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Breaking Patents

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BREAKING PATENTS

Daniel R. Cahoy*

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INTRODUCTION

In the 1970s and 1980s, the Boeing aircraft company worked to address the rising cost of jet fuel by inventing lighter metal alloys for use in aerospace materials.¹ Among its discoveries was a method of producing

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1. Boeing Co. v. United States, 86 Fed. Cl. 303, 307 (2009).

aluminum-lithium alloys with high “fracture toughness,”² and in 1989, Boeing received a patent for the process.³ Five years later, another aerospace company working as a National Aeronautics and Space Administration (NASA) contractor, Lockheed Martin, was attempting to solve a similar problem related to materials used in the space shuttle. Lighter materials were necessary for future shuttle missions to transport components of the International Space Station.⁴ Lockheed Martin independently discovered the same method that Boeing had patented, and Lockheed Martin used it to lighten the shuttle’s external fuel tank. When Boeing discovered the unauthorized use of its patented method, it sued the U.S. government and won a judgment of patent infringement in 2006.⁵ Because U.S. law does not allow patent injunctions against the government,⁶ Boeing must settle for damages, which will likely be a reasonable royalty.

Boeing’s legal dispute with the U.S. government may seem uncontroversial—even mundane—but it is an example of one of the most contentious legal mechanisms in international law: a patent compulsory license, which is colloquially referred to as “breaking a patent.”⁷ True,

2. *Id.*

3. U.S. Patent No. 4,840,682 (filed Nov. 21, 1985).

4. *Boeing*, 86 Fed. Cl. at 308–09.

5. *Boeing Co. v. United States*, 69 Fed. Cl. 397 (2006).

6. See 28 U.S.C. § 1498 (2006) (making “reasonable and entire compensation” available for use of patentee’s invention by United States without license). Section 1498 is the exclusive remedy for unauthorized use of a patent by the U.S. government. *Zoltek Corp. v. United States*, 442 F.3d 1345, 1349–50 (Fed. Cir. 2006).

7. The definition of patent breaking or compulsory licensing is somewhat flexible. One could include only explicit *ex ante* compulsory licenses, or throw in infringement-like after-the-fact compensation mechanisms as well as antitrust remedies. See, e.g., 17 U.S.C. § 115 (2006) (codifying procedures for obtaining an *ex ante* compulsory license for “making and distributing phonorecords”); *United States v. Besser Mfg. Co.*, 343 U.S. 444, 447 (1952) (defining compulsory licensing as “a well-recognized remedy where patent abuses are proved in antitrust actions” and noting one “is required for effective relief”). But the definition also reasonably encompasses the Boeing example. This unauthorized government use of a privately-owned invention is often characterized as a compulsory license. See, e.g., Cynthia M. Ho, *Unveiling Competing Patent Perspectives*, 46 HOUS. L. REV. 1047, 1094 (2009) (describing compulsory licenses as including “‘government use’ of patents . . . whereby use of patented inventions by government contractors are subject only to remuneration, but never injunctions”); Jerome H. Reichman & Catherine Hasenzahl, *Non-Voluntary Licensing of Patented Inventions* 10 U.N. Conference on Trade & Dev. (UNCTAD) and Int’l Ctr. for Trade & Sustainable Dev. (ICTSD) Project on Intell. Prop. Rights & Sustainable Dev., Issue Paper No. 5, 2004), available at http://www.ictsd.org/pubs/ictsd_series/iprs/CS_reichman_hasenzahl.pdf. In fact, such U.S. licenses were known when the relevant international rules were negotiated and specific language was added to address the practice. See UNCTAD-ICTSD, RESOURCE BOOK ON TRIPS AND DEVELOPMENT 466, 468 (2005) [hereinafter UNCTAD-ICTSD RESOURCE BOOK] (noting such U.S. compulsory licensing practices were “well known at the time of the adoption” of the Trade-Related Aspects of Intellectual Property Rights agreement (TRIPS) Article 31 and account “for much of its peculiar language”).

Boeing's case does not involve humanitarian suffering or pit an international conglomerate against a developing nation. It's just business. But that is exactly the point. The Boeing case demonstrates that the patent breaking mechanism can have relatively common applications, and its imposition by the U.S. government is evidence that even developed, intellectual property rights-centric nations are willing participants in the system. Such a case requires a cogent legal structure to ensure the government does not inequitably diminish Boeing's established rights. However, in most academic and political debates, contexts like those encompassing the Boeing case are ignored. The analysis has primarily focused on a few (albeit important) contexts, particularly access to medicines.⁸ The problem with this approach is that it has left us with a broader international regime that is understudied, vague, unpredictable, and not useful when it really counts. A more comprehensive assessment is necessary to understand how the mechanism of patent breaking should be applied efficiently across all of its possible non-remedial contexts.⁹

Significantly, such an assessment is very timely. There is growing discussion of the use of compulsory licensing to address access problems in emerging crises, such as climate change.¹⁰ Moreover, as a result of current discontent over recent initiatives to streamline the patent breaking system,¹¹ the members of the World Trade Organization (WTO)

8. For recent examples, see Frederick M. Abbott & Jerome H. Reichman, *The Doha Round's Public Health Legacy: Strategies for the Production and Diffusion of Patented Medicines Under the Amended TRIPS Provisions*, 10 J. INT'L ECON. L. 921 (2007); Robert C. Bird, *Developing Nations and the Compulsory License: Maximizing Access to Essential Medicines While Minimizing Investment Side Effects*, 37 J.L. MED. & ETHICS 209 (2009); Daniel R. Cahoy, *Confronting Myths and Myopia on the Road from Doha*, 42 GA. L. REV. 131 (2007); Ho, *supra* note 7; F. M. Scherer & Jayashree Watal, *Post-TRIPS Options for Access to Patented Medicines in Developing Nations*, 5 J. INT'L ECON. L. 913 (2002); Alan O. Sykes, *TRIPS, Pharmaceuticals, Developing Countries, and the Doha "Solution,"* 3 CHI. J. INT'L L. 47, 58–62 (2002).

9. Going forward, this Article excludes consideration of compulsory licenses as anti-trust remedies, as such licenses stem from an entirely different legal theory (remediation for illegal activity), and thus do not have the same market impact as the other forms. Cahoy, *supra* note 8, at 169–72.

10. See, e.g., Robert Fair, *Does Climate Change Justify Compulsory Licensing of Green Technology?*, 6 BYU INT'L L. & MGT. REV. 21 (2009); Matthew Rimmer, *The Road to Copenhagen: Intellectual Property and Climate Change*, 4 J. INTEL. PROP. L. & PRAC. 784 (2009); Frances Williams, *Patents Spat Looms at Climate Change Meeting*, FT.COM, July 12, 2009.

11. Even World Trade Organization (WTO) Director-General Pascal Lamy remarked on the "debate . . . over whether the [Doha] solution really works, or whether it continues to throw up obstacles." Pascal Lamy, Director-General, WTO, Address at the World Intellectual Property Organization Conference on Intellectual Property and Public Policy Issues: Strengthening Multilateral Cooperation on IP and Public Health (July 14, 2009) (transcript available at http://www.wipo.int/meetings/en/2009/ip_gc_ge/presentations/lamy.html).

appear open to discussing how it might be revised.¹² Determining how to improve patent breaking in a comprehensive sense has never been more important.

This Article departs from the narrow focus of the existing patent compulsory licensing literature by considering the mechanism more broadly, as a general intellectual property tool. This approach presents unique challenges because compulsory licensing can encompass so many different types of problems and actors, and general recommendations are difficult to conceive in the abstract. Indeed, one need only look to the original negotiations underlying the current system to see how hard it is to find consensus.¹³ To address the complexity, this Article employs a unique experiential approach, looking to real-world failures of the system to frame the issues for reform. In particular, it considers three recent stories: (1) the failure of “access to medicines” legislation to deliver on its promise, (2) the opportunistic or political patent breaking of developed and middle-developed countries, and (3) the inability to secure licensed goods in emergency contexts in the face of confusing rules. This Article finds that each story provides an important lesson that can be incorporated into international law to create a truly effective patent breaking rule. The threads of these three lessons weave a coherent fabric of compulsory license policy.

Part I of this Article recounts the three stories of policy failure. Part II extrapolates the takeaway lessons from the stories that must be incorporated into any functional patent breaking system. Part III provides the structure of a functional system that provides the best incentives to encourage innovation and respect for basic human rights. Importantly, the Article neither discourages nor encourages the use of compulsory licensing, but rather suggests that a more intelligent policy can benefit all stakeholders.

I. THREE STORIES OF POLICY FAILURE

Hailed as a means of promoting public health, demonized as a barrier to trade, and scrutinized as a loophole in intellectual property

12. Kaitlin Mara, *Efficacy of TRIPS Public Health Amendment in Question at WTO*, INTELL. PROP. WATCH (Mar. 1, 2010, 4:51 PM), <http://www.ip-watch.org/2010/03/01/efficacy-of-TRIPS-public-health-amendment-in-question-at-wto>; Catherine Saez, *Health Waiver, IP Enforcement Discussed at Lively WTO TRIPS Council Meeting*, INTELL. PROP. WATCH (June 10, 2010, 5:48 PM), <http://www.ip-watch.org/weblog/2010/06/10/health-waiver-ip-enforcement-discussed-at-lively-wto-trips-council-meeting>.

13. See UNCTAD-ICTSD RESOURCE BOOK, *supra* note 7, at 463–67 (describing various drafts of TRIPS Article 31 and the differing positions of developed and developing countries).

regimes, the legal ability to break patents has garnered a significant amount of interest. Imposing such a compulsory license allows the government to use the patented invention, or permit another party to do so, without the authorization of the patentee.¹⁴ In fact, the patent is not destroyed—it is otherwise still enforceable—but what is “broken”¹⁵ is the patentee’s right to exclude all others.¹⁶

While many (if not most) countries have some means of relaxing patent enforcement when necessary,¹⁷ it is relatively rare for such measures to be employed.¹⁸ Still, the academic and international policy communities have focused a great deal of attention on compulsory licensing as a relief valve.¹⁹ In part, this may be due to the fact that patents are often viewed as tools of multinational corporations, and compulsory licensing can be viewed as a way for disadvantaged persons to gain a foothold on economic empowerment.²⁰ Additionally, in response to those who object to the application of a strong property rights regime to information, patent breaking

14. Reichman & Hasenzahl, *supra* note 7, at 10.

15. The phrase “patent breaking” is often used for hyperbolic effect in order to place compulsory licenses in a more negative light. This Article has no such intent. Rather, it simply uses the “breaking” terminology as a convenient means of conveying the business community’s perception of the impact of the mechanism.

16. This right of exclusion is often referred to as the *sine qua non* of property. See *Kaiser Aetna v. United States*, 444 U.S. 164, 179–80 (1979) (“In this case, we hold that the ‘right to exclude,’ so universally held to be a fundamental element of the property right, falls within this category of interests that the Government cannot take without compensation.”).

17. See Reichman & Hasenzahl, *supra* note 7, at 1 (“About one hundred countries recognised some form of non-voluntary licensing in their patent laws by the early 1990s.”). Examples of industrialized nations with compulsory licensing regimes include the United Kingdom, Canada, Germany, and Japan. Joseph A. Yosick, *Compulsory Licensing for Efficient Use of Inventions*, 2001 U. ILL. L. REV. 1275, 1289–90 (2001).

18. As noted earlier, compulsory licensing could be defined in many ways. See *supra* note 7. But even using the broadest definition, the number of times in which compulsory licensing has been employed would certainly pale in comparison to instances of voluntary licensing or infringement cases, so it can be fairly called rare. See Ho, *supra* note 7, at 1071. However, with no international reporting mechanism, there is no way to know the actual amount of global compulsory licensing.

19. See, e.g., *supra* note 8. Other examples include F. M. SCHERER, *THE ECONOMIC EFFECTS OF COMPULSORY PATENT LICENSES* (1977); Colleen Chien, *Cheap Drugs at What Price to Innovation: Does the Compulsory Licensing of Pharmaceuticals Hurt Innovation?*, 18 BERKELEY TECH. L.J. 853 (2003); Fair, *supra* note 10. Such relief valves are an essential part of property systems in general. See generally Gregory S. Alexander, *The Social-Obligation Norm in American Property Law*, 94 CORNELL L. REV. 745 (2009) (noting that there are times when property rights should give way to a greater social good).

20. See, e.g., Amy Kapczynski, *Harmonization and Its Discontents: A Case Study of TRIPS Implementation in India’s Pharmaceutical Sector*, 97 CALIF. L. REV. 1571, 1579–86 (2009) (describing, primarily in the context of India, the transition to stronger patent rights in the developing world and strategies such as compulsory licensing used to counter it); Peter K. Yu, *The International Enclosure Movement*, 82 IND. L.J. 827, 888 (2007) (“[T]here is no denial that the TRIPS agreement is biased against developing countries.”).

may provide a welcome limitation.²¹ Despite these commendable intentions, there is little to applaud in the policy realm; the actual implementation of compulsory licensing for the public good has been disappointing and its true potential is largely unrealized.

The following three stories help explain current international compulsory licensing failures. One can see how the regime, as currently designed, is unable to satisfy positive policy goals while at the same time it remains open for exploitation.

A. *The Access to Medicines Conundrum*

At first glance, compulsory licensing seems like a natural component of the ongoing effort to increase access to medicines. The covered articles are well defined and clearly important: pharmaceutical intervention is a key weapon in the battle against diseases that disproportionately affect the developing world, namely HIV/AIDS, tuberculosis, and malaria.²² And because patents on pharmaceuticals can permit companies to raise prices,²³ it is logical to assume that access in poor nations might be unduly restricted.²⁴ Indeed, one can find evidence of significant price differences in examples of branded and generic versions of identical

21. See, e.g., Ann Bartow, *Open Access, Law, Knowledge, Copyrights, Dominance and Subordination*, 10 LEWIS & CLARK L. REV. 869, 872–74 (2006) (“Developed nations that enforce patent rights . . . are preventing people who are unwilling or unable to pay surcharges from reaping the benefits of knowledge that in and of itself is freely available.”); Joseph E. Stiglitz, *Economic Foundations of Intellectual Property Rights*, 57 DUKE L.J. 1693, 1699–1700 (2008) (“[I]ntellectual property rights circumscribe the use of knowledge and thus, almost necessarily, cause inefficiency.”).

22. In 2010, the United Nations (U.N.) reported decreases in the number of deaths attributed to HIV/AIDS and malaria, crediting in part pharmaceutical intervention. U.N. DEP’T OF ECON. & SOC. AFFAIRS, THE MILLENNIUM DEVELOPMENT GOALS REPORT, at 41, 48, U.N. Sales No. E.10.I.7 (2010) (finding that “the number of people living with the [AIDS] virus is still rising, largely due to the life-sustaining impact of antiretroviral therapy” and that “African countries that have achieved high coverage of their populations in terms of bed nets and treatment programmes”—which can include “access to new combinations of antimalarial medications”—“have recorded decreases in malaria cases”). The report also notes that tuberculosis mortality rates are related to “the lack of antiretroviral therapy.” *Id.* at 51.

23. The ability to raise prices is related both to the market and to the scope of the patent grant. See Tun-Jen Chiang, *Fixing Patent Boundaries*, 108 MICH. L. REV. 523, 545–46 (2010).

24. See, e.g., World Health Organization (WHO), Comm’n on Intell. Prop. Rights, Innovation & Pub. Health (CIPHI), *Public Health, Innovation and Intellectual Property Rights*, at 20 (2006) [hereinafter *CIPHI Report*], available at <http://www.who.int/intellectualproperty/report/en> (“[W]here most consumers of health products are poor, as are the great majority in developing countries, the monopoly costs associated with patents can limit the affordability of patented health-care products required by poor people in the absence of other measures to reduce prices or increase funding.”); Amy Kapczynski et al., *Addressing Global Health Inequities: An Open Licensing Approach for University Innovations*, 20 BERKELEY TECH. L.J. 1031, 1047–49 (2005) (detailing how patent rights can render treatments unavailable for impoverished populations by raising drug prices).

pharmaceutical products.²⁵ Moreover, the prominence of patents has greatly increased through the adoption of international trade agreements that require reasonably strong patent systems, with the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement being the most prominent.²⁶ Thus, developing country governments and members of civil society have focused on breaking patents through the TRIPS framework as an important means of increasing the delivery of low-cost medicines.

As noted earlier, the literature on access to medicines and TRIPS is massive and it is unnecessary to recount the entire history here.²⁷ A few summary highlights can provide the necessary context. Immediately following the General Agreement on Tariffs and Trade (GATT) rounds that produced both the WTO and TRIPS, the global aid community viewed this intellectual property agreement as unduly restrictive when it came to essential medicines.²⁸ TRIPS required members to provide patent protection to all inventions without prejudice.²⁹ Various countries that had excluded pharmaceutical compounds from protection were now required to permit patents, cutting off important sources of generic pharmaceuticals.³⁰ In addition, the relatively detailed provisions in TRIPS that allowed for the use of patented inventions without the authorization of the patent owner were restricted to primarily supplying the domestic market.³¹ This meant that nations unable to manufacture generic pharmaceuticals domestically were unable to make much use of TRIPS flexibilities. During the Doha round of trade negotiations, WTO members agreed that changes to TRIPS that would permit the export of

25. WHO, *The World Medicines Situation*, at 68–70, WHO Doc. WHO/EDM/PAR/2004.5 (2004) [hereinafter *WHO Medicines Situation*] (noting that generic medicines are usually much less expensive than patented medicines and providing examples from several countries).

