

2003

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Recommended Citation

Heald, Paul J., "Mowing the Playing Field: Addressing Information Distortion and Asymmetry in the Trips Game" (2003). *Minnesota Law Review*. 708.

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Article

Mowing the Playing Field: Addressing Information Distortion and Asymmetry in the TRIPS Game

Paul J. Heald†

The TRIPS Agreement,¹ which mandates minimum international standards for the protection of intellectual property, provides the rules for a fascinating game between industrialized and developing nations. Since the conclusion of the Uruguay Round in 1995, all members of the World Trade Organization (WTO) are required to participate in the game, and even the poorest countries are willing to take the field as the price of joining an organization whose professed goal is lowering trade barriers and eliminating regimes of unilateral trade sanctions. On one side, the rational strategy of the highly industrialized nations which designed the game² is clear—convince the two-thirds of the WTO that qualify as “developing countries”³ to

† Allen Post Professor of Law, University of Georgia. Many thanks to Graeme Dinwoodie, Kenneth Port, David Mustard, Jerry Reichman, John L. Turner, Fred Yen, and participants at the Vanderbilt Law School “Dean’s Luncheon” paper series for their comments on earlier drafts.

1. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, LEGAL INSTRUMENTS—RESULTS OF THE URUGUAY ROUND vol. 31, 33 I.L.M. 81 (1994) [hereinafter TRIPS Agreement] (establishing minimum standards of protection of copyrights, patents, trademarks, and trade secrets, and making WTO dispute resolution mechanisms available to intellectual property enforcement disputes between members states).

2. See Peter Drahos, *Developing Countries and International Intellectual Property Standard-Setting*, 5 J. WORLD INTELL. PROP. 765, 771–76 (2002) (noting predominance of the United States, European Union, Canada, and Japan in the negotiations leading to the TRIPS Agreement and emphasizing the role of threatened unilateral sanctions by the United States to obtain acquiescence of important developing countries).

3. See World Trade Organization: Trade Topics Development Definitions, at http://www.wto.org/english/tratop_e/devel_e/dlwho_e.htm (last visited Sept. 22, 2003). The WTO does not define the term “developing countries” as it appears in the TRIPS Agreement. *Id.*; see also Marco C.E.J. Bronckers, *The Im-*

maximize their enforcement of intellectual property rights. For technologically advanced nations (usually net exporters of copyrighted materials and patented products), the reduction of piracy, counterfeiting, and other uncompensated uses has obvious pecuniary advantages. The rational response of the developing world is less obvious.

Most developing countries want access to the markets that membership in the WTO promises to open,⁴ but compliance with the TRIPS Agreement imposes significant administrative and enforcement costs.⁵ These costs vary widely with the unique economic circumstances of each complying country, but the short-term consumer costs of complying with the TRIPS Agreement are easy to see.⁶ In countries with substantial markets for newly protected pharmaceuticals and agricultural products (like Brazil, India, and South Africa), enforcement of patents means higher prices for drugs, seeds, and fertilizers.⁷ In countries where bootleg music, movies, and software are cheap and plentiful, the effect of strict enforcement of copyright law on prices is also easy to predict.⁸ Developing countries that

part of TRIPS: Intellectual Property Protection in Developing Countries, 31 COMMON MKT. L. REV. 1245, 1280 (1994). Instead of "developing countries," I would prefer to use a term with less political baggage, but, for the purposes of this Article, feel constrained by its use within the TRIPS Agreement.

4. See J.H. Reichman & David Lange, *Bargaining Around the TRIPS Agreement: The Case for Ongoing Public-Private Initiatives to Facilitate Worldwide Intellectual Property Transactions*, 9 DUKE J. COMP. & INT'L L. 11, 17 (1998) ("[D]eveloping countries were offered greater access to markets for traditional manufactured goods and for their agricultural products in exchange for codified obligations to respect intellectual property rights.")

5. TRIPS Agreement, *supra* note 1, arts. 15–23 (assuming existence of an office for the registration of trademarks); *id.* arts. 27–34 (assuming the existence of a patent office); *id.* arts. 41–61 (mandating fair and equitable enforcement procedures, special border measures, and criminal remedies); see also UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (UNCTAD), THE TRIPS AGREEMENT AND DEVELOPING COUNTRIES at 19–20, U.N. Doc. UNCTAD/ITE/1, U.N. Sales No. 96.II.D.10 (1996) [hereinafter UNCTAD] (discussing the "direct costs" stemming from the TRIPS Agreement, including administrative costs); Carlos M. Correa, *New International Standards for Intellectual Property: Impact on Technology Flows and Innovation in Developing Countries*, 24 SCI. & PUB. POL'Y 79, 85 (1997) (discussing administrative costs of implementing the TRIPS Agreement).

6. See Correa, *supra* note 5, at 85 ("In the case of countries with low industrial development, the main impact of the TRIPs Agreement in the short and medium term will be on market prices.")

7. See UNCTAD, *supra* note 5, at 15.

8. See *id.* at 15–16 (discussing competition spurred by intellectual property rights and implications of TRIPS on pricing and licensing terms); KEITH E. MASKUS, *INTELLECTUAL PROPERTY RIGHTS IN THE GLOBAL ECONOMY* 6, 158

consume counterfeit trademarked goods will also see prices rise if only authentic goods may be legally sold. Obviously, in developing countries with significant manufacturing capacity, a direct economic cost is imposed by the closing of plants producing previously unprotected pharmaceuticals and agricultural products, bootleg compact discs and movies, and knockoff clothing.⁹ The temptation to persist in reaping the harvest of outside inventiveness and creativity is wholly rational.

Not surprisingly, the advice offered by industrialized nations de-emphasizes the cost of compliance with the TRIPS Agreement. The rhetoric suggests that the game is cooperative, that enforcement of high intellectual property standards is in the best interests of all the players. The most common suggestion is that stimulating local creativity and attracting direct foreign investment offer compelling reasons for developing countries to embrace the TRIPS Agreement.¹⁰ What usually goes unspoken is that the TRIPS Agreement leaves significant

(2000). In Eastern Europe, over eighty percent of all software is used without a proper license. Fred M. Greguras, *1997 Update: International Legal Protection for Software*, in *COMPUTER SOFTWARE PROTECTION 1997*, at 855, 862 (PLI Patents, Copyrights, Trademarks, and Literary Property, Course Handbook Series No. G-479, 1997).

9. See MASKUS, *supra* note 8, at 157–59 (discussing a Lebanese model of the market effects on labor and employment of the TRIPS Agreement). In the least developed countries, where significant manufacturing capacity is absent and consumers lack the disposable income to purchase patented inventions, software, and copyrighted artworks, the cost of augmented intellectual property rights may initially be minimal, although protection afforded to foreign rights holders may make future acquisition of technology more expensive.

10. See Bronckers, *supra* note 3, at 1278–79 (“Nowadays it is more common currency to think that IP protection can contribute to the economic progress of developing countries, notably by encouraging technology transfers and foreign investments.”); Correa, *supra* note 5, at 85 (“The proposal of new international rules on TRIPS in the Uruguay Round has been premised on the assumption that a strengthened protection of IPRs would promote foreign direct investment (FDI) flows and the transfer of technology to developing countries.”); Robert M. Sherwood, *The TRIPS Agreement: Implications for Developing Countries*, 37 IDEA 491, 544 (1997) (studying the possible benefits to developing countries of the implementation of the TRIPS Agreement and explaining that “it can be expected that developing countries will experience the solid economic benefits which flow from robust protection of intellectual property” once an adequate public administration is put in place); Wendy S. Vicente, *A Questionable Victory for Coerced Argentine Pharmaceutical Patent Legislation*, 19 U. PA. J. INT’L ECON. L. 1101, 1120–26 (1998) (discussing the case for strong intellectual property rights and stating that “U.S. coercion to upgrade foreign intellectual property protection paternalistically promises to improve foreign investment prospects”); see also UNCTAD, *supra* note 5, at 1–4 (providing main findings and conclusions regarding the costs and benefits of the TRIPS Agreement).

room for a *complying* WTO member to make choices about its level of intellectual property protection. Those arguing for regimes of maximum protection claim that “[t]he higher the intellectual property protection the greater amount of investment,”¹¹ and even assert that “the TRIPS level of protection is probably not sufficiently robust.”¹² This Article challenges the economic logic of the maximum enforcement claim and suggests that a rational, self-interested approach taken by a developing country would seek to minimize the costs of complying with TRIPS while maximizing the potential for necessary technological development. One article cannot hope to level the playing field between industrialized and developing nations, but it may be able to cut down some of the tall grass growing on the side of the pitch where developing nations usually play, back by their own goal. This tall grass distorts a clear view of the rational options and agendas available to the developing world.

In the context of this Article, better groundskeeping in the TRIPS game means improving the quality of information available to developing countries. First, economic information can be improved by demystifying the canonical work inevitably cited for the proposition that a developing country will stimulate foreign direct investment and technology transfer by increasing its intellectual property protection. It is difficult to overestimate the influence of Edwin Mansfield’s 1994 paper¹³ for the International Finance Corporation (an arm of the World Bank), but close scrutiny reveals that its findings have been consistently misread. Second, the TRIPS Agreement itself needs to be re-examined in order to reveal the full panoply of compliance options it offers developing countries. Finally, a rational strategy for developing countries must not only consider compliance options, but must also account for institutional competency—legislative, judicial, executive, and diplomatic—in order to make the most of available options.

Part I explains why the developing world should be skeptical of the persistent claim based on Mansfield’s research that

11. Shanker A. Singham, *Competition Policy and the Stimulation of Innovation: TRIPS and the Interface Between Competition and Patent Protection in the Pharmaceutical Industry*, 26 BROOK. J. INT’L L. 363, 375–76 (2000–2001).

12. Robert M. Sherwood, *Global Prospects for the Role of Intellectual Property in Technology Transfer*, 42 IDEA 27, 30 (2002).

13. EDWIN MANSFIELD, INTELLECTUAL PROPERTY PROTECTION, FOREIGN DIRECT INVESTMENT, AND TECHNOLOGY TRANSFER (Int’l Fin. Corp., Discussion Paper No. 19, 1994).

maximum enforcement of intellectual property laws will lead to foreign direct investment and technology transfer. Mansfield's landmark survey of American business executives does not support a maximalist strategy across all areas of intellectual property. The following sections examine options available to the policy makers in developing countries that are most likely to be involved in securing compliance with the TRIPS Agreement. Part II looks through the legislative lens and explores the numerous statutory options available to capture welfare benefits offered by intellectual property while reducing the cost to consumers and local industry of complying with the TRIPS Agreement. Part III proposes a role for the judiciary in realizing legislative initiatives. The executive branch, however constituted, is considered in Part IV. Given chronic weaknesses in the judicial systems in many developing countries, problems that are typically handled by courts in the United States or the European Union may be more productively addressed elsewhere by specialized agencies. Finally, Part V explores the critical diplomatic perspective and, borrowing from the work of Professors Reichman and Lange, suggests strategic initiatives that may enable a nation to "bargain around the TRIPS Agreement."¹⁴ Even if new intellectual property laws do not stimulate investment in, or technology transfer to, a developing country, public/private partnerships have the potential to leverage significant economic benefits.

TRIPS leaves room for substantial maneuvering. An integrated approach involving all facets of policy making is central to establishing a rational intellectual property policy in any country. One advantage of examining the TRIPS Agreement from distinct legislative, judicial, executive (or agency), and diplomatic perspectives is what it can reveal about ineffective or nonexistent governmental structures in the developing world. The approach taken here not only directly examines the substance of rational intellectual property policy, but also indirectly addresses the structure of effective law making and enforcement.

I. RATIONAL SKEPTICISM OF THE WESTERN SALES PITCH

In crafting their TRIPS compliance strategies, developing countries would like the answer to two important questions: (1)

14. See Reichman & Lange, *supra* note 4, at 11.

will the costs of enforcing intellectual property rights be offset by a stimulus to local creativity? and (2) will those costs be offset by increased foreign direct investment and technology transfer? The first question is famously impossible to answer and cannot be addressed in this Article.¹⁵ An answer to the second question has been more confidently asserted. Relying on the research of Edwin Mansfield,¹⁶ many commentators have been willing to draw a correlation between enforcing intellectual property rights and increasing foreign direct investment and technology transfer to developing countries.¹⁷ For example,

15. Economists are not even sure that American patent law is welfare enhancing:

[I]f we did not have a patent system, it would be irresponsible, on the basis of our present knowledge of its economic consequences, to recommend instituting one. But since we have had a patent system for a long time, it would be irresponsible, on the basis of our present knowledge, to recommend abolishing it.

FRITZ MACHLUP, AN ECONOMIC REVIEW OF THE PATENT SYSTEM, STUDY NO. 15 OF THE SUBCOMM. ON PATENTS, TRADEMARKS, AND COPYRIGHTS OF THE SENATE COMM. ON THE JUDICIARY, 85th Cong., 2d Sess. (1958), cited in Edmund Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 289 n.72 (1977) (“[Malchup’s] study remains authoritative.”). As recently as 1970, Professor (now Justice) Stephen Breyer opined that copyright law was not needed for books. See Stephen Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 HARV. L. REV. 281, 284 (1970). There seems to be a growing consensus that patent protection does stimulate creative activity in the more highly industrialized developing nations, such as Brazil. See MASKUS, *supra* note 8, at 147–49.

