially for IP protection. A good measure of this development will be the time it takes for each country to renew a patent. This measure is useful in finding out the level of IP protection development for a country mainly because it shows the efficiency in the bureaucratic system of that country. In essence, a country that can more quickly renew a patent is considered more developed as it lowers the costs of bureaucracy for a country, which in this case would be time. From there it is also important to note, with Costa Rica being an

example, how industries are susceptible to certain problems within the IP protection enforcement system.

According to Alejandro Cerón and Angelina Godoy, it appears that "countries [in the DR-CAFTA agreement] have often implemented stronger IP protection than required by trade agreements", suggesting that the members of DR-CAFTA have national legislation that is superior to the agreement drafted. In essence, there should be greater protection for companies that are taking advantage of the FTA by setting up operations in the countries.

Before DR-CAFTA was ratified, the history of IP protection in these Central American countries seems to be similar to many countries around the world. All members of the agreement are members of WTO as of 2000, and thus comply with the TRIPS agreement passed alongside the organization. In addition to this, "many of the IP provisions DR-CAFTA requires were anticipated by TRIPS, there are several key points where the agreement imposes a more stringent standard, on which its implementation has therefore required 'TRIPS-plus' reforms", which show that the countries participating in DR-CAFTA comply to the highest standards of IP protection (Cerón and Godoy). This is also apparent by actually looking at the DR-CAFTA agreement itself. Article 1.3 states "the Parties affirm their existing rights and obligations under the TRIPS Agreement and intellectual property agreements concluded or administered under the auspices of the World Intellectual Property Organization (WIPO) and to which they are party" (DR-CAFTA Agreement, Chapter 15-2). This shows the high standards to which these developing countries must adhere to when trading with other developed countries, such as the United States.

To understand a more detailed example of the strength of IP protection of DR-CAFTA, one can look at the patent periods in the free trade provisions. Stronger protection in patent rights is usually reflected by a longer patent period, and also a longer period for extension period for companies to reapply for their IP to be protected. By looking at Exhibit 2, one can see how all of the countries in the DR-CAFTA agreement meet the 20 year TRIPS minimum patent period. In addition to this patent period, the countries all applied their own national patent laws to make business easier and strengthen IP protection. For example, each DR-CAFTA nation specified a period of time that they could renew their patents based mainly on bureaucratic delays. For instance, Costa Rica applied an 18 month extension after a patent expired for companies to reapply their patent. During this time period, the patent still may not be infringed upon. At more extreme extension levels, the Dominican Republic allows for a 3 year extension, while Guatemala allows for "No limit", as long as the time is reasonable based on the process. This ambiguous "No limit" on extension is up to the interpretation of the government when being enforced, and thus could actually allow for a period of greater than 3 years (Exhibit 3). These examples only show the lengths that countries in the DR-CAFTA agreement have gone in order to incentivize businesses to come and begin distribution or manufacturing. Although these incentives do work, the enforcement of the laws that are applied seems to be the more difficult next step for countries in the DR-CAFTA agreement, exemplified in the Costa Rican situation below.

Despite all of this work, there still exists a problem of IP protection in the developing countries in the DR-CAFTA agreement. For instance, the International Intellectual Property Alliance (IIPA) has recently moved Costa Rica, a member of DR-CAFTA, to

the “Priority Watch List”. This list established by the IIPA serves as a measurement for companies to understand where different countries stand in IP protection. The IIPA monitors different countries on a case-by-case basis and provides a measurable spectrum so companies can objective make choices on trade. In addition to this, the IIPA states in its 2010 Special 301 Report on Copyright protection and Enforcement:

> The business software industry reports that the most devastating form of piracy in Costa Rica continues to be the use of infringing or unlicensed software by legitimate businesses and government agencies. Software legalization in government agencies should be an important public policy goal, and it is a CAFTA obligation not yet implemented.

This is a major problem, considering that Intel, an extremely large hardware and software company, is one of the largest investors in the Costa Rican free trade zone providing over 2,800 jobs to the country (intel.com). The IIPA clearly states in its report that the Costa Rican government is not meeting its CAFTA obligations. This is a clear example showing how despite many efforts to include IP protection measures in legislation and FTAs, there are still problems with IP protection in countries.

The main reasoning behind this lack of IP protection for companies also seems to be listed in the IIPA’s report. They claim, “there remain inadequate resources in the government agencies necessary to conduct any kind of effective anti- piracy campaigns” (IIPA Report). This shows that the Costa Rican government cannot adequately enforce the law that it must adhere to under the DR-CAFTA agreement concerning intellectual property. In addition to that, the IIPA report also recommends that Costa Rica creates an IP enforcement branch of its police force in addition to a “Public Prosecutor’s Office specialized in IP matters”. These are enforcement problems that should have been addressed during the process of drafting the FTA in the region.

In sum, after looking at the DR-CAFTA agreement and the various measurements used to determine IP protection, it is evident that despite having gone above and beyond the substantive measures to protect the valuable assets of companies partaking in DR-CAFTA, there is still a problem in making sure that these assets are not illegally copied, thus infringing on measures. After looking at the TRIPS-Plus measures that these nations have, their patent extension periods, and the IIPA report, it is clear that despite meeting requirement for the FTA, countries such as Costa Rica still lack the enforcement strength to deter IPR infringement.

US-Chilean FTA: Problems with Legislative Process and Enforcement

Another FTA with problems of IP rights protection is the US-Chilean agreement. When looking at this agreement between the US and Chile, it will be extremely important not only to analyze the problems in IP protection, but also to look into the root of the problems themselves. In the case of the US-Chilean FTA, the process of ratifying the agreement was extremely important in the success of the agreement in terms of enforcement of IP protection.