26. See Yu, *supra* note 20, at 858–62 (describing the enclosure of developing country technology space by the TRIPS regime).

27. For a very nice overview of the issues and a comprehensive compilation of academic resources, see generally HOLGER HESTERMAYER, *HUMAN RIGHTS AND THE WTO: THE CASE OF PATENTS AND ACCESS TO MEDICINES* (2007).

28. See, e.g., Frederick M. Abbott & Rudolf V. Van Puymbroeck, *Compulsory Licensing for Public Health: A Guide and Model Documents for Implementation of the Doha Declaration Paragraph 6 Decision 8–9* (World Bank, Working Paper No. 61, 2005).

29. Agreement on Trade-Related Aspects of Intellectual Property Rights art. 27, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994) [hereinafter TRIPS] (declaring that, with the exception of certain treatment and biologic subject matters, patents shall be available “in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application”).

30. Kapczynski, *supra* note 20, at 1579–80.

31. Richard Elliott, *Delivering on the Pledge: Global Access to Medicines, WTO Rules, and Reforming Canada's Law on Compulsory Licensing for Export*, 3 MCGILL INT'L J. SUSTAINABLE DEV. L. & POL'Y 23, 36; Abbott & Van Puymbroeck, *supra* note 28, at 8–9.

licensed, low-cost pharmaceuticals to developing nations were necessary.³² This produced the so-called Doha Declaration and its Paragraph 6 implementation that permitted countries to make exceptions in the compulsory license export rules.³³

In the aftermath of the adoption of the Paragraph 6 decision, several countries rushed to enact compulsory licensing legislation.³⁴ None was more pronounced and proud than Canada. This country's regime serves as an excellent encapsulation of the issues in patent breaking that resulted in the system's current underutilization in the public health context.

1. Canada's Access to Medicines Regime Leads the Way

Prime Minister Jean Chrétien's government began work on legislation that would enact the TRIPS exception into Canadian law in 2003.³⁵ Part of a broader social agenda, the compulsory licensing legislation was cast as a form of aid to the developing world.³⁶ When the following government picked up the bill, it was christened the "Jean Chrétien Pledge to Africa Act," in recognition of the Prime Minister's tenure when the bill was introduced.³⁷ After much negotiation that included input from industry, the government, and non-governmental organizations (NGOs),

32. WTO, Declaration on the TRIPS Agreement and Public Health, ¶¶ 1, 2 & 6 (Nov. 14, 2001), WT/MIN(01)/DEC/2, 41 I.L.M. 755 (2002) [hereinafter Doha Declaration]; WHO, Dep't of Essential Drugs and Medicines Pol'y, *Implementation of the WTO General Council Decision on Paragraph 6 of the Doha Declaration on the TRIPS Agreement and Public Health*, WHO Doc. WHO/EDM/PAR/2004.4 (2004) (by Carlos M. Correa); Frederick M. Abbott, *The WTO Medicines Decision: World Pharmaceutical Trade and the Protection of Public Health*, 99 AM. J. INT'L L. 317, 354–57 (2005).

33. WTO, Implementation of Paragraph 6 of the Doha Declaration on the TRIPS Agreement and Public Health, Decision of 30 August 2003, ¶ 1(b) n.3, WT/L/540 (2003) [hereinafter Paragraph 6 Decision], available at http://www.wto.org/English/tratop_e/trips_e/implem_para6_e.htm.

34. See Amir Attaran, *Why Canada's Access to Medicines Regime Can Never Succeed*, 60 U.N.B. L.J. 150, 156–57 (2009) (noting that thirty-two countries have enacted legislation to enable the Paragraph 6 decision).

35. See Kristina M. Lybecker & Elisabeth Fowler, *Compulsory Licensing in Canada and Thailand: Comparing Regimes to Ensure Legitimate Use of the WTO Rules*, 37 J.L. MED. & ETHICS 222, 226–27 (2009) (describing the legislative history of the act); Elliott, *supra* note 31, at 41 (describing the push by Canadian non-governmental organizations and the United Nations for Canada to implement the decision).

36. Lybecker & Fowler, *supra* note 35, at 226 ("It is one part of the Government of Canada's broader strategy to assist countries in their struggle against HIV/AIDS, tuberculosis, malaria and other diseases.") (quoting *Canada's Access to Medicines Regime*, GOV'T OF CAN., http://www.camr-rcam.gc.ca/index_e.html (last updated Dec. 14, 2007)); Amir Attaran, *A Tragically Naïve Canadian Law for Tragically Neglected Global Health*, 176 CAN. MED. ASS'N J. 1726, 1726 (2007).

37. Elliott, *supra* note 31, at 41.

the bill was passed into law in 2004 as Canada's Access to Medicines Regime (CAMR).³⁸

This regime is restricted to a specific list of drugs (that can be amended) and a small list of least-developed countries.³⁹ Countries wishing to use CAMR must partner with a Canadian pharmaceutical company that is prepared to manufacture the requested drug, and a request must be formally filed with the government.⁴⁰ The approval of Health Canada—Canada's health ministry—is also necessary before any generic drug can be shipped.⁴¹ Although somewhat bureaucratic, the detailed and structured regime was at the time of its passage perceived to be an important step in fulfilling the promise of the Paragraph 6 negotiations.

Following Canada's lead, several other industrialized countries and regions, including the European Union, enacted similar legislation.⁴² These provisions have the same TRIPS-mandated basic structure, requiring a specific country to make a licensing request before generic manufacture can commence.⁴³ Some specific provisions, such as a list of approved drugs or licensees may differ, but the functionality should be essentially equivalent.

Unfortunately, the use of CAMR and similarly enacted provisions in other countries has fallen dramatically short of expectations. Canada's legislation has been used only once, for a combination HIV/AIDS therapy to be exported to Rwanda.⁴⁴ No other country's Paragraph 6 legislation has been used at all.⁴⁵ Moreover, the participants in Canada's one transaction have indicated that they have no intent to engage in the process again.⁴⁶ The arguments, discussed below, have centered on the

38. Lybecker & Fowler, *supra* note 35, at 222.

39. *Id.* at 226.

40. *Canada's Access to Medicines Regime: Requirements for Companies*, Gov't of CAN., http://www.camr-rcam.gc.ca/compan-entrepris/req-exig/index_e.html (last updated July 28, 2006).

41. *Id.*

42. Attaran, *supra* note 34, at 156–57.

43. TRIPS, *supra* note 29, art. 31(a) (providing that licenses must be considered on individual merits).

44. Abbott & Reichman, *supra* note 8, at 933.

45. Attaran, *supra* note 34, at 156–57; Lybecker & Fowler, *supra* note 35, at 227.

46. See Press Release, Apotex, CAMR Federal Law Needs to Be Fixed If Life-Saving Drugs for Children Are to Be Developed (May 14, 2009), available at <http://www.apotex.com/global/about/press/20090514.asp> (“For Apotex, the time and costs involved were high and the company stated it was reluctant to do it again if changes are not made to streamline CAMR.”).

complex nature of the process,⁴⁷ though it is unclear whether this is truly the problem.⁴⁸

As a result of Canada's experiences, disappointment with the arrangement has grown⁴⁹ and many policy advocates have all but abandoned the process as a development focal point. They appear to have turned their attention to other initiatives, leaving the access to medicines regimes fallow.

2. Shifting NGO Priorities

Without a doubt, one of the most important forces behind the Paragraph 6 amendment to TRIPS and the various national enactments has been the NGO community.⁵⁰ Its support is a critical component of the international will to use such legal powers, and a shift in the collective focus of the NGO community can have a great impact. Considered in this context, it is particularly interesting that, very close to the time that Canada passed CAMR, a migration appears to have occurred in the NGO community. More organizations began touting alternative mechanisms for delivering low-cost medicines and improving health, thus pushing compulsory licensing to the relative background.⁵¹ First among these alternatives were the patent prize proposals, systems in which governments would pay to buy out important patented inventions and remove them from private control.⁵² This was quickly followed by patent pool proposals, which would utilize a well-established mechanism for non-exclusive licensing of technology, usually owned by more than one company.⁵³ Additional ideas

47. GOV'T OF CANADA, REPORT ON THE STATUTORY REVIEW OF SECTIONS 21.01 TO 21.19 OF THE PATENT ACT 29–31 (2007) [hereinafter CAMR REVIEW] (noting that stakeholders indicate that more permissive regimes are necessary to encourage licensing).

48. See Attaran, *supra* note 34, at 157–58.

49. See Lamy, *supra* note 11, ¶¶ 14–15.

50. See Amy Kapczynski, *The Access to Knowledge Mobilization and the New Politics of Intellectual Property*, 117 YALE L.J. 804, 835–36 (2008) (describing the substantial impact of activist organizations on intellectual property law).

51. This movement tends to be cast in terms of dissatisfaction with the existing patent regime and the need to find alternatives to provide the same research and development output. See, e.g., James Love, *Measures to Enhance Access to Medical Technologies, and New Methods of Stimulating Medical R&D*, 40 U.C. DAVIS L. REV. 679, 699–710 (2007) (describing various options for innovation in the context of medicine that do not rely on traditional patent protection).

52. See, e.g., James Love & Tim Hubbard, *Prizes for Innovation in New Medicines and Vaccines*, 18 ANNALS HEALTH L. 155 (2009). But see Michael Abramowicz, *Patent Prizes*, 56 VAND. L. REV. 115, 170–71 (2003) (introducing a detailed discussion as to why such “patent prize” systems are inherently flawed).

53. See, e.g., UNITAID, *The Medicines Patent Pool Initiative*, <http://www.unitaid.eu/en/projects-mainmenu-3/medicines-patent-pool-mainmenu-118.html> (last visited Feb. 25, 2011) (describing the 2008 decision of the UNITAID Executive Board “to establish a voluntary patent pool for medicines”). For a more detailed evaluation of UNITAID's Patent Pool Initiative, see THE INNOVATION PARTNERSHIP (TIP), PRELIMINARY LEGAL REVIEW OF PROPOSED

included the Health Impact Fund,⁵⁴ a variation on the patent prize idea requiring a participating government to reward registered drugs based on their health care impact while mandating these drugs be sold at the cost of production, and the Medical Research and Development Treaty,⁵⁵ which would commit governments to minimum standards of investment in medical research. None of these alternative mechanisms have been employed,⁵⁶ and it is therefore not clear that any are viable. They may turn out to be significantly more viable than compulsory licensing. Irrespective of their viability, they have diverted a great deal of academic and civil society attention away from the existing compulsory license regimes.

Why has the NGO community begun to shift away from compulsory license initiatives? One reason may be the lack of prominent impact. As almost no compulsory licensing activity has occurred, and as noted above, very little is expected in the future, continued association with these mechanisms carries the stench of failure. In a related vein, it has been argued that the compulsory license regimes in place were constructed as the result of consensus negotiation, and as such are so fatally flawed that they cannot be pursued any further.⁵⁷ Another reason may be that the legal process has been taken as far as it possibly can. There is no further need for advocacy related to implementing access to medicines regimes; if there is a need, existing systems are arranged to function right now. Finally, the supporting academic community, which was highly concerned about empowering compulsory licensing a decade ago, seems to have shifted its focus to new treaty initiatives like the Anti-Counterfeiting Trade Agreement.⁵⁸ Such initiatives can impact compulsory licensing,⁵⁹ but are not directly related to encouraging its use.

MEDICINES PATENT POOL (2007), available at <http://www.theinnovationpartnership.org/data/documents/00000003-1.pdf>.

54. AIDAN HOLLIS & THOMAS POGGE, *THE HEALTH IMPACT FUND: MAKING NEW MEDICINES AVAILABLE FOR ALL* (2008), available at http://www.yale.edu/macmillan/igh/hif_book.pdf.

55. See Laurence R. Helfer, *Toward a Human Rights Framework for Intellectual Property*, 40 U.C. DAVIS L. REV. 971, 1007–09 (2007) (describing a proposal for a Medical Research and Development Treaty forwarded by “a coalition of more than 150 NGOs, public health experts, economics and legal scholars”).

56. Although one could argue that these various mechanisms have moved forward some interesting policy debates, very few concrete changes have been effected. See E. Richard Gold & Jean-Frédéric Morin, *The Missing Ingredient in Medicine Patent Pools*, 374 LANCET 1329, 1330 (2009).

57. See generally Jean-Frédéric Morin & Edward Richard Gold, *Consensus-Seeking, Distrust, and Rhetorical Entrapment: The WTO Decision on Access to Medicines* (July 18, 2009) (working paper), available at <http://ssrn.com/abstract=1435747>.

58. Anti-Counterfeiting Trade Agreement, Public Predecisional/Deliberative Draft (Apr. 2010), available at http://www.ustr.gov/webfm_send/1883.

59. See generally Margot Kaminski, *Recent Development, The Origins and Potential Impact of the Anti-Counterfeiting Trade Agreement (ACTA)*, 34 YALE J. INT’L L. 247 (2009).

Interestingly, Canada remains one country where NGOs are focused on compulsory licenses. Recent initiatives to amend CAMR have been strongly supported by groups such as the Canadian HIV/AIDS Legal Network and Oxfam Canada.⁶⁰ But despite their support, these groups generally declare that the current system is unworkable and advocate for a less narrow and less regulated system.⁶¹ To the extent that their ideal regime exceeds what is currently permitted under the traditional understanding of TRIPS,⁶² the Canadian NGO community could be viewed as attempting to encourage a national approach that promotes a more expansive reading of the agreement. Perhaps they see an opening in the Canadian political environment for change that could make compulsory licensing a more relevant force in the market. In any case, it is unclear that these revisions will be adopted,⁶³ and in the present state, Canadian compulsory licensing to provide access to essential medicines is—along with the rest of the world—stalled.

In the end, most would conclude that, to date, breaking patents as a means for addressing shortfalls has not been as effective as imagined. If the world were simply left with an unused mechanism having only narrow, theoretical utility, it might be acceptable. But some actors have found ways to take advantage of the flexibilities to serve other purposes.

B. *Politics and Opportunism*

The next story is essentially the opposite of the access to medicines conundrum. It primarily involves countries that may be described as de-

60. See, e.g., 144 HANSARD 74, H.C., 40th Parl., 2d sess., (June 12, 2009) (Can.) (comments of Judy Wasylcia-Leis, M.P., describing Bill C-393, her legislation to amend the CAMR, and thanking “the Canadian HIV/AIDS Legal Network, Results Canada, Stephen Lewis Foundation and Oxfam Canada” for support).

61. See, e.g., Richard Elliott, Canadian HIV/AIDS Legal Network, Making CAMR Work: Streamlining Canada’s Access to Medicines Regime, Brief to Senate Banking Trade and Commerce Committee Regarding Bill S-232, at 3–4 (Oct. 21, 2009), available at <http://www.aidslaw.ca/publications/interfaces/downloadFile.php?ref=1563> (declaring that the CAMR cannot be declared a success and advocating for an amendment to make it workable).

62. See CAMR REVIEW, *supra* note 47, at 34–35 (discussing the so-called “one license” plan advocated by activists that would eliminate the need for a particular country to come forward before a generic producer created a medicine, and why such a plan likely conflicts with Canada’s TRIPS obligations).

