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NAFTA: How it has affected Technology Transfer Between the United States, Canada, and Mexico

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## INTRODUCTION

We live in a time when regional international trade has become very important to both developing and developed economies. As a result, regional trading blocs such as the North American Free Trade Agreement (NAFTA), the European Union (EU), and the Southern Cone Common Market (MERCOSUR) have materialized.<sup>2</sup> These regional trading blocs have

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<sup>2</sup> C. Parr Rosson, III, C. Ford Runge, & Kirby S. Moulton, *Preferential Trading Arrangements: Gainers and Losers from Regional Trading Blocs*, at <http://www.ces.ncsu.edu/depts/agecon/trade/eight.html>.

expanded opportunities for economic growth. Simultaneously, they have endeavored to provide adequate intellectual property protection for the corporations engaging in trade.<sup>3</sup> However, where trade agreements include both developed and developing countries, technology transfer poses an obstacle to trade. By definition, corporations and companies in developed countries often possess more advanced technology than their counterparts in underdeveloped countries. Advanced corporate technology facilitates international trade. On the other hand, the lack of advanced technology in developing countries puts them at a disadvantage when trading with technologically advanced developed countries. Further degrading and stagnating the technology situation in developing countries is a frequent lack of rigorous intellectual property protection in those countries. Many multinational corporations are uncomfortable with technology transfer because they fear having to surrender exclusive patents and trade secrets for advanced technology to competitors in developing countries.<sup>4</sup> In 1994, the Trade-Related Aspects of Intellectual Property Rights (TRIPs) was adopted as part of the Uruguay Round of negotiations and agreements on international trade.<sup>5</sup> TRIPs provided industries and developed countries with the intellectual property protection that they desired.<sup>6</sup> However, it limited access to technology that many developing countries needed for economic growth.<sup>7</sup>

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<sup>3</sup> Evelyn Su, *The Winners and Losers: The Agreement on Trade Related Aspects of Intellectual Property Rights and its Effects on Developing Countries*, 23 Hous. J. Int'l L. 169, 171 (2000).

<sup>4</sup> *Id.* at 215.

<sup>5</sup> Agreement on Trade-Related Aspects of Intellectual Property Rights, Dec. 15, 1993, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, Legal Instruments-Results of the Uruguay Round vol. 31 (1994), 33 I.L.M. 81 (1994).

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

In November, 1993, the United States, Canada, and Mexico implemented NAFTA as a means for creating a free trade area between the three countries.<sup>8</sup> The preamble to NAFTA outlines fourteen separate purposes it seeks to accomplish.<sup>9</sup> Article 102 expands on these purposes by listing six specific NAFTA objectives.<sup>10</sup> Article 102 provides that NAFTA's objectives are: "(1) eliminate tariff and non-tariff barriers to trade; (2) promote fair competition; (3) increase investment opportunities; (4) provide protection for intellectual property rights; (5) create procedures for effective implementation and enforcement of the Agreement; and (6) establish a forum for further enhancement and expansion of the benefits provided by the Agreement."<sup>11</sup> These proposed objectives pose an important question. How has NAFTA balanced the industries' and developed countries' need for sufficient intellectual property protection with the developing countries' need for enough technology transfer to make free trade a viable option?

NAFTA legislation has had a positive effect on technology transfer between NAFTA countries because: a) it has increased technology transfer between the countries; b) it has promoted economic growth between the countries; and c) it has strengthened intellectual property protection for the NAFTA member countries.

Part I discusses the NAFTA legislation pertaining to intellectual property. It includes a discussion of Chapter Seventeen of the NAFTA legislation. This entails an examination of the parties' obligation to adhere to multilateral conventions and treat each other fairly; the sections

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<sup>8</sup> Lucien J. Dhooge, *The North American Free Trade Agreement and the Environment: The Lessons of Metalclad Corporation v. United Mexican States*, 10 MINN. J. GLOBAL TRADE 209, 215 (2001).

<sup>9</sup> *Id.*

<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

governing intellectual property protection; the protection of existing property. Specifically, Part I discusses (A) the responsibility of the member countries to adhere to other multilateral conventions, (B) how each member country should treat the NAFTA legislation, (C) the specific trademark protection NAFTA affords each member country, (D) the specific patent protection NAFTA affords each member country, (E) NAFTA's protection regarding trade secrets, (F) how NAFTA is to be enforced, (G) how NAFTA protects acts committed before the NAFTA legislation became effective. Part II discusses the general effects of increased technology transfer between countries. It includes a detailed analysis of why some countries have enjoyed large amounts of economic growth and others have not. Also, it analyzes the relationship between countries possessing advanced technology and enjoying economic prosperity. Further, it discusses how some countries have employed technology transfer in their efforts to become more developed. In addition, it discusses how technology transfer has increased between the countries. Finally, it analyzes the effects that increased technology transfer has had on the countries. Part III discusses the economic and legal/political effects that increased technology transfer has had on the NAFTA countries. It begins by discussing how NAFTA has caused technology transfer to increase between the NAFTA member countries. It also includes an examination of the economic effects that technology transfer has had on the countries. Lastly, it discusses NAFTA's political effects on the member countries.