In the Report of the Industry Functional Advisory Committee (IFAC) on Intellectual Property, it is clear that the US-Chilean FTA has its own issues with enforcement as well. According to IFAC, "under the TRIPS Agreement, Chile was required to have implemented TRIPS-consistent standards for patent and other intellectual property no later than January 1, 2000. To date, it has not done so" (IFAC Report). This problem shows that passing agreements and joining the WTO is not enough to make countries meet their obligations in FTAs. Although many other Latin American

countries participating have met and exceeded IP standards such as the TRIPS agreement, it is apparent that Chile has yet to, despite forming an agreement with the United States. Although they have been signed to the WTO, they still do not meet these measures. In order to remedy this, the United States should draft provisions in its FTA to incentivize the passage of enforcement measures into the agreement. Specifically, IFAC even states that the United States should not allow Chile to approve of any generics of American pharmaceuticals until they have ratified TRIPS legislation into their national law. In the case with Chile, unlike Costa Rica, it seems that there still are not any laws set to protect companies (IFAC Report, 13).

In addition to this, the US-Chilean agreement had a fundamental flaw in its agreement process. The Chilean government did not fully communicate to all of its branches the expectations of the FTA, and merely ratified it without the understanding of the executive branch. Elisa Echenique notes:

> The Executive power defines the content of a Treaty (if it is possible to negotiate those terms) and the Parliament has nothing to do during the process. The only legal faculty of the National Congress consists of approving or rejecting the treaty before its ratification. During this procedure the Parliament analyses the treaty as a whole, without having the opportunity to discuss particular terms in order to change its content.

This shows how during the ratification process of an FTA, the executive branch of the Chilean government was mainly involved (Echenique, 4). The Parliament, which has a better understanding of the capacity of legislation that Chile can handle, had no say in the process other than signing the agreement. Although one might argue that the Parliament may refuse to sign the law, the inherent pressure of signing a large agreement with one of the largest economies in the world would most likely outweigh the flaws of the

legislation itself. Because of this inherent weakness in the legislative process for the FTA between the US and Chile, it can be no surprise that there is a disconnect between the governments when trying enforce measures such as IP protection.

Elisa Echenique goes on further to describe the process of a developed country in signing an FTA. In the United Sates, both the President and Congress work together to negotiate and sing foreign agreements and treaties. Through the American process, the President is allowed to present to Congress the drafts of the treaty before it goes up to signing to help in the negotiation process (Echenique, 5). By looking at this example of process, one can see how the negotiations become a conversation between the President and Congress, rather than a mere presentation for signing, as is apparent by the Chilean process. By revising their process to one more similar to the United States, the Chilean government would be able to avoid the problem of signing over to measures that they cannot adhere to, as done in the US-Chilean FTA case.

From the statements above, it seems that Chile passively agrees to FTAs without acknowledging real future problems. According to Elisa Echenique:

> Discussions and work developed by the Chilean Parliament shows that FTA implementation does not constitute a passive activity for developing countries. On the contrary, in the Chilean case, authorities were concerned about its implementation and how to make it compatible with local needs.

This clearly shows that the Chilean Parliament was looking to improve its situation as a developing country, however it did not do so at all costs. The government carefully looked at the legislation and truly believed it could fully implement the measures of the FTA with the United States. Although this may be true, the reality is that pure discussion on the implementation does not guarantee enforcement of Intellectual Property rights.

This case is a great example of how even a locally thought out process may not be easily implemented. Although Chile did look at the obligations it had to complete in order to be in the FTA, it did not anticipate the difficulty it would have implementing those measures. In order to alleviate this difficulty for developing nations, it is clear that a country such as Chile will need a laid out process for improvement.

The case of the US-Chilean FTA shows well that the process of drafting and signing an FTA is critical when it comes to enforcement of measures such as IP protection. Although the Chilean government has the best intensions of ensuring both parties in the trade agreement are equally benefitted, its inherently weak legislative process creates risk for American firms looking to establish trade in Chile. As a result, it is evident that the Chilean Parliament and Executive branch of government must revise their process to solve this problem of enforcement. In sum, a legislative process where the whole government is not included in drafting the FTA leads to less protection.

US-Brazilian Trade Effects on Pricing and Negotiations

In order to understand the implications that the trade agreements between the United States and Brazil, it is extremely important to know the industries that dominate the trade between the nations and the history of the law that dictates the trade of those industries. Also, the United States and Brazil do not have a formal FTA currently in place, but do in fact trade on written agreements resembling the FTAs mentioned earlier. In Brazil, the pharmaceutical industry is extremely important, as its comparative advantage of cheaper labor and natural resources create an environment where the generics industry can flourish. According to the Joint United Nations Programme on

HIV/AIDS, much like India, in 1970, Brazil "passed intellectual property laws that did not allow the patenting of pharmaceutical products" (2). One might believe that this extremely liberating piece of legislation would bring a great reform in access to pharmaceutical drugs to those in need, especially in third world countries. However, the effect of this legislation actually led to American companies to not allow their formulas within the borders of countries such as Brazil and India. This subsequently led to even less access to pharmaceuticals for people within those countries. According to Albert Fishlow, without any form of IP protection, "pharmaceutical firms in the United States (and Europe) were appalled" (Fishlow, 287). This distrust in the Brazilian government has led many companies such as Merck and Pfizer to avoid selling many prescription medications there. For example, according to a 2012 Bloomberg article, the Brazilian government is pressuring Merck, Pfizer, and GlaxoSmithKline Plc to cut prices of their AIDS medications currently being sold. These drugs are apparently already being sold at 15% of the price in the United States, already hurting the profits of these pharmaceutical companies. The pressures the Brazilian government places upon these pharmaceutical firms does not promote the trade of these drugs within the country, but actually hinders the ability of firms to remain profitable.