16. See MANSFIELD, *supra* note 13.

17. See Thomas Lagerqvist & Mary L. Riley, *How to Protect Intellectual Property Rights in China*, in PROTECTING INTELLECTUAL PROPERTY RIGHTS IN CHINA 7, 8 (Mary L. Riley ed., 1997) (listing the loss of foreign investment and know-how as a cost of counterfeiting); SUSAN K. SELL, POWER AND IDEAS: NORTH-SOUTH POLITICS OF INTELLECTUAL PROPERTY AND ANTITRUST 214 (1998) (arguing that an operational intellectual property regime will promote foreign investment); Edmund W. Kitch, *The Patent Policy of Developing Countries*, 13 UCLA PAC. BASIN L.J. 166, 175–76 (1994) (same); Owen Lippert, *One Trip to the Dentist Is Enough: Reasons to Strengthen Intellectual Property Rights Through the Free Trade Area of the Americas*, 9 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 241, 248 (1998) (recognizing the pioneering work of Edwin Mansfield and noting that “[i]n the last twenty years . . . numerous studies have sought to measure the effect of changes in IPR standards on such items as economic growth, foreign direct investment (“FDI”), technology transfer, and consumer welfare” (citations omitted)); Clarisa Long, *Patents and Cumulative Innovation*, 2 WASH. U. J.L. & POL’Y 229, 238 (2000) (reporting on a survey showing that “eighty percent of firms surveyed in the chemical, transportation equipment, electrical equipment, food, metals, and machinery industries indicated that the strength of intellectual property protection had a ‘major effect’ in their willingness to invest in research and development facilities abroad” (citations omitted)); Sherwood, *supra* note 12, at 27; Singham, *su-*

Peter Yu cites Mansfield for the proposition that “adopting an intellectual property regime that harmonizes with Western notions . . . will increase foreign investment, thus creating new jobs and facilitating technology transfer.”¹⁸ Similarly, “[m]ost writers [such as Mansfield] who have examined the role of intellectual property protection in developing countries have argued that better protection generally has positive economic effects, whether measured in terms of increased foreign direct investment or rates of modernization and development.”¹⁹ Reliance on Mansfield is predictable and persistent,²⁰ including unquestioned citation by famous skeptics of the proposition that intellectual property enforcement levels matter in investment decisions.²¹

pra note 11, at 375 (“Mansfield’s work illustrates that the intellectual property protection afforded by a country directly relates to the amount of technical development and transfer into the developing country. . . . Countries with strong intellectual property protection tend to experience a continuing flow of new high technology firms entering the industrial base.” (citations omitted)); Horacio Teran, *Intellectual Property Protection and Offshore Software Development: An Analysis of the U.S. Software Industry*, 2 MINN. INTELL. PROP. REV. 1, 1–2 (2001), available at <http://mipr.umn.edu/archive/v2n1/teran.pdf>; John A. Tesensohn, *Reversal of Fortune—Pharmaceutical Experimental Use and Patent Infringement in Japan*, 4 J. INT’L LEGAL STUD. 1, 21 (1998) (“The importance of providing strong protection of intellectual property rights in the ethical pharmaceutical industry can never be underestimated. The International Finance Corporation . . . discovered that pharmaceutical companies would not be willing to invest directly in research and development facilities if there were no patent protection available for their . . . products.”); Kenneth J. Vandvelde, *The Political Economy of a Bilateral Investment Treaty*, 92 AM. J. INT’L L. 621, 638 n.163 (1998) (“In general, strong intellectual property protection is correlated with the attraction of foreign direct investment.”); Peter Yu, *Piracy, Prejudice, and Perspectives: An Attempt to Use Shakespeare to Reconfigure the U.S.-China Intellectual Property Debate*, 19 B.U. INT’L L.J. 1, 62–63 (2001); Evelyn Su, Comment, *The Winners and the Losers: The Agreement on Trade-Related Aspects of Intellectual Property Rights and its Effects on Developing Countries*, 23 HOUS. J. INT’L L. 169, 217 (2000) (“The report finds that by strengthening protection on the intellectual property rights, there may be a positive impact on developing countries through increases in local innovation, foreign direct investment, and technology transfers.” (citations omitted)); Josh Martin, *Copyright Law Reforms Mean Better Business Climate*, J. COM., Mar. 7, 1996, at 1C (reporting on a “World Bank survey” that demonstrates the correlation between intellectual property rights and foreign investment).

Note also that a Google search of “Mansfield” and “foreign direct investment” on October 9, 2002, returned approximately 1200 hits.

18. Yu, *supra* note 17, at 62–63 (citations omitted).

19. Teran, *supra* note 17, at 1–2.

20. See sources cited *supra* note 17.

21. See Keith E. Maskus, *Intellectual Property Rights and Economic Development*, 32 CASE W. RES. J. INT’L L. 471, 484 (2000) (“Firms with easily cop-

Although authoritatively establishing or disproving a causal link between strong intellectual property rights and foreign direct investment is a complex econometric exercise beyond the scope of this Article, a closer look at the famous Mansfield paper can reduce the amount of noise in the current debate and improve the quality of economic information available to policy makers in developing countries. In 1991, Mansfield surveyed one hundred U.S. firms in six different industries: chemical, transportation equipment, electrical equipment, food, metals, and machinery.²² An astonishing ninety-four firms responded to questions about whether the “strength or weakness of intellectual property rights protection has a strong effect on whether direct investments will be made.”²³ The results were summarized as follows:²⁴

ied products and technologies . . . would be quite concerned about the ability of the local IPRS system to deter imitation. Firms considering investing in a local R&D facility would pay particular attention to local patent and trade-secrets protection. This perspective was borne out by Mansfield”; Keith E. Maskus, *Lessons from Studying the International Economics of Intellectual Property Rights*, 53 VAND. L. REV. 2219, 2233 (2000) (explaining that in a recent study based on an econometric model, “the authors found that weak patents had a significantly negative impact on the location of American FDI”); J.H. Reichman, *From Free Riders to Fair Followers: Global Competition Under the TRIPS Agreement*, 29 N.Y.U. J. INT’L L. & POL. 11, 81 n.271 (1997) (“The availability of legal protection seems to affect all the principal methods by which developing countries obtain advanced technology they are not able to produce themselves, including foreign direct investment, joint ventures, technology transfers to subsidiaries, and licensing or franchises.”).

22. MANSFIELD, *supra* note 13, at 1.

23. *Id.* at 1, 3.

24. *Id.* at 3 (“The number of firms in the sample in each industry is chemical [including pharmaceuticals], 16; transportation equipment, 6; electrical equipment, 35; food, 8; metals, 5; machinery, 24.”).

Table 1—Major U.S. Firms in Six Industries Where Strength or Weakness of Intellectual Property Rights Protection Has Strong Effect on Whether Direct Investments Will Be Made, 1991 (numbers shown in percent)

Industry	Sales & Distribution Outlets	Rudimentary Production & Assembly Facilities	Facilities to Manufacture Components	Facilities to Manufacture Complete Products	Research & Development Facilities	Mean
Chemical	19	46	71	87	100	65
Trans. Equip.	17	17	33	33	80	36
Elec. Equip.	15	40	57	74	80	53
Food	29	29	25	43	60	37
Metals	20	40	50	50	80	48
Machinery	23	23	50	65	77	48
Mean	20	32	48	59	80	48

After speculating on why the attitudes of the various industries studied diverged so widely, and presenting statements from interviewees, Mansfield concluded that “the strength or weakness of a country’s system of intellectual property protection seems to have a substantial effect, particularly in high-technology industries, on the kinds of technology transferred by many U.S. firms to that country.”²⁵ Although several commentators doubt the substantiality of this link,²⁶ I have found no serious challenges to Mansfield’s research.

Although the rigor of Mansfield’s survey technique might be criticized on several grounds,²⁷ the real problem is how it is interpreted by scholars and policy makers who recommend maximum recognition of patent rights or, more broadly, strong

25. *Id.* at 1.

26. See *infra* notes 53–62 and accompanying text.

27. It is unclear from the article whether the survey was directed to the manager within the firm in charge of foreign direct investment decisions. In addition, when asked whether the firm would invest in a particular country, the question was not validated with another question testing the interviewee’s level of knowledge of intellectual property protection in the respective country. Finally, it appears that the interviewees were not questioned about their understanding of the term “intellectual property,” which could encompass patents, trademarks, copyrights, trade secrets, publicity rights, sui generis design rights, or a subset of this list.

enforcement of intellectual property rights across the board.²⁸ To begin, one must note that Mansfield did not ask firms separately about the relevance of each category of intellectual property. For instance, he did not present questions regarding the distinct relevance of the enforcement of patents, trademarks, copyrights, trade secrets, publicity rights, or other *sui generis* design rights,²⁹ but asked only generically about “intellectual property rights” as a group. To understand why this matters, it is useful to disaggregate a theoretical firm into two divisions that investigate levels of intellectual property protection. Division one is concerned with where to locate manufacturing and research and development facilities, and the other with where to market finished products.

Consider first the marketing division of MegaCorp. As noted earlier, owners of patented inventions, trademarks (especially prestigious marks on consumer goods), and copyrights (especially computer software) prefer to have exclusive rights to market their products. The ability to suppress some forms of competition can increase a firm’s profits. For this reason, complaints about the costs of piracy and counterfeiting are commonplace. In fact, complaints by U.S., Japanese, and E.U. firms provided the main stimulus for the adoption of the TRIPS Agreement.³⁰ Therefore, we would expect the marketing division of MegaCorp to be very concerned about the level of protection for patented, trademarked, and copyrighted products that it would like to sell in a developing country.

The research and manufacturing divisions of MegaCorp, however, have a different set of concerns about the level of intellectual property protection in foreign jurisdictions where it is considering investing. For example, even under the TRIPS Agreement, protection for a trade secret is lost when it is revealed to the public.³¹ In other words, if a developing country does not adequately protect secret processes, devices, and know-how, or provides no means to protect investments in training local employees by enforcing restrictive covenants, then some kinds of foreign direct investment may be deterred. If locating in a developing country means that valuable infor-

28. See *supra* notes 17–19.

29. U.S. law, for example, provides special protection beyond traditional copyright or patent law for semiconductors, 17 U.S.C. §§ 901–14 (2000), and boat hulls, *id.* §§ 1301–32.

30. See Drahos, *supra* note 2, at 769–73.

31. See TRIPS Agreement, *supra* note 1, art. 39.

mation or technology will be appropriated or disclosed due to poor enforcement of trade secrecy or contract law, then investment decisions may be affected.

The same logic, however, does not apply to decisions to move manufacturing or research facilities to developing countries that fail to protect patents, trademarks, and copyrights. By definition, patent and trademark law only protect inventions and symbols that have been fully disclosed to the public. This is also true of the main commercial objects of copyright protection: movies, books, compact discs, and computer programs.³² Moving a research and development facility to a country without patent, trademark, or copyright law does not increase a firm's risk of damaging disclosures or increase its cost of doing business.³³ In the absence of involuntary disclosure fears, MegaCorp's research and manufacturing divisions should be relatively indifferent to the level of patent, trademark, and copyright protection found in a developing country. Its manufacturing decisions should instead be driven by "location advantages," such as "transport costs and distance from markets, low wage costs in relation to labor productivity, [access to] abundant natural resources, and trade protection that could encourage tariff jumping investments."³⁴ Similarly, a decision about where to locate research facilities usually depends primarily on the level of education and training of the local workforce, the condition of its financial sector,³⁵ the health of its legal system,³⁶ and the transparency of governmental procedures.³⁷

32. Copyright law does protect unpublished works like diaries and computer source code, but not from mere disclosure. See 17 U.S.C. §§ 106-07 (2000). In other words, trade secret law, not copyright law, is the main vehicle for protecting valuable unpublished works from disclosure, as opposed to copying.

33. In fact, to the extent that licenses need not be obtained from other intellectual property owners, the cost of doing business may be reduced.

34. Keith E. Maskus, *The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer*, 9 DUKE J. COMP. & INT'L L. 109, 123 (1998).

35. See Robert G. King & Ross Levine, *Finance, Entrepreneurship, and Growth: Theory and Evidence*, 32 J. MONETARY ECON. 513 (1993) (stating that growth in gross domestic product is strongly correlated to the stability and health of a country's financial sector).

36. See Ross Levine, *Law, Finance, and Economic Growth*, 8 J. FIN. INTERMEDIATION 8 (1999) (correlating strength of legal system with economic growth); Ross Levine, *The Legal Environment, Banks and Long-Run Economic Growth*, 30 J. MONEY, CREDIT & BANKING 596 (1998) (same).

37. See Maskus, *supra* note 34, at 123; see also ASSAFA ENDESHAW, *INTELLECTUAL PROPERTY POLICY FOR NON-INDUSTRIALIZED COUNTRIES* 104

If MegaCorp's primary markets are the United States, Japan, and the European Union, then its decision whether to locate its newest research or manufacturing facility in Lebanon should not turn on the state of Lebanese patent law. Lebanese patent law is irrelevant to the enforceability of MegaCorp's monopoly rights in its important markets,³⁸ even if invention occurs in Lebanon. For example, a patent may be granted and enforced in the United States (or any other WTO member) regardless of where invention occurs. The absence of Lebanese patent law merely means the loss of potential market power within the borders of that country, a concern for MegaCorp's marketing department, but not its R&D division.