## I. THE NAFTA LEGISLATION

Chapter 17 of NAFTA contains detailed provisions dealing with intellectual property protection.<sup>12</sup> Article 1701, governing adherence to other multilateral conventions, holds importance in that it bars the member countries from ignoring other international treaties dealing with intellectual property.<sup>13</sup> Article 1703 prevents any member country from affording favoritism to its own citizens over the citizens of another member country.<sup>14</sup> Article 1708 sets up the framework which the member countries must follow in regard to trademark protection laws.<sup>15</sup> Article 1709 establishes licensing and judicial procedures regarding patents.<sup>16</sup> Article 1711 defines “trade secret” under the act, and establishes protections for agricultural and pharmaceutical products.<sup>17</sup> Articles 1715-1718 create judicial and agency procedures for enforcing the NAFTA provisions dealing with intellectual property protection.<sup>18</sup> Article 1720 provides that NAFTA’s intellectual property laws do not pertain to acts which occurred before NAFTA was enacted in each particular country.<sup>19</sup>

### *A. Adherence to Multilateral Conventions*

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<sup>12</sup> North American Free Trade Agreement, Dec. 8 - Dec. 17, 1992, 107 Stat. 2057, 32 I.L.M. 605.

<sup>13</sup> *Id.* at art. 1701.

<sup>14</sup> *Id.* at art. 1703.

<sup>15</sup> *Id.* at art.1708.

<sup>16</sup> *Id.* at art. 1709.

<sup>17</sup> *Id.* at art. 1711.

<sup>18</sup> *Id.* at art. 1715-18.

<sup>19</sup> *Id.* at art. 1720.

NAFTA requires that each member country adhere to other multilateral conventions on intellectual property protection.<sup>20</sup> Specifically, article 1701 requires that the parties, at a minimum, give effect to other international conventions on intellectual property such as the Berne Convention and the Paris Convention.<sup>21</sup> By including this provision, the NAFTA framers sought to ensure that NAFTA would not supercede other important multilateral agreements on intellectual property protection.<sup>22</sup> This provision seems to imply that NAFTA was written with the intention of incorporating the other multilateral agreements on intellectual property protection such as TRIPs. Given such an implication, NAFTA would seem to give high deference to the other multilateral agreements on intellectual property protection, while only adding few substantive provisions. Nonetheless, NAFTA does contain important substantive provisions. However, it must perform within the framework of the other multilateral agreements to keep from upsetting important precedent to which multilateral agreements on intellectual property should adhere.

Article 1701(1) requires each member country to afford nationals of the other member countries "adequate and effective protection and enforcement of intellectual property rights, while ensuring that measures to enforce intellectual property rights do not themselves become barriers to legitimate trade."<sup>23</sup> The import of this provision lies in the delicate balance between providing adequate protection while encouraging the ultimate goal of increased trade. While

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<sup>20</sup> North American Free Trade Agreement, *supra* note 12 at art. 1701.

<sup>21</sup> Matthew V. Pietsch, *International Copyright Infringement and the Internet: An Analysis of the Existing Means of Enforcement*, 24 HASTINGS COMM. & ENT. L.J. 273, 304-5 (2002).

<sup>22</sup> *Id.*

<sup>23</sup> David M. Gilmore, *Free Trade Area of the Americas: Is it Desirable?*, 31 U. MIAMI INTER-AM. L. REV. 383, 389-90 (2000).

Article 1701 is broad in scope, it clearly outlines the intent of the NAFTA framers. The overriding intent appears to be providing adequate intellectual protection, while encouraging free trade. The framers seem to realize that overly rigorous intellectual property protection might possibly overburden the underdeveloped NAFTA countries, thus frustrating the ultimate goal.

### ***B. National Treatment***

Article 1703 requires each member country to afford equal treatment to the nationals of other member countries in regard to protection and enforcement of all intellectual property rights.<sup>24</sup> Specifically, Article 1703 states that NAFTA countries must treat other NAFTA countries in a manner “no less favorable” than that in which they treat their own nationals in regard to protection and enforcement of intellectual property rights.<sup>25</sup> Such a provision ensures that favoritism will not come into play when foreign nationals attempt to assert intellectual property rights, which might be opposed to those of a national. The import of this provision lies in answering the issue of how NAFTA proposes to maintain adequate intellectual property protection, while minimizing any burden such protection might impose. By ensuring that foreign nationals are treated on an equal footing to nationals in enforcing intellectual property rights, the NAFTA framers managed to minimize the legislative burden on member countries. In addition, the framers avoided having to make NAFTA’s substantive intellectual property requirements overly burdensome on the member countries. Article 1703 also soothes some of the concerns for multinational corporations about being forced to surrender exclusive patents and trade secrets on

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<sup>24</sup> Kimberly Hancock, *Canadian Copyright Act Revisions*, 13 BERKELEY TECH. L.J. 517, 530 (1998).

<sup>25</sup> North American Free Trade Agreement, *supra* note 12 at art. 1703.

advanced technology to competitors in developing countries.<sup>26</sup> Moreover, the provision's broad application means that member countries must afford national treatment to other member countries in judicial proceedings and any other proceedings in which foreign nationals attempt to assert intellectual property rights.

### ***C. Trademark Protection***

NAFTA contains trademark protection in Article 1708.<sup>27</sup> Most importantly, each member country is required to establish a system for registering trademarks.<sup>28</sup> By requiring that each country establish a system for registering trademarks, NAFTA ensures that both domestic and foreign corporations will be able to take the initial steps toward protecting the marks that identify their product.<sup>29</sup> This encourages technology transfer by assuring corporations that when they export technology to another member country for manufacturing purposes, their mark will be protected from misappropriation by the competition. Specifically, under Article 1708, each member country is required to grant holders of a trademark certain basic rights.<sup>30</sup> The process of assuring certain basic rights provides security and incorporates a much needed integrity into the trademark registration process.<sup>31</sup> Article 1708 also creates a presumption that using similar marks to a trademark will cause confusion and may be prevented.<sup>32</sup> This presumption highly

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<sup>26</sup> See *Su supra* note 3, at 215.

