Justifying Patent Harmonization

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I. INTRODUCTION

PATENT SYSTEMS ARE DESIGNED FOR MOTIVATING INNOVATION, encouraging development, and incentivizing inventions.[1] Initially, the effectiveness of patent law was limited to national boundaries so as to motivate innovative local activities.[2] Later, the concern grew beyond national boundaries with the expansion of international trade.[3] Arguments to harmonize domestic patent laws at the international level have attracted substantial attention.[4] As intellectual property (IP) grows as a component of trade, the costs are soaring for worldwide protection of patents.[5] Inventors also bear increasing frustration due to the need to

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1 Roberto Mazzoleni & Richard R Nelson, "Economic Theories about the Benefits and Costs of Patents" (1998) 32 Journal of Economic Issues 1031 at 1033.

2 World Intellectual Property Organization (WIPO), Getachew Mengistie, "The Impact of the International Patent System on Developing Countries" A/39/13 Add. 1 (2003) at 4, online: WIPO < www.wipo.int/edocs/mdocs/govbody/en/a_39/a_39_13_add_1.doc >.

3 *Ibid.*

4 WIPO, Standing Committee on the Law of Patents, Draft Report, SCP/10/11 Prov. 2 (2004) at 1-2 online: WIPO <www.wipo.int/scp/en/meetings/session_10/doc/scp_10_11p2.doc>; WIPO, Standing Committee on the Law of Patents, "Information on Certain Recent Developments in Relation to the Draft Substantive Patent Law Treaty (SPLT)" SCP/10/8 (2004) at 2-3 online: WIPO <www.wipo.int/edocs/mdocs/scp/en/scp_10/scp_10_8.doc>; WIPO, Standing Committee on the Law of Patents, Draft Substantive Patent Law Treaty (SPLT), at 2, WIPO Doc. SCP/10/2 (Sept. 30, 2003), online: WIPO <http://www.wipo.int/patent-law/en/harmonization.htm>; Jerome H Reichman & Rochelle C Dreyfuss, "Harmonization Without Consensus: Critical Reflections On Drafting A Substantive Patent Law Treaty" 57 Duke LJ 85 at 87 [Reichman & Dreyfuss]; also see generally WIPO, Open Forum on the Draft Substantive Patent Law Treaty (SPLT) (2006), online: WIPO <http://www.wipo.int/meetings /en/2006/scp_of_ge_06/scp_of_ge_06_inf1.html> [WIPO Open Forum].

5 See *ibid.*; see also Gretchen Ann Bender, "Clash of the Titans: The Territoriality of Patent Law vs. The European Union" (2000) 40 IDEA 49 at 53; Erwin F. Berrier, Jr "Global Patent Costs Must Be Reduced" (1996) 36 IDEA 473 at 473.

pursue multiple actions in several countries.[6] Under the bedrock principle of territoriality, successive litigations can trigger different applications of patent norms to the same set of facts, which can lead to conflicting judgments and potentially irreconcilable outcomes.[7] The *Paris Convention* was a reflection of this concern, but the dramatic turning point concerning international patents was the *Trade-Related Aspects of International Property Rights* (*TRIPs*)[8], which establishes strong principles that applied to all members of the World Trade Organization (WTO).[9] TRIPs had a significant impact as it signaled the inevitability of a more harmonized and global patent system.[10]

In the post-TRIPs era, the international patent system, intended to harmonize domestic patent laws, became the subject of heated debate. With implementation proving slow, costly, and a source of domestic opposition, TRIPs became increasingly problematic for many developing states.[11] Since intellectual assets emerged as one of the most important and valuable assets for economic development, developing countries realized the importance of higher IP protection. Accordingly, they became suspicious that the benefits of patent harmonization would be unequally distributed. The United States and the European Union added to this perception by pressuring developing countries to sign "TRIPs-plus" bilateral agreements containing higher standards than those found in TRIPs, such as patent term extensions or limits on compulsory licenses, and limits on parallel importing.[12] In 2000, several industrialized states