63. Efforts to reform CAMR have been recently reinvigorated. A bill containing several reforms, C-393, was passed by the Canadian House of Commons on March 9, 2011. Act to Amend the Patent Act, C-393, 40th Parl. (2011) (Can.), available at <http://www2.parl.gc.ca/Sites/LOP/LEGISINFO/index.asp?Language=E&query=6829&List=toc>. However, Canada’s government fell before the bill could be passed in the Senate. See Ian Austen, *Canadian Government, Harried by Scandal, Collapses*, N.Y. TIMES, Mar. 26, 2011, at A6 (detailing the collapse of Canada’s government on March 25).

veloping,⁶⁴ but are not dramatically economically disadvantaged. They have serious economic issues, but may also have budgets that could permit the purchase of essential goods.⁶⁵ For example, China is now the world's second largest economy, yet it considers itself "developing" due to its relatively low per capita Gross Domestic Product (GDP).⁶⁶ Almost every year, one of these middle-developed countries publicly threatens to "break" the patent rights of a large multinational company. These rights are often related to medical products like pharmaceuticals, and the rationale is almost always to obtain lower prices. Recently joining the club—which includes Egypt,⁶⁷ Thailand,⁶⁸ and Brazil⁶⁹ among its

64. The term "developing country" is actually self-designated under the WTO regime. See *Who Are the Developing Countries in the WTO?*, WTO, http://www.wto.org/english/tratop_e/devel_e/d1who_e.htm (last visited Feb. 25, 2011). As of 2001, the following countries indicated their intent to claim "developing" status: Antigua and Barbuda, Argentina, Bahrain, Barbados, Belize, Bolivia, Botswana, Brazil, Brunei Darussalam, Cameroon, Chile, Colombia, Congo, Costa Rica, Côte d'Ivoire, Cuba, Cyprus, Dominica, Dominican Republic, Egypt, El Salvador, Estonia, Fiji, Gabon, Ghana, Grenada, Guatemala, Guyana, Honduras, Hong Kong, China, India, Indonesia, Israel, Jamaica, Kenya, Korea, Kuwait, Macau, Malaysia, Malta, Mauritius, Mexico, Morocco, Namibia, Nicaragua, Nigeria, Pakistan, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Qatar, Saint Lucia, Singapore, Sri Lanka, St. Kitts and Nevis, St. Vincent and Grenadines, Suriname, Swaziland, Thailand, Trinidad and Tobago, Tunisia, Turkey, United Arab Emirates, Uruguay, Venezuela, and Zimbabwe. See also *Frequently Asked Questions About TRIPS*, WTO, http://www.wto.org/english/tratop_e/trips_e/tripfq_e.htm (last visited Feb. 25, 2011). However, the list is not necessarily exhaustive or binding. "Developing" status in the WTO is distinct from "least-developed countries," a designation rendered by the United Nations and recognized by the WTO for countries that are disadvantaged in their development and in need of international assistance. *Least-Developed Countries*, WTO, http://www.wto.org/english/thewto_e/whatis_e/tif_e/org7_e.htm (last visited Feb. 25, 2011). The current list of least-developed countries includes: Angola, Bangladesh, Benin, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Democratic Republic of the Congo, Djibouti, Gambia, Guinea, Guinea Bissau, Haiti, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Senegal, Sierra Leone, Solomon Islands, Tanzania, Togo, Uganda, and Zambia. *Id.*

65. One way to assess a country's specific level of development with respect to economic ability is to consult the U.N. Human Development Index. See U.N. Dev. Programme, *Human Development Report 2009*, at 142–202 (2009) [hereinafter 2009 UN-HDR], available at http://hdr.undp.org/en/media/HDR_2009_EN_Indicators.pdf. Poverty levels and income are listed, *id.* at 176–80 tbls.I1 & I2, as is health care spending, *id.* at 199–202 tbl.N.

66. News Release, Embassy of the People's Republic of China in the United States of America, China's Developing-Country Identity Remains Unchanged (Aug. 13, 2010), available at <http://www.china-embassy.org/eng/gdxw/t723893.htm>.

67. Richard A. Castellano, Note, *Patent Law for New Medical Uses of Known Compounds and Pfizer's Viagra Patent*, 46 IDEA 283, 289 (2006); Abeer Allam, *Seeking Investment, Egypt Tries Patent Laws*, N.Y. TIMES, Oct. 4, 2002, at W1.

68. See Nicholas Zamiska, *Thai Move to Trim Drug Costs Highlights Growing Patent Rift*, WALL ST. J., Jan. 30, 2007, at A8; Announcement of the Dep't of Disease Control, Ministry of Pub. Health, Thailand on the Public Use of Patent for Pharmaceutical Products (Nov. 29, 2006) [hereinafter Thai. Efavirenz C.L.], available at <http://www.cptech.org/ip/health/c/thailand/thaicl4efavirenz.html>.

69. Abbott & Reichman, *supra* note 8, at 950–52 (describing the conditions related to Brazil's compulsory licensing of Efavirenz in 2007).

members—was Ecuador, which in October 2009, declared its intent to issue a compulsory license to, *inter alia*, produce generic versions of several unnamed patented drugs.⁷⁰ The first license was actually issued in April 2010.⁷¹

While Ecuador's compulsory licensing of pharmaceuticals received the most press, perhaps the more interesting but often overlooked aspect of the initiative is that it was explicitly broader in scope than essential medicines and intended to serve a more general political agenda. For example, Ecuadorian President Rafael Correa has stressed that the licenses would be extended to agrochemicals next.⁷² This declaration was prominently linked from the home page of Ecuador's government office for intellectual property, the Instituto Ecuatoriano de la Propiedad Intelectual (IEPI).⁷³ A translation of one of President Correa's speeches, posted by Essentialaction.org, goes further, noting Correa's interest in extending the licenses to "everything possible," and that "[i]ntellectual property is a mechanism for development for the people. This is our vision of intellectual property. It's not a mechanism to enrich the pharmaceutical or agrochemical companies. It's a mechanism for development for the people."⁷⁴ While such an informal translation may not perfectly capture the Ecuadorian government's intent, Correa has expressed elsewhere the belief that "knowledge is a public good that cannot be privatized."⁷⁵ It seems clear that Ecuador's goals in licensing are more extensive than increasing access to medicines. To avoid barriers from patent owners, Ecuador was able to use Article 31 of the standard text of TRIPS.⁷⁶ This article permits public non-commercial use of pat-

70. See Jeanneth Valdivieso, *Ecuador to Make Cheap Versions of Patented Drugs*, ASSOCIATED PRESS, Oct. 28, 2009, available at 10/28/09 APALERTPOLITICS 21:16:15 (Westlaw).

71. Catherine Saez, *Ecuador Grants First Compulsory License for HIV/AIDS Drug*, INTELL. PROP. WATCH (Apr. 22, 2010), <http://www.ip-watch.org/weblog/2010/04/22/ecuador-grants-first-compulsory-licence-for-hiv-aids-drug>.

72. *Licencias Obligatorias*, REPÚBLICA DEL ECUADOR, INSTITUTO ECUATORIANO DE LA PROPIEDAD INTELECTUAL, http://www.iepi.gob.ec/index.php?option=com_content&view=article&id=59:licencias-obligatorias&catid=1:ultimas-noticias&Itemid=50 (last visited Mar. 14, 2011) (translation on file with author).

73. INSTITUTO ECUATORIANO DE LA PROPIEDAD INTELECTUAL, <http://www.iepi.gob.ec> (last visited Mar. 14, 2011).

74. Essential Action, *Ecuador's Compulsory Licensing Plan and Alternate Vision for IP*, ESSENTIAL INFO. (Oct. 5, 2009), http://www.essentialaction.org/access/index.php?option=com_content&view=article&id=224:Ecuador-compulsory-licensing-plan-and-alternate-vision-for-ip.html.

75. *La producción de medicamentos más baratos se hace posible*, EL CIUDADANO.GOB.EC (Ecuador) (Oct. 27, 2009), http://www.elciudadano.gov.ec/index.php?option=com_content&view=article&id=7035:la-produccion-de-medicamentos-mas-baratos-se-hace-posible&catid=1:actualidad (translation on file with author).

76. TRIPS, *supra* note 29, art. 31.

ented products without any prior negotiation with the patent owner.⁷⁷ Additionally, Ecuador will arrange for compensation related to any patent it licenses.⁷⁸ Despite the fact that Ecuador's move is not clearly for an emergency purpose, it appears to be entirely TRIPS-compliant.⁷⁹

Although the immediate reaction to Ecuador's statement was predictably dichotomous,⁸⁰ it was not as contentious as the reaction that greeted similar pronouncements by Brazil and Thailand.⁸¹ Not surprisingly, members of the NGO community touted Ecuador's move as a positive event (although they rarely mentioned the licensing of agrochemicals).⁸² However, the business community was uncharacteristically restrained. In fact, in response to an early report of President Correa's announcement, the local pharmaceutical industry trade association representing GSK, Pfizer, and Bayer stated: "We accept the democratic decision . . . to use this extraordinary legal measure, observing the rights and responsibilities laid out in international law."⁸³

Regardless of the business community's acquiescence, one might view Ecuador's move with skepticism.⁸⁴ A strict property rights advocate might argue that such economically stable nations could pay *developing* country market prices for patented pharmaceuticals or agrochemicals (as they do for other goods), and the TRIPS mechanism simply provides a legal procedure for discounting (albeit in socially important areas). For

77. *Id.*

78. *See, e.g.,* Saez, *supra* note 71 (explaining the remuneration process in Ecuador's first compulsory license).

79. Compulsory licensing under TRIPS requires neither prior negotiation with the patent holder nor a declared emergency. *See id.*; *see also* Essential Action, *Background, Ecuador's Presidential Declaration on Access to Medicines and Compulsory Licensing*, ESSENTIAL INFO. (Oct. 27, 2009), <http://www.essentialaction.org/access/uploads/EcuadorPresidentialdeclarationbackgrounder.pdf>.

80. *See* Saez, *supra* note 71.

81. *See* Christopher Gibson, *A Look at the Compulsory License in Investment Arbitration: The Case of Indirect Expropriation*, 25 AM. U. INT'L L. REV. 357, 372-73 (2010) (noting that Brazil's issuance of a compulsory license was controversial, and even termed an "expropriation" by forced licensor, Merck); Cynthia M. Ho, *Patent Breaking or Balancing?: Separating Strands of Fact from Fiction Under TRIPS*, 34 N.C. J. INT'L L. & COM. REG. 371, 419-24 (2009) (detailing various criticisms of Thailand's compulsory licenses).

82. *See, e.g.,* Kanaga Raja, *Praise for Ecuador's Grant of Compulsory License for AIDS Drug*, PEOPLE'S HEALTH MOVEMENT (May 4, 2010), <http://www.phmovement.org/en/node/2883> ("Civil society organizations have praised a recent decision by the Ecuadorian government to issue its first compulsory license . . .").

83. Valdivieso, *supra* note 70.

84. The United States elected to keep Ecuador on its watch list for 2010 as a result of various concerns regarding its enforcement of intellectual property. U.S. TRADE REP., 2010 SPECIAL 301 REPORT 31 [hereinafter 2010 SPECIAL 301], *available at* http://www.ustr.gov/webfm_send/1906. Regarding the compulsory license, it states: "The United States will continue to monitor recent developments concerning compulsory licensing of pharmaceutical and agricultural chemical products in Ecuador, bearing in mind the discussion of the Doha Declaration on TRIPS and Public Health in Section I of this report." *Id.*

reference, Ecuador is designated as a “high human development” country on the U.N. Human Development Index, ranking 80 out of 177 countries, and ranks 38 out of the 135 countries on the U.N. Human Poverty Index, two rankings below China and two above Turkey.⁸⁵ However, the U.N. Human Development Index indicates that its health care spending is comparatively low, listed at only \$130 per capita, below some countries designated least-developed such as Rwanda (\$134 per capita).⁸⁶

In addition, though public interest is likely the primary motivator in Ecuador’s decision, it is possible that there are other influences. For example, the U.S. State Department notes that Ecuador announced in December of 2009 its intent to establish a national pharmaceutical company (ENFARMA) that will produce generic drugs.⁸⁷ Creating this company may imply a desire to develop a stronger domestic industry. The pursuit of a broader populist agenda through the threat of nationalization, in concert with other regional powers, could be gleaned from the government’s public statements in other areas as well.⁸⁸

In the end, if Ecuador’s decision has been essentially accepted by the relevant business communities, and it is TRIPS-compliant, is there a problem? Isolated to an individual country, the effects may be small, and certainly there is global moral interest in seeing the Ecuadorian people increase their standard of living and health. But more broadly applied, Ecuador’s actions introduce an element of unpredictability into the patent system that could undermine innovation. The reason is that, under current international law, obligations to fairly license are so vague as to be non-existent.⁸⁹ While the TRIPS agreement does require “adequate remuneration,” this has been interpreted to be as low as 0.5% of sales in

85. 2009 UN-HDR, *supra* note 65, at 176–77 tbl.II. The Human Development Index ranking is carried through on each of the tables.

86. *Id.* at 200–01 tbl.N.

87. Bureau of Econ., Energy & Bus. Affairs, 2010 Investment Climate Statement—Ecuador, U.S. DEP’T OF STATE (Mar. 2010), <http://www.state.gov/e/eeb/rls/othr/ics/2010/138060.htm>.

88. See, e.g., Mercedes Alvaro, *Ecuador Demands Oil Revenue—Venezuela Ally Threatens to Expropriate Companies’ Holdings if They Don’t Agree*, WALL ST. J., Apr. 19, 2010, at A10 (linking the Ecuadorian government to Venezuela and suggesting a pattern of nationalization to shore up a populist image). Recently, President Correa’s public image was bolstered when he survived an alleged coup attempt by police forces in Quito. Simon Romero, *Debate Over Meaning of Standoff in Ecuador*, N.Y. TIMES, Oct. 4, 2010, at A4. Critics subsequently argued that Correa may have exacerbated the confrontation “to promote an image as a decisive and fearless leader.” Robert Kozak & Mercedes Alvaro, *Ecuador’s Top Cop Quits After President Held*, WALL ST. J., Oct. 2, 2010, at A8.

89. See Cahoy, *supra* note 8, at 173–77 (describing a “unitary system” of compulsory license remuneration that permits both developed and developing countries to license at discount rates in their own interests rather than equity).

the case of Thailand,⁹⁰ a decision that was not disputed at the WTO. It is hard to imagine that there is actually any lower limit as long as the royalty is above zero. Any investment incentive that patent holders believed they could derive from their Ecuadorian patents has been eliminated and substituted with something akin to largess.

The issue is not about Ecuador, *per se*, but about the misaligned incentives in the current TRIPS framework. In essence, countries are able to circumvent the market and revise the bargaining rules as they see fit, while fully complying with Article 31. Instead of a uniform and equitable system, power and insulation from the withdrawal of foreign direct investment give advantages to some countries over others.⁹¹ This arbitrary advantage is antithetical to the notion of an international system of rules. Arguably, countries that do not take advantage of the TRIPS flexibilities are missing out on a financial goldmine.

Going forward, there are risks for innovation investment in the developing world. The message sent to multinational corporations is that there is an inherent risk in marketing important technologies in middle-developed countries; in other words, that efforts may be more profitably focused on inventions less critical to the survival of humanity or that marketing may beneficially be restricted to more secure environments. In either case, the world loses.

As a final point, consider that even if one were inclined to give all developing nations a pass on the TRIPS remuneration ambiguities due to their real economic difficulties and the existence of a broader global market, the same remuneration discount could be applied by developed nations like the United States. Referring back to the Boeing example at the outset of this Article,⁹² suppose the United States decided to use its patent compensation statute as a discount mechanism. There is evidence that the United States specifically reserved the ability to use TRIPS Article 31 under its traditional government infringement compensation scheme.⁹³ While most would not argue for the U.S. government's right to discount patented goods through compulsory licensing, it used exactly this type of leverage when it found itself in need of a large amount of ciprofloxacin and was reluctant to pay patent owner Bayer AG's market

90. Thail. Efavirenz C.L., *supra* note 68 (detailing conditions for government use of a patented anti-retroviral medicine used to treat HIV/AIDS).

91. See Robert Bird & Daniel R. Cahoy, *The Impact of Compulsory Licensing on Foreign Direct Investment: A Collective Bargaining Approach*, 45 AM. BUS. L.J. 283, 309–17 (2008) (describing Brazil's resistance to foreign direct investment retribution as a shield to its compulsory licensing strategy).

92. See *supra* notes 1–6 and accompanying text.

93. 28 U.S.C. § 1498 (2006).

price.⁹⁴ The lack of neutral control over the remuneration structure—and the rise of political power as a factor—could lead to substantial inequity and unintended externalities.

C. *The Future Disasters*

If the above stories depict the patent breaking mechanism in a negative light, perhaps one could defend the mechanism by focusing on the circumstances wherein compulsory licensing is the most necessary and useful. While it can be fairly observed that breaking patents serves many purposes, including the maintenance of competitive markets⁹⁵ and efficient government procurement,⁹⁶ it appears that an important consideration in drafting the detailed compulsory license rules in the TRIPS text and the Paragraph 6 implementation was to permit governments to respond to emergencies.⁹⁷ The notion that a patent could prevent a government from coming to the aid of its citizens is odious, to be sure, and there is much in the negotiation record to suggest that this was well-recognized.⁹⁸ The final story is therefore somewhat shocking in that it reveals current procedures are so ambiguous, unclear, and disdained that we are in no position to respond to a worldwide crisis.

In 2009, it became almost impossible to escape talk of a global pandemic of swine flu. Technically, the pandemic actually happened by the fall of that year (using the World Health Organization (WHO) definition⁹⁹),

94. Daniel R. Cahoy, *Treating the Legal Side Effects of Cipro®: A Reevaluation of Compensation Rules for Government Takings of Patent Rights*, 40 AM. BUS. L.J. 125, 127 (2002).

95. See, e.g., Carlos M. Correa, *Intellectual Property Rights and the Use of Compulsory Licenses: Options for Developing Countries* 10–22 (Ctr. for Advanced Studies at the Univ. of Buenos Aires, Arg., Working Paper No. 5, 1999), available at <http://www.southcentre.org/publications/workingpapers/wp05.pdf>.

96. Thomas F. Mullin, Note, *AIDS, Anthrax, and Compulsory Licensing: Has the United States Learned Anything? A Comment on Recent Decisions on the International Intellectual Property Rights of Pharmaceutical Patents*, 9 ILSA J. INT'L & COMP. L. 185, 192 (2002) (describing various advantages to a government that uses or even threatens compulsory licensing).