<sup>27</sup> North American Free Trade Agreement, *supra* note 12 at art. 1708.

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> North American Free Trade Agreement, *supra* note 12 at art. 1708.

favors trademark holders and encourages corporations to register their trademarks in underdeveloped countries.<sup>33</sup> A presumption for confusion also helps the courts establish bright line rules regarding international trade mark infringement and misappropriation.<sup>34</sup> Article 1712 extends this protection by providing that NAFTA governments must refuse to register marks that are “deceptively misdescriptive in respect of geographic origin.”<sup>35</sup> This type of protection encourages technology transfer by assuring corporations that NAFTA will not allow foreign competitors to trick the public into thinking their product is made with the same technology as the technologically advanced corporation’s product.<sup>36</sup>

#### ***D. Patent Protection***

Article 1709 establishes licensing and judicial procedures governing patents.<sup>37</sup> Each member country “must make patents available in all fields of technology, provided that the inventions are new, useful and ‘non-obvious.’”<sup>38</sup> Subject to paragraphs 2 and 3 of Article 1709, patents shall be available and patent rights enjoyable without discrimination as to the field of technology, the territory of the Party where the invention was made and whether products are imported or locally produced.<sup>39</sup> The terms “new,” “useful,” and “non-obvious” seem to be

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<sup>33</sup> North American Free Trade Agreement, *supra* note 12 at art. 1708.

<sup>34</sup> *See id.*

<sup>35</sup> *See id.* at art. 1712.

<sup>36</sup> *See id.*

<sup>37</sup> *Id.* at art. 1709.

<sup>38</sup> *Id.*

<sup>39</sup> José I. De Santiago, *Patentability of Business Methods in Mexico*, 14 AUT INT'L L. PRACTICUM, 126, 127 (2001).

relatively easy tests to meet.<sup>40</sup> This implies that the NAFTA framers intended to significantly increase the patentability of products in each of the member countries. If this was the NAFTA framers' intent, one could conclude, "that NAFTA is not in opposition to the patenting of business methods."<sup>41</sup> Moreover, strict conditions apply to the granting of compulsory licenses, and importation of a patented product will satisfy any requirement to "work" a patent in that country.<sup>42</sup> However, NAFTA does not establish, directly or indirectly, any right to engage in parallel importation of patented products among the territories of NAFTA countries.<sup>43</sup> Nonetheless, NAFTA's friendly attitude towards patentability of products encourages technology transfer because it provides patent protection, subject to only limited restrictions, in any member country.<sup>44</sup>

### *E. Protection for Trade Secrets*

Article 1711 defines "trade secret" under the act and establishes protections for agricultural and pharmaceutical products.<sup>45</sup> Article 1711 also lists what a party's rights are, and which acts are prohibited under the act.<sup>46</sup> Further, under Article 1711, "trade secret protection of parties is perpetual, as long as the information remains secret and unknown to the general

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<sup>40</sup> See North American Free Trade Agreement, *supra* note 12 at art. 1709.

<sup>41</sup> De Santiago, *supra* note 39, at 127.

<sup>42</sup> See North American Free Trade Agreement, *supra* note 12 at art. 1709.

<sup>43</sup> See *id.*

<sup>44</sup> See De Santiago, *supra* note 39, at 127.

<sup>45</sup> North American Free Trade Agreement, *supra* note 12, at art. 1711.

<sup>46</sup> *Id.*

public.”<sup>47</sup> NAFTA gives pharmaceutical and agricultural products special protection under Article 1711.<sup>48</sup> Specifically, all three countries must “protect information that they require companies to submit for purposes of obtaining marketing approval of new pharmaceutical or agricultural chemical products.”<sup>49</sup> Moreover, “Under NAFTA, a misappropriation of proprietary information is only actionable if the acquiring party knew, or was grossly negligent in failing to know, its actions were illegal; this is a higher standard than the requirement under U.S. tort law that a plaintiff prove a defendant's knowledge or constructive knowledge.”<sup>50</sup> A heightened standard of protection for trade secrets encourages technology transfer because it assures that corporate technology cannot be legally misappropriated if it is exported to another member country. Likewise, heightened trade secret protection encourages corporations to assert their corporate rights in other member countries’ judicial systems.

### ***F. Enforcement Procedures***

Articles 1715-1718 create judicial and agency procedures for enforcing the NAFTA provisions dealing with intellectual property protection.<sup>51</sup> Under Articles 1714 and 1715, each member country is required to provide “fair and equitable” enforcement procedures, including access by intellectual property rights holders to effective judicial proceedings for the

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<sup>47</sup> Robert C. Van Arnem, *Business War: Economic Espionage in the United States and the European Union and the Need for Greater Trade Secret Protection*, 27 N.C. J. INT'L L. & COM. REG. 95, 121 (2001).

<sup>48</sup> North American Free Trade Agreement, *supra* note 12, at art. 1711 (32 ILM 605, 670).

<sup>49</sup> *Id.*

<sup>50</sup> *See* Van Arnem, *supra* note 47, at 121.