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6 See *ibid.*; see also International Association for the Protection of Intellectual Property (AIPPI), *Question Q174–Jurisdiction and Applicable Law in the Case of Cross-border Infringement of Intellectual Property Rights*, 2003/I YB (2003) at 827–828, online: AIPPI <https://www.aippi.org/download/commitees/174/RS174English.pdf> (recognizing the need for a fairer and more efficient method of resolving cross-border controversies); European Max-Planck Group for Conflict of Laws in Intellectual Property, "Exclusive Jurisdiction and Cross-Border IP (Patent) Infringement: Suggestions for Amendment of the Brussels I Regulation", (2007) 29 Eur Intell Prop Rev 195 at 195–96 (suggesting the need to amend the Brussels Regulation on Jurisdiction and Enforcement of Judgments in Civil and Commercial Matters, EC Regulation No 44/2001, to improve the efficiency of transnational dispute resolution).

7 See *ibid.*

8 *TRIPs: Agreement on Trade-Related Aspects of International Property Rights*, 15 April 1994, *Marrakesh Agreement Establishing the World Trade Organization, Annex 1C*, 1869 UNTS 299, 33 ILM 1197, online: WTO <http://www.wto.org/english/docs_e/legal_e/27-trips_01_e.htm>.

9 WIPO Open Forum, *supra* note 4 at 4.

10 *Ibid.*

11 Laurence R. Helfer, "Regime Shifting: The TRIPS Agreement and New Dynamics of International Intellectual Property Lawmaking" (2004) 29 Yale J Int'l L 1 at 24 [Helfer].

12 *Ibid* at 24; see generally Bryan C Mercurio, "TRIPS-Plus Provisions in FTAs: Recent Trends" in

helped the World Intellectual Property Organization (WIPO) initiate an international discussion about the *Substantive Patent Law Treaty* (SPLT) to realize the adoption of identical rules granting and enforcing patents. As a result, there is a growing belief among developing countries that the international patent system and patent harmonization involve should be resisted rather than embraced.[13]

This paper first investigates the relationship between intellectual property, mainly patents, and the free trade argument. Based on the critique of current recognition of IP in connection with free trade, this paper suggests new justification for patent harmonization from different perspectives. Finally, based on this new approach, this paper revisits several TRIPs provisions and proposes new approaches for the mutual benefit of all participating countries.

II. FREE TRADE AND PATENT HARMONIZATION

It has been argued that patent harmonization is indispensable for global free trade and the TRIPs agreement is a part of the WTO treaties. Some countries claim that shortcomings in availability and enforcement of intellectual property rights (IPRs) constitutes a barrier to trade, as potential exports by inventors or creators may be prevented or diminished by counterfeit versions of their products in foreign markets.[14] For example, if a country had no IP protection, then presumably that country would be a source for counterfeit goods. Some of these goods would then find their way into markets where there is IP protection. Thus, a heavier burden would be placed on border monitoring of imports. This monitoring would impose a cost on international trade that would be avoided with a certain minimum level of IP protection in all countries—so that IP rights holders could try to stop the counterfeiting at its source, instead of the less efficient method of blocking the exports of goods to countries with IP protection. Supporting this argument, it was stated that:

Lorand Bartels & Federico Ortino, eds, *Regional Trade Agreements and the WTO Legal System* (Oxford University Press, 2006) at 215-237.

13 Helfer, *supra* note 11 at 24.

14 Carlos M Correa, *Trade Related Aspects of Intellectual Property Rights: A Commentary on the Trips Agreement* (New York: Oxford University Press, 2007) at 3 [Correa].

> [T]rade distortions and impediments were resulting from, among other things: the displacement of exports of legitimate goods by unauthorized copies, or of domestic sales by imports of unauthorized copies; the disincentive effect that inadequate protection of intellectual property rights had on inventors and creators to engage in research and development and in trade and investment; the deliberate use in some instances of intellectual property right protection to discourage imports and encourage local production, often of an inefficient and small-scale nature; and the inhibiting effect on international trade of disparities in the protection accorded under different legislations.[15]

In line with this argument, the preamble's chapeau of TRIPs highlights the reduction "of distortions and impediments to international trade" as the main target of the Agreement.[16] This statement suggests that improving the protection of IPRs could contribute to such a reduction.[17] Because free trade is theoretically beneficial to all participating countries, this theory suggests that a harmonized patent law would contribute to the removal of trade barriers and to the free movement of resources, which benefits all countries involved.