97. The text of the TRIPS agreement does not enumerate all possible reasons for compulsory licenses, but it does clearly highlight the “case of a national emergency or other circumstances of extreme urgency.” TRIPS, *supra* note 29, art. 31(b). Note that a common misinterpretation of Article 31 is that an emergency is required before licensing. The enumeration of several other justifications for licensing demonstrates that this is clearly not the case.

98. UNCTAD-ICTSD RESOURCE BOOK, *supra* note 7, at 464 (noting that an early draft limited the grounds for licensing to “public interest concerning national security, or critical peril to life of the general public or body thereof”).

99. *The International Response to the Influenza Pandemic*, WHO (June 10, 2010), http://www.who.int/csr/disease/swineflu/notes/briefing_20100610/en/index.html (responding to critics that the WHO definition of pandemic is too broad).

but it was not as deadly as some had feared.¹⁰⁰ Still, demand increased for flu-related goods such as vaccine¹⁰¹ and hand sanitizer.¹⁰² There was great concern that certain flu treatments would be in short supply or even unavailable if events took a substantial turn for the worse. One of the most prominent medicines was Tamiflu, an antiviral pharmaceutical created and patented by Roche pharmaceuticals.¹⁰³ In October 2009, American officials noted that Tamiflu could be a very important treatment¹⁰⁴ and that they could supply the drug in an emergency. To the extent that the need outstripped the capacity of Roche to supply the drug, such a measure could involve acquiring generic sources. However, in response to an inquiry about the potential emergency need, the only producer of generic Tamiflu (known as “Antiflu”), India’s Cipla Pharmaceuticals, explained that it would take time to gain approval for the drug through the U.S. Food and Drug Administration and noted that it had no interest in starting the process due to existing patents (and the lack of a license).¹⁰⁵ Here, reticence to enact a compulsory license by an industrialized nation like the United States effectively put the entire process in jeopardy to some degree.

Disasters can be progressive as well. In contrast to flu, which varies widely in its potential severity from year to year, the world has been on notice of the advancing effects of global climate change for quite some time. Some believe that climate change will create shortages of food or water, in addition to many other habitat-related impacts. Across the globe, technology has been developed to ameliorate the impacts of climate change. For example, agricultural biotechnology companies like Monsanto and BASF are reportedly developing crops that are genetically

100. See, e.g., Donald G. McNeil Jr., *Flu Death*, CHI. TRIB., Nov. 12, 2009, at 13, available at http://articles.chicagotribune.com/2009-11-12/news/0911110830_1_swine-flu-seasonal-flu-cdc-spokesman (stating that, even though estimates of the number of Americans that died from swine flu by November were approximately 4,000, the total number of deaths caused by the pandemic is estimated to be far less than originally predicted).

101. See Thomas H. Maugh II, *H1N1 Spread Now Global*, CHI. TRIB., Nov. 6, 2009, at 27, available at http://articles.chicagotribune.com/2009-11-06/news/0911060151_1_pandemic-h1n1-swine-flu-flu-vaccine (reporting on world-wide shortages of flu vaccine).

102. Rob Varnon, *Sanitizer Demand Outpaces Supply at Local Colleges*, CONN. POST ONLINE (Nov. 24, 2009, 8:17 PM), <http://www.ctpost.com/default/article/Sanitizer-demand-outpaces-supply-at-local-colleges-264964.php>.

103. See Rob Stein, *Tamiflu Shortages Have Parents on Wild Dose Chase*, WASH. POST, Oct. 29, 2009, at A1, available at http://www.washingtonpost.com/wp-dyn/content/article/2009/10/28/AR2009102803823_pf.html.

104. See *2009 H1N1 and Seasonal Flu: What You Should Know About Flu Antiviral Drugs*, CENTERS FOR DISEASE CONTROL & PREVENTION (Oct. 8, 2009, 2:00 PM), <http://www.cdc.gov/H1N1flu/antivirals/geninfo.htm> (recommending Tamiflu and Relenza as “a second line of defense against the flu”).

105. See *Morning Edition: Will Tamiflu Shortage Drive U.S. to India’s Version?* (NPR radio broadcast Nov. 10, 2009) (transcript available at <http://www.npr.org/templates/transcript/transcript.php?storyId=120254536>).

engineered to grow in very dry climates.¹⁰⁶ It is reasonable to assume that much of the groundbreaking climate change technology will be patented.¹⁰⁷ Leading up to the 2009 international climate talks in Copenhagen, a group of seventy-seven developing nations led by China forwarded the idea of making climate change technology subject to compulsory licenses.¹⁰⁸ But very few countries have moved forward on any concrete plan to access such technology by breaking patents.¹⁰⁹

The reasons behind the hesitancy in the patent breaking discussion are probably rooted partly in the ambiguity of the rules and the retribution countries may face for undertaking such a measure.¹¹⁰ But such fear means that countries are not preparing for an emergent eventuality. While an opportunist's actions may have a detrimental impact if they reflect only cost-cutting in response to the normal business environment, the failure to establish a system for responding to an emergency could have far worse consequences.

II. TAKEAWAY LESSONS TO GUIDE FUTURE REFORM

The three stories discussed above expose three very different problems with the way compulsory licensing is conceptualized on an international scale. These issues end up fundamentally hobbling the system, frustrating civil society advocates and provoking disdain from patent owners.¹¹¹ But rather than simply demonstrating that the current system is not functional, these stories highlight lessons or principles that can be used for reform. By understanding what does not work and why, we can make a healthier patent breaking regime and generate greater social utility.

The lessons all essentially relate to human behavior in one way or another. Better explanations could be modeled with a more complex

106. See Rajesh Chhabara, *Climate Ready GM Crops: The Patent Race*, CLIMATE-CHANGE-CORP.COM (Sept. 17, 2008), http://www.climatechange-corp.com/content_print.asp?ContentID=5644 (explaining that biotechnology companies are flooding patent offices with applications for "genetically engineered climate-resistant seeds [that] can withstand catastrophic effects of global warming, such as floods, drought, heat, cold and salinity").

107. See Lisa Larrimore Ouellette, Comment, *Addressing the Green Patent Global Deadlock Through Bayh-Dole Reform*, 119 YALE L.J. 1727, 1727–28 (2010) (noting that developing countries have recognized that patents can limit access to green technologies).

108. See *id.*; China, India Push for 'Patent Fee' Green Tech, EURACTIV (Nov. 23, 2009), <http://www.euractiv.com/en/innovation/china-india-push-patent-free-green-tech/article-187567>.

109. In fact, the U.S. House of Representatives has entertained legislation to thwart such compulsory licenses. See Matthew Rimmer, *The Road to Copenhagen: Intellectual Property and Climate Change*, 4 J. INTEL. PROP. & PRAC. 784 (2009).

110. See Fair, *supra* note 10, at 33–34 (describing the economic backlashes that might result from compulsory licenses on green technology).

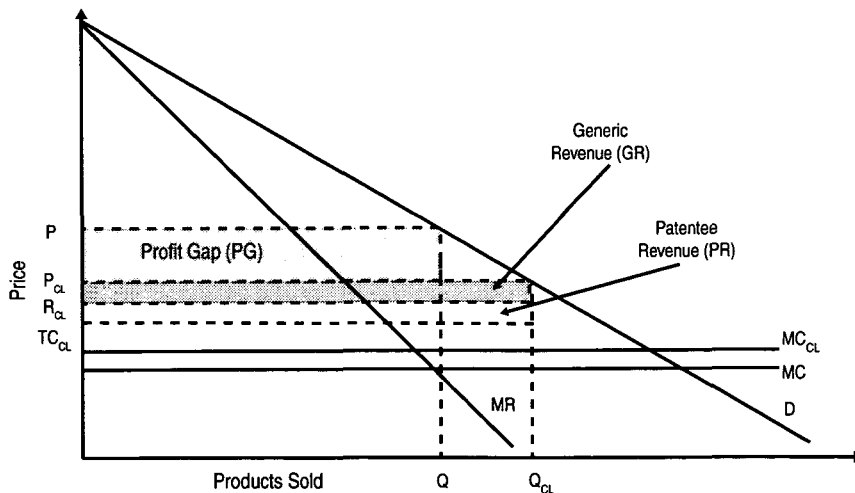
111. See *supra* note 81 and accompanying text.

behavioral theory, but this short sketch is sufficient to begin the conversation. The lessons can be divided into (1) understanding market structure, (2) appreciating profit-seeking behavior, and (3) maximizing the certainty of a well-defined legal regime. If followed, the lessons should fundamentally transform the use of the compulsory licensing.

A. Compulsory Licenses Will Be Underutilized as Long-Term Humanitarian Relief

In order for a compulsory license to be an attractive option, there must be a substantial and sustained difference in the price of the patented good and the costs of manufacturing a licensed good. This is particularly true if a for-profit company will be manufacturing under the license (which would be the case unless a government-owned facility is involved).¹¹² Such a company must be able to pay a royalty, offer a price advantage, and still obtain a profit (see Figure 1).

FIGURE 1
COMPULSORY LICENSE ECONOMICS IN A GIVEN MARKET



Compulsory licensing, wherein access increases from Q to Q_{cl} depends on a profit gap (PG) existing in a particular market. In cases where a licensee’s marginal costs (MC_{cl}), transaction costs (TC_{cl}) and paid royalty (R_{cl}) take a significant piece of the patent owner’s or generic competitor’s profits (P-MC), the profit gap may be small or nonexistent. But note that a voluntary license may substantially eliminate the transaction costs of a compulsory license. Additionally, manufacture by the patent owner eliminates both transaction costs and the royalty costs, creating the possibility that it may distribute products substantially above Q_{cl} and make a small profit.

112. See, e.g., Lybecker & Fowler, *supra* note 35, at 229 (noting that Thailand’s compulsory licenses were handled by the Government Pharmaceutical Organization).

But the existence of such a “profit gap” depends on a patentee’s monopoly power in the relevant markets as well as its inability or unwillingness to take advantage of revenue opportunities by engaging in differential pricing. These conditions have not historically occurred in the context of least-developed countries. And, as described below, there is good reason to believe that they may not occur in the future. The absence of such a profit gap will mean that compulsory licensing may have minimal utility as a humanitarian aid mechanism. Although the underutilization may cause many to conclude that the mechanism is a failure in need of radical reform, what is really going on is a simple misapplication of a specialized tool.

Consider as the prime example the access to medicines initiatives.¹¹³ Advocates believed that drugs to treat conditions disproportionately impacting the developing world—especially HIV/AIDS, tuberculosis, and malaria—were too expensive, and the reason was patent rights.¹¹⁴ By reforming TRIPS to permit export of compulsorily licensed drugs, it was presumed that generic companies in industrialized nations would rise not simply to fill the need, but also to develop a profitable business by exploiting the difference between branded sales prices and the marginal costs of manufacturing.¹¹⁵ Advocates may have looked to industrialized pharmaceutical markets as a model, in which branded and generic drugs coexist.¹¹⁶ Generic companies from developed countries could be let loose to fill the need for low cost drugs.

In fact, this “gap market” for industrialized nation generics never emerged. The most important reason is that the pricing disparity in least-developed countries was not as linked to patent rights as first believed.¹¹⁷

113. Doha Declaration, *supra* note 32.

114. Susan Sell’s contemporaneous article provides an excellent account of the politics underlying the movement to utilize the TRIPS flexibilities. See Susan K. Sell, *TRIPS and the Access to Medicines Campaign*, 20 WIS. INT’L L.J. 481, 496–98 (2001).

115. See Abbott & Reichman, *supra* note 8, at 970–71 (discussing the reasons why a branded pharmaceutical company may not adopt a generic pricing model in developing countries).

116. See Puneet Manchanda et al., *Understanding Firm, Physician and Consumer Choice Behavior in the Pharmaceutical Industry*, 16 *MARKETING LETTERS* 293, 302 (2005) (noting that, although innovator sales drop sharply once a generic is on the market, prices for branded drugs actually rise as innovators focus on a small, price insensitive part of the market).

117. Attaran and Gillespie-White conducted one of the most discussed initial investigations into this phenomenon, demonstrating that patents did not pose a substantial barrier in developing countries in Africa. Amir Attaran & Lee Gillespie-White, *Do Patents for Antiretroviral Drugs Constrain Access to AIDS Treatment in Africa?*, 286 *JAMA* 1886, 1891 (2001) (“[T]he extreme dearth of international aid finance, rather than patents, is most to blame for the lack of antiretroviral treatment in Africa.”). While this did not address the important question of patents in exporting countries, it nevertheless involved an empirical look into a market that was presumed to operate differently. *Id.*

When it came to purchasing the pharmaceuticals on the WHO Essential Medicines List (EML) for treating HIV/AIDS, tuberculosis, or malaria, it became clear that patent rights did not severely restrict access to those drugs in the most important countries.¹¹⁸ Significantly, India, which instituted pharmaceutical product patent protection only in 2005,¹¹⁹ housed several generic pharmaceutical companies that were prepared to produce low-cost medicines on demand.¹²⁰ Governments and NGOs preferentially purchased from Indian companies, obviating any need for industrialized-country generics.¹²¹ A second, equally important reason that the gap market did not emerge is that branded companies have been increasingly willing to lower their prices to compete with generic alternatives (or simply to generate additional goodwill).¹²² Together, these actions essentially caused the gap market to collapse over time.¹²³ Governments that had suggested compulsory licensing would benefit the impoverished were left with little to show for their legislative efforts.

A review of the recent market environment for CAMR succinctly makes this point. CAMR maintains a list of drugs that are, for the most part, listed as patented in Canada¹²⁴ and are also on the WHO

118. See *id.*; Stephen H. Haber et al., *On the Importance to Economic Success of Property Rights in Finance and Innovation*, 26 WASH U. J.L. & POL'Y 215, 240–41 (2008) (stating that patents are not the source of problems in the developing world and that “95% of drugs on the WHO’s essential medicines list are off-patent”). More recent research has noted that the impact of patents on essential medicines is likely more nuanced than Attaran and Gillespie’s original conclusion, as the WHO list was compiled with low cost in mind as opposed to simply effectiveness, and was thus more likely biased toward unpatented medicines. Rudolf V. Van Puymbroeck, *Basic Survival Needs and Access to Medicines—Coming to Grips with TRIPS: Conversion + Calculation*, 38 J.L. MED. & ETHICS 520, 531 (2010). Also, a historical review may be misleading because new additions to the WHO list may be under patent protection.

119. See Kapczynski, *supra* note 20, at 1586–88 (detailing the evolution of India’s current patent regime).

120. See *CIPRH Report*, *supra* note 24, at 83–85 (describing the development of India’s robust generic industry before pharmaceutical products were patentable); Lybecker & Fowler, *supra* note 35, at 229 (“India is currently the principle [sic] supplier of essential medicines for developing countries, exporting an estimated two-thirds of the drugs it produces.”).

121. See Mark Schoofs, *Clinton Foundation Sets Up Malaria-Drug Price Plan*, WALL ST. J., July 17, 2008, at A8 (detailing a pricing agreement to provide malaria drugs relying on Indian generic companies).

122. See, e.g., Brenda Waning et al., *Temporal Trends in Generic and Brand Prices of Antiretroviral Medicines Procured with Donor Funds in Developing Countries*, 7 J. GENERIC MEDICINES 160, 168 (2010); Andrew Jack, *GSK to Slash Drug Prices for Developing Countries*, FIN. TIMES, Nov. 30, 2009, at 19; Andrew Jack, *Pfizer Agrees to Cut Price of TB Drug*, FIN. TIMES, Aug. 7, 2009, at 16 (describing a growing willingness by research-based drug companies to cut prices in order to expand business as well as increase access to medicines); Schoofs, *supra* note 121, at A8.

123. Waning et al., *supra* note 122, at 166–68 (noting the dramatic fall in prices of branded antiretroviral drugs, particularly as compared to generic antiretroviral drugs).

124. Canada’s Access to Medicines Regime, R.S.C. 1985, c. P-4, s. 21.03 & sched. 1. Twenty-six of the drugs on the list are also listed in Canada’s database of patented medicines,

EML.¹²⁵ In comparing the drugs used to treat HIV/AIDS, malaria, and tuberculosis against the WHO Global Price Reporting Mechanism, a database detailing reported prices paid for these drug combinations,¹²⁶ one finds that generic versions were sold in *every case but one*.¹²⁷ In other words, because a generic market already exists, there is no impetus for Canadian intervention.

In the one instance where an export was actually arranged, between Rwanda and the Canadian generic manufacturer, Apotex, cheaper versions of the drug were available on the open market.¹²⁸ Looking back at this case, there was literally no economic reason for Rwanda to request a compulsory license from Canada.¹²⁹ It is possible that various third parties had political motivations for pushing Rwanda to move forward with the license.¹³⁰ In any case, the fact that no license was requested subsequently from Canada (or any other country) by Rwanda (or any other country) certainly suggests that CAMR is not a viable option for funding drug dissemination.

Stated broadly, the mistake made with essential medicines was to fundamentally misunderstand the least-developed country market and the reasons for technology access barriers. The cost contribution of patent rights was overstated, and the utility of patent breaking mechanisms oversold. In the end, direct financial and other developmental aid has proven much more effective in addressing the ravages of disease in the developing world.¹³¹

the Canadian version of the U.S. *Orange Book*. Canadian Patents Database, CANADIAN INTEL. PROP. OFFICE, <http://brevets-patents.ic.gc.ca/opic-cipo/cpd/eng/introduction.html> (last updated Jan. 19, 2011).