<sup>51</sup> North American Free Trade Agreement, *supra* note 12, at art. 1715-1718.

enforcement of intellectual property rights.<sup>52</sup> This type of treaty especially requires fairness and transparency in regard to judicial procedures because some foreign corporations have an inherent distrust for the judicial proceedings of another member country.<sup>53</sup> Further without regard to governing judicial proceedings, each member country must “provide for preliminary and final injunctive relief, measures to preserve evidence, civil damages and other remedies in intellectual property enforcement proceedings.”<sup>54</sup> Moreover, each member government shall provide criminal procedures and penalties to be applied at least in cases of willful trademark counterfeiting or copyright piracy on a commercial scale.<sup>55</sup> By requiring criminal sanctions, NAFTA makes certain that parties guilty of trade secret misappropriation will be both civilly and criminally liable.<sup>56</sup> Therefore, corporate directors, executives, and others may not be able to simply pay a fine and continue operating just the same.<sup>57</sup> The prospect of criminal sanctions adds effective deterrence for potential violators. Complimenting the criminal provision, NAFTA also requires each member government to set up procedures allowing trademark and copyright owners the right to obtain suspensions of pirated and counterfeit goods at the border.<sup>58</sup> The seizure provision provides redress for trademark and copyright owners whose products have been pirated or counterfeited because they can rapidly place recovered goods back on the

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<sup>52</sup> North American Free Trade Agreement, *supra* note 12, at art. 1714-1715.

<sup>53</sup> *See id.*

<sup>54</sup> *See id.* at art. 1716.

<sup>55</sup> *See id.* at art. 1717.

<sup>56</sup> *See id.*

<sup>57</sup> *See id.*

<sup>58</sup> *See id.* at art. 1718.

market.<sup>59</sup> Further, it provides customs officials with an effective weapon, allowing them to take action to prevent importation of infringing goods.<sup>60</sup> Together, these enforcement procedures add to the integrity of the substantive intellectual property protection provisions.<sup>61</sup> These provisions are important in that they provide legislative protection, judicial avenues for redress, and also practical and convenient avenues for redress. In sum, the NAFTA framers were effective in wording the provisions regarding intellectual property rights. More importantly however, they also made the legislation practical and efficient for the corporations of the member countries.

### ***G. Protection of Existing Subject Matter***

Article 1720 provides that NAFTA's intellectual property laws do not pertain to acts which occurred before NAFTA became effective.<sup>62</sup> In substance, this provision indemnifies acts committed prior to NAFTA's enactment in each of the member countries.<sup>63</sup> The importance of Article 1720 lies in the fact that it allows each member country a fresh start towards initiating the NAFTA required intellectual protection.<sup>64</sup> Without Article 1720, corporations from each of the member countries would possibly flood the judicial systems with litigation pertaining to acts committed before the passage of NAFTA.<sup>65</sup>

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<sup>59</sup> North American Free Trade Agreement, *supra* note 12, at art. 1718.

<sup>60</sup> *See id.*

<sup>61</sup> *See id.* at art. 1715-1718.

<sup>62</sup> *See id.* at art. 1720.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

<sup>65</sup> *See id.*

## II. GENERAL EFFECTS OF INCREASED TECHNOLOGY TRANSFER BETWEEN COUNTRIES.

### A. *The General Effects*

This is a time when “large multinational corporations with far-flung corporate networks and global factories” dominate the world’s economic order.<sup>66</sup> In this “economic order,” developed countries, which harbor most of the large multinational corporations, control most of the bargaining chips in regard to trade.<sup>67</sup> Highly industrialized nations, such as the United States have enjoyed tremendous economic growth.<sup>68</sup> “However, not all nations have enjoyed this unprecedented level of economic growth and development.”<sup>69</sup> Geographically speaking, economic growth and development in the world has generally been uneven.<sup>70</sup> “Since the end of World War II, many of the developing countries have been attempting to catch up economically with the developed countries by promoting industrialization and using trade policy to cope with the disparate domestic economic development.”<sup>71</sup>

Lower levels of economic growth and development affect developing countries’ access to and efficient use of technology. Most developing countries are unable to create and maintain

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<sup>66</sup> See *Su supra* note 3, at 195.

<sup>67</sup> *Id.*

<sup>68</sup> *Id.*

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> *Id.* 195.

high levels of capital and technology.<sup>72</sup> Because of their inability to create and maintain high levels of capital and technology, developing countries have a disadvantage when trading with developed countries<sup>73</sup>. Technologically advanced products generally cost more than agricultural products for example. If a developing country decides that it wants to begin exporting technologically advanced products, it has to go through the long and expensive process of developing the technology. Otherwise, it has to buy the technology from a developed country. Adding to the problem, developing countries might not have the resources to develop new technology. “Developing countries often depend on the new technology originating from laboratories and universities in the developed countries.”<sup>74</sup>

“[A] popular solution has been to encourage the free flow of technology from industrialized countries to developing countries.”<sup>75</sup> Certain studies “suggest that FDI [foreign direct investment] might be able to enhance economic growth of host countries through spillover efficiency and technology transfer. The spillover efficiency occurs when advanced technologies and managerial skills embodied in FDI are transmitted to domestic plants simply because of the presence of multinational firms. The technology and productivity of local firms may improve as FDI creates backward and forward linkages and foreign firms provide technical assistance to their local suppliers and customers.”<sup>76</sup> However, spillover efficiency and technology transfer do not necessarily appear automatically. They depend on the absorptive capability of host

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<sup>72</sup> Su, *supra* note 3, at 199.

<sup>73</sup> *See id.* at 199.