The tensions caused by differences in IPRs as a barrier to trade are contemplated in Article XX(d) of the *General Agreement on Tariffs and Trade*[18], which permitted *GATT* Contracting Parties to justify trade restrictions imposed by IPRs.[19] Specifically, *GATT* Article XX, General Exceptions states:

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:

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15 Correa, *supra* note 14 at 3.

16 *Ibid*.

17 *Ibid*.

18 30 October 1947, 58 UNTS 187, Can TS 1947 No 27 (entered into force 1 January 1948), online: WTO <https://www.wto.org/english/docs_e/legal_e/gatt47_02_e.htm> [*GATT 1947*].

19 See Correa, *supra* note 14 at 2 (the application of this article was considered, with different outcomes, in two GATT disputes: *United States-Import of Certain Automotive Spring Assemblies*, (1983) GATT Doc L/533-30S/107, and *United States-Section 337 a/the Tariff Act of 1930* (1989), GATT Doc L/6439-36S/345).

> (d) necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to ... the protection of patents, trademarks and copyrights . . .[20]

In addition, intellectual property is not necessarily related to the movement of goods. This argument becomes more apparent when one compares the core provisions of national treatment (NT) and most-favored-nation (MFN) between GATT, the treaty governing free movement of goods, and the treaty of intellectual property (TRIPs). In GATT, these provisions are linked to the product or production. However, similar provisions in TRIPs do not have reference to products. Rather, it says that nationals of different countries should be treated the same (NT) or most-favorably (MFN). This comparison obviously shows that intellectual property is not related to the movement of goods, but to personal rights.

Table 1: Comparison between GATT and TRIPs

	GATT	TRIPs
National Treatment (NT)	**Article III. 1**. The contracting parties recognize that internal taxes and other internal charges and laws, regulations, and requirements . . ., should not be applied to imported or domestic products so as to afford protection to domestic production.	**Article 3.1** Each Member shall accord to the *nationals* of other Members treatment no less favorable than that it accords to its own *nationals* with regard to the protection of intellectual property . . .
Most Favored Nation (MFN)	**Article I. 1**. With respect to customs duties and charges of any kind . . . , any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties	**Article 4.** With regard to the protection of intellectual property, any advantage, favour, privilege or immunity granted by a Member to the *nationals* of any other country shall be accorded immediately and unconditionally to the *nationals* of all other Members. . .

In short, the rational for patent harmonization should be very different from that for free trade. As a result, patent rights are not necessarily related to comparative advantage. In other words, in contrast to free trade of goods or services, the reduction of distortions and

[20] GATT *1947*, *supra* note 18.

impediments by intellectual property will not necessarily result in the same benefits for all participating countries. Specifically, under the concept of comparative advantage, the neoclassical theory of trade suggests that "further liberalization will, with certain defined exceptions, always be beneficial both to the domestic economic welfare of the liberalizing state and to global economic welfare."21 With respect to IP protection, however, "the case cannot be stated in these terms, as a requirement of strengthened protection could increase economic welfare in some countries while reducing it in others, in at least some sectors."22 Based on this observation, Trebilcock and Howse argue that "the conclusion that stronger intellectual property protection may benefit some countries but not others suggests a fundamental difference between the theoretical case for trade liberalization and the case for mandating high levels of IP protection throughout the world." Bhagwati supports this idea by arguing that "TRIPs has distorted and deformed an important multilateral institution, turning it away from its trade mission."[23] In short, patent harmonization cannot be justified from the trade theory perspective, and political pressure to implement patent harmonization would result in a growing belief among developing countries that the international patent system and patent harmonization is a coerced agreement that should be resisted rather than embraced.[24]