The proper interpretation of Mansfield's findings requires an understanding of key differences between trade secrecy and patent law. Only trade secrecy law (hand in hand with contract law) can protect proprietary information from disclosure. On the other hand, the full specification of a patented invention is available to any pirate who can afford a computer and Internet access to the world's public patent office databases. Locating a research facility or a manufacturing plant in a developing country that inadequately protects patents, trademarks, and copyrights should not significantly increase the likelihood that piracy will occur there. Under this logic, the respondents to Mansfield's survey who expressed concerns over levels of "intellectual property protection"³⁹ in developing countries were most likely articulating a fear that information disclosure might occur due to a lack of enforcement of trade secrecy law (or perhaps from a desire by their marketing departments to suppress competitors' sales). In other words, concerns over "intellectual property" enforcement cannot logically be read to stand for the proposition that strong patent, trademark, or copyright laws affect foreign direct investment (as opposed to marketing decisions).

Mansfield's paper itself offers support for this limited reading. Mansfield includes many quoted comments from interviewees indicating that disclosure concerns are paramount. As

(1996) (listing non-intellectual property factors critical to the decision to invest in a developing country); Reichman & Lange, *supra* note 4, at 96 (noting "the Daimler Benz decision to develop software in India, where the human resources are comparably cheap but skillful").

38. Both American and European law reward foreign inventive activity without regard to the state of the law where the invention was made. *See, e.g.*, 35 U.S.C. § 102(a)-(b), (g) (2000).

39. *E.g.*, MANSFIELD, *supra* note 13, app. I, at 24.

one chemical executive explains: "Our concern still resides in being able to procure a quick injunction against a confidant who is in a position to disclose confidential information."⁴⁰ A computer executive adds that "we have not implemented manufacturing operations there that use our highest level of technology due to uncertainty over adequacy of trade secret protection."⁴¹ One firm's chief patent counsel complains that there are "no effective means to prevent a Korean employee who develops a knowledge of the equipment, from using that information in a subsequent employment."⁴² Another patent counsel reveals that "[t]he technology advantage that we enjoy over our competitors often results from catalyst compositions and process know-how . . . [which] need not be transferred to licensees or subsidiaries. . . . We typically minimize [our risk] by not disclosing critical catalyst or process know-how information to the licensee."⁴³ These comments support the logical inference that disclosure fears—driven by inadequate trade secret or contract law—affect decisions to invest in manufacturing facilities or to transfer technology to the developing world.⁴⁴ On the other hand, there is little, if any, support in the comments for the proposition that levels of patent, copyright, and trademark protection are relevant in foreign direct investment decisions.

A proper interpretation of Mansfield's results should also be influenced by executives who expressed concern over how intellectual property protection affects access to markets for their goods, as opposed to factors related to where to make direct investments in facilities. The quoted comments indicate that the desire to suppress piracy was primarily a marketing worry, as opposed to an investment concern. A chief patent attorney rec-

40. *Id.* at 14.

41. *Id.* app. I, at 27.

42. *Id.* app. I, at 31.

43. *Id.* app. I, at 30.

44. A chemical executive states that "[our company] will not expose technology of any significant value in countries where it is not safe." *Id.* app. I, at 29. Other comments included expressions of concern by one executive over the "theft of our technology" as opposed to infringement, *id.* app. I, at 24, and by another over the need for "assurance . . . that technology will remain proprietary," *id.* One director stated that "we are reluctant to do any straight transfer of technology deals unless the information is coded or the technology is older technology." *Id.* app. I, at 29. A chemical executive states that "you tend to use your older technology . . . [where pirates] have the capital and technical capability to duplicate your technology if they get their hands on it." *Id.* app. I, at 29–30. Another states, "The technology embodied in new, but copiable products like highly successful agrichemicals, are withheld." *Id.* app. I, at 30.

ognized, "Inadequate or ineffective protection of intellectual property works against introduction of the product into such [a] country."⁴⁵ A chemical executive commented that the level of intellectual property protection determines "when a weak IP country gets the product."⁴⁶ Another expressed the concern that when drugs are "introduced to the market and the business [is] built up to an interesting level . . . a patent pirate will come into the market with an infringing product."⁴⁷ Mansfield also quotes a pharmaceutical executive concerned that "those developing countries that comprise major pharmaceutical markets, such as Taiwan, India and Brazil, have not actually made any significant improvements."⁴⁸ It is easy to understand why rights holders care about levels of enforcement in the countries where they market their products. This concern may have influenced the attitudes of those surveyed on the very different question of whether foreign direct investment decisions are influenced by levels of intellectual property protection.

In addition, Mansfield did not restrict his survey to those executives primarily in charge of making direct investment decisions. In fact, at least two respondents are described as international marketing directors, while some are described as CEOs or patent attorneys.⁴⁹ Given the comments included in Mansfield's paper, disaggregating the concerns of a firm's marketing division from the concerns of a firm's manufacturing and R&D divisions seems to have been imperfectly accomplished, if it was accomplished at all. This further taints Mansfield's correlation between enforcement of intellectual property laws and direct investment decisions. Finally, he is often unclear about what the word "investment" means when used by the firm executives interviewed.⁵⁰ At times it refers loosely to the decision to market a product as opposed to opening a manufacturing plant or R&D facility. Mansfield's paper reveals no attempt to define "direct investment" for the respondents, and some of the overt marketing concerns expressed may be driven by the understanding that selling a product in a country, especially

45. *Id.* app. I, at 24.

46. *Id.* app. I, at 31.

47. *Id.* at 14. A chemical firm's managing counsel stated: "Prior to the new Taiwan patent law, Taiwan manufacturers copied and exported our proprietary agrichemicals." *Id.* at 13.

48. *Id.* at 13-14.

49. *See id.* app. I, at 25, 27, 39, 30, 31.

50. *See id.* app. I, at 23.

through a wholly owned subsidiary, constitutes a sort of direct investment.

All in all, a close look at Mansfield's research supports the proposition that American firms with significant disclosure worries are influenced by the level of enforcement of trade secrecy and contract law in making foreign direct investment decisions. Its current status as dispositive evidence that maximum enforcement of all sorts of intellectual property law—and especially patent law—will stimulate investment should not remain unchallenged.

Instead of blindly relying on Mansfield's research, a more rational strategy for developing countries would take into account the costs and benefits of protection in the context of their unique economic situations.⁵¹ Depending on the category of intellectual property subject to the TRIPS Agreement, this Article suggests that developing countries should seriously consider varying levels of compliance,⁵² not only as a cost reduction measure, but also to create the sort of leverage needed to realize diplomatic initiatives described in Part V. Under no circumstances should a developing country accept the confident assertions made by some commentators that a maximalist protective posture will stimulate foreign investment. A law-by-law analysis is always warranted.

The research of those who question the link between strong intellectual property protection and foreign direct investment in the developing world provides support for a cautious approach.⁵³ Professor Keith Maskus, a leading expert in the field, has stated flatly that: "In theory, investment and licensing flows do not necessarily increase with a strengthening of IPRs [intellectual property rights]."⁵⁴ Maskus notes that foreign di-

51. See Reichman & Lange, *supra* note 4, at 50 (stating that the "chronic problem for policy makers even in the most developed countries is that the one-size-fits-all paradigms . . . [are inadequate] in developing countries, where different players at different stages of development demand different and contradictory approaches").

52. See MASKUS, *supra* note 8, at 177 ("The least-developed countries might opt for TRIPs-consistent minimal standards with wide limitations."); Reichman & Lange, *supra* note 4, at 26 ("A minimalist approach to implementing the TRIPS standards is fully consistent with the economic logic underlying periodic rounds of multilateral trade negotiations within the ambit of the GATT, and now, the WTO legal framework.").

53. See *infra* notes 54–62 and accompanying text; see also ENDESHAW, *supra* note 37, at 104 ("The claim that the patent system encourages foreign investment in non-IC's has not been proved in practice.").

54. Maskus, *supra* note 34, at 145.

rect investment in China increased ten-fold during a time of virtually no effective enforcement of intellectual property rights⁵⁵ and suggests that lack of investment is usually due to "low productivity, education, and skills."⁵⁶ He finds that "strong IPRs alone do not sufficiently generate strong incentives for firms to invest in a country"⁵⁷ and concludes that "[i]f that were the case, recent FDI [foreign direct investment] flows to developing economies would have gone largely to sub-Saharan Africa and Eastern Europe . . . [instead of] China, Brazil, and other high-growth, large-market developing economies with weak IPRs."⁵⁸

Carlos A. Prima Braga and Carsten Fink of the World Bank are similarly skeptical of exaggerated claims about the benefits of strong protection of intellectual property, stating that "the available empirical evidence does not conclusively establish the relationship between IPRs and FDI decisions."⁵⁹ Although they admit that the most sophisticated of the developing nations may see local innovation increase as protection for intellectual property rights is strengthened, they emphasize that:

[I]f the country has greater production capabilities (a proxy for its capacity to imitate), but limited innovative capacity (as measured by its R&D basis, for example), higher standards of protection will likely displace local producers, raise prices, and transfer rent from local consumers and producers to foreign title-holders, resulting in a negative welfare impact.⁶⁰

They also note, again depending on the unique circumstances of the developing country, that:

[T]here are two effects that could justify the inference that IPRs have a negative influence on foreign investment. First, stronger IPR pro-

55. *Id.* at 115, 119.

56. *Id.* at 124.

57. *Id.* at 128.

58. *Id.* at 128–29; see also Correa, *supra* note 5, at 86 (stating that foreign direct investment "increased substantially in Brazil from 1970 until the debt crisis exploded in 1985, while in Thailand [foreign direct investment] boomed during the eighties," a period that saw little protection there for intellectual property rights (citing U.N. DEPT OF ECONOMIC AND SOCIAL DEV., INTELLECTUAL PROPERTY RIGHTS AND FOREIGN DIRECT INVESTMENT at 4, U.N. Doc. ST/CTC/SER.A/24, U.N. Sales No. E.93.II.A.10 (1993))).

59. Carlos A. Prima Braga & Carsten Fink, *The Relationship Between Intellectual Property Rights and Foreign Direct Investment*, 9 DUKE J. COMP. & INT'L L. 163, 164 (1998); see also ENDESHAW, *supra* note 37, at 104 (stating that patent protection is not a key factor in determining the likelihood of foreign direct investment in any given country).

60. Braga & Fink, *supra* note 59, at 167.

tection provides title holders with increased market power and could, at least theoretically, cause firms to actually divest and reduce their service to foreign countries. Second, higher levels of protection may cause TNCs [transnational corporations] to switch their preferred mode of delivery from foreign production to licensing.⁶¹

Similar skepticism is expressed by Carlos Correa after surveying the existing empirical research.⁶²

As mentioned earlier, however, the marketing department of a multinational corporation may be quite interested in the level of protection a developing country affords intellectual property, especially trademarks and patents. Levi Strauss, for example, cannot compete effectively in a market filled with cheap knockoffs. If trademark law is vigorously enforced in a developing country, foreign jean manufacturers will have an increased incentive to import their goods. Maskus concludes generally that as developing countries "strengthen their IPR regimes they should attract rising import volumes"⁶³ and in particular countries with significant imitative capacity "should absorb higher import volumes"⁶⁴ when they strengthen their patent regimes. Complying with TRIPS may increase the flow of goods into a new member of the WTO; whether to encourage or discourage that flow is a policy decision for each particular country to make.

It is worth noting, however, that there may be an indirect link between a country opening its market to outside rights holders and attracting foreign direct investment. One of Mansfield's respondents noted:

Inadequate or ineffective protection of intellectual property works against introduction of the product into such country, whereby the business can never grow sufficiently to even reach questions of direct investment or licensing to subsidiaries. Thus, inadequate or ineffective protection of intellectual property in a country weighs heavily against . . . the natural progression of events which could lead to the question of foreign investment.⁶⁵

61. *Id.* at 172.

62. See CARLOS M. CORREA, IMPLEMENTING THE TRIPS AGREEMENT: GENERAL CONTEXT AND IMPLICATIONS FOR DEVELOPING COUNTRIES 28-29 (1998) (noting research in support of the position that developing countries will not gain, and may suffer, from the strengthening of intellectual property rights).

63. MASKUS, *supra* note 8, at 118; see also *id.* at 117 (showing a table simulating "increases in total imports by sector into developing countries resulting from strengthened patents laws").

64. *Id.* at 117.

65. See MANSFIELD, *supra* note 13, app. I, at 24.

This statement echoes the size-of-markets hypothesis that assumes "foreign investment will take place as soon as the market is large enough to permit the capturing of economies of scale."⁶⁶ If Maskus is correct that strengthening intellectual property law will increase import volumes,⁶⁷ then a developing country with an adequate number of consumers may eventually see some direct investment following the successful exploitation of product markets. Whether this is the most efficient way to attract investment is another question entirely.

This Article need not determine the precise extent to which strengthening intellectual property laws provides incentives for investment and creativity in developing economies. Empirical research is lacking that takes into account both the different types of economies presented by the developing world (China and Mali, for example, present two very different cases) and the different categories of intellectual property laws protected by the TRIPS Agreement. Trademark protection for brand names, patent protection for biotechnology, copyright protection for computer software, and trade secrecy for chemical processes all raise distinct issues. Evidence is also lacking on the economic cost of closing down firms in developing countries that make unprotected or counterfeit goods.⁶⁸ The evidence does suggest, however, that a developing country should not simply accept the maximalist claim of "the more intellectual property protection, the better."

II. RATIONAL LEGISLATIVE AGENDAS

Rational, self-interested policy makers in the developing world must take a hard look at each potential legal option in the context of their own economies in order to choose how best to comply with the TRIPS Agreement. Choices should be made in light of local conditions and the categories of rights sought to be regulated: trade secrets, patents, copyrights, trademarks, plant varieties, or other types of intellectual property.

66. Anthony E. Scaperlanda & Laurence J. Maurer, *The Determinants of U.S. Direct Investment in the E.E.C.*, 59 AM. ECON. REV. 558, 560 (1969).