<sup>74</sup> *Id.*

<sup>75</sup> *Id.*

countries.<sup>77</sup> This is largely determined by human capital in host countries.<sup>78</sup> The foregoing idea suggests that FDI may increase the potential for spillover efficiency and technology transfer.<sup>79</sup> In turn, trade agreements increase the possibility for FDI. Therefore, FDI creates a positive effect on spillover efficiency and technology transfer.<sup>80</sup>

Technology transfer is important to establishing equal trade footing between developing countries and developed countries. David Carruthers of the *Journal of Third World Studies* sees “southward technology transfer” as a key element of “sustainable development.”<sup>81</sup> However, technology transfer is not all that easy to achieve. Certain obstacles often block the southward travel of technology transfer.<sup>82</sup> For example, “[i]n Latin America, tariffs are as high as 20% in many countries. Moreover, there are non-tariff barriers that require technology transfers, local content or investment restrictions.”<sup>83</sup> Additionally, “it is not clear to what extent Latin countries can capture the benefits of technology transfer if access is impeded via the rigorous protection and enforcement of intellectual property rights mandated by the WTO.”<sup>84</sup> However, other multilateral agreements seem to increase the level of technology transfer. “Indeed, as developing

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<sup>76</sup> Kevin Honglin Zhang, *Does Foreign Direct Investment Promote Economic Growth? Evidence from East Asia and Latin America*, 19(2) CONTEMP. ECON. POL’Y. 175, 177 (2001).

<sup>77</sup> *Id.*

<sup>78</sup> *Id.*

<sup>79</sup> See Zhang, *supra* note 76.

<sup>80</sup> *Id.*

<sup>81</sup> David Carruthers, *From Opposition to Orthodoxy: The Remaking of Sustainable Development*, J. OF THIRD WORLD STUDIES, Oct. 1, 2001, at 93.

<sup>82</sup> See *id.*

<sup>83</sup> Joseph Aragona, *This Summer’s Feature: Heated Debates on Trade Policy*, VENTURE CAPITAL J., July 1, 2001, at 32.

<sup>84</sup> Miguel Ramirez, *The Transformation of Latin America: Economic Development in the Early 1990s*, E. ECON. J., Spring 2002, at 279.

countries have implemented the intellectual property protections in TRIPS, they have begun to benefit from increased technology transfer and investment – two key factors in long-term economic growth.”<sup>85</sup>

Furthermore, technology transfer can aid developing countries in establishing viable environmental maintenance and cleanup procedures. The National Wildlife Federation “argues that all trade agreements should be accompanied by a systematic program to assess and improve international environmental performance through cooperation, capacity-building assistance, and technology transfer.”<sup>86</sup>

Multilateral cooperation has been recognized as an excellent way to increase technology transfer. Partnerships and cooperation can be useful for advancing corporate goals such as technology transfer.<sup>87</sup> Likewise, trade integration can also be useful.<sup>88</sup> According to Frankel and Rose (1998) “increased trade integration could raise the covariance of productivity shocks because of the technology transfer involved in the international trade in capital goods and some inputs.”<sup>89</sup> “For many developing countries, technology transfer occurs mainly through imports from industrial countries. Technological spillovers and their effects on macroeconomic fluctuations therefore tend to be stronger for countries that have strong trade relationships with industrial countries, although this also depends on the nature of the products traded.”<sup>90</sup>

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<sup>85</sup> Robert B. Zoellick, *President’s Trade Agenda*, FED. DOCUMENT CLEARING HOUSE CONG. TESTIMONY, Feb. 7, 2002.

<sup>86</sup> *U.S., Jordan Ratify Trade Pact With Environmental Provisions*, KNIGHT-RIDDER TRIB. BUS. NEWS, October 4, 2001.

<sup>87</sup> Andrew C. Gross, *The Global Electronic Components Industry*, 37 BUS. ECON. 5965 (2002).

<sup>88</sup> *International Linkages: Three Perspectives*, WORLD ECON. OUTLOOK 65, Oct. 1, 2001, at n. 11.

<sup>89</sup> WORLD ECON. OUTLOOK, *supra*, note 88.

<sup>90</sup> WORLD ECON. OUTLOOK, *supra*, note 88.

However, in some regions of the world, technology transfer has not been viewed favorably. For example, in many countries that are part of the ASEAN Free Trade Agreement (Association of South East Asian Nations), technology transfer requirements present somewhat of an obstacle to foreign direct investment.<sup>91</sup> The cause of the somewhat unfavorable view relates to foreign invested enterprise. Specifically, “[t]echnology transfer has a negative correlation with export performance of [foreign-invested enterprises].”<sup>92</sup> Nonetheless, many nations view technology transfer favorably. Indeed, many regional trading blocs such as NAFTA include provisions which encourage technology transfer.<sup>93</sup>

### **III. THE ECONOMIC AND LEGAL EFFECTS OF INCREASED TECHNOLOGY TRANSFER AS A RESULT OF NAFTA.**

#### ***A. The Increase in Technology Transfer***

The framers of NAFTA most likely envisioned technology transfer as a necessary element for viable free trade. Through its intellectual property provisions, NAFTA created a technology transfer friendly system between member countries. For example, in June of 2002, the agency created by the NAFTA governments to support the environmental provisions of the legislation released a report calling for “closer cooperation” between the member countries in

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<sup>91</sup> Jeffery Heinrich, *Prospects for FDI in AFTA*, ASEAN ECON. BULL 141 (2001).

<sup>92</sup> Pham Hoang Mai, *The Export Performance of Foreign-Invested Enterprises in Vietnam*, ASEAN ECON. BULL 263 (2001).