III. JUSTIFYING PATENT HARMONIZATION BASED ON THE PATENT THEORY

As discussed in the previous section, patent harmonization would not be justifiable by the framework of international trade. Theoretically, the WTO regime is designed to motivate free trade that will consequentially benefit all participating countries. However, with respect to patent harmonization, there is a strong possibility that some countries will be damaged whereas others will benefit. This is a fundamental theoretical difference between international trade and patent harmonization, and it is necessary to find a satisfactory justification for patent harmonization. This

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21 Michael J Trebilcock & Robert Howse, *The Regulation of International Trade*, 3d ed (New York: Routledge, 2005) at 400-401 [Trebilcock & Howse].

22 *Ibid.*

23 Jagdish Bhagwati, *In Defense of Globalization* (New York: Oxford University Press, 2004) at 182-185.

24 Helfer, *supra* note 11 at 24.

paper seeks guidance from the patent theory of utilitarianism that has been applied as the principal philosophical theory to the protection of utilitarian works or technological inventions.[25]

A. Patent System in a Closed Economy

Utilitarian theorists have generally endorsed the creation of intellectual property rights as an appropriate means to foster innovation, subject to the caveat that such rights are limited in duration so as to balance the social welfare loss of monopoly exploitation.[26] In other words, patent law is designed to strike a balance between its utility by incentivizing local inventors and benefiting society by disclosing the description and disutility from the monopoly by granting the exclusive rights of patents. Based on this analysis, one can determine that the consequential social utility in a closed economy is the difference between domestic invention and domestic monopoly on ideas.

Social Welfare in a Closed Economy = Domestic Innovation – Domestic Monopoly

Under the current patent law system, a domestic patent system is believed to produce a net social gain because the social benefits of this increased rate of invention are large enough to more than offset the costs of patenting.[27] Moy elaborates this point as follows:

> Each unit of increased cost imposed on domestic consumers provides a unit of increased revenue to domestic industry. Evaluating such a patent system therefore involves, in large part, estimating the amount of increased invention that will actually result from a given increase in expected revenue. In addition, the increased resources diverted to a domestic patent owner are not wholly lost to the domestic economy. Rather, the domestic patent owner generally will reinvest all or a part of those resources, thereby mitigating the cost of patenting to some degree.[28]

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25 Peter S Menell, *1600 Intellectual Property: General Theories*, 129 at 129, online: David Levine <http://www.dklevine.org /archive/ittheory.pdf>.

26 See *ibid.*

27 R Carl Moy, "The history of the Patent Harmonization treaty: economic self-interest as an influence" (1993) 26 John Marshall L Rev 457 at 474 [Moy].

28 *Ibid.*

B. Change in the Patent System in an Open Economy

In a closed economy, this utility-balancing mechanism works well because the domestic effects of these costs and benefits of patent systems were linked together relatively tightly.[29] The advent of an open economy changed this mechanism and brought into consideration two elements: the monopoly and spill-over effects of a foreigner's patent rights. First, there is a welfare loss caused by foreigners who obtain a patent. Foreigners who obtain a patent can often exercise their exclusionary power regardless of whether that exercise is closely related to local economic benefits. For example, assume that a foreign inventor from country B obtains a patent in country A, but exploits the advance through producing or 'working the patent', not in country A, but in his or her own country B. In this situation, according to Moy, domestic industry in the inventor's own country, B, receives increased profits from patenting, so higher prices are imposed on consumers in foreign country A without giving any benefit to country A.[30] For this reason, by the late 1880s, national governments and economists determined that these differences between national patent systems could be used as tools to manipulate national wealth, because they realized that granting patents to foreign nationals generally resulted in a net outflow of national wealth.[31] As a result, international patent transactions reallocate wealth away from the granting country and into the country of the patent owner.[32]