In reaction to these new measures, being influenced by recent WTO trade rules from the 2012 Geneva meetings, pharmaceutical companies are still in the process of "negotiating with the Brazilian government…on how or whether it will cut [pharmaceutical drug] prices" (Bloomberg article). If they do not wish to sell at the lower price the Brazilian government is setting, the US based pharmaceutical companies may wish to either scale bake sales and production in the region, or even pull out due to the

unprofitability of operations there. Many critique pharmaceutical companies for wishing to protect their IP for their own profits, while withholding production in developing countries, leaving millions of people at risk for easily treated diseases such as tuberculosis and malaria, however, with extremely high research and development costs associated with the creation of new formulas, it is extremely important for governments to work with these companies to find a balance between protecting high costs research going uncovered and treating the consumer.

One might argue that because the US-Brazilian trade agreements are not officially FTAs that it is not equitable to compare the agreements to any other FTAs on the basis of IP protection measures. Although it is true that there is no US-Brazilian FTA to this date, it is important to understand that the same economic principles of an FTA are applied here in Brazil. Brazil has been a member of the WTO since 1995, which means that it adheres to the same TRIPS and TRIPS-Plus measures that countries in all of the preceding agreement are held to (wto.org). According to the 2012 Bloomberg article mentioned earlier, President Barack Obama has been forming more agreements with Brazil in order to meet his goal of doubling exports by 2015. Also, the International Trade Administration (ITA) of the United States stated in a detailed report how the US is working to reduce obstacles to trade through the creation of bilateral tax treaties, removal of tariffs, agreements on trade, and US participation in Brazilian infrastructure projects. In addition to this, the ITA also cited examples of very FTA-like investments from Brazilian companies in the United States. One is of Embraer, a Brazilian aircraft manufacturer that set up an assembly factory in Melbourne Florida in 2011 (trade.gov). This shows that both countries are working to invest in each other through the lowering

of barriers of trade and bilaterally investing, and thus can be seen as having similar economic implications of an FTA.

One relatively recent example of a dispute over intellectual property rights between the US and Brazil actually had nothing to do with the pharmaceutical industry but eventually ended up involving many industries involved in trade with Brazil. According to Sewell Chan, it all began with "a long-standing trade dispute over American subsidies to cotton growers" which inhibited trade with Brazilian cotton growers. In retaliation to this Brazil came out with sanctions:

> Brazil had threatened, for example, to stop charging its farmers technology fees for seeds developed by American biotechnology companies and to break American pharmaceutical patents before their scheduled expiration. Those retaliatory actions would have cost American businesses up to $239 million.

This policy was actually "under approval of W.T.O. arbitrators", which meant that Brazil had permission to break the IP rights that they had agreed to with the United States earlier to protect certain pharmaceutical patents. In addition to this, Robert Z. Lawrence, a professor of international trade and finance at Harvard stated, "this mechanism – suspending intellectual property protection – gives smaller, developing countries a way to enforce their rights under trade rules" (Chan). According Lawrence, smaller countries need to use the importance of IP protection measures to developed countries as leverage when negotiating deals and enforcing their end of the agreement as well. This directly contrasts with the earlier notion that developing countries are always the weaker negotiators in an agreement. In fact, by using IP protection as leverage, they can make sure their side of an agreement is being honored by the "dominant" country, as shown in this case.

This brings an interesting notion in that perhaps in order to reform the enforcement of IP protection and incentivize the more developed countries to work alongside the smaller less developed countries in improving judicial systems and executive powers, the countries such as Brazil should use this tactic and show that they hold more power when it comes to IP protection measures. Overall, this situation is an example of how Brazil's agreements with the United States still have problems when it comes to IP protection. It seems to be susceptible to non-related political regulations, and also the price differences between pharmaceuticals (as is extremely common in the industry) leads to measures that do not help protect companies from generic manufacturers.

In sum, the US-Brazilian trade agreements, although not necessarily considered an FTA, are economically relevant to the discussion of IP protection. By looking at the pharmaceutical industry in Brazil, it is clear that the agreements do leave companies exposed to the influence of the government, which is a risk that those companies take on when doing business there. As the government intervenes in other industries, as shown in the agricultural industry, an interesting point on power in negotiation is brought up. In some cases, the developed government actually has less power in negotiations, as it has more incentives to trade with the cheaper, less developed country. This incentive means that the less developed country can gain leverage, using IP protection as a point to ask for favorable measures. If a country such as Brazil can threaten to break patent agreements in order to force the US to align with its economic agenda. The US companies, in fear of losing millions, can lobby the government to give into these measures. As a result, less developed countries such as Brazil or other Latin American countries can actually

threaten to break IP protection measures to gain power, which is an idea that can change the way countries negotiate and enforce IP protection.

US-Canadian Trade Effect on IP and Pricing

Although many of the previous FTAs mentioned have problems that seem to stem from a development difference between them and the United States, the agreement between the US and Canada in NAFTA is an example where development does not seem to be the issue at hand. In 1994, NAFTA was formed as a trade agreement to lower the barriers between the United States, Canada, and Mexico. This allowed American and Canadian companies to create manufacturing facilities in Mexico at lower cost than their own country, and it also brought work to areas that otherwise would not be able to provide jobs in poorer areas in Mexico through the creation of *maquiladora* plants. Despite these positive effects of NAFTA, the controversy of the measures focused mainly on the IP protection.