125. WHO, *WHO Model List of Essential Medicines* (16th ed. 2010), available at http://www.who.int/entity/medicines/publications/essentialmedicines/Updated_sixteenth_adult_list_en.pdf.

126. See *Global Price Reporting Mechanism*, WHO, <http://apps.who.int/hiv/amds/price/hdd/index.aspx> (last visited Feb. 25, 2011) [hereinafter *WHO-GPRM*].

127. The one drug that had no reported generic equivalent sale was "amprenavir tablet, 150 mg; capsule, 50 mg or 150 mg; oral solution, 15 mg/mL." R.S.C. 1985, c. P-4, sched. 1. This is likely because the branded manufacturer, GlaxoSmithKline, discontinued production of the drug in 2007. U.S. Dep't of Health & Human Servs., *Amprenavir*, *AIDSinfo*, http://www.aidsinfo.nih.gov/DrugsNew/DrugDetailT.aspx?int_id=258 (last updated Apr. 30, 2010).

128. See CAMR REVIEW, *supra* note 47, at 34 ("[F]ive major Indian generic pharmaceutical companies are listed on the Clinton Foundation Website as having lower-priced versions of the same product available, . . . the lowest of which is roughly half the price specified by Apotex in its application . . .").

129. See Attaran, *supra* note 34, at 154.

130. See *id.* at 153 (describing the Canadian HIV/AIDS Legal Network's advocacy for the use of CAMR in the context of the Rwanda license and generally); Morin & Gold, *supra* note 57, at 22 (describing the reputational entrapment of NGOs).

131. See, e.g., Eran Bendavid & Jayanta Bhattacharya, *The President's Plan for AIDS Relief in Africa: An Evaluation of Outcomes*, 150 ANNALS OF INTERNAL MED. 688, 691

However, a fair response to this point is that, although patent-generated price gaps have not been important to date, they could become so in the future. In the context of essential medicines, many commentators have noted that countries like India have instituted patent protection over basic compounds.¹³² And other instances in which patents could play a role, such as climate change, have not been tested. One might argue that patent breaking as a relief initiative could eventually prove its worth. But here again, there are reasons why this may not be the case.

When faced with a compulsory license in a least-developed country and the accompanying loss of market exclusivity, it is reasonable to assume that innovator companies would take advantage of their production efficiency and generally undercut generic efforts (see Figure 1). Only where generic companies possess greater efficiencies in terms of labor markets, access to materials, or combinations of separately patented products¹³³ would a compulsorily licensed pharmaceutical be expected to have the lowest price. This would be the case even if existing drug export regimes were changed to remove restrictions; any advantage by developed countries would be mirrored by low-cost producers and matched by branded companies.

As important, there is evidence that firms are seeing more opportunities in developing country markets.¹³⁴ This is particularly true for pharmaceutical companies.¹³⁵ It is not clear that developing countries will completely erase losses due to expiring blockbuster drug sales in developed countries,¹³⁶ but it is in these markets where the future revenue focus lies. It is reasonable to presume that firms will only be more willing to deliver essential goods to developing countries at moderate prices in order to continue developing these emerging markets. This is yet another factor obviating the need for compulsory licensing.

(2009) (finding that the U.S. President's Emergency Plan for AIDS Relief program was associated with a decrease in deaths due to HIV/AIDS).

132. See, e.g., Brenda Waning et al, *Intervening in Global Markets to Improve Access to HIV/AIDS Treatment: An Analysis of International Policies and the Dynamics of Global Antiretroviral Medicines Markets*, 6 *GLOBALIZATION & HEALTH* 1, 13 (2010) (“[I]ncreasing implementation of the TRIPS Agreement in developing countries means that medicines patents are becoming more widespread [eliminating generic competition to reduce prices].”).

133. See *CIPHI Report*, *supra* note 24, at 153, Box 5.4 (detailing the “Cost Advantages of Indian Firms,” including fixed asset costs, cheaper labor, chemistry or process costs, and clinical study costs, as well as noting that such costs are estimated to be as little as one-eighth of those confronted by developing country firms).

134. See Don Lee, *A Rebalancing Act; U.S. Firms Sharpen Focus on Overseas Consumers*, *CHI. TRIB.*, Oct. 6, 2009, at 19 (reporting on the increased focus on fast developing countries for new profits).

135. Avery Johnson, *Drug Firms See Poorer Nations as Sales Cure*, *WALL ST. J.*, July 7, 2009, at A1.

136. Hester Plumridge, *Rising Nations Are No Remedy for Big Pharma*, *WALL ST. J.*, May 25, 2010, at C20.

Still, significant pricing disparities can persist between branded and generic goods, even in the absence of patents.¹³⁷ Some countries pay significantly higher costs for the same goods than other similarly situated countries.¹³⁸ While this may be acceptable in middle-developed countries—even necessary for a tiered pricing scheme¹³⁹—if it occurs in least-developed countries a genuine access issue is raised. In fact, it does appear that companies may at times maintain high prices despite the economic incentives to serve a lower priced market.¹⁴⁰ For a number of reasons, including information asymmetry, specific business strategy, and fear of losing control over product distribution, a company may choose to maintain high prices and reduced access.¹⁴¹ However, the extent to which a company can engage in such behavior appears to be much more limited currently, primarily as a result of NGO pressure.¹⁴² Companies are publicly derided for setting high prices, particularly when making upward adjustments. Published sales information provides additional bargaining power to essential medicines purchasers and levels the playing field.¹⁴³ Finally, increased anticounterfeiting awareness has placed greater emphasis on the authorized sale of medicines and methods to manage it.¹⁴⁴ Although such measures can create problems for the legitimate international transport of generic medicines,¹⁴⁵ they also play a role in ensuring that access-promoting price discrimination schemes can function.¹⁴⁶

137. See *WHO Medicines Situation*, *supra* note 25, at 69.

138. *Id.* (“Clearly, big price differences exist not only between generic and innovator medicines, but also between prices for the same brand or generic in different countries.”).

139. Prahant Yadav, *Differential Pricing for Pharmaceuticals* 9–16 (Study Conducted for U.K. Dep’t for Int’l Dev., 2010), available at <http://www.dfid.gov.uk/Documents/publications/prd/diff-pcing-pharma.pdf> (reviewing the theory of differential or tiered pricing and noting its access benefits given certain assumptions).

140. Abbott and Reichman provide some reasons as to why this condition could exist temporarily. Abbott & Reichman, *supra* note 8, at 970–71.

141. *Id.*

142. See Kapczynski, *supra* note 50, at 828–29 (relating the strategies of the “access-to-medicines” campaign and its perceived success in compelling pharmaceutical companies to lower prices).

143. See, e.g., *WHO-GPRM*, *supra* note 126 (listing global prices of HIV/AIDS, tuberculosis, and malaria medications); *Untangling the Web of Antiretroviral Price Reductions*, MÉDECINS SANS FRONTIÈRES, <http://utw.msfaaccess.org> (last visited Feb. 25, 2011) (listing global prices of antiretroviral drugs).

144. See Daniel R. Cahoy, *Addressing the North-South Divide in Pharmaceutical Counterfeiting*, 8 WAKE FOREST INTELL. PROP. L.J. 407, 416–23 (2007) (detailing measures used to combat counterfeiting and noting how such measures influence incentives).

145. See, e.g., Ho, *supra* note 7, at 1105–07 (describing the Dutch seizures of generic drugs in transit under the mistaken impression that they were counterfeit).

146. The Paragraph 6 implementation provisions contain detailed requirements for pharmaceutical marking, which maintains price discrimination schemes as well as limits counterfeiting. Paragraph 6 Decision, *supra* note 33, ¶ 2(b)(ii).

Yet another licensing rationale that has recently been forwarded is that profit-motivated behavior may provide a barrier to lowering prices in developing countries with great internal income disparities. In that case, firms may choose to maintain high prices if they can render more profit from the extremely wealthy than they can from more sales at low prices to larger groups of impoverished citizens. Describing this phenomenon as the “Convex Demand Curve Problem” in a fascinating article on essential medicines, Flynn, Hollis, and Palmedo argue that it is one of the more important reasons that high prices persist for patented drugs.¹⁴⁷ However, there are reasons that the curve may not entirely characterize the economic environment underlying prospective compulsory licenses. The analysis assumes uniform distribution of need, which may be less true in the case of essential goods that are more in demand by the poorer segments of society. And the comparison of medicine prices in more uniform, high-income countries does not address the existence of price controls or reference pricing schemes in those nations. But most important is the fact that the Convex Demand Curve Problem will probably only exist when a compulsory license has not been issued. Once even the serious threat of such a license exists, the economic basis for undesirably high prices disappears. While it is an interesting and important theory that should be integrated into the analysis, the Flynn et al. framework may not describe many compulsory licensing situations in established markets.

Finally, for those who consider developing country licensing for export to be the most likely source of future activity, the recent experiences of India are instructive. Although India has traditionally housed a robust generic drug industry fueled by a lack of composition patent protection, the country adopted such protection in 2005¹⁴⁸ to comply with TRIPS.¹⁴⁹ As a result, a small group of medicines have already been patented.¹⁵⁰ Contemporaneously, India has enacted a Paragraph 6-influenced compulsory license statute for the production of medicines for export.¹⁵¹ To date, no such license has been granted.¹⁵² The generic pharmaceutical

147. Sean Flynn et al., *An Economic Justification for Open Access to Essential Medicine Patents in Developing Countries*, 37 J.L. MED. & ETHICS 184, 187–88 (2009).

148. The Patents (Amendment) Act, 2005, No. 15, Acts of Parliament, 2005 (India).

149. TRIPS, *supra* note 29, art. 65, ¶ 4. See Kapczynski, *supra* note 20, at 1576–79.

150. See, e.g., Rupsa Gupta & Padmavati Manchikanti, *Analysis of Patenting Trends of Antifungal Drugs in the Product Patent Regime in India*, 32 WORLD PAT. INFO. 135 (2009) (describing product patent activity for antifungal drugs post-2005).

151. The Patents (Amendment) Act (India), § 55.

152. Ministry of Commerce & Indus., Dep’t of Indust. Pol’y & Promotion, *Discussion Paper on Compulsory Licencing*, at 3 (Aug. 24, 2010) (India) [hereinafter C.L.-Discussion Paper], available at <http://dipp.nic.in/CL-DraftDiscussion.doc>.

company, Natco Pharma, applied for a license in 2007¹⁵³ but was unable to produce a request from an importing country.¹⁵⁴ In addition, the Indian Controller determined in the context of the application that patent owners have a right to a hearing to dispute such licenses, complicating the process.¹⁵⁵ Although one might presume that Natco's difficulties could be overcome—indeed, reports at the beginning of 2011 state that the company will try again by applying for compulsory licenses on Pfizer's HIV treatment, maraviroc,¹⁵⁶ and Bayer's cancer treatment, sorafenib tosylate¹⁵⁷—a 2010 report by the Indian Department of Industrial Policy and Promotion¹⁵⁸ suggests that the climate for compulsory licenses in India may be turning more hostile. The report notes that Indian generic companies are increasingly partnering or merging with foreign pharmaceutical companies, reducing their incentive to compete through intellectual property limitations.¹⁵⁹ Although the report advocates future compulsory licensing, it suggests that reform efforts should focus on antitrust licensing and price controls.¹⁶⁰ All things considered, India does not appear poised to make substantive humanitarian use of patent breaking any time soon.¹⁶¹

Therefore, the first lesson to learn from compulsory licensing to-date is that, in an established market where the demand is relatively clear and predictable, true humanitarian compulsory licenses from least-developed countries directed at developed country manufacturers will probably not be used. Such mechanisms will tend to sit fallow because developing countries will see no advantage in using them, particularly given the potential for some foreign direct investment backlash. Even in the face of the best intentions on the part of developed nations, with no requests, there will be no licensing. After the emergence of patents in generic-producing countries like India, there may be limited compulsory licensing. But it will be countered by branded price cuts and authorized licensing, and will be limited by its procedural complexities.

153. See *id.* at 16 & n.7; Swarup Kumar, *Compulsory Licensing Provision Under TRIPS: A Study of Roche vs Natco Case in India Vis-à-vis the Applicability of the Principle of Audi Alteram Partem*, 7 SCRIPTED 135, 141 (2010).

154. C.L.-Discussion Paper, *supra* note 152, at 16.

155. Kumar, *supra* note 153, at 141–43.

156. Rumman Ahmed, *Natco Pharma Seeks "Compulsory License" for Copy of Pfizer Drug*, DOW JONES NEWSWIRES, Jan. 5, 2011 available at <http://www.dowjones.de/site/2011/01/natco-pharma-seeks-compulsory-license-for-copy-of-pfizer-drug.html>.

157. *Natco May Seek Compulsory License for Bayer Drug*, ACCORD FINTECH (Mumbai), Jan. 24, 2011.

158. C.L.-Discussion Paper, *supra* note 152.

159. *Id.* at 8–9.

160. *Id.* at 10–11.

161. In addition to procedural complexities, Indian companies face economic and political hurdles in licensing as well. Sharnad Basheer, *India's New Patent Regime: Aiding "Access" or Abetting "Genericide"?*, 9 INT'L J. BIOTECH. 122, 131–33 (2007).

Do compulsory licenses have any function in established markets? Most certainly, in the form of pressure on patent owners to maintain pricing that more closely conforms to Ramsey or tiered pricing ideals.¹⁶² But that is a far cry from substituting for a country's foreign aid contribution. The power to break patents is a check on the system, rather than a future solution. And, as discussed below, there are many other instances where breaking patents is useful. The lesson is as much about the narrowness of the conclusions as it is about licensing ineffectiveness.

*B. If Compulsory Licenses Provide Significant Advantages
over Bargaining, They Will Be Disruptive*

What if the goal of a compulsory license is not simply to gain access to important technology, but to use legal rules in order to obtain an advantage that would not be possible through bargaining? In some cases, accessing a product or service on a reasonable basis is not the objective, but rather the license is a means of simply getting lower prices. While a country's efforts to spend less to provide basic and essential services to its citizens is reasonable and laudable, economic disruption may occur if this is achieved through the unexpected use and unpredictable application of an *ex post* legal regime.¹⁶³ This is particularly true if the regime is not available to all countries due to political and exogenous economic pressure.

In general, a firm with patent rights will expect to negotiate prices that will enable it to generate the most profit globally. It should be willing to make concessions in lower-income countries so long as profits in higher-income countries are sufficient.¹⁶⁴ Conversely, it will resist rock-bottom pricing in larger, higher-income countries, even if there is a public health use for the medicine. Still, negotiation can reduce information asymmetries and provide a pricing structure that is mutually acceptable for the firm and the purchasing entity. The predictable use of a Ramsey-like, tiered pricing scheme becomes very important to

162. Ramsey pricing is price discrimination that yields the highest possible social welfare subject to ensuring a target level of profit for the producer. See Patricia M. Danzon & Adrian Towse, *Theory and Implementation of Differential Pricing for Pharmaceuticals*, in INTERNATIONAL PUBLIC GOODS AND TRANSFER OF TECHNOLOGY UNDER A GLOBALIZED INTELLECTUAL PROPERTY REGIME 431 (Keith E. Maskus & Jerome H. Reichman eds., 2005). See also Yadav, *supra* note 139, at 9–10 (describing Ramsey's work on pricing).

163. See, e.g., Fair, *supra* note 10, at 34–36 (arguing that, in the context of climate change technology, compulsory licensing disrupts the profit flowing from intellectual property that is necessary for long-term innovation and technology diffusion).

164. See Jerome Reichman, Comment, *Compulsory Licensing of Patented Pharmaceutical Inventions: Evaluating the Options*, 37 J.L. MED. & ETHICS 247, 251 (2009) (describing the conventional economic view as the "Realists' Perspective," but ultimately disagreeing that it characterizes existing behavior).

rolling out a global marketing strategy.¹⁶⁵ It is key to funding research and development through overall firm profits. When the patent expires, the firm can no longer depend on its ability to control pricing, so there is a limited window for action. Most economists agree that the potential for obtaining a profit structure like this is the basis for maximally funding innovation through a patent system¹⁶⁶—though alternative innovation incentive systems might exist.¹⁶⁷

When the pricing scheme is circumvented by a legal mechanism that discourages negotiation, this can be disruptive. Such discouragement can occur if the legal mechanism simply permits a country to establish a rock-bottom pricing scheme regardless of need. In this case, assuming there is a ready manufacturer (particularly a domestic one), there is no reason to negotiate with a firm seeking some level of monopoly pricing.¹⁶⁸ The rational decision is to use the legal mechanism.

Certainly, opportunistic licensing can have the greatest effect on predictable profits when it occurs in higher-income countries. For example, if the United States were to engage in licensing as a budget lowering initiative, the effect could be dramatic in fields such as pharmaceuticals in which it is the primary world market.¹⁶⁹ Indeed, U.S. officials have

165. See Yadav, *supra* note 139, at 17–19 (describing the “drivers” to tiered pricing in the pharmaceutical industry); see also Danzon & Towse, *supra* note 162, at 431.