There might be some positive effects, however, by motivating an inflow of foreign direct investment (FDI) and technology transfer. It is true that "FDI . . . is seen as key determinants for economic development and poverty reduction in developing countries."[33] Specifically, according to Hassan, Yaqub, and Diepeveen, "inward FDI can generate important spillovers for developing economies, resulting in the upgrading of domestic innovative capacity, increased R&D employment, better training and support to education." Stronger IPRs in developing countries can help motivate FDI inflow because they can eliminate worries about losing their rights through non-market-based channels, especially reverse

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29 *Ibid.*

30 Moy, *supra* note 27 at 475.

31 Janice Muller, *Patent Law*, 3d ed (New York: Aspen Publishers, 2009) at 526 – 527; see also *ibid.*

32 Moy, *supra* note 27 at 475.

33 Emmanuel Hassan, Ohid Yaqub, & Stephanie Diepeveen, *Intellectual Property and Developing Countries: A review of the literature*, (Cambridge: Rand Europe, 2010), online: Rand <http://www.rand.org/pubs/technical_reports/2010/RAND_TR804.pdf>.

engineering and imitation. Stronger IPRs can also encourage international technology transfer through market-based channels, particularly licensing, at least in countries with strong technical absorptive capacities.[34]

The welfare function of the patent system should be modified in an open economy considering these monopoly and spill-over effects of a foreigner's patent. It should be noted that patent rights are not the right to use, but the right to exclude, so the welfare loss by a foreign monopoly is generally assumed when foreigners obtain a patent. However, positive spillover effects cannot be generalized because they vary case by case. Thus, we can see that the balancing mechanism is far more complicated in a globalized economy. In short, the modified social welfare function is as follows:

> **Social Welfare in an Open Economy** = Domestic Innovation Gain – Domestic Monopoly costs – *Foreign Monopoly costs + Spillover effects Gain*

C. Utilitarian Justification for Patent Harmonization

According to this theory, harmonization can be justified only when harmonization increases the social welfare of each country that joined the scheme of harmonization. In other words, one country can consider the other's patent law if this consideration results in maximizing social utility. If multiple states agreed on the fact that harmonization could increase their social utility, harmonization would be justified and realized smoothly.

The essential task in discussing a mid-level principle is to develop a more precise and administrable standard of efficiency in the international context. Although one might define "global welfare" by summing up the utility of each country, the argument for maximizing aggregate global wealth cannot be valid in the global context because one country's welfare cannot be sacrificed for the welfare of the other. In other words, patent harmonization would not be satisfactory if any one participating country's utility is consequentially worse off than before. Rather, it can be efficient only when harmonization increases the welfare of each country. This can be realized in only two cases: 1) Pareto improvement where harmonization harms no one and helps at least one state by making each social utility increase or be sustained in all participating countries; and 2) Kaldor-Hicks

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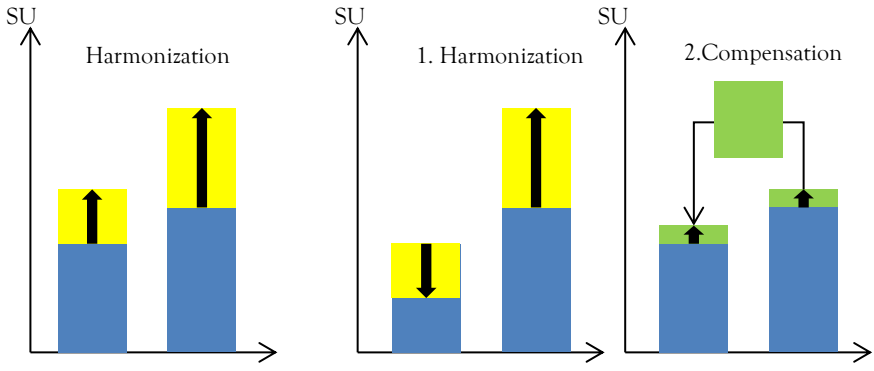
[34] See *ibid.*

criterion where this Pareto optimal outcome can be reached by arranging sufficient compensation from those who are made better off than those who are made worse off so that all would end up no worse off than before.[35]