In Canada, pharmaceutical drugs are price fixed through the government subsidies in the national healthcare system. As a result, their prices are artificially low when compared the Unites States' free market prices. According to John Terry, Lou Ederer and Jennifer A Orange, this created a problem for American pharmaceutical companies trying to profit from their products in their own market:

> In 2001, internet pharmacies began to capitalize on the price difference by selling Canadian drug products through websites to US residents. In 2003, drug sales of Canadian internet pharmacies were valued at between US$600 million and US$1 billion. In many cases, these drug products are made in the US, shipped to Canada for sale, and then exported back to the US by internet pharmacies. Even though US FDA officials have taken the position that these sales are illegal in the US, internet pharmacy exports continue to grow as various US states, cities and other

> bulk buyers of prescription drugs propose to purchase their drug products from Canadian internet pharmacies. To date, Canada's federal and provincial governments have taken few, if any, active steps to prevent trade by Canadian internet pharmacies, even though such trade is contrary to many provincial laws regulating pharmacies and physicians.

Because US citizens were illegally obtaining pharmaceutical products from Canada, the incentives for these companies to commit to their agreement and sell to Canada seem to have been hindered. This, however, does not seem to be a case where generics were created and IP was infringed. It is key to understand that there is no IP fraud taking place here, thus further cementing the idea that development differences are more likely the case in gaps in IP protection. Despite this, this example does show that proprietary assets of high value do show price differences between nations in an agreement, as noted in the Brazil trade agreements case. This price discrimination is also a problem that companies with IP problems often face, especially in the pharmaceutical industry. Although the formula has not been copied into an illegal generic, the same economic principle is being applied: products of the same formula are being sold in the market for a lower price. This problem for American pharmaceuticals costs them a large portion of their own markets, thus making trade relations with Canada more fragile.

The pharmaceutical companies expected the measures of the NAFTA agreement to be enforced and carried out. According to the same article above, "Article 1709(5) of the NAFTA requires each party to ensure that a 'patent shall confer on the patent owner the rights to prevent other persons from making, using or selling the subject matter of the patent, without the patent owner's consent'" (Terry, Ederer, Orange). Here, the NAFTA articles established in the contract between the nations are not being followed. In this

case, the intellectual property is being sold illegally under market value, without either country working to enforce.

This problem of enforcement is central to the current IP issues faced by companies and countries presently. This case between Canada and the United States shows how measures drafted in order to protect assets of high value, such as intellectual property, are not being enforced properly. Solving this issue is a key next step to opening up trade between nations of different development. In the mid 1990's, with the introduction of the WTO and the TRIPS agreement, the first step was taken in protecting IP rights in FTAs. However, in order to complete the progression of IP protection, there must be full enforcement of the laws drafted in agreements.

In the case of NAFTA, this breach of IP trade facilitated by the agreement does not seem to stem from the lack of development between nations, as both Canada and the United States are developed countries with well enforced laws. According to the World Bank, in 2012 Canada and the United States were ranked the 15th and 4th respectively out of over 200 nations for ease of business. This survey of countries shows that both are very developed economies, as the main criteria for ease of business is "regulatory environment is conducive to business operation" (worldbank.org). Since the regulatory environment in both countries seems to favor business over many other countries, one wonders why exactly these measures are not being enforced. The illegal trade of pharmaceuticals from Canada seems to only continue as the price gap widens.

The US-Canadian trade agreement through NAFTA exemplifies the problems that even equally developed countries face when it comes to IP protection. Although it initially did not seem to be an IP problem due to the fact that the distribution of products

led to lower pricing, however, it seems that the pricing differences did lead to illegal activity concerning the enforcement of products of high value to pharmaceuticals. As a result, companies trying to finally capitalize on their high R&D costs for drugs cannot due to a lack of enforcement. Here, the IP is not being copied through formula, but rather it is being distributed illegally. This is but a different problem that countries of higher development often face in the pharmaceutical industry. It can be concluded that the enforcement of IP is not necessarily dependant on country development, and thus more measures must be taken forth in correcting this oversight in protection.

US-Singaporean Agreement: A Bright Light in IP Protection

The US-Singaporean FTA is consistently depicted as a success in terms of IP protection for companies. In order to look at the success factors and apply them to improve the enforcement of IP rights in future agreements, one must have a full understanding of the conditions in which the FTA between the US and Singapore was drafted in. Also, one must fully understand how this situation differs from many of the other examples of IP protection listed above, especially when looking at the way the government functions in relation to these agreements.

First, in order to see how the FTA worked between the United States and Singapore, it is extremely important to understand the business environment in Singapore, especially in the context of IP protection for companies. According to the World Bank, Singapore is ranked first out of over 200 countries for “ease of doing business”. This basically means that the “regulatory environment is conducive to business operation”, making Singapore a very easy place to set up a business, operate it, and also

protect assets (worldbank.org). The protection of assets is essential for companies that plan on taking advantage of the free trade in the country. These assets will include intellectual property, which is of extremely high value, especially for technology firms, who seem to have focused their work in Singapore for the time being.