67. See *supra* note 63 and accompanying text.

68. See MASKUS, *supra* note 8, at 157-59 (suggesting one-half of one percent of the Lebanese workforce would lose their jobs).

A. RATIONAL MAXIMUM COMPLIANCE:
LOW-COST/HIGH-YIELD LEGISLATION

Although Part I suggests that a minimalist approach may often be appropriate, especially as regards to patent law, it is helpful to begin by discussing the areas where strict enforcement of rights may be welfare enhancing. Not surprisingly, this category primarily includes protection for sub-patentable subject matter where the welfare costs of protection are lowest and innovation by firms in nonindustrialized countries is most likely.

1. Trade Secrets

Enacting strong trade secret laws has several advantages for developing countries. As noted above, firm managers are likely to take into account the levels of trade secret protection in making decisions about where to locate research and manufacturing facilities.⁶⁹ MegaCorp should care very deeply about legal protection for its trade secrets because once a secret is revealed to the public, it is no longer protected and may be used freely by MegaCorp's competitors anywhere.⁷⁰ If Thailand offers effective enforcement of trade secret laws and Taiwan does not, then MegaCorp should rationally prefer to minimize its risk and locate a new facility in Thailand. In addition, protection of trade secrets can help "undergird an efficient system of contracts to promote formal technology transfer through licens-

69. See *supra* notes 40–44 and accompanying text; MASKUS, *supra* note 8, at 110 (suggesting a firm may eschew local production in favor of importing goods where it finds "limited trade secrets protection in the import market, where licensing could risk unauthorized loss of proprietary information"); Sherwood, *supra* note 10, at 502 ("[M]ost kinds of technology will not be willingly provided by their originators either through sale or license if their release into a non-protective environment places them at risk of loss to competitors."); see also Summary of Remarks of Robert Sherwood, in *Intellectual Property Rights and Economic Development: An Agenda for The World Bank Group*, at www.worldbank.org/html/fpd/technet/sem-sums/march5.htm (last visited Sept. 20, 2003) ("Companies are reluctant to train their employees to higher levels of technology if there is risk they will be hired away by competitors to gain that technology.").

70. See RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 (1995) (stating that to qualify for protection, information must be "sufficiently valuable and secret to afford an actual or potential advantage over others"); see also TRIPS Agreement, *supra* note 1, art. 39 (stating that members need only protect information that "is secret in the sense that it is not . . . generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question").

ing.”⁷¹ Effective enforcement of contracts can “make it more certain that the licensee will not misappropriate the technology or . . . that technical employees will not defect to form competing firms.”⁷² Maskus suggests that for foreign direct investment, “there could be both an expansion effect as the costs of transferring and protecting know-how within the firm are reduced, and a substitution effect as [multinational enterprises] shift away from FDI toward external licensing . . . [with] the expansion effect strongly dominat[ing] in developing economies.”⁷³

In addition to assuaging the fears of foreign investors, developing countries may find other reasons to provide strong protection for trade secrets.⁷⁴ First, the administrative costs are low. The TRIPS Agreement does not require the establishment of a special office in which to register confidential information. It merely mandates that trade secret owners have a cause of action against someone who acquires a valuable secret “in a manner contrary to honest commercial practice.”⁷⁵ In the United States, this typically requires proof of a physical trespass to the owner’s premises or a breach of confidentiality on the part of someone who knows the secret.⁷⁶ Second, since the cause of action is only for misappropriation, the successful claimant is not granted exclusive rights to the confidential information.⁷⁷ Significant monopoly costs are not imposed on the public.⁷⁸ Third, protecting trade secrets fosters sub-patentable innovation.⁷⁹ In developing countries, where sophisticated re-

71. MASKUS, *supra* note 8, at 142.

72. *Id.* at 138.

73. *Id.*

74. See Reichman, *supra* note 21, at 59–62 (discussing advantages of trade secrecy protection for developing countries).

75. TRIPS Agreement, *supra* note 1, art. 39(2).

76. See Paul J. Heald & Michael L. Wells, *Remedies for the Misappropriation of Intellectual Property by State and Municipal Governments Before and After Seminole Tribe: The Eleventh Amendment and Other Immunity Doctrines*, 55 WASH. & LEE L. REV. 849, 858–62 (1998).

77. In the United States, at least, it is clear that reverse engineering and independent creation are legitimate methods to discover trade secrets. See RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 43 (1995). In addition, the trade secret owner must take reasonable precautions to ensure secrecy to keep its rights. *Id.* § 40(b)(4).

78. See Paul Heald, *Federal Intellectual Property Law and the Economics of Preemption*, 76 IOWA L. REV. 959, 979–80 (1991); cf. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 493 (1974) (“Trade secret law promotes the sharing of knowledge, and the efficient operation of industry . . .”).

79. See *Kewanee*, 416 U.S. at 489–93.

search and development is seldom conducted, fostering sub-patentable innovation may be an efficient first step in stimulating local creativity.⁸⁰ Fourth, a key section of the TRIPS Agreement requires the trade secret owner to take reasonable steps to keep its confidential information secret.⁸¹ In other words, the most significant cost of enforcement—fencing off the information—is borne privately and, in the case of outside investors, by the foreign firm.

Finally, vigorous and enthusiastic enforcement of trade secret law is a cheap way for a developing country to signal to outsiders that it takes its obligations under the TRIPS Agreement seriously. Some may doubt the effectiveness of the signaling function of intellectual property law reform, “but there is a widespread and growing belief in its importance in emerging economies.”⁸² In short, there seems little downside to the enthusiastic enforcement of the trade secret article of the TRIPS Agreement, irrespective of a country’s level of economic development. Truly effective enforcement, however, entails not only the legislature’s creation of a cause of action for misappropriation, but also the establishment of a judiciary competent to effectively administer the law. Unfortunately, in developing nations, a weak judiciary is a common problem.⁸³ For this reason, legislative language should be drafted at a higher level of specificity and detail in order to make the enforcement task easier. For example, legislation should clearly state that reverse engineering is permissible and that covenants not to reveal technology are enforceable by injunction. In the context of copyright law, Dennis Karjala has advised, “[c]onsideration should be given in the developing countries to the drafting of specific limitations on the scope of copyright protection . . . This would give more assurance that courts in those lands will not make the same mistakes found in many early United States decisions.”⁸⁴

80. See Reichman, *supra* note 21, at 58–74 (suggesting developing countries should consider protection for trade secrets and sub-patentable utility models); see also MASKUS, *supra* note 8, at 143 (discussing initial Japanese efforts of adopting an inclusive patent system).

81. TRIPS Agreement, *supra* note 1, art. 39(2)(c).

82. Maskus, *supra* note 34, at 137–38.

83. See Sherwood, *supra* note 10, at 537–38.

84. Dennis Karjala, *Theoretical Foundations for the Protection of Computer Programs in Developing Countries*, 13 UCLA PAC. BASIN L.J. 179, 190 (1994).

2. Sui Generis Protection of Local Special Innovations

Developing countries might learn from Congress's willingness to target certain local industries for special protective legislation. For example, Congress recently granted patentlike protection for boat hulls⁸⁵ and biotech processes⁸⁶ without the requirement that applicants prove nonobviousness in light of the prior art.⁸⁷ Nothing in the TRIPS Agreement prevents other countries from similarly favoring local creators of sub-patentable innovation by protecting their work. Although a developing country is unlikely to have numerous strong sectors in its economy, it may have some modest innovators worthy of special protection from competition. For example, if a country has a strong textile industry that occasionally improves its dyeing and weaving techniques, protection of new (but obvious) methods should tend to favor local firms, even if protection is not discriminatory on its face.⁸⁸ Professor Reichman discusses at length the possible stimulus to local innovation that sui generis or utility model protection might provide.⁸⁹ Evidence from Japanese history also suggests the wisdom of protecting sub-patentable utility models as an economy begins to industrialize.⁹⁰ In the short-term, however, direct local benefits may be limited to situations where the competitive edge provided to a local firm generally disadvantages foreign firms and the costs of licensing innovations are not borne entirely by local consumers. A careful analysis of local conditions is necessary to determine when protecting special categories of sub-patentable innovation makes economic sense.

85. 17 U.S.C. § 1301 (2000).

86. 35 U.S.C. § 103(b)(1) (2000). Section 103 is often the most significant hurdle for inventors wishing to earn a patent. Now, boat hull designers and biotech process engineers need only prove that their creations are new and useful.

87. See generally Paul J. Heald & Suzanna Sherry, *Implied Limits on the Legislative Power: The Intellectual Property Clause as an Absolute Constraint on Congress*, 2000 U. ILL. L. REV. 1119 (discussing the constitutionality of these statutes).

88. See TRIPS Agreement, *supra* note 1, art. 4 (stating that WTO members must treat foreign nationals equally).

89. Reichman, *supra* note 21, at 62-74.

90. See MASKUS, *supra* note 8, at 148 (citing Keith E. Maskus & Christine McDaniel, *Impacts of the Japanese Patent System on Productivity Growth*, 11 JAPAN & WORLD ECON. 557 (1999)).

3. Traditional Knowledge About Plant Genetic Resources

A more promising area for sui generis protection (especially after the 2001 WTO ministerial meeting in Doha)⁹¹ might encompass traditional knowledge about plant genetic resources maintained by long-term occupant communities (LTOC)⁹² in developing countries. Voluminous literature discusses the pros and cons of protecting traditional knowledge from a global welfare perspective.⁹³ Although in other articles I have argued that LTOC have little hope of obtaining special rights,⁹⁴ there seems no doubt that a sovereign state can fashion a valuable bargaining chip by proprietizing specialized local knowledge about the identity and uses of various plant genetic resources.⁹⁵

Many LTOC, especially in South and Central America, have developed and maintained valuable knowledge about the uses of the plants in their environment.⁹⁶ Countless current

91. In November 2001, the WTO instructed the TRIPS Council to examine "the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore, and other relevant new developments raised by Members pursuant to Article 71.1." World Trade Organization, *Ministerial Declaration*, WT/MIN(01)/DEC/1 (Nov. 20, 2001), http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.pdf.

92. Rather than using the term "indigenous peoples," I adopt the term "long-term occupant communities" from Gregory F. Maggio, *Recognizing the Vital Role of Local Communities in International Legal Instruments for Conserving Biodiversity*, 16 UCLA J. ENVTL. L. & POL'Y 179, 181 (1998). Although the phrase is awkward, it avoids the problem of establishing racial or cultural tests to determine which groups might qualify for protection. It also makes inhabitants of rain forests and other bio-rich areas of the world sound less like exotic "others."

93. See, e.g., INTELLECTUAL PROPERTY ASPECTS OF ETHNOBIOLOGY (Michael Blakeney ed., 1999); INTELLECTUAL PROPERTY RIGHTS FOR INDIGENOUS PEOPLES (Tom Greaves ed., 1994).

94. See Paul J. Heald, *The Rhetoric of Biopiracy*, 11 CARDOZO J. INT'L & COMP. L. 519 (2003).

95. See Ivor D. Mogollón-Rojas, *The Preservation of Local Biodiversity Inheritance and Indigenous People's Knowledge Proprietorship in the Venezuelan and Andean Community Legislation*, 5 J. WORLD INTELL. PROP. 535 (2002) (detailing Andean pact legislation vesting rights to certain genetic resources in the nation where it is found); J.H. Reichman, *The TRIPS Agreement Comes of Age: Conflict or Cooperation with the Developing Countries?*, 32 CASE W. RES. J. INT'L L. 441, 466 (2000) (discussing preserving and managing "biogenetic endowments" as part of a rational strategy for developing countries).

96. See Curtis Horton, *Protecting Biodiversity and Cultural Diversity Under Intellectual Property Law: Toward a New International System*, 10 J. ENVTL. L. & LITIG. 1, 3-8 (1995). The research of a pharmaceutical firm into the medicinal value of plants valued by indigenous groups found:

Although screened for only a few characteristics, over 50 percent of

pharmaceuticals have been developed from plant products that originate in developing countries.⁹⁷ Without the research leads provided by those who maintain traditional knowledge about the uses of plants, the bioprospecting that leads to drug development would be much less profitable.⁹⁸ With a few notable exceptions,⁹⁹ this knowledge is currently exploited without compensation by large multinational pharmaceutical, agribusiness, and biotech firms.¹⁰⁰ A rational legislature should consider shaping its intellectual property statutes to capture some of the value of the plant genetic resources within the country's borders.¹⁰¹

the plants showed some pharmacological use, or "activity." Seventy-four percent of the pharmacologically active plants correlated with the activity reported by the indigenous groups. By contrast, random plant screenings average only 8–15 percent of samples showing some activity. Other examples show a similar three to eight-fold increase in the efficiency of initial testing of plants for drug activity when indigenous medicinal plant knowledge is used.

Assuming a six-fold increase in screening efficiency, and using other industry assumptions, the probability of developing at least one marketable pharmaceutical from 1,000 samples grows from 22 percent to 78 percent, or three and a half times. This makes it that much more likely that using indigenous peoples' knowledge will allow a "lucky" pharmaceutical manufacturer to find a drug which might earn huge revenues.

Id. at 4–5 (citations omitted).

97. See Stephen B. Brush, *Whose Knowledge, Whose Genes, Whose Rights?*, in VALUING LOCAL KNOWLEDGE 9 (Stephen B. Brush & Doreen Stabinsky eds., 1996).

98. See Gordon C. Rausser & Arthur A. Small, *Valuing Research Leads: Bioprospecting and the Conservation of Genetic Resources*, 108 J. POL. ECON. 173, 195 (2000).