Figure 1: Pareto and Kaldor-Hicks Improvement[36]



The first case is very simple. If harmonization can lead to an increase of social utility in each country, harmonization is good in the utilitarian sense. This is a classic example of Pareto improvement in the sense that a change in the allocation of a resource to a set of countries is an improvement for at least one and no worse for any other. As a result, maximization of social welfare in each country is achieved and all countries will agree to change their patent laws through harmonization. The second case of Kaldor-Hicks improvement is a more complicated process, realizing maximization through compensation. Under Kaldor-Hicks criterion, one state of affairs is preferred to a second state of affairs if, by moving from the second to the first, the "gainer" from the move can, by a lump-sum transfer, compensate the "loser" for his loss of utility and still be better off.[37] In this case, the compensation from the one who is

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35 Investopedia, "Definition of 'Pareto Improvement'", online: Investopedia <http://www.investopedia.com/terms/p/ paretoimprovement. asp#axzz1ofNkit9S>.

36 OECD, *Regulatory Policy and the Road to Sustainable Growth*, Draft Report (2010), online: OECD <http://www.oecd.org/dataoecd/5/41/46270065.pdf> at 15.

37 William W Fisher, "Theories of Intellectual Property" in Stephen R Munzer, ed, *New Essays in*

better off to the other who is worse off will result in increasing the social utility in each country. Then, each country can agree on the compensation and improvement mechanism; as a result, patent harmonization can be implemented efficiently.

IV. JUSTIFYING PATENT HARMONIZATION BASED ON THE UTILITARIAN THEORY

In the previous section, the paper argues that patent harmonization cannot be justified by the neo-classic trade theory and it "must be justified instead as a fair bargain or trade-off between the competing or conflicting economic interests of different states."[38] In other words, patent harmonization can be justified by the utilitarian theory only when it can provide higher utility and when this modified welfare function after harmonization falls into Pareto optimal or Kaldor-Hicks improvement. However, it is obvious that patent harmonization is not necessarily Pareto-superior.[39] In addition, it is highly questionable whether "[patent harmonization] is even Kaldor-Hicks efficient."[40] Thus, this chapter investigates the application of the theory into actual international cooperation. Specifically, this section will justify major IP treaties that have been concluded by distinguishing between them as focusing on substantive harmonization and procedural harmonization.

A. Substantive Harmonization and Procedural Harmonization

Patent law harmonization can be classified into a procedural or substantive focus. Procedural issues deal with forms and processes to file applications, whereas substantive cooperation covers standards and rules for granting and enforcing patents. For example, TRIPs is a famous treaty based on substantive harmonization, whereas the Patent Cooperation Treaty (PCT) focuses on procedural harmonization.

Substantive harmonization is often called "deep harmonization," concerning not just the drafting, filing, and examination of patent

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the Legal and Political Theory of Property (Cambridge: Cambridge University Press, 2001) at 69; Nicholas Kaldor, "Welfare Propositions in Economics and Interpersonal Comparisons of Utility" (1939) 49 The Economic Journal 549 at 549-552.

38 Trebilcock & Howse, *supra* note 21 at 401.

39 *Ibid.*

40 *Ibid.*

applications, but also the cornerstone requirements of patentability.[41] Specifically, 'substantive harmonization' means the adoption of similar rules concerning the amount of information revealed by patent disclosure, and the criteria to determine a novel and useful invention when a technical advance meets the requirement for an "inventive step" (non-obviousness).[42] It would also entail an agreement on the priority of inventorship (whether a patent is awarded to the first to invent or the first to file), and whether inventors will be accorded a grace period permitting publication prior to filing.[43] Moreover, this substantive harmonization requires comprehensive attention to many post-grant issues, such as enforcement and remedies.[44] The anticipated advantage of this harmonization is the simple and rapid procedures, simplicity of access, proximity to courts, legal clarity, and predictability.[45] In this sense, substantive harmonization involves essential elements for the ultimate goal of harmonization—'One patent application and global protection.'