Before Singapore entered into an FTA with the United States, the US International Trade Commission (ITC) completed an investigational report on the country and its current international trade policies. This investigation occurred in February of 2003, just a year before the official FTA was established between the two nations. In particular, the ITC documented the IP protection strength as they perceived it from the language of the proposed FTA:

> Singapore generally is viewed as having comparatively strong IPR protection. The FTA sets out high standards for protection and enforcement for copyrights and other intellectual property and may lead to increased revenues for certain U.S. industries dependent on IPR. The intellectual property provisions of the FTA address many of the most significant concerns the U.S. industry has expressed regarding the IPR regime in Singapore. In general, the IPR provisions of the FTA go further than the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs). National treatment provisions are broad, permit no exceptions, and extend to "any benefits derived" from the "protection and enjoyment" of intellectual property of any kind. (Arona M. Butcher, 95)

This part of the report shows that IP protection in Singapore is extremely strong, making it seem as though it is an actual comparative advantage for the country when it comes to foreign direct investment. Also, this report is the first to mention a country having not only high standards for protection, but also enforcement of IP. This shows that Singapore focuses not only on IP substantive law, much like other companies, but also focuses on the execution of those standards in practice. In particular, the ITC also analyzed the language of the proposed FTA between the US and Singapore, in particular how "no

exceptions" are to be made to those who infringe upon the IPR (intellectual property rights) of a company. For example, much like Singapore, all of the DR-CAFTA nations had provisions that were considered TRIPS-plus in their national law. In the ITC report, Singapore is described as having "IPR provisions of the FTA [that] go further than the WTO Agreement on…(TRIPS)" (Butcher, XX). This similarity with the DR-CAFTA nations would lead one to believe that the enforcement of IPR in the countries would be similar. However, the report analyzes further into the enforcement of IPR, which is a topic that is not as strongly covered in the Central American countries:

> Moreover, IPR laws are to be enforced not only against infringement originating within each country, but also against goods in transit to deter violators from using ports or free-trade zones to traffic in pirated products. To improve such enforcement, authorities may initiate unannounced border actions. (Butcher, 99)

This case shows how in order to properly enforce the IPR laws of an FTA set in place, the Singaporean authorities are given the power to arrest those infringing on rights unannounced. This is particularly useful in the trade of pirated goods, mainly because these operations are usually let visible, unlike in the pharmaceutical industry.

There are two key success factors here. One is the ability of the Singaporean authorities to act quickly upon a situation of IP infringement. The second success factor is the ability of lawmakers to foresee potential problems and create legislation tailored to the industries. This reflects that the legislative procedure between the two nations involved in the FTA worked closely, expressing their needs and expectations. In fact, the ITC report states, "the FTA provides for cooperation between the two governments to prevent pirated and counterfeit goods from being imported into each country" (Butcher, 99). This level of cooperation clearly helped improve the drafting process of the FTA,

connecting the executive and legislative powers in creating a relevant and effective agreement. This sort of process is ideal, and should be applied in the future for the United States in helping improve the enforcement of IP protection in FTAs in particular.

By looking at the language within the US-Singapore FTA, one can also see some similarities. Article 16.1 of the agreement states that much of the wording is similar to the agreements mentioned before such as the DR-CAFTA. For example, the FTA states, "the Party shall respect the provisions… of the TRIPS Agreement", much like DR-CAFTA (199). Many FTAs borrow their wordings from the WTO's own legislation and agreements. As a result, the improvement in enforcement of IP protection in Singapore must be due to another factor.

The 2008 CRS Report to Congress provides one with perspective on the US-Singapore FTA. This report was filed to investigate the changes that the FTA created a few years after its adoption. As shown in Exhibit 4, the balance of trade between the US and Singapore had a surplus in Royalties and License Fees post FTA. The report states, "some of the rises in fees for intellectual property likely can be attributed to strengthened intellectual property protection in Singapore resulting from the FTA" (CRS Report, 7). This indicates that the FTA increased the spending on IP protection in Singapore, and it did not leave companies more at risk for IP infringement.

This contradicts what many believe FTAs do to IPR in general. The exposure to the risks often associated with FTAs has been mitigated, as the Singapore agreement shows. The one difference apparent here is that Singapore invested substantially in the protection of IPR. According to the CRS report, the fees on companies to trade on aggregate increased $0.5 billion from 2001 to 2006 (7). This increase in spending is

something that has not been highlighted through any of the reports concerning the other countries on IPR protection. This factor could also contribute to the increased IP protection in the US-Singapore FTA. The CRS report notes that many new companies have invested in Singapore because of its increase in IP protection measures, including pharmaceuticals:

> Singaporean officials have indicated that the provisions in the FTA that strengthened IPR protection in Singapore have attracted foreign business investments. Recently, Microsoft, Pfizer, ISIS Pharmaceuticals, Motorola, Genentech, and Lucas Films have made new investments in operations in Singapore. (CRS Report, 9)

This supports the idea that countries can use these measures and view them as investments, rather than a cost of business.

By investing in IP protection, a country can create a competitive advantage, thus attracting foreign direct investment (FDI) that would otherwise be in other countries. This incentive should be made apparent to nations that are especially working to gain more of a competitive advantage in a global economy that is less likely to invest. On a whole, the US-Singapore FTA shows how a successful FTA can give a country a comparative advantage in FDI. The success factors in the Singapore agreement are based on the ingrained culture of business within the country. The FTA does not only have the measures laid out substantively, but also has the governmental unity to enforce those measures. This unity in the process of forming an FTA is crucial in the success of IP protection.