<sup>93</sup> See North American Free Trade Agreement, *supra* note 12, at ch. 17.

regard to public utilities.<sup>94</sup> As part of the “closer cooperation,” the report called for increased technology transfer between the countries.<sup>95</sup> Further, in July of 2001, Illinois officials traveled to Mexico to discuss a technology transfer that could solve their government’s surplus sugar and pollution problems at the same time.<sup>96</sup> The hope was that by sharing this technology with Mexico, Mexico would, in turn, begin importing more Illinois corn products.<sup>97</sup> Exchanges such as these show how NAFTA facilitates technology transfers between the member countries.<sup>98</sup> The United States’ technology transfer friendly attitude has also played a significant role in facilitating technology transfer between the member countries.<sup>99</sup> In July of 2001, President Bush commented that the United States could cooperate and would continue to cooperate on technology transfers.<sup>100</sup> President Bush made this comment in the context of the Kyoto treaty and environmental issues<sup>101</sup> and demonstrates a willingness on the part of the United States to engage in technology transfer with other countries.<sup>102</sup>

As a result of the technology transfer friendly system, a case can be made that NAFTA has had measurable success in increasing technology transfer. “The most developed

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<sup>94</sup> Bruce Geiselman, *Group Develops Framework for NAFTA Trio: Energy Needs and Emissions Need to be Considered Simultaneously*, *Commission Reports*, WASTE NEWS, July 8, 2002, at 10.

<sup>95</sup> *Id.*

<sup>96</sup> Teresa Puente, *Illinois Officials to Tout Ethanol Technology in Mexico Trip*, CHIC. TRIB., July 25, 2001, at 4N.

<sup>97</sup> *Id.*

<sup>98</sup> *See id.*

<sup>99</sup> *See* George W. Bush, *Interview With Foreign Journalists*, WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, July 23, 2001.

<sup>100</sup> *Id.*

<sup>101</sup> Bush, *supra* note 99, at 1054.

<sup>102</sup> *Id.* at 1055.

technologies can be sourced in [the NAFTA and European Union regional trade blocs]”.<sup>103</sup> The formation of trading blocs such as NAFTA has made it attractive for multinational corporations to invest in one member country with the purpose of exporting to another member country.<sup>104</sup> As a result this makes it necessary for multinational corporations to import technology to the member country where the manufacturing and other important developmental processes will take place.<sup>105</sup> NAFTA has also had measurable economic success aside from technology transfer. Robert B. Zoellick, on the President’s Trade Agenda stated that, “[t]hroughout the year ahead we will also persist in our efforts to make the public case for NAFTA’s benefits and consider additional ways to deepen integration throughout the Americas. NAFTA has been a case study in globalization, along a 2,000-mile border, by demonstrating how free trade between developed and developing countries can boost prosperity, economic stability, productive integration, the development of civil society, and even democracy.”<sup>106</sup>

### ***B. The Economic Effects***

Technology transfer indirectly affects a country’s overall economic prosperity. Studies have shown that countries with stronger patent systems enjoy more rapid economic growth.<sup>107</sup> Also, a

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<sup>103</sup> Mark Yaolin Wang, *The Motivations Behind China’s Government-Initiated Industrial Investments Overseas*, 75 PACIFIC AFFAIRS 187, 202 (2002).

<sup>104</sup> Pham Hoang Mai, *The Export Performance of Foreign-Invested Enterprises in Vietnam*, 18 ASEAN ECON. BULL., Dec. 1, 2001.

<sup>105</sup> *Id.*

<sup>106</sup> Robert B. Zoellick, *President’s Trade Agenda Before the House Comm. on Ways and Means*, 107TH CONG (Feb. 7, 2002) (statement of Robert B. Zoellick, U.S. Trade Representative).

<sup>107</sup> Horacio Teran, *Intellectual Property Protection and Offshore Software Development an Analysis of the U.S. Software Industry*, 2 MINN. INTELL. PROP. REV. 1 (2001) at 16.

certain theory maintains that “patent protection will encourage technologically sophisticated investment in poor countries, leading to a diffusion of technology, if investors can be assured that they can restrict employees from transferring this technology to other employers.”<sup>108</sup>

Likewise, another theory holds that stronger intellectual property laws and enforcement mechanisms created by treaties such as NAFTA “will encourage more Western corporations to invest in developing countries because they will have greater confidence that their innovations and technological developments will not be pirated.”<sup>109</sup> Furthermore, strong intellectual property protection may “facilitate technology transfer and encourage local investors to keep their technology in the country instead of patenting it and licensing it in other countries such as the United States.”<sup>110</sup> In addition, the U.S. government has recognized the increased economic interdependence brought about by NAFTA.<sup>111</sup> Such economic interdependence evidences both increased technology transfer and economic benefit by the NAFTA countries because, in part, economic interdependence results from increased technology transfer.<sup>112</sup> Likewise, if NAFTA had failed to create an economic benefit, the member countries would have shied away from economic interdependence.<sup>113</sup>

The increased technology transfer resulting from NAFTA has created some positive economic effects for the countries involved in the legislation. For example, intraregional

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<sup>108</sup> Judy Rein, *International Governance Through Trade Agreements: Patent Protection for Essential Medicines*, 21 NW. J. INT’L L. & BUS. 379, 390 (2001).

<sup>109</sup> Gelvina Rodriguez Stevenson, *Trade Secrets: The Secret to Protecting Indigenous Ethnobiological (Medicinal) Knowledge*, 32 N.Y.U. J. INT’L L. & POL. 1119, 1130-31 (2000).

<sup>110</sup> *Id.* at 1127.

<sup>111</sup> Hale E. Sheppard, *Revamping the Export-Import Bank in 2002: The Impact of This Interim Solution on the United States and Latin America*, 6 N.Y.U. J. LEGIS. & PUB. POL’Y 89, 123 (2002).

<sup>112</sup> *See generally*, Sheppard *supra* note 111.