Procedural harmonization, on the other hand, focuses on providing a filing tool for applicants to file foreign patents and suggesting a route for other patent offices for effective processing of patent applications if they are willing to exploit work done by others.[46] Thus, procedural harmonization deals with requirements relating to form and methods of patent applications. It does not deal with requirements of patentability in substantive patent law; rather, it focuses on providing tools which allow many countries to effectively deal with the requirements of their substantive patent laws.

B. Substantive Patent Harmonization within WTO

WIPO, the specialized UN agency that deals with Intellectual Property Rights (IPRs), initiated a discussion on IP harmonization beginning in the

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41 Reichman & Dreyfuss, *supra* note 4 at 90; See also Karen M Hauda, "The Role of the United States in World-Wide Protection of Industrial Property" in Frank Gotzen, ed, *The Future of Intellectual Property in the Global Market of the Information Society* (Brussels: Bruylant, 2003) 89 at 97.

42 *Ibid.*

43 *Ibid.*

44 Reichman & Dreyfuss, *supra* note 4 at 124.

45 European Commission, *Future Patent Policy in Europe: Public Hearing* (12 July 2006) online: European Commission <http://ec.europa.eu/internal_market/indprop/docs/patent/hearing/report_en.pdf> at 4.

46 WIPO, *The Need For Improving The Functioning Of The PCT System*, PCT/WG/3/2 (2010), at 19, online: WIPO <http://www.wipo.int/edocs/mdocs/pct/en/pct_wg_3/pct_wg_3_2.pdf>.

19th century and now administers two of the oldest IPR treaties: the *Paris Convention for the Protection of Industrial Property, 1883* as revised up to 1967 (*Paris Convention*); and the *Berne Convention for the Protection of Literary and Artistic Works, 1886* as revised up to 1971 (*Berne Convention*).[47] However, the substantive standard of patent law in the *Paris Convention* was considered to be weak by several developed countries such as the U.S. Specifically, the *Paris Convention* principally mandates national treatment and the recognition of a grace period for filing of industrial property applications.[48] Otherwise, member countries are more or less free to determine the standards of protection for industrial property, more particularly for patents, such as the subject matter to be protected, the terms of protection or even exceptions, with some limited restrictions on compulsory licenses.[49] However, developed countries were unsatisfied with the lack of substantive standards in the *Paris Convention* and negotiated a higher standard of IP protection. Since 1974, developing countries have been demanding that they further lower the standards of industrial property which are applicable to them. [50] As a result, the revision process broke down during the third session in Geneva in 1982,[51] and no further sessions were held after the fourth session in Geneva in 1984.[52]

To overcome the deadlocked situation, developed countries attempted to discuss IP issues within the WTO framework. In the Tokyo Round, there was discussion about counterfeiting. During the negotiations for the Uruguay Round, developed countries' lobbies for their industries initiated the discussion process with WTO. For example, as far back as the early 1980s, the International Anti-Counterfeiting Coalition, a private association of US multilateral companies, was created to lobby against counterfeiting during the Tokyo Round and expanded its mandate to include strengthened protection of all forms of IPRs.[53] The Intellectual Property Committee (IPC), founded in March 1986 and dominated by the US based research industries, also closely coordinated industry positions

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47 Jayashree Watal, *Intellectual Property Rights in the WTO and Developing Countries* (The Hague: Kluwer Law International, 2001) at 15.

48 *Ibid.*

49 *Ibid* at 16.

50 *Ibid* at 17.

51 *Ibid* at 16.

52 *Ibid* at 17.

53 *Ibid.*

with that of the US government throughout the negotiations.[54] Based on the support of these lobbying groups, although IP issues are not related to free trade, developed countries led the negotiation and successfully persuaded developing countries within WTO to sign on to the substantive IP law treaty, or TRIPs.