Proposal for Strengthened IP Rights Enforcement

Many countries in FTAs, such as Costa Rica, Chile, Brazil, and Canada discussed above, have not enforced the IP provisions they agreed to. It seems as though the problem is not only a development issue. In Costa Rica it is a greater issue than in Canada, but the fact that Canada actually is a developed nation does not exclude it from infringing on IP rights. It seems that only having provisions is not enough. In order to remedy this situation, there should be a fundamental change in the way that FTAs are created.

One major problem, as shown earlier through the example of Costa Rica, is that governments do not sufficiently fund enforcement agencies to support the FTA IP obligations. It seems, at the moment, that there is not enough pressure on countries such as Costa Rica to actually implement the agreed enforcement policies. For example, the IIPA stated in its report that "the Costa Rican government commenced efforts on [the government software implementation project] in 2002. Unfortunately, no real progress on putting such a plan in-place was made in 2009". This project was a part of one of the provisions in the DR-CAFTA agreement. This shows that there is a lack of initiative for some countries to adhere to the agreements, although they try to take advantage of the benefits of the FTA. This leaves the companies prey to piracy, thus costing them millions a year. If this problem was addressed more clearly in the beginning of agreements, then it would seem that these problems would go away faster.

In order to fix the timeliness of applying enforcement obligations stated in FTAs, it there should be a timeline placed into FTAs with incentives for countries to adhere to the agreement. For instance, in the case of DR-CAFTA, if the FTA was signed with a contingency clause stating that participating countries had to meet certain obligations

within certain years, otherwise the agreement was nullified, then there would be incentive for a country like Costa Rica to resolve its enforcement problem. Currently, underdeveloped countries seem to be taking advantage of the job opportunities provided by these FTAs, but are not working enough to adequately protect the products' designs. With a step-by-step schedule in the FTA language, countries such as Costa Rica would have to adhere to the contingency plan; otherwise they would lose the agreements. If the agreement is not met fully, countries or companies can choose to seek compensation or remedies until the schedule is met.

By creating this step-by-step plan, a country such as Costa Rica is given enough time to focus on parts of IP protection. For instance, if the government were told that it needed to have an IP focused police force within two years of the agreement, Costa Rica would have an incentive to put one in place earlier. The next step in this plan would slowly build on this policing force by adding infrastructure to the court system to take on infringement cases. What this would do is facilitate the development process for the weaker countries in the FTA, and also help build them correctly. As the IFAC report stated, in the end "the proof will lie in the implementation of these new standards on the ground in the country, by police, prosecutors, judges and administrative agencies responsible for enforcement and implementation of intellectual property rights" (IFAC Report, 17). By starting "on the ground", companies would benefit the most from IP protection. The simplest changes in enforcement from bottom up will be the most effective and logical way to implement change.

The imbalance in development between nations in FTAs also leads to this IP protection problem. The reason for countries to enter an agreement together is simply to

benefit from what the other country can offer. For developed countries such as the United States, creating FTAs with Latin American and Asian countries allows companies to take advantage of lower costs of labor. For the undeveloped countries, companies provide capital, infrastructure, jobs, and sometimes tax revenue that otherwise would not exist. This all relies on the fact that the undeveloped countries will eventually adopt the products, infrastructure, and eventually grow into a more developed economy. This growth strategy in theory works, but it often faces obstacles that slow growth down, such as issues with IP protection. These issues deter companies from taking advantage of FTAs, and the countries hoping to gain the most from these agreements lose out on developmental growth. By focusing on growing together, all nations involved in an FTA stand to improve and create a more fertile economic environment. The job creation and business expansion would occur organically through complementary growth.

The current policy on infrastructure for IP protection for countries in FTAs is just to list the laws and obligation on the agreement, and fully expect the countries to adhere almost immediately. According to Elisa Walker Echenique, "When the United States or European Union tenders a draft PTA to a developing country, it expects the basic template of its proposal to be followed" (Echenique, 3). These unreasonable expectations hurt both parties, as the foreign companies investing lose millions in piracy, and underdeveloped countries do not see the gains of dealing with IP rights developed countries. In addition to that, "developing countries committing their legislature to include IP terms in their local regulation without really knowing the consequences of the application of those rules" (Echenique, 3). This lack of understanding can only be solved through the education of these developing countries. The education of developed

countries is essential in assuring that all parties understand IP protection expectations. Developed countries such as the United States and some European Union countries should work more closely with the developing countries to ensure that all expectations are communicated well and followed. Structuring this process assures that it occurs within a defined timeline, and also helps foster growth within international trade.

Yet another problem shown in the process by looking at the examples above is rooted in the process of forming Free Trade Agreements. A revision of the process, not just foreseeing developmental issues, as has been the past focus, is necessary to protect IP and promote international trade. For instance the US-Chilean FTA example illustrates a problem in the negotiation process. This led to US approval of an FTA without actually seeing if standard measures such as TRIPS were being met for IP protection. As seen earlier, Chile had not actually implemented its measures to protect intellectual property even though it was a member of the WTO.

Conclusion

Overall, it has become clear that Free Trade Agreements involve a complicated process for all sides involved. By looking at key examples of Free Trade Agreements that leave business' IP vulnerable to infringement, it was established that the main issues with protection stemmed from the inadequacy of substantive law, the gaps in the process of forming agreements, and the government motivations in companies involved.

With the example of Costa Rica in DR-CAFTA, it was evident that companies such as Intel were vulnerable due to the lack of enforcement "on the ground" without an IP specialized police force, and an underdeveloped court system that could not handle the

subject of copyright law. Although Costa Rica and other DR-CAFTA nations held measures above the TRIPS protection, they still held multiple cases of IP infringement. By working on the process of development through all nations involved in the agreement, it would be possible to solve this issue. The step by step contingency plan seems to bring a balance in allowing developing nations keep track of progress and enforce manageable deadlines, while also giving developed nations the security that their investing companies desire.