99. Merck has a formal agreement with the government of Costa Rica. Elizabeth Longacre, Note, *Advancing Science While Protecting Developing Countries from Exploitation of Their Resources and Knowledge*, 13 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 963, 996 (2003); see also Charles R. McManis, *Intellectual Property, Genetic Resources and Traditional Knowledge Protection: Thinking Globally, Acting Locally*, 11 CARDOZO J. INT'L & COMP. L. 547, 570–73 (2003) (describing arrangements between pharmaceutical interests and the Aguarana people of Peru).

100. See generally VANDANA SHIVA, *MONOCULTURES OF THE MIND: PERSPECTIVES ON BIODIVERSITY AND BIOTECHNOLOGY* (1993).

101. See Mogollón-Rojas, *supra* note 95, at 537–43 (describing recent legislation). Patent law is not helpful in most situations because traditional knowledge will usually flunk the novelty requirement. See TRIPS Agreement, *supra* note 1, art. 27(1). Although some traditional knowledge looks like a trade secret, questions about ownership and the right of an individual to divulge communal knowledge have so far prevented trade secrecy from serving as a tool to protect against the revelation of valuable information. The difficulties with ownership are often insurmountable. Knowledge is often widely distributed between different groups, and it is likely that an individual, who will probably

One way for a developing country to capture value may be to pass legislation vesting rights to traditional knowledge in a national registry empowered to demand a license when that knowledge is appropriated (either from the registry or from its original source).¹⁰² In Ecuador, Foundation EcoCiencia, a Non-Governmental Organization (NGO), is pioneering an experimental project to create a database with entries provided by six different indigenous groups.¹⁰³ Professor Peter Drahos has trumpeted the merits of formally registering traditional knowledge for the purposes of more efficient licensing.¹⁰⁴ Identifying individuals who fail to pay a licensing fee may be problematic, but targeting the largest multinational pharmaceutical, agribusiness, and biotech firms for the purpose of negotiating blanket access to knowledge in the registry would not be. Other approaches are certainly possible, but the creation of some sort of sui generis right in traditional knowledge would generate property that could be sold, licensed, or otherwise used as a bargaining chip with foreign firms or governments. It might also provide incentives for the continued maintenance of the knowledge and the environment that produced and sustained it.¹⁰⁵

4. Local Land Races

Similarly, developing countries may profit from creating special rights in valuable plant genetic resources developed and maintained by local farmers over multiple generations. The wide variety of local land races maintained in developing countries constitutes a bank of genetic resources that multinational agribusiness firms frequently exploit to strengthen and improve their products.¹⁰⁶ For example, farmers in just two small

not be subject to an enforceable duty not to disclose, will freely reveal the information, thereby destroying the secret. See RESTATEMENT (THIRD) OF UNFAIR COMPETITION §§ 39–43 (1995). A sui generis initiative would probably be necessary to protect traditional knowledge.

102. See Peter Drahos, *Indigenous Knowledge, Intellectual Property and Biopiracy: Is a Global Bio-Collecting Society the Answer?*, 22 EUROPEAN INTELL. PROP. REV. 245, 248–50 (2000).

103. See JOSEPH HENRY VOGEL ET AL., *THE BIODIVERSITY CARTEL: TRANSFORMATION OF TRADITIONAL KNOWLEDGE INTO TRADE SECRETS* (Joseph Henry Vogel ed., 2000).

104. Drahos, *supra* note 102, at 248–50 (discussing the benefits of a global database).

105. See VIRGINIA D. NAZAREA, *CULTURAL MEMORY AND BIODIVERSITY* 73–89 (1998) (detailing how knowledge is lost when long-term occupant communities begin to unravel).

106. See Brush, *supra* note 97.

areas of the Philippines cultivate almost fifty varieties of sweet potatoes, all of which have distinctive characteristics.¹⁰⁷ Establishing a *sui generis* right would offer some of the same advantages as recognizing rights in traditional knowledge and with fewer practical difficulties.

First, collecting and registering plant genetic resources is easier than documenting an intangible like traditional knowledge. Second, enforcement would be somewhat easier, given that a plant's origin can be traced through the analysis of its DNA. Of course, a widespread requirement that patent applications reveal the origin of plant genetic resources used to make the claimed invention would also make identifying users easier. While an official registry and central licensing program are not the only ways to proprietize local plant genetic resources, developing countries would be well advised to find some way to profit from their resources. Most of the diversity of the world's germ plasm resides in the developing world. Just as industrialized nations have changed their laws to capture the value of technological resources, developing countries should adapt their legal systems to harness the vast riches of their plant genetic resources.

B. RATIONAL MINIMAL COMPLIANCE: LEGISLATIVE OPTIONS

The Preamble to the TRIPS Agreement recognizes "the special needs of the least-developed country Members in respect of maximum flexibility in the domestic implementation of laws and regulations in order to enable them to create a sound and viable technological base."¹⁰⁸ Legislatures in developing countries should be encouraged to take advantage of this flexibility when adapting their laws to comply with TRIPS, especially when it is possible to capture the benefits of outside innovation.

1. Patent Law

Although each country must take a realistic look at its own economy and markets, developing countries will often have at least two reasons to prefer minimum compliance within the TRIPS patent framework. First, reducing the number of patents should reduce costs to local manufacturers and local consumers of their goods. Second, minimal compliance creates

107. See NAZAREA, *supra* note 105, at 45.

108. TRIPS Agreement, *supra* note 1, pmb1.

more opportunities to leverage the sort of advantageous public/private partnerships described in Part V. In general, a developing country should consider selecting compliance options that tend to discourage patent applications by foreign firms in order to reap some of the rewards of outside innovation while bearing as little of the cost as possible. The Preamble to the TRIPS Agreement suggests this option,¹⁰⁹ and the merits of flexibility are trumpeted by the WTO itself.¹¹⁰ Those with moral qualms about free riding can be pointed to the well-documented role that piracy has played in the history of the economic development of the countries currently demanding the highest degree of protection.¹¹¹

a. *Patent Novelty Rules*

The TRIPS Agreement requires that members of the WTO shall make patents “available for any inventions, whether products or processes, in all fields of technology, provided that they are *new*, involve an inventive step and are capable of industrial application,”¹¹² but nowhere does the Agreement set forth a definition of “new.”¹¹³ Currently, member states employ very different novelty rules.¹¹⁴ In the United States, for example, during the year prior to applying for a patent, the inventor is permitted to make a commercial use of the invention or publish an article describing it without compromising its pat-

109. See TRIPS Agreement, *supra* note 1, art. 8(1) (“Members may, in formulating or amending their laws and regulations, adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of this Agreement.”).

110. See Mike Moore, *Moore: Countries Must Feel Secure That They Can Use TRIPS Flexibility* (June 20, 2001), at http://www.wto.org/english/news_e/news01_e/dg_trips_medicines_010620_e.htm.

111. See, e.g., Drahos, *supra* note 2, at 768 (noting history of chemical piracy in the United Kingdom and failure to protect pharmaceuticals and biological processes in other developed countries); see also VANDANA SHIVA, *BIOPIRACY: THE PLUNDER OF NATURE AND KNOWLEDGE* (1997) (criticizing Western appropriation of plant genetic resources in developing countries).

112. TRIPS Agreement, *supra* note 1, art. 27(1) (emphasis added).

113. See Reichman, *supra* note 21, at 30 (observing that “there is no agreed international standard of absolute novelty, and, within limits, the developing countries may pick and choose from among the different approaches recognized in the domestic patent laws”).

114. See HAROLD C. WEGNER, *PATENT HARMONIZATION* 78–82, 88–97 (1993) (comparing novelty requirements of various jurisdictions).

entability.¹¹⁵ The same prefiling disclosure will cause a failure of novelty and bar to patentability in Europe.¹¹⁶ The flexibility in defining what is a “new” invention, combined with the territorial nature of patent law, creates opportunities to allow legitimate access to many inventions.

First, legislatures in developing countries must remember that to obtain protection for an invention in a specific country, a patent owner must prosecute its patent in that country’s patent office.¹¹⁷ There is no world patent office where an inventor can obtain worldwide rights. In other words, a researcher or manufacturer in Malaysia, Colombia, or Fiji can legally use an invention that is patented only in the United States or Europe. TRIPS does not alter this fact. For simplicity’s sake, imagine a nation that opens its patent office and joins the WTO the same day. Because of the territorial nature of patent law, it would have no immediate obligation to recognize patents already granted by any other member states. The state could accurately describe itself as “the cheapest place in the world to conduct research and development, a legally license-free environment in which to use any invention made prior to today.”¹¹⁸ Of course, the attractiveness of this claim depends on the strength of the local economic infrastructure (workforce, communications, facilities, etc.), but the efficacy of such a strategy has some support in fact.¹¹⁹ The question arises, of course, whether a new WTO member has any obligation under the TRIPS Agreement to entertain applications from inventors whose patents have issued elsewhere or who have patent applications pending in foreign patent offices.

If an emerging state adopts, for example, the E.U. definition of “new,” its obligation to consider applications for existing

115. See 35 U.S.C. § 102(a)–(b) (2000).

116. See Convention on the Grant of European Patents, Oct. 5, 1973, art. 54, 1065 U.N.T.S. 199 [hereinafter European Patent Convention].

117. TRIPS Agreement, *supra* note 1, arts. 27–34.

118. The attractiveness of the claim would diminish over time as patents on new inventions issued.

119. See Correa, *supra* note 5, at 86 (noting that “FDI in the pharmaceutical industry outpaced FDI in most other sectors in Brazil after patent protection for medicines was abolished in that country. . . . [And in Turkey] FDI in [the pharmaceutical] sector was the largest among all other manufacturing industries with foreign participation [after it] . . . eliminated pharmaceutical protection in 1961”). An absence of protection may be less attractive to foreign manufacturers, as opposed to foreign researchers, because rules against importing unlicensed patented goods might make most important markets inaccessible.

inventions would seem to be minimal.¹²⁰ According to Article 54 of the European Patent Convention, “[a]n invention shall be considered to be new if it does not form part of the state of the art.”¹²¹ The state of the art is defined “to comprise everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the [application].”¹²² From the perspective of a new member of the WTO, every patent previously issued abroad has been “made available to the public”; therefore, a new member that adopts the E.U. position on novelty would have no obligation to consider applications claiming an invention patented elsewhere. Neither would it seem to have any obligation to consider inventions described in pending patent applications that have been made public (as in most jurisdictions)¹²³ or inventions used publicly or described in a printed publication.¹²⁴

Some commentators have claimed, therefore, that the TRIPS Agreement requires absolutely no protection for existing patents or patent applications.¹²⁵ A strong argument can be offered, however, that a new member must consider at least one category of application for inventions created before adherence to the TRIPS Agreement. The TRIPS Agreement requires that members comply with Articles 1–12 and 19 of the Paris Convention for the Protection of Industrial Property.¹²⁶ Article 4 of the Paris Convention sets forth the following rule governing the effect of a prior patent application in a foreign jurisdiction:

[A]ny subsequent filing in any of the other countries of the Union be-

120. See JAYASHREE WATAL, *INTELLECTUAL PROPERTY RIGHTS IN THE WTO AND DEVELOPING COUNTRIES* 93 (2001) (recommending a standard that requires “absolute novelty”).

121. European Patent Convention, *supra* note 116, art. 54(1).

122. *Id.* art. 54(2).

123. The United States is one of the few jurisdictions that provides any secrecy for patent applications. For the first eighteen months of prosecution the patent application is kept secret. See 35 U.S.C. § 122(b)(1)(A) (2000).

124. See, e.g., *id.* § 102(a)–(b).

125. See DANIEL GERVAIS, *THE TRIPS AGREEMENT: DRAFTING HISTORY AND ANALYSIS* 365 (2d ed. 2003) (“[P]ipe-line protection’ was not included in TRIPS.”); Sherwood, *supra* note 10, at 498–99 (noting that “[b]ecause the TRIPS Agreement does not contain a ‘pipeline’ provision, only inventions made after the law changes will be eligible for patent protection”).

126. See TRIPS Agreement, *supra* note 1, art. 2(1). The Paris Convention for the Protection of Industrial Property was drafted in 1883 and was until 1995 the major international treaty dealing with patents, trademarks, and unfair competition. Its lack of strong minimal substantive standards, enforcement, and dispute resolution procedures lead to the adoption of the TRIPS Agreement.

fore the expiration of the periods referred to above [twelve months]¹²⁷ shall not be invalidated by reason of any acts accomplished in the interval, in particular, another filing, the publication or exploitation of the invention, the putting on sale of copies of the design . . . and such acts cannot give rise to any third-party right . . .¹²⁸

It is doubtful, therefore, that a member of the WTO could bend its novelty rules to exclude from patentability an invention when (1) a valid application had been filed in the prior twelve months in the patent office of a member of the Paris Convention,¹²⁹ and (2) no public use or publication of the invention was made prior to that filing.

To summarize, a new member of the WTO could legitimately choose to give those within its borders, both citizens and foreign firms, free access to a multitude of inventions irrespective of whether they were patented elsewhere. Even a mature state with an existing patent system could grant free access to a wide variety of the world's inventions existing at the time of its adherence to TRIPS (except patents previously issued by its own patent office still enforceable under local law and those embodied in the one-year pipeline discussed above).¹³⁰ At a minimum, all developing states should consider adopting the European rather than American approach to determining novelty.¹³¹ The absence of novelty rules in the TRIPS Agreement provides remarkable flexibility to developing countries. Part IV explores the leverage this gives and examines some of the problems of staking out a bold position.

b. Patentability of Natural Isolates and Life Forms

Article 27 of the TRIPS Agreement allows member states to decline to patent plants and animals (other than micro-

127. See Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, art. 4(C)(1), 21 U.N.T.S. 305 [hereinafter Paris Convention].