166. See, e.g., Scherer & Watal, *supra* note 8, at 925–28, 933–34 (explaining the concept of differentiated pricing or tiered pricing and how “it is necessary to recover a substantial block of fixed costs (e.g. for research and development)”). But see Stiglitz, *supra* note 21, at 1706–09 (describing why patent incentives may not produce benefits exceeding costs).

167. Many argue that a patent system is suboptimal in certain contexts. See Ho, *supra* note 81, at 453–57 (arguing no single system is likely to be ideal for all types of innovation); Love & Hubbard, *supra* note 52, at 162 (arguing that price and innovation incentives should be delinked using an alternative to the patent system).

168. Although there is some disagreement, it has been alleged that Thailand did not negotiate with pharmaceutical companies before imposing several compulsory licenses in 2006 and 2007. Lybecker & Fowler, *supra* note 35, at 228–29. Some have described the circumstances as opportunistic. *Id.* at 229 (noting that the Thai government pharmaceutical company which operated under the compulsory license is increasingly viewed as a profitable player). The same allegation has been leveled against Brazil. See Lawrence A. Kogan, *Brazil’s IP Opportunism Threatens U.S. Private Property Rights*, 38 U. MIAMI INTER-AM. L. REV. 1, 98–102 (2006) (arguing that Brazil issues compulsory licenses to gain trade advantages and engage in protectionism).

169. According to IMS Health, the total global pharmaceutical market was \$808 billion in 2009. *Total Unaudited and Audited Global Pharmaceutical Market*, IMS HEALTH (Mar. 2010), http://www.imshealth.com/deployedfiles/imshealth/Global/Content/StaticFile/Top_Line_Data/Global%20Pharmaceutical%20Market2009.pdf. Of that, the United States alone accounted for \$300.3 billion in prescription sales, representing a full 37% of the world market. *Top Therapeutic Classes by U.S. Sales*, IMS HEALTH (Apr. 6, 2010), http://www.imshealth.com/deployedfiles/imshealth/Global/Content/StaticFile/Top_Line_Data/Top%20Therapy%20Classes%20by%20U.S.Sales.pdf.

occasionally voiced an interest in such opportunism.¹⁷⁰ But, such a use of intellectual property is considered analogous to a taking,¹⁷¹ and compensation is generally provided at a market rate.¹⁷² As such, there is literally no advantage to licensing. The same is true of any country that views patent compulsory licensing as a property “expropriation,” requiring market-based compensation.¹⁷³

The more pressing problem is the middle-income country that guarantees no such protection for intellectual property compensation. For example, when countries such as Thailand, Brazil, or even Ecuador license patents at a rate that has no connection to market expectations, any profits from those countries that were figured into a global marketing scheme involving multiple products are impacted.¹⁷⁴ In some cases, international pressure, particularly the loss of foreign direct investment, will dissuade such disruptive policies.¹⁷⁵ But some countries are relatively immune from such pressures due to their size and lack of dependence on foreign investment.¹⁷⁶ They can engage in opportunistic licensing as a reasonable alternative to bargaining without suffering economic effects.

170. See Cahoy, *supra* note 94, at 127 (describing the threats from U.S. officials to compulsorily license ciprofloxacin in response to the Anthrax attacks).

171. See *Boeing Co. v. United States*, 86 Fed. Cl. 303, 310 (2009) (“[T]he waiver of sovereign immunity in section 1498(a) differs from those provisions in that it does not sound in tort, but rather authorizes an action analogous to one for a non-exclusive taking of a license under the *Fifth Amendment*.”). But see Adam Mossoff, *How the “New GM” Can Steal from Toyota*, 13 GREEN BAG 2D 399, 402–04 (2010) (explaining that there is a gap in compensation provided by § 1498 such that some claims that would be actionable in a private patent lawsuit cannot be brought against the federal government).

172. *Boeing*, 86 Fed. Cl. at 310 (noting patentee can recover “reasonable and entire” compensation from the United States); Richard J. McNeely, Comment, *Governmental Indirect Patent Infringement: The Need to Hold Uncle Sam Accountable Under 28 U.S.C. § 1498*, 36 CAP. U. L. REV. 1065, 1081 (2008) (explaining that lost profits as well as royalties are included in possible damages calculations).

173. Many Bilateral Investment Treaties (BITs) require fair or market compensation for expropriations of property. Antony Taubman, *Rethinking TRIPS: “Adequate Remuneration” for Non-Voluntary Patent Licensing*, 11 J. INT’L ECON. L. 927, 963–64 (2008). But there is some ambiguity as to whether compulsory licenses could be considered expropriations, though some mechanisms explicitly exclude TRIPS-compliant licenses. *Id.* See also Carlos M. Correa, *Investment Protection in Bilateral and Free Trade Agreements: Implications for the Granting of Compulsory Licenses*, 26 MICH. J. INT’L L. 331, 348–51 (2004). The WTO has not yet addressed the issue.

174. See Cahoy, *supra* note 8, at 166 (describing the impact of reduced profits on a global pharmaceutical innovation program). But see Flynn et al., *supra* note 147, at 192 (arguing that in many developing countries, patent incentives do not provide substantial motivation for innovation so lost profits are irrelevant).

175. For an excellent review of many of the pressures faced by licensing countries, see Reichman, *supra* note 164, at 256–59.

176. See, e.g., Bird & Cahoy, *supra* note 91, at 309–17 (describing Brazil’s resistance to foreign direct investment retribution).

Perhaps the more insidious effect of this disruption is that it may have negative externalities for countries with less power. A firm that has had its Ramsey pricing scheme scuttled may attempt to increase prices in countries that have less recourse. Rather than a punishment of patent-owning monopolists, opportunistic licensing can devolve into a source of division between the powerful and the powerless, creating inequity and even decreasing access in some areas.

Equally as bad, firms may respond by changing marketing strategy to limit exposure of future patented technology in countries where it may be exploited. Although patents represent public information, there are often secret aspects of a product's manufacture that would hinder copying.¹⁷⁷ Even in the context of the relatively open drug approval process, these secrets may be disclosed in an application, but the contents are generally not public in their entirety.¹⁷⁸ A foreshadowing of this possibility can be seen in the recent actions of Thailand and the pharmaceutical company, Abbott Labs. When Thailand issued a compulsory license for a patented drug Abbott sells under the name Kaletra, the company responded by refusing to register new medicines in the country.¹⁷⁹ One of the medicines held back was a version of Kaletra (called Aluvia) which was heat-stable, a characteristic that is extremely important in tropical environments like Thailand.¹⁸⁰ If Abbott had maintained its position,¹⁸¹ lives may have been unnecessarily lost due to this patent-inspired brinkmanship. Although Abbott's move may have been more of punishment than an act to prevent copying, the same policy could be implemented to control information.

C. A Lack of Predictable Structure Delays Emergency Response

Despite the fact that imposing a compulsory license may be an extremely important mechanism for managing a crisis, it does not appear to be central in the planning of developed nations. Even in developing na-

177. See, e.g., Abbott & Reichman, *supra* note 8, at 979–80 (remarking on the difficulties in reverse engineering some drugs and suggesting that some companies may count on that in setting their prices high).

178. For example, even after a drug is approved, much of the important information about how to manufacture and formulate a drug—information not in a compound patent—remains secret. 21 C.F.R. §§ 20.61, 314.430, 601.51 (2009); DONALD O. BEERS, *GENERIC AND INNOVATOR DRUGS: A GUIDE TO FDA APPROVAL REQUIREMENTS* § 5.01 (5th ed. 1999).

179. Ho, *supra* note 81, at 443–47.

180. *Id.*

181. Abbott relented and eventually agreed to sell Aluvia in Thailand. Press Release, AIDS Healthcare Foundation, AIDS Healthcare Foundation Says CalPERS to Question Abbott on Thailand Drug Blacklist (Apr. 26, 2007), available at <http://www.aidshealth.org/news/press-releases/archive/aids-healthcare-foundationsays-calpers-to-question-abbott-on-thailand-drug-blacklist.html>.

tions, one rarely sees compulsory licenses discussed outside of the context of essential medicines. There are at least two related reasons for this lack of consideration for compulsory licenses: (1) it is difficult to predict how these licenses should be addressed from a legal and financial standpoint, and (2) there is a perception that they are somehow illegitimate, particularly in a country with a strong system of support for property rights.¹⁸²

The ambiguity surrounding compulsory licensing goes to the core of its purpose, as exemplified by the phrase “breaking patents.” In fact, such licenses do not actually break patents but merely relax them in a very limited context, and then only temporarily.¹⁸³ But when the patents can be relaxed, to what extent, and what the obligations should be on the licensing country are less than clear.

A review of the TRIPS agreement is useful in demonstrating that the power to issue compulsory licenses is actually quite broad.¹⁸⁴ TRIPS does not limit such licensing to emergencies, it does not require an initial negotiation (so long as the use is not commercial), and it is certainly not limited to medicines or other essential goods.¹⁸⁵ The Paragraph 6 provision for increasing access to medicines is more limited in that it specifically applies to pharmaceuticals and provides some advantages for least-developed countries.¹⁸⁶ But even here, specific disease conditions are not addressed and the procedure is still relatively undefined.¹⁸⁷

Perhaps the most critical ambiguity is an economic flexibility that exists in both the general TRIPS agreement and the Paragraph 6 revisions. Namely, neither defines compensation. TRIPS merely states that compulsory licenses should provide “adequate remuneration . . . taking into account the economic value of the authorization.”¹⁸⁸ In practice, this has ranged as low as the 0.5% royalty imposed by Thailand¹⁸⁹ (or even

182. As noted earlier, the United States mentioned Ecuador’s compulsory license in its Special 301 Report. 2010 SPECIAL 301, *supra* note 84, at 31. And when Thailand imposed its licenses, which were clearly within TRIPS legalities, Merck stated, “expropriation of intellectual property sends a chilling signal to research-based companies.” Ho, *supra* note 81, at 451.

183. The TRIPS agreement requires that “the scope and duration of [the license] be limited to the purpose for which it was authorized.” TRIPS, *supra* note 29, art. 31(c).

184. Depending on the form of an emergency and the nature of the government response, the value of a patent could arguably be reduced to almost zero in certain circumstances. See Dennis D. Crouch, *Nil: The Value of Patents in a Major Crisis Such as an Influenza Pandemic*, 39 SETON HALL L. REV. 1125, 1127–32 (2009) (arguing, for example, that infringement by U.S. states may be immune from challenge in U.S. courts).

185. TRIPS, *supra* note 29, art. 31.

186. Paragraph 6 Decision, *supra* note 33, ¶¶ 2, 6.

187. *Id.*

188. TRIPS, *supra* note 29, art. 31(h).

189. Thail. Efavirenz C.L., *supra* note 68. Professor Reichman argues that Thailand would have been willing to renegotiate the royalty, though it is unclear what the motivation for

zero if you count licenses imposed as antitrust remedies).¹⁹⁰ Graduated compensation scales have been proposed¹⁹¹ and even incorporated into national laws like CAMR,¹⁹² but these are only recommendations. At the very least, most presume that compulsory licenses will represent a discount from the market rate, but there is no guarantee as to how much profit will be reduced.

Compulsory licenses can be politically problematic, in part due to their ambiguous nature and ad hoc rules. The United States has placed countries on its well-known Special 301 list when they have engaged in compulsory licensing without negotiation¹⁹³ (despite the fact that the U.S. essentially engages in such behavior itself).¹⁹⁴ Such a license is viewed by some as a measure of disrespect for intellectual property rights.¹⁹⁵ The ultimate issue of compensation probably underlies the generally negative attitude toward breaking patents among industrialized nations. In some contexts, like access to essential medicines, there is a general perception that compulsory licenses must represent a discount from the market price of the licensed good.¹⁹⁶

But it does not follow that compulsory licenses are always disruptive. In fact, they are not always controversial. Handled the right way, with compensation guarantees in particular, they can fit within the broader goals of the intellectual property system, encouraging fair and intelligent pricing, and supporting access. One might even argue that there is a shadow context for compulsory licensing that takes place relatively often, even in developed countries, and raises no hackles. The

doing so would have been given the unilateral nature of compulsory licensing. Reichman, *supra* note 164, at 256. Still, he concedes that it was a “low royalty.” *Id.*

190. Makan Delrahim, Deputy Assistant Att’y Gen., U.S. Dep’t of Justice, Forcing Firms to Share the Sandbox: Compulsory Licensing of Intellectual Property Rights and Antitrust (May 10, 2004) (transcript available at <http://www.usdoj.gov/atr/public/speeches/203627.htm>) (noting that compulsory licenses can be issued without royalties attached).

191. See, e.g., James Love, *Remuneration Guidelines for Non-Voluntary Use of a Patent on Medical Technologies*, WHO Health Economics and Drugs TCM Series No. 18, WHO Doc. WHO/TCM/2005.1 (2005), available at http://www.who.int/medicines/areas/technical_cooperation/WHOTCM2005.1_OMS.pdf

192. *Canada’s Access to Medicine Regime: Royalty Payment*, GOV’T OF CAN., http://www.camr-rcam.gc.ca/compan-entrepris/applic-demande/royal_pay-verse_redev_e.html (last updated July 28, 2006) [hereinafter *Canada Royalty Guidelines*]

193. See Kapczynski, *supra* note 20, at 1630 (stating that the threat to compulsorily license patents was a reason that South Africa ended up on the Special 301 list in 1998, and that Thailand was similarly added in 1999 and again in 2007).

194. See UNCTAD-ICTSD RESOURCE BOOK, *supra* note 7, at 468 (noting common U.S. practice of issuing compulsory licenses without notification).

195. See, e.g., Andrew Jack & Amy Kazmin, *Abbott Pulls HIV Drug in Thai Patents Protest*, FIN. TIMES, Mar. 14, 2007, at 5 (reporting on Abbott Labs’ criticism of Thailand for its “disrespect for western companies’ intellectual property”).

196. Cahoy, *supra* note 8, at 155–62 (referring to the fact that compulsory licenses must represent a discount from market compensation as a legal myth).

United States in its dealings with Boeing provides a clear example. When it authorizes one company, like Lockheed Martin, to use another company's patent rights, like Boeing's, it ensures that the license will have little market effect. The U.S. government compensates for its own after-the-fact "infringement" of patents through a federal intellectual property takings statute.¹⁹⁷ It provides market-based compensation, and therefore creates no disruption in the U.S. marketplace.¹⁹⁸ This is not viewed as illegitimate or immoral. Other countries engage in similar actions.

Regardless of the apparent workability under the right conditions, the politics and uncertainty of breaking patents prevent most nations from integrating it into an emergency plan. This shortsightedness creates a danger that a bureaucratic hurdle will prevent a nation from acting as quickly as it otherwise could. The fact that few such instances have occurred in the past may blind policymakers as to the need for compulsory licensing in emergency plans. But the industry's greater dependence on intellectual property as a core asset¹⁹⁹ suggests that the need is more important now than ever, and it will continue to grow.

The knowledge that access to life-saving goods, if necessary, could be obtained through a defined process would be very helpful in navigating uncharted waters. Consider the fact that this kind of planning is quite common in the context of real property. When governments have a need to obtain large amounts of land to support public projects like highways and stadiums, eminent domain is retained as an option.²⁰⁰ And it is generally not considered to be economically disruptive (though it can still be politically contentious).²⁰¹ Conversely, the inability to consider such a notion paralyzes an aspect of emergency response and imperils the welfare of nations.

197. 28 U.S.C. § 1498 (2006); *see also* *Boeing Co. v. United States*, 86 Fed. Cl. 303, 310 (2009) (characterizing § 1498).

198. *See* McNeely, *supra* note 172, at 1081; *see also* Cahoy, *supra* note 94, at 163–71 (providing rationale for market compensation).

199. *See* Margo Reder, *CEO Postings—Leveraging the Internet's Communications Potential While Managing the Message to Maintain Corporate Governance Interests in Information Security, Reputation and Compliance*, 7 DEPAUL BUS. & COM. L.J. 179, 190 (2009) (value of IP intellectual property accounts for two-thirds of the value of U.S. companies).

200. *See, e.g.*, N.Y. STATE URBAN DEV. CORP., EMPIRE STATE DEV. CORP., ATLANTIC YARDS LAND USE IMPROVEMENT AND CIVIC PROJECT MODIFIED GENERAL PROJECT PLAN 22, 23, 30 (2009), available at http://www.empire.state.ny.us/Subsidiaries_Projects/Data/AtlanticYards/ModifiedGPP2009.pdf (describing the retained option of using eminent domain power if necessary to acquire land for the Atlantic Yards development project in New York City).

201. *See, e.g.*, Julia Vitullo-Martin, *Columbia Gets a Lesson in Property Rights*, WALL ST. J., Jan. 2, 2010, at A9 (reporting on the political and legal fight surrounding Columbia University's planned expansion onto supposedly "blighted" private land).