The conclusion of TRIPs within the WTO seems to be a good example of Kaldor-Hicks harmonization because it was realized through the compensation mechanism. When negotiating substantive harmonization, countries need to strike a balance between the welfare loss and welfare gains caused by an open economy. Because this patent harmonization does not always result in welfare gains or welfare losses, countries have to calculate welfare changes for each patent harmonization scheme. If harmonization is expected to cause an overall welfare loss for given countries, those countries will be reluctant to participate in negotiations. In addition, it is obvious that substantive patent harmonization would create a welfare loss for certain developing countries. For example, if the local innovative capacity is very weak and the spill-over effects are expected to be very low, the substantive harmonization of patent law with states of higher technical capacity would cause negative effects on social utility. When there is obvious welfare loss, developing countries need to be compensated to implement the treaty. The problem that needed to be revised within WIPO during the *Paris Convention* was that there were limited tools for compensation because WIPO's scope of work was inherently limited to IP issues. However, countries were able to negotiate compensation at the WTO, including trade concessions in other fields. In the Uruguay Round, developing countries gained trading concessions in agriculture and textiles as compensation for the welfare loss caused by stronger IP rights.[55] Unlike WIPO, representatives in the WTO have more flexibility to negotiate compensation for developing countries. This made it easier to satisfy the Kaldor-Hicks improvement matrix and help substantive harmonization within WTO, rather than WIPO.

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54 *Ibid.*

55 Jerome H. Reichman, "The trips agreement comes of age: conflict or cooperation with the developing countries?" (2000) 32 Case W Res J Intl L 441 at 455-456.

C. Procedural Harmonization within WIPO

Unlike substantive harmonization, the international community has been quite successful in realizing procedural harmonization. For example, the *Patent Cooperation Treaty* (*PCT*) provided procedural enhancements to the international IP regime.[56] Signed in 1970, the *PCT* greatly streamlined and simplified the process for securing patent protection in multiple countries, resulting in patent protection in as many as 142 countries in 2010. Specifically, *PCT* created a uniform legal route to file an international patent application in several countries by a single domestic filing.[57] It also allows filing a single application, performing an international prior art search and providing international publication of the patent.[58]

The successful operation of this procedural harmonization can be explained by Pareto improvement. Because it does not involve substantive issues, developed countries benefit as their inventors gain easy access to multiple patents in many countries, providing substantial benefit. From the developing countries' point of view, the welfare loss would be minimal because governments only have to provide additional routes for their patents. Procedural harmonization does not require changing laws, making it relatively simple to implement. Procedural harmonization requires developing countries to provide additional routes to obtain a patent, but they do not need to change any substantive patent standard that is designed for their best interests. By being a member of *PCT*, developing countries can expect their industries to benefit by gaining easier access to the disclosed information of patents. Consequentially, each participating country can expect welfare gains or at least no welfare loss.

V. CONCLUSION

The rationale for patent harmonization should be distinguished from that of free trade. As patent harmonization cannot be based on any

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56 *Patent Cooperation Treaty*, 19 June 1970, 28 US Stat 7645, 1160 UNTS 231.

57 US, Congress, *Patent Reform in the 112th Congress: Innovation Issues*, CRS Report RL32996, (Washington, DC: US Government Printing Office, 2005), at 19; WIPO, *PCT Contracting States*, online: WIPO <http://www.wipo.int/pct/ guide/en/gdvol1/annexes/annexa/ax_a.pdf>.

58 WIPO, *The Impact Of The International Patent System On Developing Countries*, A/39/13 Add. 1 (2003) at 18.

comparative advantage and cannot benefit all participating countries, it is necessary to investigate patent harmonization from the points of view of patent theory or utilitarian. According to this theory, the patent system was originally designed to maximize social utility. Thus, for patent harmonization to be economically justified, it should contribute to increased welfare. Based on this theory, this paper suggests two cases of justification, Pareto Improvement and Kaldor-Hicks Improvement. This paper also explores the application of this justifying theory in several historical events: the successful conclusion of TRIPs within the WTO framework and procedural harmonization such as *PCT* within the WIPO framework. As substantive harmonization necessarily entails welfare loss in some countries, it is very important to consider compensation. On the other hand, procedural harmonization or work-sharing can be beneficial for all participating countries, and there can be a fair starting point for win-win results.