128. *Id.* art. 4(B).

129. Most members of the WTO are members of the Paris Convention. PAUL GOLDSTEIN, INTERNATIONAL LEGAL MATERIALS ON INTELLECTUAL PROPERTY 36-38, 262-64 (2000).

130. TRIPS Agreement, *supra* note 1, art. 65(5) (developing countries may not diminish protection provided by them at the time the Agreement enters into force).

131. See Reichman, *supra* note 21, at 30 (explaining that "[i]n principle, developing countries may allow oral prior art to defeat novelty," and that it might also be in the best interest of developing countries not "to provide any novelty grace period (in keeping with the current majority rule) because this tends to enlarge the field of inventions patented in developed countries that will remain available for local exploitation without payment of royalties").

organisms).¹³² Other important categories of products may also be excludable because the TRIPS Agreement does not include a definition of the key term “invention.” This omission may permit a patent office to deny patents for gene sequences or natural isolates from animal or plant tissue. Although it is settled in the United States (where the term “invention” is defined to include “discovery”)¹³³ that gene sequences and naturally occurring isolates may be patented,¹³⁴ the rest of the world is far from full agreement.¹³⁵ The U.S. Patent Office may accept that human DNA or purified adrenaline¹³⁶ or an extract from rosy periwinkle¹³⁷ is an “invention,” but the common understanding of the term hardly compels the conclusion.¹³⁸ The TRIPS Agreement does not expressly require the counterintuitive (although economically plausible) definition of “invention” to include products of nature.¹³⁹ As with “novelty,” defining “invention” creates opportunities for a developing country to lower the cost of conducting certain kinds of scientific research within its borders by reducing licensing costs.¹⁴⁰ Excluding gene se-

132. TRIPS Agreement, *supra* note 1, art. 27(3)(b); *see infra* notes 167–75 and accompanying text (discussing *sui generis* protection for plant varieties).

133. 35 U.S.C. § 100(a) (2000) (“The term ‘invention’ means invention or discovery.”).

134. *See* ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 150 (2d ed. 2000) (citing S.M. Thomas et al., *Ownership of the Human Genome*, 380 NATURE 387, 387 (Apr. 4, 1996) (documenting 1175 patents issued on human DNA sequences)).

135. *See* WATAL, *supra* note 120, at 163–70.

136. *See* Parke-Davis & Co. v. H.K. Mulford Co., 189 F. 95, 97–99 (S.D.N.Y. 1911) (Hand, J.) (upholding patent validity in purified adrenaline), *aff’d in part and rev’d in part*, 196 F. 496, 497 (2d Cir. 1912) (affirming on the issue of patent validity).

137. *See* Srividhya Ragavan, *The Global South as the Key to Biodiversity and Biotechnology—A Reply to Professor Chen*, 32 ENVTL. L. REP. 10,358, 10,360 n.16 (2002) (discussing patent on anticancer drugs derived from the rosy periwinkle plant found in Madagascar).

138. *See* WATAL, *supra* note 120, at 133.

139. It would not necessarily be a contradiction for a developing country to deny patent protection to DNA and still recognize *sui generis* rights in local land races. *See supra* notes 106–07 and accompanying text. If the denial of patentability of DNA is based on lack of inventorship, one could argue for exceptional treatment when DNA has a true inventor. Two sorts of DNA might qualify: (1) DNA that does not occur in nature, for example, scientifically modified DNA; and (2) DNA whose characteristics are due to generations of selective breeding and cultivation, as in the sort of land races discussed above. *See supra* notes 106–07 and accompanying text.

140. Article 27 of the TRIPS Agreement also allows WTO members to exclude inventions from patentability on the grounds of protecting “*ordre public* or morality, including to protect human, animal or plant life or health or to

quences and other natural isolates from protection would enable a developing country to reduce the cost of jump-starting a biotech industry.

c. Prior User's Rights

The doctrine of prior user's rights also lowers licensing costs. For example, to ameliorate the harsh effect of a patent priority rule that rewards the first to apply for a patent rather than the first to invent, legislation in European nations protects inventors, researchers, and manufacturers who lose the race to the patent office.¹⁴¹ The doctrine authorizes a party other than the patentee to continue to practice an invention as he or she did at the time the patentee's application was filed.¹⁴² For example, firm A develops a new, useful, and nonobvious process for dyeing carpet fibers, but, while firm A debates whether to keep the process secret or apply for a patent, firm B files for a patent claiming the same process. If firm B's patent issues, the doctrine of prior user's rights will permit firm A to continue using the process in the same manner as it did at the time of firm B's application.¹⁴³ A developing country that protects the rights of prior users insulates its industry from the negative effects of a patent issued to a foreign firm that covers technology currently in local use. In general, rules that favor users at the expense of innovators should benefit developing countries where local industries do not yet have the capacity to engage in significant inventive activity.

avoid serious prejudice to the environment." TRIPS Agreement, *supra* note 1, art. 27(2). The language of the clause, however, states that this exclusion may only be invoked to prevent "commercial exploitation" of the offending invention, *id.*, and therefore, Article 27 may not be available as a means to make an invention available for license-free use.

141. See, e.g., Deutsche Patentgesetz [German Patent Act], § 12(1) ("A patent shall have no effect against any person who, at the time of the filing of the application, had already used the invention in this country, or had made the necessary arrangements for so doing."), reprinted in FRIEDRICH-KARL BEIER ET AL., GERMAN INDUSTRIAL PROPERTY, COPYRIGHT AND ANTITRUST LAWS, at I/B/1, I/B/6 (3d ed. 1996).

142. See *id.*

143. The same result would be achieved in the United States if the Patent Office found that a prior public use of an invention by firm A caused firm B's application to fail for want of novelty. See 35 U.S.C. § 102(a) (2000) (providing no entitlement to a patent if "the invention was known or used by others in this country").

d. *Disclosure Requirements*

Several other statutory options are available to a developing country that wants legitimately to discourage foreign patent applications. For example, a developing country may want to accept an invitation expressly offered by the TRIPS Agreement to require that a patentee reveal the "best mode" for practicing the invention.¹⁴⁴ Although WTO members must require that an inventor disclose the invention in a manner clear enough to enable someone skilled in the art to practice it,¹⁴⁵ the additional requirement of describing the "best mode" of practice is less common. To see the advantages of the best mode requirement, imagine a chemical patent for an industrial solvent that specifies "one unit each from the list of agents contained in schedule A [fifteen related chemicals], one from the list in schedule B [twenty related chemicals], and one from schedule C [twelve related chemicals] be mixed together at a temperature above 100 degrees centigrade, but below 151 degrees." In order to mix each combination at each degree centigrade between 100 and 151, one would have to make over 180,000 trials ($15 \times 20 \times 12 \times 50 = 180,000$). As long as most of the 180,000 combinations produce the solvent, then the patent will be adequately enabled.¹⁴⁶ However, if a handful of the combinations work significantly better than the rest, the firm may try to keep those combinations secret and will think twice about prosecuting the patent in a best-mode jurisdiction.¹⁴⁷ In addition, failure of the

144. See TRIPS Agreement, *supra* note 1, art. 29(1) ("Members . . . may require the applicant to indicate the best mode for carrying out the invention known to the inventor at the filing date or, where priority is claimed, at the priority date of the application."); see also Reichman, *supra* note 21, at 33 (advocating the adoption of the best mode requirement).

145. See 35 U.S.C. § 112 (2000) ("The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the same . . ."); TRIPS Agreement, *supra* note 1, art. 29(1) ("Members shall require that an applicant for a patent shall disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art . . .").

146. For an extreme example, see *Ex Parte Chen*, 61 U.S.P.Q.2d 1025, 1028 (Patent & Trademark Office Bd. of Patent Appeals & Interferences, June 30, 2000), which held that a patent was adequately enabled even though 99% of the combinations provided failed to produce the described result. Given the state of the art, the Board of Patent Appeals and Interferences reasoned that the low success rate did not require "undue experimentation." *Id.*

147. To a certain extent, developing countries can piggyback on the best-mode requirement of the United States, except as to firms willing to forego

patentee to reveal the "best mode" can provide a defense for some users accused of infringement.

In addition to requiring disclosure of the best mode of practicing the invention, developing countries should consider placing some additional disclosure obligations on patentees.¹⁴⁸ Several commentators have suggested that patentees should be required to disclose the origin of plant genetic resources used to make an invention.¹⁴⁹ Nuno Pires de Carvalho notes that "what is at stake is the possibility of detecting commercial gains from the use of genetic resources, so that countries supplying those resources can demand their share in the benefits."¹⁵⁰ Signatories to the Convention on Biological Diversity (CBD) agree that "[a]ccess to genetic resources shall be subject to prior informed consent of the Contracting Party providing such resources"¹⁵¹ with the express goal of "sharing [with the donor state] in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources."¹⁵² One method of policing obligations under the Convention would be to mandate disclosure of the sources of plant genetic resources in patent applications.

Although a member of the WTO may not require disclosure as a condition of patentability,¹⁵³ a requirement accompanied by substantial fines or other penalties unrelated to patent enforceability would not violate the express terms of the TRIPS Agreement and would allow signatories of the CBD to monitor their obligations. To the extent developing countries are the repositories of significant genetic resources, a disclosure requirement may make "equitable sharing" more likely and, more importantly for the purposes of this Article, may deter patent

U.S. patent protection in order to protect its trade secrets.

148. See, e.g., TRIPS Agreement, *supra* note 1, art. 62(1) (authorizing members to "require, as a condition of the acquisition or maintenance of the intellectual property rights . . . compliance with reasonable procedures and formalities").

149. See Nuno Pires de Carvalho, *Requiring Disclosure of the Origin of Genetic Resources and Prior Informed Consent in Patent Applications Without Infringing the TRIPS Agreement: The Problem and the Solution*, 2 WASH. U. J.L. & POL'Y 371, 372 (2000).

150. *Id.*

151. Convention on Biological Diversity, June 5, 1992, art. 15(5), 1760 U.N.T.S. 79, 152, 31 I.L.M. 818, 828.

152. *Id.* art. 15(7).

153. See Carvalho, *supra* note 149, at 379-82.

applications in a country requiring disclosure. Firms with something to hide may prefer to patent their inventions in the United States or the European Union, neither of which mandate disclosure.¹⁵⁴

e. Publication Rules

A developing country can fine-tune its patent laws in other ways to discourage excessive patenting. For example, some patent offices publish the application for a patent very soon after it is submitted to the patent office.¹⁵⁵ Other jurisdictions, like the United States, keep applications secret for eighteen months after filing,¹⁵⁶ allowing owners to exploit their inventions commercially without public disclosure. A firm that wishes to keep its invention secret as long as possible will delay filing in a jurisdiction that promptly publishes all applications. Some firms, concerned about losing their trade secrets if the application is published but the patent subsequently denied, may not file at all. Early publication also ensures the quickest dissemination of information to local innovators.

f. Patent Opposition Procedures

Similarly, the legislature of a developing country member can raise the cost of the application process and thereby discourage patenting by allowing interested parties to oppose patent applications on the grounds that the claimed invention is not new, useful, or, most importantly, nonobvious in light of the prior art.¹⁵⁷ An added benefit of allowing interference proceedings may include improving the quality of patents issued when third parties bring relevant information to the attention of the patent examiner.¹⁵⁸

154. As of 2000, the Andean Pact nations and Costa Rica had enacted a disclosure requirement. *See id.* at 375–76.

155. *See* Jeanette L. Pinard & Lian Chun-cheng, *Patent Protection Under Chinese Law*, 1 J. CHINESE L. 69, 71 (1987) (discussing patent application procedure under the Chinese patent system).

156. 35 U.S.C. § 122(b) (2000).

157. American law currently does not provide for opposition procedures, although the U.S. Patent Office does adjudicate priority disputes that arise during the application process. *See* 35 U.S.C. § 102(g) (2000). Of course, to the extent that big firms can absorb the added costs better than small firms, allowing opposition may not be desirable in a country with significant inventive activity by small firms.

158. *See* Jay P. Kesan, *Carrots and Sticks to Create a Better Patent System*, 17 BERKELEY TECH. L.J. 763, 776–83 (2002) (advocating for the adoption of

g. Passing on Administrative Costs

The most direct way for a developing country to raise the cost of patenting (and an eminently fair one) is to force applicants to bear all of the costs of the patent system. There is no requirement in the TRIPS Agreement that members of the WTO subsidize the patent application, examination, and enforcement process for inventors. A careful accounting should be kept of (1) the costs of establishing and operating a patent office (including building and maintenance costs; the salaries of examiners, administrators, and support staff; and the cost of other office resources); (2) the cost of judicial time allocated to adjudicating disputes; and (3) the cost of implementing border control measures, impounding counterfeit goods, and other direct policing expenditures. The fee structure in the patent office of a developing country should at a minimum force applicants to internalize all of these costs. The high price of patenting would ensure careful consideration before filing and would discourage some applicants altogether.¹⁵⁹ In addition, if the patent law of a developing country requires the use of local translators and patent agents,¹⁶⁰ further direct economic benefit to the local economy accrues.

h. Disgorgement of Illegitimate Monopoly Profits

A developing country might also consider a type of remedial legislation that makes patenting more risky and lowers the cost of patent office error. The TRIPS Agreement is silent on what follows from a judicial declaration that a patent is void. When a patent office makes a mistake, the public sometimes incurs a huge cost. Consider the U.S. Patent Office's erroneous grant of a method patent to Eli Lilly for the therapeutic use of the antidepressant drug Prozac.¹⁶¹ For years, purchasers of the drug paid a monopoly price rather than a generic price, misdirecting billions of dollars to Eli Lilly. Nothing in the TRIPS

opposition proceedings in the U.S. Patent Office).