<sup>113</sup> *See generally id.*

economic activity has risen sharply as NAFTA has integrated Canada and Mexico with the United States.<sup>114</sup> In the debate leading up to NAFTA, a majority of influential economists predicted small economic benefits for the United States, but favored NAFTA because they favored “regionalism as a means of reinforcing and encouraging economic reform in Mexico.”<sup>115</sup> In regard to NAFTA’s economic effects on the United States, generally most academic studies analyzing the effects of U.S. regionalism, such as NAFTA, show that regionalism generates small, yet positive effects.<sup>116</sup>

Some analysts believe the economic benefits should be measured relative to the size of the economy.<sup>117</sup> “In an economy as large as America’s the effect of freer trade with Mexico was never likely to be great; and so it has proved.”<sup>118</sup> “In far smaller Mexico, whose economy is less than a twentieth the size of America’s at market exchange rates, the economic impact has been greater, but is still less than the rosy-eyed would like to claim.”<sup>119</sup>

In total, some analysts believe that NAFTA’s history shows that America should not fear trade with poorer countries.<sup>120</sup> There is actually much more to gain from freer trade on a much wider level.<sup>121</sup> Likewise, freer trade is also

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<sup>114</sup> Andrew C. Gross & Edward D. Hester, *The Global Electronic Components Industry*, BUS. ECON. July 1, 2002.

<sup>115</sup> Michael G. Plummer, *America's Trade Follies: Turning Economic Leadership Into Strategic Weakness*, ASEAN ECONOMIC BULLETIN, Dec. 1, 2002, available at 2002 WL 22973509.

<sup>116</sup> *See id.*

<sup>117</sup> *When Neighbours Embrace: The NAFTA Effect*, THE ECONOMIST, July 5, 1997, at 21-23.

<sup>118</sup> *Id.*

<sup>119</sup> *When Neighbours Embrace*, *supra* note 117, at 21-23.

<sup>120</sup> *When Neighbours Embrace*, *supra* note 117, at 21-23.

<sup>121</sup> *See id.*

best for developing countries because they gain wealth as a result of free trade, and are thus able to buy more American goods.<sup>122</sup> In addition, over time, “their working conditions and the state of their environment would improve, too, as their growing middle class insisted on the right to a cleaner and more comfortable life.”<sup>123</sup>

Nevertheless, some mitigating factors may temper and have tempered the level of NAFTA’s positive economic effects. For instance, if patent right holders have sufficient rights to preserve a monopoly on the import market, as is the case with NAFTA, rights holders might not have an incentive to “work the patent” in a particular country.<sup>124</sup> This type of circumstance might likely diminish a country’s desire to transfer technology to that particular country, thus diluting the potential economic benefit for the country.<sup>125</sup> Further, indirect economic influences in place long before NAFTA sometimes moderate the level of technology transfer, thus moderating any potential economic benefit.<sup>126</sup> For example, the income gap between the United States and Mexico conditions technology transfers between the two countries.<sup>127</sup> Additionally, regional considerations also have an indirect effect on any potential economic benefit a member country might receive.<sup>128</sup> In Mexico, the “aggregated gains,” such as technology transfers, have been realized more so by the Northern region of the country than by the Southern region.<sup>129</sup>

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<sup>122</sup> *See id.*

<sup>123</sup> *Id.*

<sup>124</sup> Judy Rein, *International Governance Through Trade Agreements: Patent Protection for Essential Medicines*, 21 *NW. J. INT’L L. & BUS.* 379, 390 (2001).

<sup>125</sup> *See id.*

<sup>126</sup> *See* James T. Peach & Richard Adkisson, *United States-Mexico Income Convergence?*, *J. OF ECON. ISSUES*, June 1, 2002.

<sup>127</sup> *See id.*

<sup>128</sup> *See* Rafael Tamayo-Flores, *Mexico in the Context of the North American Integration: Major Regional Trends and Performance of Backward Regions*, 33 *J. LATIN AM. STUD.* 377 (2001).

### *C. The Legal and Political Effects*

NAFTA has had few adverse legal and political effects. For the most part, NAFTA, and its technology transfer provisions have created favorable legal and political conditions in the NAFTA countries.<sup>130</sup> The overriding legal effect that NAFTA's technology transfer provisions have created is a strengthening of intellectual property protection laws in the NAFTA countries.<sup>131</sup> On the political side, NAFTA seems to have strengthened the political working relationship between the NAFTA countries.<sup>132</sup> "It is in politics, not in economics, that NAFTA had had its biggest impact."<sup>133</sup> Nonetheless, even with NAFTA in place, the United States' relationship with Mexico has proven somewhat vulnerable to outside influence.<sup>134</sup>

The technology transfer provisions contained in NAFTA required Mexico to increase its level of intellectual property protection.<sup>135</sup> Specifically, "the United States required that Mexico strengthen its domestic industrial property protection laws as a prerequisite for U.S. ratification of NAFTA, which Mexico did in its 1991 Industrial Property Law."<sup>136</sup> On the United States'

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<sup>129</sup> *Id.*

<sup>130</sup> North American Free Trade Agreement, *supra*, note 12, at ch. 17.

<sup>131</sup> *Id.*

<sup>132</sup> *When Neighbours Embrace*, *supra* note 117, at 21-23.

<sup>133</sup> *When Neighbours Embrace*, *supra* note 117, at 21-23..

<sup>134</sup> *Castaneda Acknowledges in U.S. over Mexican Position*, WORLD NEWS CONNECTION, September 25, 2001.

<sup>135</sup> North American Free Trade Agreement, *supra*, note 12, at ch. 17.