III. A WAY FORWARD THROUGH *EX POST* BALANCING OF STAKEHOLDER INTERESTS

For patent breaking to continue to exist as a viable strategy, supported by both developed and developing nations, and accepted by both industry and activists, the three stories presented above must be coherently resolved. There must be a single system that can address all of the instances in which compulsory licensing is necessary. And yet, that system must be structured such that it does not primarily provide a tool for those with sufficient power to thwart the market. This is a goal that has been present since compulsory licensing was first fully articulated, but the ascendance of developing nations and the existence of a truly global economy provide perspective that has not existed in the past. This new knowledge and experience should be integrated into a regime that preserves compulsory licensing as a respected and dependable legal tool.

One of the barriers to reform has always been that compulsory license rules are viewed as an attempt to create compromise between the allegedly diametrically opposed forces of innovation and access.²⁰² However, using the right structure, one might be able to provide a mechanism that is supported by all sides. If the incentives and dispute resolution system were properly aligned to global patent breaking goals, one can imagine that parties could participate in ways they deem unacceptable now. In some cases, activists would discourage compulsory licenses as counterproductive, and in others, industry would favor the use of such licenses.

Importantly, an international solution is key. Although it is possible for national or regional legislation to ameliorate some of these issues, the trend toward harmonization limits the legal space for local problem solving. The fact is that international intellectual property rules are becoming more important in setting standards. In addition, it is equally important that the solution be simple and fit within the existing structure. The likelihood that TRIPS would be renegotiated in any substantial way in the near future is very small.

However, a rather simple modification of the compulsory license remuneration mechanism may provide a solution.²⁰³ As discussed below, an interpretive tweak could heal the existing rift significantly. Thankfully, the time is ripe for reform. Reformers can seize on international

202. See Kapczynski, *supra* note 50, at 827–36 (describing the confrontational tactics of the “access to knowledge” movement); Morin & Gold, *supra* note 57, at 14–16 (suggesting that NGOs and pharmaceutical companies argued to reach a consensus without trust in one another).

203. TRIPS, *supra* note 29, art. 31(h).

interest in the Paragraph 6 mechanism as an opportunity to consider overall reform for a more equitable and predictable regime.

A. Bringing All the Parties to the Table: Licensing vs. Breaking

An important aspect of compulsory license reform is to reimagine the mechanism as something that is positive for all sides. Traditionally, industry has viewed compulsory licensing as a rights exception and therefore something to be opposed at every turn.²⁰⁴ Conversely, activists are skeptical that an attenuation of compulsory license rules will result in a windfall for industry, particularly in areas where profits are perceived to be unjustifiably high.²⁰⁵ If there were some way to bring all parties to the table as participants in a system with mutual benefits, it would be a great improvement.

The problem with current practice is that it treats planned compulsory licensing as an *ex ante* exception to rights. Such a royalty discount is assumed, untethered to any actual market condition, and patent owners consider the payment to be a token at best.²⁰⁶ This is clearly illustrated by the emergence of the phrase used throughout this paper and in the popular media: to “break patents.”²⁰⁷ But perhaps there is another way to envision the unauthorized use of patents. A system where patent owners can expect a reasonable return may encourage them to realign the private market. And with patent owner participation, consuming countries can make use without fear of stigma or punishment. Such a system would likely be more limited in its boundaries than TRIPS is currently. It may not be useful in all of the contexts for which compulsory licensing has been imagined in the past. But as described above, in the most critical aspects like emergencies, it will serve its function of permitting access.

204. Janice Mueller, *Public Access Versus Proprietary Rights in Genomic Information: What Is the Proper Role of Intellectual Property Rights?*, 6 J. HEALTH CARE L. & POL’Y 222, 232 n.67 (2003) (listing sources dating back to the 1950s that describe industry resistance to general compulsory licensing).

205. Nevin M. Gewertz & Rivka Amado, *Intellectual Property and the Pharmaceutical Industry: A Moral Crossroads Between Health and Property*, 55 J. BUS. ETHICS 295, 298 (2004) (discussing the moral and ethical issues involved in a patent’s ability to provide a “windfall” to its owner).

206. For example, Canada’s former pharmaceutical compulsory license system, which was abandoned in 1987, arbitrarily applied a 4% royalty almost uniformly following an Exchequer Court decision involving Hoffman-LaRoche’s Valium. Scherer & Watal, *supra* note 8, at 924. The current Canadian regime incorporates a 4% royalty as a ceiling because this “is consistent with the humanitarian and non-commercial considerations that are the foundation of the Regime.” Canada Royalty Guidelines, *supra* note 192. There is no pretense that the rate reflects real-world licensing rates for any of the scheduled pharmaceuticals.

207. See, e.g., *Abbott in Thailand*, CHI. TRIB., May 10, 2007, at 26 (referring to Thailand’s “threat to break patents”).

The idea of bringing patent owners into the system is not radical or new. Many commentators that have considered the legal regimes associated with the Paragraph 6 amendments suggest they are a fair realignment of property rules that permit all sides to come out ahead.²⁰⁸ However, the execution of this goal has been poor. It is apparent that the negotiation of such legal regimes, at least in the patent context, has generally occurred without the enthusiastic participation of industry.²⁰⁹ In some cases, where industry actually did participate, it could be argued that it was motivated primarily by public relations concerns.²¹⁰ Regardless, the participation of industry has not been helpful in finding a way forward to-date.

Outside of Paragraph 6 licensing, the extent to which industry is a participant or is given respect depends on the country. In many developed countries, the interests of industry are accounted for in the same way that general property rights are.²¹¹ But in some developing countries, there is a lack of this level of accounting. The difference may be more related to whether the affected industry has investment interests in the licensing country, rather than a deep ideological split on how to account for licensing.

Intriguingly, U.S. copyright law provides a useful model for equitable patent licensing. Since the early part of the 20th century, U.S. law has provided for a compulsory license—referred to as a “mechanical license”²¹²—for the subsequent recording of musical works that have been distributed to the public on phonorecords.²¹³ Most people refer to the copies as “cover songs.”²¹⁴ The system has been widely criticized as

208. See, e.g., Flynn et al., *supra* note 147, at 191 (“Converting the property rule to a liability rule through a compulsory license allows a country to change most of the deadweight loss into consumer surplus . . . while providing a measured contribution to research and development expenses through a royalty payment.”).

209. In many cases, industry stakeholders have their own solutions in mind and are reluctant to cede control to NGOs or developing country governments. See Gold & Morin, *supra* note 56, at 1330 (“NGOs and industry need to work together to achieve success.”).

210. Morin & Gold, *supra* note 57, at 21–22 (“[I]ndustry representatives described debates on access to medicines as a ‘political exercise,’ a ‘symbolic issue,’ the ‘easiest scapegoat,’ a ‘media-visible solution,’ or a ‘total political process.’”).

211. See Laurence R. Helfer, *The New Innovation Frontier? Intellectual Property and the European Court of Human Rights*, 49 HARV. INT’L L.J. 1, 32–34 (2008) (describing the European Commission’s consideration of a compulsory license under the rubric of the human right to property in *Smith Kline & French Labs, Ltd. v. Netherlands*, App. No. 12633/87, 66 Eur. Comm’n H.R. Dec. & Rep. 70, 72–73 (1990)).

212. Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CALIF. L. REV. 1293, 1309 (1996).

213. 17 U.S.C. § 115 (2006). The copyright act actually has other compulsory license sections, including secondary transmission for cable television. 17 U.S.C. § 111 (2006).

214. E.g., John Baldrica, *Cover Songs and Donkey Kong: The Rationale Behind Compulsory Licensing of Musical Composition Can Inform a Fairer Treatment of User-Modified Videogames*, 11 N.C. J.L. & TECH. 103, 104–05 (2009).

unwieldy²¹⁵ and argued to be an inappropriate conversion of a property regime to a liability-focused one.²¹⁶ But there are some positive lessons to be learned. First, the system ensures that the rights are available for use without the problem of holdouts.²¹⁷ Further, the existence of a defined licensing fee has enabled private negotiation to exist concurrently.²¹⁸ The U.S. copyright office, in consultation with interested parties, determines the fee.²¹⁹ It is actually a functional system in many respects.

Most importantly, due to the existence of copyright compulsory licenses, there are very likely some cases in which a copyright owner has increased its profit because its music is being used, and obtained royalties that it would otherwise not have without the licenses. In other words, it is almost certain that, due to the mechanical license provisions, some copyright owners increase their profits.

The greatest problem with the copyright mechanical licensing system is that it is a blunt instrument that does not take into account when a private market would be superior.²²⁰ A license with a moderate, government-determined royalty exists in all cases, regardless of whether the owner of the work would be a rational negotiator and easily identifiable. Folding just a few of these notions into the TRIPS patent rules might be a path toward a more reliable system. But a wholesale adoption would

215. See Jeffrey A. Wakolbinger, *Compositions Are Being Sold for a Song: Proposed Legislation and New Licensing Opportunities Demonstrate the Unfairness of Compulsory Licensing to Owners of Musical Compositions*, 2008 U. ILL. L. REV. 803, 815–16 (2008) (noting composer and publisher complaints about unnecessary middlemen for licensing).

216. See *Merges*, *supra* note 212, at 1308–12 (1996) (arguing that the liability rules related to copyright compulsory licensing are clearly suboptimal, pointing to the market distortion effect of the rarely revised royalty rate).

217. This was apparently the primary motivation behind the statute. See *id.* at 1308–09. In the patent context, there have been theoretical arguments as to how compulsory licensing could lead to greater efficiencies for all parties when holdouts exist. See, e.g., Donna M. Gitter, *International Conflicts over Patenting Human DNA Sequences in the United States and the European Union: An Argument for Compulsory Licensing and a Fair-Use Exception*, 76 N.Y.U. L. REV. 1623, 1679–84 (2001).

218. Daniel A. Crane, *Intellectual Liability*, 88 TEX. L. REV. 253, 295–96 (2009) (“[C]ompulsory licenses have been subject to bargaining in the shadow of copyright royalty judges.”).

219. *Id.* at 262–63 (describing the work of the Copyright Royalty Board in setting rates). A list of participants in recent license rate determinations demonstrates the substantial participation of publishers, composers, and distributors. Mechanical and Digital Phonorecord Delivery Rate Determination Proceeding, 73 Fed. Reg. 57033, 57033 (proposed Oct. 1, 2008) (codified at 37 C.F.R. pt. 385).

220. See, e.g., Lydia Pallas Loren, *Untangling the Web of Music Copyrights*, 53 CASE W. RES. L. REV. 673, 709–11 (2003) (describing, in the context of sound recordings, how the copyright mechanical license constrains private bargaining that might otherwise occur); Mark A. Lemley & Philip J. Weiser, *Should Property or Liability Rules Govern Information?*, 85 TEX. L. REV. 783, 831–33 (2007) (arguing that the copyright mechanical license permits private bargaining, but it often works in the shadow of an imperfect royalty system).

never be a realistic possibility, either in terms of efficiency or political viability.

The trick seems to be to subtly modify the system to provide stability and reliability for property owners as well as reasonable access for those who need the invention. Ideally, such modifications would apply to any license of patented technology, whether related to pharmaceuticals or computer chips. And the rules would ideally be simple and streamlined so as not to deter their use through complexity or bureaucracy.

Surprisingly, all of this could be accomplished with a relatively simple revision of TRIPS. One would focus on the interpretation of the remuneration aspects and incorporate a normative analytical framework that may not be formally accepted by all TRIPS members, but has seemingly provided the guiding principles for operations to date. The TRIPS council should consider this revision within a human rights framework while working to simplify the qualification rules as the council moves forward.

B. *The Utility of a Human Rights Framework in Categorizing and Valuing Interests*

Given that the primary issue in compulsory licensing is income, it makes sense to focus on the royalty aspects of TRIPS. This provides a great deal of flexibility. The section of TRIPS addressing remuneration is set forth in very vague terms, which means that a modification could be layered on top. No formal system need be disassembled, and no real expectations exist that must be revised.

TRIPS Articles 31 and 31*bis* both require only that remuneration be “adequate.”²²¹ In addition, TRIPS requires that the remuneration be open to challenge within the licensing country.²²² Theoretically, one could bring a dispute before the WTO Dispute Settlement Body on the amount of remuneration,²²³ but so far, no country has.²²⁴ Truthfully, using the current rules, it would be hard to imagine how one would clearly establish that any remuneration amount above zero is not adequate, particularly

221. TRIPS, *supra* note 29, arts. 31(h), 31bis(2); Paragraph 6 Decision, *supra* note 33, ¶ 3 (referring back to TRIPS art. 31(h)).

222. TRIPS, *supra* note 29, art. 31(j). Since the Paragraph 6 decision incorporates the remuneration provisions of TRIPS, one assumes that the appeal process is also included, though it is not explicitly referenced. See Paragraph 6 Decision, *supra* note 33.

223. See Taubman, *supra* note 173, at 941–43 (outlining how a dispute on compulsory license remuneration would proceed through the WTO Dispute Settlement Body).

224. Of the twenty-nine cases that have been brought to date, none concern a dispute over a country's use of TRIPS art. 31. *Disputes by Agreement: Intellectual Property (TRIPS)*, WTO, http://www.wto.org/english/tratop_e/dispu_e/dispu_agreements_index_e.htm?id=A26#selected_agreement (last visited Jan. 10, 2011).

when the market remains intact across the rest of the globe.²²⁵ Does “adequate” mean sufficient to cover lost sales, production, or research and development costs, or is it simply a rule-of-thumb amount that has been allocated in other contexts? TRIPS is silent on this account. Moreover, although the negotiation history reveals that there were many perspectives put forward during the negotiation of the final language,²²⁶ the participants’ intent on the final meaning is still open to question.

However, this silence provides an opportunity. The incorporation of some means of determining when remuneration is adequate would solve the inconsistencies noted above. It could distinguish between a circumstance in which there is no access in an emergency from one in which a country engages in purely opportunistic licensing. Moreover, the involvement of the dispute resolution panel would ensure some degree of objectivity. On the other hand, it seems obvious that the licensing country would have a bias in determining whether the licensing rate is too low (it would be like having an arbitration system run entirely by a company at the center of a dispute),²²⁷ yet that is the system as it currently exists.

Of course, stating that a dispute body should be able to settle on reasonable royalty rates in necessary circumstances, and actually identifying those rates are different things. Climate change technology does not have the fungible properties of popular music that naturally lends itself to a government royalty setting. Drugs may have dramatically different therapeutic efficacies, production costs, and global price support. The same is certainly true for other inventions that do not lend themselves to a clear valuation. A royalty rate that might be fair for one might not be appropriate for another. But that does not necessarily mean that the process is completely without boundaries. Rather there are general principles that could be used to ground a royalty process.

A human rights assessment could provide some indication of when a less-than-market royalty payment is necessary. Although human rights obligations are not accepted by every nation—notably, the United States has refused to ratify what could be considered the most important treaty relating to cultural and social rights²²⁸—there is more agreement here

225. See Taubman, *supra* note 173, at 951–57 (addressing various arguments that would be considered in determining whether a royalty rate is adequate and noting that it is not equivalent to full compensation in all cases).

226. See UNCTAD-ICTSD RESOURCE BOOK, *supra* note 7, at 463–67.

227. See *id.*; Taubman, *supra* note 173, at 952–53.

228. International Covenant on Economic, Social & Cultural Rights, Dec. 16, 1966, 993 U.N.T.S. 3 [hereinafter ICESCR]. The United States signed the treaty in 1977, but has never ratified it. See *Status of International Covenant on Economic, Social and Cultural Rights*, U.N. TREATY COLLECTION, <http://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&>

than meets the eye. The fundamental principles of human rights seem to underlie almost every nation's pronouncements regarding access to inventions, and all nations actually do accept some obligations.²²⁹ The disagreement appears to be on when human rights are truly at stake and what mechanisms are necessary to "respect, protect and fulfill" them.²³⁰ Still, given the absence of *any* measuring norm in the current regime, it seems likely that most nations would agree to a human rights analysis as a set of balancing principles if such an analysis were complete enough to consider all interests. In cases where there is a deep objection to the language of human rights, an argument that the relevant principles are part of customary international law may carry some weight.²³¹

The first step in the process would be to determine what human rights are implicated in a given compulsory licensing decision. Where patented inventions are concerned, the right to health is a primary candidate for remuneration consideration. According to Article 25 of the Universal Declaration of Human Rights (UDHR), "[e]veryone has the right to a standard of living adequate for the health of himself and of his family, including food, clothing, housing and medical care and necessary social service."²³² That basic broad principle was ratified by many of the developed country members of the TRIPS agreement, including the United States.²³³ However, it is not binding and is reasonably subject to interpretation.²³⁴ More specific is the International Convention on Eco-

mtdsg_no=IV-3&chapter=4&lang=en (last updated Jan. 19, 2011) [hereinafter *ICESCR Status*].

229. Even though the United States has resisted the notion of the right to health as it has been expressed in major treaties, it has shown support for aspects of such a right in its support of resolutions on international health care and trade policies. HESTERMEYER, *supra* note 27, at 131.

230. Elizabeth M. Bruch, *Whose Law Is It Anyway? The Cultural Legitimacy of International Human Rights in the United States*, 73 TENN. L. REV. 669, 687–90 (2006) (noting that current debates in the U.S. about human rights relate to the cultural legitimacy of the standards). Guidance for parties to ICESCR on the right to health is provided by a document known as General Comment 14, a binding interpretation of the covenant. U.N. Econ. & Soc. Council [ECOSOC], Comm. on Econ., Soc. & Cultural Rights, *General Comment No. 14: The Right to the Highest Attainable Standard of Health*, ¶ 33, U.N. Doc. E/C.12/2000/4 (Aug. 11, 2000) [hereinafter *CESCR Comment 14*].