159. If fees were high enough, surplus monies could be directed to local researchers in the form of grants. I am thankful to John Turner for suggesting the relevance of efficient fee structuring in patent offices.

160. In 1992, the cost of patent agents' and translators' fees in some countries exceeded an average of \$4000 per application. See Samson Helfgott, *Why Must Filing in Europe Be So Costly?*, 76 J. PAT. & TRADEMARK OFF. SOC'Y 787, 788 (1994) (noting fees in Japan and selected European countries).

161. See *Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 972 (Fed. Cir. 2001) (holding a process patent for increasing the uptake of serotonin void for double patenting).

Agreement would prevent a legislature from amending its patent law to include a disgorgement remedy that would force patentees like Eli Lilly to return excess profits earned as a result of patent office error. One could debate the proper parameters of a disgorgement remedy—perhaps it should only be available when the patentee failed to reveal relevant prior art—but the provision of such a remedy for consumers would create incentives for applicants to provide better information to examiners and would discourage marginal applications. In a case of fraudulent patenting in multiple jurisdictions, it might even be possible to authorize courts to augment damages to take into account an international pattern of abuse.¹⁶² Faced with the possibility of a high enough penalty, a company like Eli Lilly would hesitate before filing a patent application in a jurisdiction that provided for disgorgement.

i. A Final Note on Patent Legislation

All of the options discussed above reduce the costs of complying with the patent sections of the TRIPS Agreement, either by reducing the attractiveness of patenting or by minimizing the costs to users and consumers of patented products. Although economic logic and extant empirical evidence suggest that adopting a minimalist strategy will not negatively affect direct foreign investment—and may even stimulate investment from those who wish to take advantage of a minimalist regime—a change in the local economy may call for a change in local patent law.¹⁶³ For example, after South Korea achieved a high degree of industrialization and developed an educated and motivated workforce, it strengthened its intellectual property laws at the request of local commercial interests.¹⁶⁴ Once an economy is strong enough to support significant inventive activity, policy makers should rethink the state of their patent system. Stronger laws may make a great deal of economic sense for a country filled with adequately capitalized inventors.¹⁶⁵

162. *Cf. Empagran S.A. v. F. Hoffman-LaRoche, Ltd.*, 315 F.3d 338, 350–51 (D.C. Cir. 2003) (permitting a court in an antitrust case to take into account an international pattern of abuse).

163. *See MASKUS*, *supra* note 8, at 176–81.

164. *Id.* at 93.

165. *See PCT Filings Grow by 71 Percent in Developing Countries*, WIPO MAG., Mar. 2002, at 9 (tracking increased patenting by China, India, South Korea, Mexico, Algeria, Singapore, Brazil, and South Africa).

2. Protection of Plant Varieties

The TRIPS Agreement does not require that members provide patent protection for plants.¹⁶⁶ Under Article 27(3)(b), members may choose to provide “protection of plant varieties [through] an effective *sui generis* system.”¹⁶⁷ Members clearly have some leeway in interpreting “effective.” This flexibility is important, given the concerns of some developing countries that strong protection for industrially engineered plant species, as opposed to local land races or traditional knowledge about plant genetic resources, poses a significant economic and environmental threat.

Although some developing countries have complied with TRIPS by enacting the International Convention for the Protection of New Varieties of Plants (UPOV),¹⁶⁸ the TRIPS Agreement does not mandate adherence to it. Some commentators have complained that UPOV overprotects plant varieties and seeds to the detriment of the developing world. UPOV is not the only sort of legislation that might provide “effective” protection. One could interpret “effective” in light of the policy goals set forth in the TRIPS Agreement. In other words, protection should further “public policy objectives . . . including developmental and technological objectives . . . [and enable the least developed members] to create a sound and viable technological base.”¹⁶⁹ It should also “contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare.”¹⁷⁰ These objectives hardly dictate a narrow set of plant protection options to developing countries. Moreover, one could interpret “effective” purely in terms of economic incentives: A member must provide a reward adequate to stimulate the successful research and development of plant varieties.

A developing country could use either interpretation to jus-

166. See TRIPS Agreement, *supra* note 1, art. 27(3)(b) (“Members may also exclude from patentability . . . plants.”).

167. *Id.*

168. See International Convention for the Protection of New Varieties of Plants, Dec. 2, 1961, 33 U.S.T. 2703, 815 U.N.T.S. 89, as amended on Mar. 19, 1991 [hereinafter UPOV], available at <http://www.upov.int/en/publications/conventions/1991/pdf/act1991.pdf>.

169. TRIPS Agreement, *supra* note 1, pmb1.

170. *Id.* art. 7.

tify a shorter term of protection than the twenty years contained in UPOV¹⁷¹ and to narrow the categories of plants available for protection. For example, a developing country might require that a plant variety be nonobvious in light of the prior art, a requirement not contained in UPOV¹⁷² or U.S. law.¹⁷³ A developing country might also require that a new plant variety be an improvement over prior varieties, such as producing a greater crop yield. Patent law does not contain a requirement that a new invention be better than prior inventions,¹⁷⁴ but such a requirement for plants would arguably advance the progressive goals of the Preamble and Article 7 of the TRIPS Agreement. It would also be consistent with the economic rationale of providing incentives for inventors to create valuable new products for consumers.

Finally, the legislature of a developing country might consider expressly reserving the right of a farmer who has legitimately purchased protected seeds to save enough from her harvest to replant her fields the following season. UPOV contains a provision giving members the option to allow seed saving,¹⁷⁵ and the U.S. Plant Variety Protection Act permits the practice.¹⁷⁶

III. A RATIONAL JUDICIAL ROLE

With patent and plant variety protection, a legislature alone can effect significant reform, but the TRIPS Agreement leaves little statutory flexibility in the field of copyrights and trademarks. In considering a rational strategic agenda for

171. UPOV, *supra* note 168, art. 19 (providing twenty-five-year term of protection for trees and vines; twenty years for other cultivars).

172. *See id.* arts. 6–9 (requiring only novelty, distinctness, uniformity, and stability).

173. *See* 7 U.S.C. § 2402 (2000) (providing that sexually reproducing plant varieties must be novel, uniform, distinct, and stable); 35 U.S.C. § 161 (2000) (stating that asexually reproducing plants must be distinct and new).

174. Early English decisions may have implied such a requirement. *See* *Darcy v. Allin*, 74 Eng. Rep. 1131, 1139 (Q.B. 1602) (“[T]he King may grant to [an inventor] a monopoly patent for some reasonable time, until the subjects may learn the same, in consideration of the good that he doth bring by his invention to the commonwealth: otherwise not.”). Current law does not require that an invention be “good,” at least not in the sense of beneficial or better than prior art; however, for a long while, English law denied patents to inventions that were “mere improvements.” *See* *Bircot’s Case*, 3 Coke’s Institutes 184 (Ex. 1572).

175. *See* UPOV, *supra* note 168, art. 15(2).

176. *See* 7 U.S.C. § 2543 (2000).

copyright and trademark law, the judiciary has a critical role to play. Much of the legitimate policing of welfare costs must occur in the courts. Since the judicial systems of developing countries have historically been weak, effective policing of intellectual property costs may be directly tied to improvements in the courts.

A. COPYRIGHT LAW OPTIONS

The TRIPS Agreement provides little flexibility regarding the implementation of rules affecting copyrighted works. Unlike patents, global protection for many existing copyrighted works is included in the Agreement. Article 70 states that "copyright obligations with respect to existing works shall be solely determined under Article 18 of the Berne Convention,"¹⁷⁷ which applies to "all works which . . . have not yet fallen into the public domain in the country of origin through the expiry of the term of protection."¹⁷⁸ Unlike with inventions, it seems impossible to argue that a new member of the WTO (or the Berne Convention) begins its era of compliance with an unlimited body of public domain works available for exploitation.

Perhaps the most critical choice that the TRIPS Agreement denies developing countries is whether to protect computer programs under a *sui generis* regime or patent law rather than under copyright law.¹⁷⁹ A regime tailored to provide optimal incentives for the creation of software would probably provide rights lasting no longer than the average commercial life of software (by some estimates, as short as nine months to two years).¹⁸⁰ A short term of protection would make a variety of useful software available to industry, government offices, and educational institutions in developing countries.¹⁸¹ Even protec-

177. TRIPS Agreement, *supra* note 1, art. 70(2).

178. Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, art. 18(1), as last revised at Paris, July 24, 1971 (amended 1979), 828 U.N.T.S. 221 [hereinafter Berne Convention].

179. See TRIPS Agreement, *supra* note 1, art. 10(1) ("Computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention (1971).").

180. See Bradley Chamberlin, *Service & Support: Knowing When It's Time*, LAN TIMES, Dec. 6, 1993, at 80, 1993 WL 2383152 (nine months); Lawrence D. Graham & Richard O. Zerbe, Jr., *Economically Efficient Treatment of Computer Software: Reverse Engineering, Protection, and Disclosure*, 22 RUTGERS COMPUTER & TECH. L.J. 61, 142 (1996) (two years).

181. The most up-to-date versions of Windows, Word, and WordPerfect, for example, would not be available, but many prior very usable versions would

tion under patent law expires after twenty years.¹⁸² Instead, the WTO mandates protection for the life of the author plus fifty years.¹⁸³ In economic and actuarial terms, this is eternal protection.¹⁸⁴ Given the need for developing countries to use software to improve their industrial infrastructure, governmental operations, and educational systems, Article 10(1) is possibly the most oppressive provision in the entire TRIPS Agreement.

The express incorporation of the Berne Convention into the TRIPS Agreement¹⁸⁵ further limits the flexibility of new WTO members.¹⁸⁶ The Berne Convention provides some express protection for user's rights,¹⁸⁷ but it also mandates long-term protection for a wide variety of works with no formal requirements.¹⁸⁸ A minimalist approach to copyright protection must focus on enhancing user's rights—rather than narrowing categories of protected subject matter or imposing high substantive criteria for protection—with the focus on computer software. The economic concerns of a developing country are probably more directly implicated by restrictions on the distribution of software than by restrictions on the distribution of the newest Metallica album.

1. Exhaustion/First Sale Doctrine

Under the TRIPS Agreement, a legislature may limit an

be.

182. See TRIPS Agreement, *supra* note 1, art. 33.

183. *Id.* art. 9(1) ("Members shall comply with Articles 1 through 21 of the Berne Convention (1971) and the Appendix thereto."); see also Berne Convention, *supra* note 178, art. 7(1) ("The term of protection granted by this Convention shall be the life of the author and fifty years after his death.").

184. See Heald & Sherry, *supra* note 87, at 1172–74.

185. See TRIPS Agreement, *supra* note 1, art. 9.

186. See Berne Convention, *supra* note 178, art. 2(2) (fixation requirement optional); *id.* art. 2(4) (optional to protect legislative and administrative texts); *id.* art. 2(8) (protection does not extend to news of the day); *id.* art. 2*bis*(1) (optional to protect political speeches); *id.* art. 7(4) (optional to protect photographic works for more than twenty-five years); *id.* art. 9(2) (allowing fair use of protected works as optional).

187. See *id.* art. 9(2) (members may allow fair use of protected works); *id.* art. 10(1) (exempting quotations "compatible with fair practice" from protection); see also TRIPS Agreement, *supra* note 1, art. 9(1) (stating that the Berne Convention protection for artists' moral rights is not incorporated); *id.* art. 9(2) (providing no copyright protection for "ideas, procedures, methods of operation or mathematical concepts"); *id.* art. 10(2) (stating that copyright protection in factual compilations "shall not extend to the data or material itself").

188. See Berne Convention, *supra* note 178, art. 5 ("The enjoyment and the exercise of these rights shall not be subject to any formality.").

intellectual property owner's ability to exercise continued control over a good after the time of the first *sale* of that good. The first sale doctrine¹⁸⁹ in the United States, for example, makes possible the sale of cheap used compact discs and books because copyright owners are barred from controlling their resale. In the European Union, generally, an owner's intellectual property rights are said to be exhausted by the first sale within the European Union.¹⁹⁰ By its own terms, the TRIPS Agreement does not dictate exhaustion rules for its members,¹⁹¹ and countries with low average per capita incomes are especially likely to benefit from healthy resale markets. If the first sale of a copyrighted good exhausts all rights apart from those granted by copyright law, then a thriving market for used goods can be stimulated. A judiciary, however, plays a key role in limiting the scope of a copyright owner's reach by policing the type of transaction that constitutes a "first sale."

Imagine a developing country that would like to encourage a thriving market in cheap, used computer software. To understand the complexities involved in stimulating such a market, one must understand why markets for used software in the United States and elsewhere have been stifled. In order to avoid the first sale doctrine, many firms that sell software in the United States label a transaction a "license" even though it bears few attributes of a real license. Since a true *licensing* agreement is not subject to the first *sale* doctrine, many buyers are deterred from breaching standard terms in so-called "licenses" that forbid the resale of the software. The judiciary has a prominent role to play here in identifying sham licenses and in applying the exhaustion/first sale principle regardless of the contractual label. It should be noted that the TRIPS Agreement does not prevent a member of the WTO from looking beyond the label of a transaction and evaluating whether the substance

189. 17 U.S.C. § 109 (2000).