The US-Chilean FTA also showed where the process of negotiation of treaties in the governments is vital to protect the Intellectual Property of companies. The analysis of the IFAC report showed that the gap between the branches in government during the process of negotiating and signing the FTA led to a miscommunication of IP standards and expectations, ultimately hurting IP protection and leaving companies vulnerable. By looking at the United States' process as an example, it became clear the communication between branches of the government is essential in order to develop an FTA that is both fair and more enforceable.

The US-Brazilian trade agreements also introduced the pharmaceutical industry as a major stakeholder in IP protection. After looking at the ITA report, it became clear that in many cases, the less developed countries could gain leverage in negotiations by threatening infringement on IP protection. This poses as a massive problem to pharmaceutical and agricultural companies heavily invested in the country. As a result, it was concluded that in order to alleviate this threat to companies, working on a development plan that would align interests of nations together would be essential. Similar to the step-by-step plan introduced for Costa Rica, this plan would focus on

making sure the expectations and needs of both sides of the agreement are being met within reasonable time periods.

Continuing the analysis of IP protection weaknesses, the US-Canada trade relations revealed problems between countries of relatively similar development. For pharmaceutical companies in the NAFTA agreement, one can see that even developed countries can pose a risk for businesses. Once again, enforcement proved to be the major problem in protecting companies. To improve upon this, the Canadian government needs to improve its process of enforcing internet sales. By providing measures of performance in the FTA, the United States pharmaceutical companies would be able to be better protected and not lose as many profits off of their valuable patented formulas.

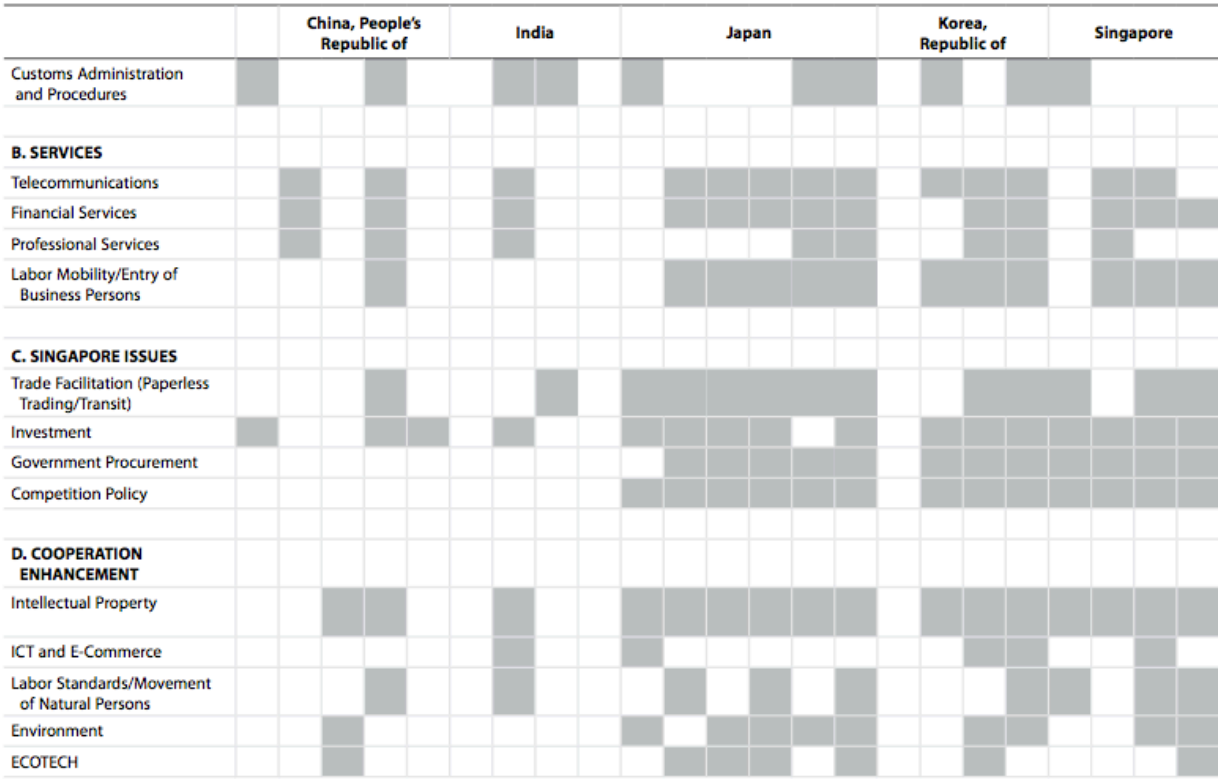
By looking at the US-Singapore FTA, one could see an example of IP protection measures being enforced well by an organized government with defined enforcement procedures. These procedures are reflected in the low time necessary to reapply for patent extensions, and its high number 1 ranking in ease of business among all nations in the world. Singapore's focus on maintaining a competitive advantage through organization and a unified government based on an IP protection culture gives it the edge it needs to attract more FDI from companies with high IP value. The key success factors involved in the Singaporean process were and understanding of the other countries' expectations and also the recognition of the need of physical enforcement. Simply put, Singapore is successful because it not only substantively protects IP in the agreement, but it follows through by enforcing the IP protection measures, viewing them as an investment, rather than a cost of business.