<sup>136</sup> Gelvina Rodriguez Stevenson, *Trade Secrets: The Secret to Protecting Indigenous Ethnobiological (Medicinal) Knowledge*, 32 N.Y.U. J. INT'L L. & POL. 1119, 1127 (2000).

part, “NAFTA required that § 104 of the Patent Act be amended to permit inclusion of activities in Mexico and Canada.”<sup>137</sup> The strengthening of intellectual property protection plays an important role in NAFTA’s success because it removes the barrier of corporate fear. Due to heightened intellectual property protection, corporations are much more likely transfer technology to other member countries and register for intellectual property protection in those countries as well. Also legally significant is that by forcing Mexico to strengthen its intellectual property laws, NAFTA likely forced Mexico to realize the importance of such protection. An added benefit to Mexico is that now other countries, not part of NAFTA, will be more comfortable transferring technology there as well.

Politically speaking, NAFTA has generally helped to smooth out the relationships between the NAFTA countries.<sup>138</sup> Specifically, “[t]he trade agreement has helped to make sure that Mexico sticks to its programme of reform, and has thereby done much to improve the prickly relations between America and Mexico.”<sup>139</sup> NAFTA has also “come to symbolize” an “irreversible embrace” between the United States and Mexico, two historically hostile countries.<sup>140</sup> Further, it seems that since NAFTA was enacted, American Presidents have been more inclined to defend Mexico before a traditionally hostile Congress.<sup>141</sup> In addition, the passage of NAFTA helped break down resistance to other very important trade agreements such as the Uruguay round of GATT.<sup>142</sup>

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<sup>137</sup> *Id.* at 1139.

<sup>138</sup> *When Neighbours Embrace*, *supra* note 117, at 21-23.

<sup>139</sup> *When Neighbours Embrace*, *supra* note 117, at 21-22..

<sup>140</sup> *See id.*

<sup>141</sup> *When Neighbours Embrace*, *supra* note 117, at 21-22..

<sup>142</sup> *See id.*

However, NAFTA, alone, is not by any means a dispositive factor for maintaining a healthy political relationship between the United States, Canada, and Mexico. There is evidence that post September 11, the relationship between trading partners Mexico and the United States has been strained, even in regard to NAFTA.<sup>143</sup> Mexico Foreign Relations Secretary Jorge G. Castaneda was quoted as saying, “[I]t will be very difficult to decide that we want to have very close relations with the United States, NAFTA, more tourism, more investment, more credits, more technology transfer, and more cooperation in fighting the drug traffic.”<sup>144</sup> Additionally, “[t]he treaty’s enemies have managed to blame it, usually unfairly, for all manner of ills; and, largely as a result, America’s trade policy has stalled.”<sup>145</sup> However, many generally view NAFTA as a positive legal and political step in the development of North America.

#### IV. CONCLUSION

This note establishes that the NAFTA provisions governing intellectual property protection have created a technology transfer friendly system through the manner in which they are structured and enforced.<sup>146</sup> By requiring that each member country adhere to other multilateral conventions on intellectual property protection, NAFTA ensures the integrity of larger, more important conventions.<sup>147</sup> By requiring that each member country provide equal treatment to the

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<sup>143</sup>Daniel Millan, *Hay Resentimiento de Eu Hacia Mexico*, Reforme (Mexico) WORLD NEWS CONNECTION, trans. Sept. 25, 2001.

<sup>144</sup> *Id.*

<sup>145</sup> *When Neighbours Embrace*, *supra* note 117, at 21-23.

<sup>146</sup> North American Free Trade Agreement, *supra* note 12, at ch. 17.

<sup>147</sup> *Id.* at art. 1701.

nationals of other member countries in regard to protection and enforcement of all intellectual property rights, NAFTA ensures that favoritism will not come into play when foreign nationals attempt to assert intellectual property rights, which might be opposed to those of a national.<sup>148</sup> By requiring that each country establish a system for registering trademarks, NAFTA ensures that both domestic and foreign corporations will be able to take the initial steps toward protecting the marks that identify their product.<sup>149</sup> By establishing licensing and judicial procedures governing patents, NAFTA facilitates registration and redress.<sup>150</sup> By establishing trade secret protection, NAFTA encourages technology transfer because it assures that corporate technology cannot be legally misappropriated if it is exported to another member country.<sup>151</sup> These provisions, if they are enforced properly, create a technology transfer friendly system by providing the intellectual property protection corporations want and need. In total, NAFTA encourages corporations to transfer technology to other member countries without too much fear of misappropriation.

This note also establishes that NAFTA has had a positive effect on the level of technology transfer between the NAFTA countries. By strengthening intellectual property protection, NAFTA has calmed corporate apprehension towards technology transfer. The lowered apprehension has encouraged FDI while encouraging technology transfer at the same time. In total, NAFTA has caused technology transfer between its member countries to increase to levels unseen before its enactment.

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<sup>148</sup> *Id.* at art. 1703.

<sup>149</sup> *Id.* at art. 1708.

<sup>150</sup> *Id.* at art. 1709.

<sup>151</sup> *Id.*, at art. 1711.

This note further establishes that NAFTA has had a positive effect towards strengthening the intellectual property laws and political relationships between the NAFTA member countries and thus, has facilitated technology transfer between them. NAFTA set a high standard for intellectual property protection laws in the member countries. The standard greatly strengthened intellectual property protection in Mexico and to a lesser degree, the United States and Canada. NAFTA also helped improve the political relationships between the member countries by paving the way for cooperation between them. In total, NAFTA strengthened the legal systems of the member countries, while improving the political relationships between them.

In sum, NAFTA's regionalistic approach to trade, and positive attitude towards intellectual property protection, has helped to increase the level of technology transfer between the member countries. In turn, the increase in technology transfer has helped to maximize the economic benefits NAFTA has to offer.