231. See HESTERMEYER, *supra* note 27, at 122–23 (discussing the application of customary international law).

232. Universal Declaration of Human Rights (UDHR) art. 25, G.A. Res. 217 (III) A, U.N. Doc. A/RES/217(III) (Dec. 10, 1948) [hereinafter *UDHR*].

233. The United States not only ratified the UDHR, but also was actually one of the primary drafters of the document. Scott L. Cummings & Louise G. Trubek, *Globalizing Public Interest Law*, 13 UCLA J. INT'L L. & FOREIGN AFF. 1, 12 (2008).

234. See Mac Darrow & Louise Arbour, *The Pillar of Glass: Human Rights in the Development Operations of the United Nations*, 103 AM. J. INT'L L. 446, 469–70 (2009) (stating that the UDHR is not binding, but that substantial parts likely now qualify as customary international law).

nomic, Social and Cultural Rights (ICESCR), which acknowledges “the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”²³⁵ This agreement has binding obligations but a more limited list of ratifying countries, with the most important holdout being the United States.²³⁶ Regardless, the ICESCR has been subject to detailed interpretation in the context of compulsory licensing. According to the Committee on Economic, Social and Cultural Rights in its Comment 14 issued in 2000, the right to health does not mean that states parties are obligated to provide full health care services, such as instituting a national insurance system.²³⁷ Rather, the Committee announced several “core” obligations that included access to essential medicines, food, basic shelter, sanitation, and safe, potable water.²³⁸ As a starting point, a remuneration regime that stands as a barrier to these core obligations by making them economically unobtainable is problematic.

A counterweight to the human right to health is, to some extent, the right to profit from one’s invention. This right is often ignored or at least highly subjugated to other human rights. According to UDHR Article 27, “[e]veryone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.”²³⁹ Again, this is reflected in ICESCR Article 15, which describes the “right of everyone . . . [t]o benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.”²⁴⁰ This seemingly strong statement has been tamped down by the Committee, which noted that the human right to benefit from intellectual property is not coextensive with the legal right set forth in intellectual property laws.²⁴¹ Rather, the human right is tied into a personal interest.²⁴² This is similar to the natural rights or Lockean perspective on intellectual property prevalent in earlier common law jurisprudence and scholarship.²⁴³

235. ICESCR, *supra* note 228.

236. See ICESCR Status, *supra* note 228 (listing all ICESCR signatures and ratifications).

237. CESCR Comment 14, *supra* note 230, ¶ 36 (stating a number of mechanisms for providing health care, including private insurance).

238. *Id.* ¶ 43.

239. UDHR, *supra* note 232, art. 27(2).

240. ICESCR, *supra* note 228, art. 15(1).

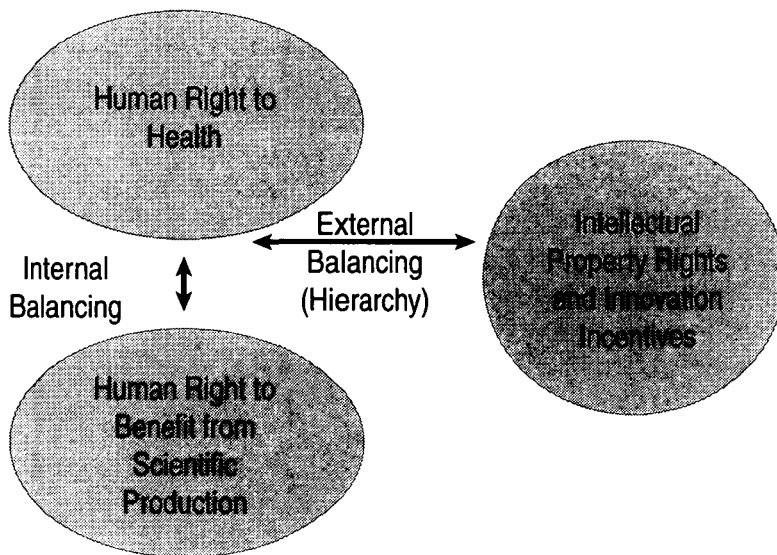
241. ECOSOC, Comm. on Econ., Soc. & Cultural Rights, *General Comment 17, The Right of Everyone to Benefit from the Protection of the Moral and Material Interests Resulting from Any Scientific, Literary or Artistic Production of Which He or She Is the Author*, ¶¶ 2–3, U.N. Doc. E/C.12/GC/17 (Jan. 12, 2006) [hereinafter CESCR Comment 17].

242. *Id.* ¶ 2.

243. See Adam Mossoff, *The Use and Abuse of IP at the Birth of the Administrative State*, 157 U. PA. L. REV. 2001, 2022–44 (2009) (relating John Locke’s labor theory of property as applied to intellectual property).

One aspect this perspective makes clear is the necessity for alienation of the property—as opposed the human right—which necessarily feeds into the adequate remuneration issue.²⁴⁴ The ability to be fairly compensated for a scientific production is strongly connected to its alienability.²⁴⁵ In addition to ICESCR rights for intellectual property specifically, there is a right to property accepted in non-binding human rights documents like the UDHR²⁴⁶ and the Declaration on the Rights and Duties of Man.²⁴⁷ These could be informative in providing some interpretative context to a compulsory licensing remuneration valuation.

FIGURE 2
BALANCING COMPETING HUMAN RIGHTS OBLIGATIONS



244. CESCR Comment 17, *supra* note 241, ¶ 4 (noting the economic dimension of the right).

245. *See id.* ¶ 31 (“States parties must ensure that third parties adequately compensate authors for any unreasonable prejudice suffered as a consequence of the unauthorized use of their productions.”).

246. UDHR, *supra* note 232, art. 17 (“Everyone has the right to own property alone as well as in association with others. . . . [and] [n]o one shall be arbitrarily deprived of his property.”).

247. Organization of American States, American Declaration of the Rights and Duties of Man, art. 23, adopted by the Ninth International Conference of American States (1948), *reprinted in* SECRETARIAT OF THE INTER-AMERICAN CT. OF HUM. RTS., BASIC DOCUMENTS PERTAINING TO HUMAN RIGHTS IN THE INTER-AMERICAN SYSTEM, OAS Doc. OAS/Ser.L/V/II.4 rev. 13 (June 30, 2010) (“Every person has a right to own such private property as meets the essential needs of decent living and helps to maintain the dignity of the individual and of the home.”).

Considering these rights, one can see the evolution of a balancing test similar to one that exists in other areas of law, such as the U.S. conception of copyright fair use.²⁴⁸ First, there is an internal human rights balancing test. One assesses the current state of access to the technology and asks, does pricing play a role in reducing access such that a core health obligation is impacted? One also considers what impact the remuneration discount would have on the right to benefit from the invention. Second, there should be an external innovation incentive policy balancing. What impact would a royalty reduction have on the overall innovation environment? In some cases, where there is great need for access supported by human rights principles, and little impact on investment returns, the reduction in remuneration from market levels may be great.²⁴⁹ In others, where access is not a problem and profit would be dramatically affected, remuneration reduction will be small. This construction essentially formalizes what advocates on all sides have been saying for years.

Clearly, using a broad system like this would not yield complete predictability, but it would compel actors to articulate a case for their plan and have some understanding of when rules will bend in their favor. For example, one could outline the three scenarios above and see how a human rights perspective provides significantly more guidance.

TABLE 1 EXAMPLES OF HUMAN RIGHTS BALANCING
IN REMUNERATION CALCULATION

Unauthorized Use	Impact on Health and Life Rights	Impact on Right to Benefit from IP	Impact on Innovation	Outcome
Current AIDS, TB, and malaria treatments	Limited increase in access due to existence of generics	Small impacts due to profits in developed countries	Small impacts on innovation for developing country diseases	Compulsory licensing at a steep discount from developing country market not necessary
Agrochemical licensing by middle-developed countries	Limited increase due to competitive pricing	Large impact due to size of agricultural market	Little impact due to developed country market	Compulsory licensing at a steep discount from developing country market not necessary
Emergency reaction to pandemic	Significant increase in access due to volume purchasing and limited production by intellectual property owner	Small impact due to expected profits in developed countries	Very little impact due to <i>ex ante</i> nature of emergency	Compulsory licensing at a steep discount from developing country market may be necessary

An understanding of which interests the law favors, in turn, fosters negotiation whenever possible. That is essentially the lesson of copyright

248. See 17 U.S.C. § 107 (2006) (listing several factors to be considered in determining if a particular use of a copyrighted work is fair).

249. See Alan Devlin et al., *Success, Dominance and Interoperability*, 84 IND. L.J. 1157, 1188–89 (2009) (noting that intellectual rights that are not economically important or “weak” in a particular market are excellent candidates for compulsory licensing).

compulsory licensing (and arguably Paragraph 6 licensing).²⁵⁰ If you create enough certainty in the commercial and regulatory landscape, a private market will fill in the spaces unless impeded by some other barrier. In such a case, compulsory licensing can be used to address the deficiency.

Key to a human rights remuneration attenuation system is the participation of an international decision making body, namely the WTO Dispute Settlement Body.²⁵¹ While this entity has been growing more active in recent years, deciding a number of issues related to TRIPS,²⁵² it has never commented on remuneration. It is reasonable to assume that additional expertise would be necessary. But such expertise is not unattainable, or even unusual in the field of intellectual property compensation. In every infringement case, courts and lay juries are required to make an *ex post* determination of damages in view of a number of complex factors.²⁵³ There is no reason to assume that a WTO body would be unable to do the same, and perhaps issue some measure of guidance in the form of advisory opinions. In addition, it is likely that a political process could be included to ensure that royalty rules capture all of the relevant interests, as in the case of U.S. copyright royalty setting.²⁵⁴ Though one could argue that such a process is already guaranteed by the WTO's own negotiation structure, the long and contentious debate leading up to the Paragraph 6 implementation suggests that there may be better alternatives.

Of course, functionally, a remuneration attenuation system must also be implemented in national laws. The WTO Dispute Settlement Body's power extends only to sanctions for countries that do not fulfill their obligations under TRIPS and other aspects of the GATT. To comply, a country would be required to establish a process for ensuring the relevant human rights and innovation considerations are taken into account in setting royalties. Theoretically, any country that has a process for expropriating property already has the outline in place, and certain specifics relevant to patents would simply need to be incorporated.

250. See Crane, *supra* note 218, at 295–96.

251. See Taubman, *supra* note 173, at 951–52; see also Rochelle Cooper Dreyfuss, *Fostering Dynamic Innovation, Development, and Trade: Intellectual Property as a Case Study in Global Administrative Law*, 2009 ACTA JURIDICA 237 (2009).

252. *Disputes by Agreement: Intellectual Property (TRIPS)*, *supra* note 224; Rochelle Cooper Dreyfuss, *TRIPS and Essential Medicines: Must One Size Fit All? Making the WTO Responsive to the Global Health Crisis* 52 (N.Y. Univ. Sch. of Law, Pub. Law and Legal Theory Res. Series, Working Paper No. 09-44, 2009), available at <http://ssrn.com/abstract=1443248>.

253. See David W. Opperbeck, *Patent Damages Reform and the Shape of Patent Law*, 89 B.U. L. REV. 127, 132–34 (2009) (describing the current process for determining lost profits and a reasonable royalty under U.S. patent law).

254. See *supra* note 219 and accompanying text.

What about countries such as the United States that do not adhere to ICESCR²⁵⁵—would a remuneration attenuation regime based on such principles be subject to serious objection? This would likely be the case if the regime were imposed on a given country, but such implementation is actually never required. The ability to attenuate remuneration is a voluntary relaxation of intellectual property obligations, and as with other flexible provisions in TRIPS, countries may impose stronger property standards. This is of course exactly what has occurred today with the Paragraph 6 implementation. Although many countries have revised their laws in response, other countries—the United States, for example—have not.

C. Future Revision: Streamlining the Rules with Open Licensing

While the above remuneration policy could be instituted with only slight revision to TRIPS, it is possible to imagine more significant changes that would increase the utility of a compulsory license regime. While more substantial changes would present a greater challenge politically, the benefits would be significant. Specifically, consider that when a remuneration attenuation process is coupled with a complex set of criteria limiting when countries are even eligible to consider a license, the utility of the system is greatly reduced. The imposition of subject matter limitations, time limitations, or pre-negotiation requirements²⁵⁶ has the effect of squeezing the utility of licensing for no real benefit to property owners. All such limitations can be eliminated under a human rights-based remuneration system without a negative impact on innovation incentives.

A more controversial but equally important streamlining measure would be to eliminate the general requirement that compulsory licensing be primarily for use in the licensing country.²⁵⁷ From the perspective of

255. See *supra* note 228.

256. The TRIPS agreement contains several procedural restrictions that limit the breadth of a compulsory license. Some are generally applicable to all compulsory licenses, such as the requirement that authorization be individual and limited in scope and duration, as opposed to a standing license. TRIPS, *supra* note 29, art. 31(a), (c). Other limitations are specific to the license type, such as the requirement for prior negotiation with the patent holder except in cases of emergency, urgency, or public non-commercial use, TRIPS, *supra* note 29, art. 31(b), or the need to confirm a lack of manufacturing capacity in the Paragraph 6 amendments, Paragraph 6 Decision, *supra* note 33, ¶ 2(a)(ii). In addition, national legislation often imposes additional constraints, such as Canada's requirement for Health Canada approval before exporting medicines. *Canada's Access to Medicines Regime: Preparing to Submit an Application*, GOV'T OF CAN., http://www.camr-rcam.gc.ca/compan-entrepris/applic-demande/prepar_e.html (last updated July 28, 2006). Moreover, regional trade agreements (particularly those known as "TRIPS-plus"), see Bird, *supra* note 8, at 211, or bilateral investment treaties, see generally Gibson, *supra* note 81, may add additional procedural limitations.

257. TRIPS, *supra* note 29, art. 31(f).

the property owner, if compensation is fairly attenuated as outlined above, such a license could actually result in more efficient pricing. As long as royalties are connected to specific sales, there should be no need (nor advantage) to requiring specific licenses. In many ways, a streamlined process mimics the freedom of copyright fair use in the United States. Rather than define the eligibility for fair use or create an *ex ante* application process, people engage in good faith and prepare to argue for the benefits if infringement occurs.

However, for an open licensing regime to function, one limitation vaguely supported in TRIPS must be enhanced: national exhaustion.²⁵⁸ National patent exhaustion is the principle that a sale in one country exhausts the patentee's right in only that country.²⁵⁹ It is an essential component of limiting parallel importation between countries that in turn preserves tiered pricing.²⁶⁰

Of course, national exhaustion seems overly strict when it precludes parallel importation between countries at a similar development stage. It may be largely impractical as well. This is the idea behind the Paragraph 6 implementation rule permitting trade of licensed pharmaceuticals between least-developed countries.²⁶¹ This principle could be extended to provide for economic regional exhaustion.²⁶²

In general, a streamlined, open licensing model would do much to enhance the efficiencies of remuneration attenuation without burdening property owners. However, this would constitute a fairly radical change to TRIPS, and it is difficult to imagine much progress soon. In contrast, much of the human rights framework articulated above could be instituted without a great deal of effort or negotiation. Therefore, remuneration attenuation provides a better starting point for developing a more rational, equitable, and functional patent breaking system.

258. The TRIPS agreement specifically does not address the issue of intellectual property exhaustion. TRIPS, *supra* note 29, art. 6.

259. *Fuji Photo Film Co. v. Jazz Photo Corp.*, 394 F.3d 1368, 1376 (Fed. Cir. 2005) (articulating the doctrine in the context of an infringement case concerning disposable cameras); *see also* *Quanta Computer, Inc. v. LG Electronics, Inc.*, 553 U.S. 617 (2008) (clarifying the doctrine in the context of licensees).

260. *See* Cahoy, *supra* note 8, at 187–92 (describing the significance of exhaustion in the context of medicines); Yadav, *supra* note 139, at 39–40 (stating that the lack of market segmentation is a barrier to tiered pricing).

261. Paragraph 6 Decision, *supra* note 33, ¶ 6(i).

262. The European Union provides for regional exhaustion based on membership. Robert C. Bird & Peggy E. Chaudhry, *Pharmaceuticals and the European Union: Managing Gray Markets in an Uncertain Legal Environment*, 50 VA. J. INT'L L. 719, 732–33 (2010). Because this is not based on economic need, but rather trade policy, it would be better to provide for an economic-based regional exhaustion. For example, one could exhaust rights between all least-developed countries..

CONCLUSION

The current dysfunction in compulsory licensing under the TRIPS regime yields a system with all of the disadvantages of reduced intellectual property rights protection, but none of the access advantages imagined. Populations truly in need lose, while the politically powerful gain unnecessary advantages. A consideration of the full scope of compulsory license use highlights these issues and also suggests a route for reform. Reform based on incorporating balancing human rights norms into the remuneration mechanism is a simple fix that is likely to make compulsory licensing useful and predictable in the future.