In the end, it is clear that IP protection measures are constantly improving and

evolving with the companies and countries involved in Free Trade Agreements. This evolution began with the creation of the WTO in 1995 alongside the TRIPS measures specifically made to create a standard by which countries would be measured in their IP protection. As the years pass after these measures for IP protection establish themselves, it is clear that new action must be taken in order to further develop international trade through Free Trade Agreements. Now that enforcement has become an issue on the forefront of IP protection, it is only natural that countries begin to focus on improving the ratification processes continue protecting the assets that are most valuable to innovation, and public health.

Appendix

Exhibit 1



Source: ABD Economics Working Papers Series- *Asian FTAs: Trends, Prospects, and Challenges*

Exhibit 2

Legislation	Patent period (years)	Patent extension
Costa Rica		
Law 6867 (1983). Invention Patents Law		
Law 7979 (2000). Modifications to Patents Law	20	no
Law 7975–2000. Undisclosed Information Law	n/a	n/a
Law 8632 (2008). Modifications to Patents Law	20	yes
Dominican Republic		
Law 20 (2000). Industrial Property Law	20	no
Law 424 (2006). CAFTA Implementation Law	20	yes
El Salvador		
Decree 604 (1993). IP Law	15	no
Decree 35 (1994). IP Law's Code		
Decree 912 (2005). Modification to IP Law	20	yes
Guatemala		
Decree 57 (2000). Industrial Property Law	20	no
Decree 76 (2002). Modifications to Industrial Property Law	20	no
Decree 9 (2003). Modifications to Industrial Property Law	20	no
Decree 34 (2004). Modifications to Industrial Property Law	20	no
Decree 30 (2005). Modifications to Industrial Property Law	20	no
Decree 11 (2006). CAFTA Implementation Law	20	yes
Government Decree 351 (2006). Regulation of Pharmaceuticals	n/a	n/a
Honduras		
Decree 12 (1999). Industrial Property Law	20	no
Decree 16 (2006). CAFTA Implementation Law	20	no
Nicaragua		
Law 354–2000. Patent Law for Inventions	20	no
Law 579 (2006). Modifications to Patent Law	20	no
Health Ministry Regulation 115 (2006)	n/a	n/a
Law 634 (2007). Modifications to Patent Law	20	yes

Source: Cerón and Godoy article

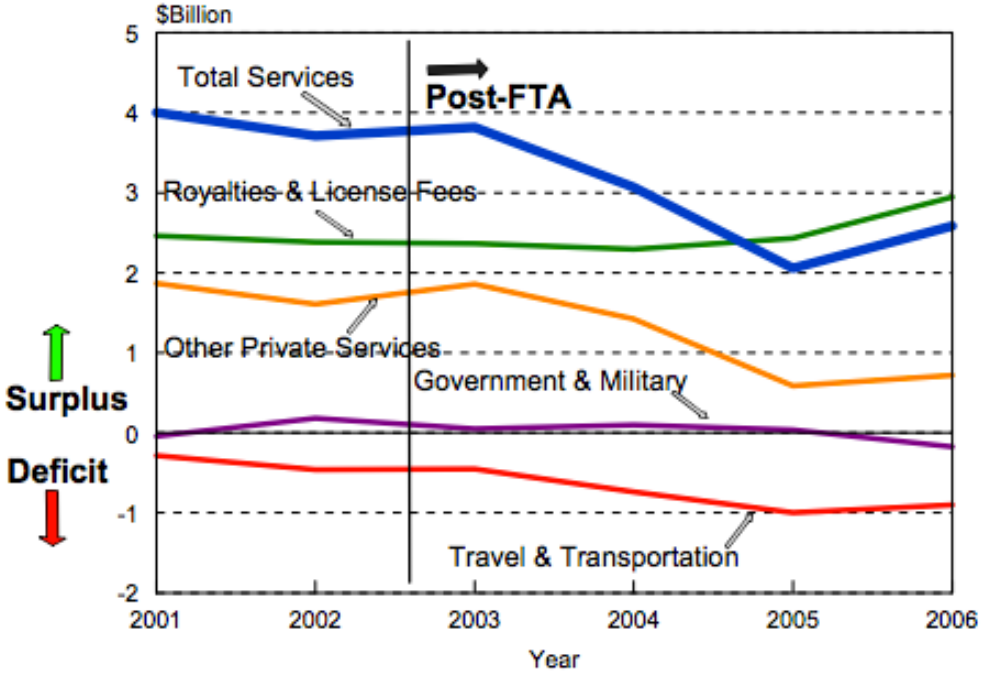
Exhibit 3

	TRIPS	CAFTA	Costa Rica	Dominican Republic	El Salvador	Guatemala	Honduras	Nicaragua
Limit to patent extension	–	[No limit]	18 months	3 years	550 days	No limit	No extension	550 days

Source: Cerón and Godoy article

Exhibit 4

Figure 4. U.S. Balance of Trade with Singapore in Services and Its Components



Source: CRS Report on Singapore

Exhibit 5

Glossary of IP Terms Mentioned:
FTA – Free Trade Agreement
IP – Intellectual Property
IPR – Intellectual Property Rights
TRIPS – Trade-Related Aspects of Intellectual Property Rights
DR-CAFTA – Dominican Republic & Central American Free Trade Agreement
SEAR – South-East Asia Region
GATT – General Agreement on Tariffs and Trade
WIPO – World Intellectual Property Organization
IFAC – Industry Functional Advisory Committee on Intellectual Property
ITA – International Trade Administration
ITC – International Trade Commission

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