190. See Case C-355/96, *Silhouette Int'l Schmied GmbH & Co. KG v. Hartlauer Handelsgesellschaft mbH*, 1998 E.C.R. I-4799, 2 C.M.L.R. 953 (1998) (explaining that only sales made within the European Union exhaust the intellectual property rights of the seller).

191. See TRIPS Agreement, *supra* note 1, art. 6 ("[N]othing in this Agreement shall be used to address the issue of the exhaustion of intellectual property rights."); see also Paul J. Heald, *Trademarks and Geographical Indications: Exploring the Contours of the TRIPS Agreement*, 29 VAND. J. TRANSNAT'L L. 635, 656-59 (1996) (arguing that a doctrine of worldwide exhaustion of intellectual property rights would be most consistent with the GATT objectives of reducing trade barriers).

of the deal itself is a true license or a disguised sale. Looking beyond the express form of a transaction is a time-honored practice in commercial law. Voluminous U.S. case law, for example, discusses whether an agreement labeled a "lease" by the parties is truly a lease or is really a disguised sale subject to a security interest.¹⁹²

Not surprisingly, several recent U.S. decisions involving the sale of software disregard the language of a purported license agreement and find that the first sale doctrine prevents enforcement of its terms. For example, in *Softman Products Co. v. Adobe Systems Inc.*,¹⁹³ the court examined a purported license in which the copyright owner prohibited the unbundling of its software. The court began by affirming that "[i]t is well-settled that in determining whether a transaction is a sale, a lease, or a license, courts look to the economic realities of the exchange."¹⁹⁴ After examining all of the facts surrounding the transaction, the court found:

[T]he transaction is in fact a sale rather than a license. For example, the purchaser commonly obtains a single copy of the software, with documentation, for a single price, which the purchaser pays at the time of the transaction, and which constitutes the entire payment for the "license." The license runs for an indefinite term without provisions for renewal. . . . [D]istributors pay full value for the merchandise and accept the risk that the software may be damaged or lost. The distributors also accept the risk that they will be unable to resell the product. The distributors then resell the product to other distributors in the secondary market. The secondary market and the ultimate consumer also pay full value for the product, and accept the risk that the product may be lost or damaged. This evidence suggests a transfer of title in the good. The transfer of a product for consideration

192. See, e.g., *Orix Credit Alliance, Inc. v. Pappas*, 946 F.2d 1258, 1262-63 (7th Cir. 1991) (finding a "lease" of four trailers to be a disguised sale); see also U.C.C. § 1-201 (2003) (setting forth economic realities test for determining whether an agreement is a lease or a secured sale).

193. 171 F. Supp. 2d 1075 (C.D. Cal. 2001) (finding a shrinkwrap license prohibiting unbundling of software unenforceable under first sale doctrine).

194. *Id.* at 1084 ("Because we look to the economic realities of the agreement, the fact that the agreement labels itself a 'license' and calls the payments 'royalties,' both terms that arguably imply periodic payment for the use rather than sale of technology, does not control our analysis." (quoting *Microsoft Corp. v. DAK Indus.*, 66 F.3d 1091, 1095 n.2 (9th Cir. 1995))). The court further explained that "[o]wnership of a copy should be determined based on the actual character, rather than the label, of the transaction by which the user obtained possession." *Id.* at 1086 (quoting RAYMOND NIMMER, *THE LAW OF COMPUTER TECHNOLOGY* § 1.18(1), at 1-103 (1992)); see also *Novell, Inc. v. CPU Distrib., Inc.*, No. H-97-2326, 2000 U.S. Dist. LEXIS 9975, at *17 (S.D. Tex. May 4, 2000) (finding purported license agreement to constitute a sale).

with a transfer of title and risk of loss generally constitutes a sale.¹⁹⁵

The typical transfer of software looks much like the transaction characterized by the *Softman* court as a sale, not a license. In a jurisdiction where courts adopt this reasoning, exhaustion principles should void most attempts to constrain buyers from reselling software, as well as void other contractual attempts to restrain what the buyer does with it. A developing country adopting the reasoning of the opinion will help stimulate a legal market for cheap, used software. Adoption of the *Softman* principle probably requires legislatures to act in concert with the judicial branch. A legislature can enact a law requiring exhaustion of rights after the first sale, but without a judiciary willing to look past contractual labels, the effectiveness of the law in creating resale markets will be blunted.

The value of interpretive tools becomes even clearer when considering other ways in which contract law can be construed to stimulate resale markets and prevent intellectual property owners from exercising too much downstream control over their goods.

2. Contract Law and Shrinkwrap/Clickwrap Terms

The sham license doctrine discussed immediately above deters overreaching by software firms even when technology transfer is negotiated between parties of equal bargaining power. Other contract doctrines identify defects in the bargaining process and can negate onerous nonnegotiated contract terms, *even where the agreement is an otherwise valid license*. For example, software firms often try to manipulate traditional offer and acceptance doctrine to bind buyers to restrictive contract terms. Unwrapping software shrinkwrap,¹⁹⁶ or clicking on a screen icon in the course of a purchase, purports to constitute an acceptance of the unread terms contained on the package or somewhere online.¹⁹⁷ In this way, a software firm can extract promises by buyers not to reverse engineer their software,¹⁹⁸

195. *Softman Prods. Co. v. Adobe Sys. Inc.*, 171 F. Supp. 2d 1075, 1082 (C.D. Cal. 2001).

196. *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1449 (7th Cir. 1996) ("The 'shrinkwrap license' gets its name from the fact that retail software packages are covered in plastic or cellophane 'shrinkwrap.'").

197. See *Hill v. Gateway 2000, Inc.*, 105 F.3d 1147 (7th Cir. 1997) (enforcing arbitration clause printed on invoice that arrived with computer after it was purchased over the phone).

198. See Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J.L. & TECH. 41, 77 (2001) ("[S]oftware

make a fair use of it,¹⁹⁹ or, in one famous clause, publicly criticize the Microsoft Corporation.²⁰⁰ A debate currently rages in the United States over the enforceability of shrinkwrap and clickwrap licenses and the desirability of amending state laws to accommodate them.²⁰¹ The struggle is between consumers and large software firms that use the restrictive terms to maintain their market position. Both users and competitors of these firms have much to gain from contract law doctrines that deny enforcement of contracts containing onerous, nonnegotiated terms.²⁰²

Courts in developing countries can justify nonenforcement of nonnegotiated contract terms by recognizing several categories of user's rights. Rights currently recognized in important jurisdictions include the right to extract data from a protected database,²⁰³ the right to reverse engineer software for the purpose of extracting public domain material or improving compatibility,²⁰⁴ the right to copy for the purposes of parodying the original work,²⁰⁵ the right to resell the work,²⁰⁶ and the general

shrinkwrap licenses now routinely include provisions that purport to require surrender of a purchaser's fair use reverse engineering rights as a condition of access to the program." *But see* *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255 (5th Cir. 1988) (preempting state contract law to the extent it would enforce shrinkwrap licenses that waived rights a user would otherwise have under federal copyright law).

199. *See* *Burk & Cohen*, *supra* note 198, at 69 n.81 (discussing the "recent history in the United States of mass market licenses that purport to abrogate fair use and other user privileges").

200. *See* Microsoft FrontPage 2002 End-User License Agreement, DEM version (July 1, 2001) ("You may not use the Software in connection with any site that disparages Microsoft, MSN, MSNBC, Expedia or their products or services . . .").

201. *See, e.g.*, Mark A. Lemley, *Intellectual Property and Shrinkwrap Licenses*, 68 S. CAL. L. REV. 1239 (1995).

202. One might argue that creating a hostile environment for certain contractual terms might deter software firms from entering the market. This seems unlikely. For example, there have not been any reports of software shortages in Texas, Louisiana, or Mississippi following the decision in *Vault Corp. v. Quaid Software Ltd.*, which preempted the enforcement of many shrinkwrap licenses in those states. 847 F.2d 255 (5th Cir. 1988). Nor is there any reported shortage of software in jurisdictions around the world that seldom enforce copyright law.

203. *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., Inc.*, 499 U.S. 340 (1991).

204. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992) (upholding a competitor's right to reverse engineer in order to create a compatible product).

205. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 579-81 (1994) (discussing the right to parody a work without the owner's authorization).

206. *Bobbs-Merrill Co. v. Straus*, 210 U.S. 339 (1908) (*per curiam*) (striking

right to permit reproduction that “do[es] not conflict with a normal exploitation of the work and do[es] not unreasonably prejudice the legitimate interests of the right holder.”²⁰⁷ This last right, expressly reserved in the TRIPS Agreement, may be used to justify other rights that could be protected against contractual erosion.²⁰⁸ In general, courts should be able to construe the law of contracts to deny enforcement to contract terms that give copyright owners rights greater than those provided by local copyright legislation. Cooperation from the judicial branch, however, is required to a degree not anticipated with suggested patent law reform.

3. Signaling from the Courts

As a strategic matter, a judicial system that denies attempts by software manufacturers to use contract law to suppress competition may want to send out other signals to reassure copyright owners. Vigorously enforcing anti-bootlegging and counterfeiting laws (a notorious problem in China, for example)²⁰⁹ is one way for a judiciary to demonstrate that it takes its obligations seriously. Limiting access to cheap copies of foreign music and movies is likely to do far less damage to the local economy than limiting access to business and manufacturing software. Countries with a significant number of firms that engage in the illegal copying of entertainment products may see a negative short-term economic impact when those plants are shut down,²¹⁰ but enforcement is mandated by TRIPS, and it may well benefit local musicians, record companies, and film-

down a contractual restriction on a buyer’s right to resell a book below the price mandated by the copyright owner).

207. TRIPS Agreement, *supra* note 1, art. 13.

208. Many jurisdictions allow judges to focus directly on the degree of actual consent present in a particular transaction. For example, when software is ordered and paid for over the phone, it sometimes arrives with an invoice containing additional contractual terms. Nothing in the TRIPS Agreement requires members of the WTO to construe their contract law to imply consent to terms that come to light only after an apparent agreement has been reached. That U.S. courts are split on enforceability in this context indicates that a developing country could in good faith require actual consent to surprising or onerous contract terms in software licenses. *Compare* Hill v. Gateway 2000, Inc., 105 F.3d 1147 (7th Cir. 1997) (enforcing post-purchase arbitration term), *with* Step-Saver Data Sys., Inc. v. WYSE Tech., 939 F.2d 91 (3d Cir. 1991) (*per curiam*) (refusing to enforce postpurchase limitation of warranties).

209. See Daniel C.K. Chow, *Counterfeiting in the People’s Republic of China*, 78 WASH. U. L.Q. 1 (2000).

210. See MASKUS, *supra* note 8, at 157–59 (analyzing potential economic effects in Lebanon of closing counterfeiting firms).

makers. Anecdotal evidence provides some support for this prediction.²¹¹ Developing countries are hotbeds for new music,²¹² and strengthening copyright protection in the market for entertainment products probably stimulates local creativity in a way that strengthening patent law does not because industrial and technological endeavors require so much more capital.

B. TRADEMARK LAW OPTIONS

Members of the WTO have few choices about the scope of their trademark law under the TRIPS Agreement. Variations in levels of protection among nations will come from the willingness of their courts to enforce laws against infringers. Trademark law, therefore, provides another opportunity for a judiciary to signal a strong commitment to the TRIPS Agreement. Fortunately, this signal can be sent without imposing inordinate costs on local manufacturers or consumers. In theory, traditional trademark law does not impose significant monopoly costs,²¹³ being primarily designed to reduce consumer confusion and protect goodwill. Strong enforcement of anti-counterfeiting legislation should mean that buyers will have the choice between buying, for example, a pair of authentic brand name jeans or a cheaper, less famous, and possibly pirated, brand. Trademark law gives no one a monopoly in selling jeans and allows local manufacturers to communicate accurately the source and quality of their goods to the public.²¹⁴ A jurisdiction that takes a minimalist approach to the protection of patents and computer software may find taking a maximalist approach to trademark law to be a valuable and relatively costless political strategy.²¹⁵ Despite this recommendation that

211. *Id.*

212. See World Intellectual Property Organization, *An Anti-Piracy Program for Africa's Music Industry*, WIPO MAG., Sept. 2002, at 10 (discussing piracy problems encountered by the growing African recording industry).

213. *But see* Heald & Sherry, *supra* note 87, at 1161 & n.338.

214. One commentator explained the situation in Lebanon:

Innovation through product development and entry of new firms seems to be stymied in part by weak trademark protection in poor nations. . . . Firms in the apparel industry [in Lebanon] claim to have a strong interest in designing clothing of high quality and style for Middle Eastern markets. Their attempts to do so have been frustrated by trademark infringement by smaller firms in Lebanon and in neighboring countries

MASKUS, *supra* note 8, at 148.

215. *Id.* at 149 (“[I]t seems that trademark infringement significantly and negatively affects innovative Chinese enterprises.”).

courts strongly enforce trademark rights, two points should be made.

1. Thriving Counterfeiting Regimes

Protecting trademarks in countries where knockoff goods are pervasive may impose costs on local counterfeiters when fashion-conscious consumers choose to buy from foreign trademark owners previously discouraged from entering the marketplace. In theory, a jurisdiction could try to preserve this market by emphasizing that Article 16 of the TRIPS Agreement requires only that remedies be provided to trademark owners when consumers are likely to be confused as to the source of the goods.²¹⁶ In a country like China, where counterfeit goods dominate the market,²¹⁷ one could argue that consumers are unlikely to assume that a good bearing a foreign trademark is authentic. In other words, rampant suspicion inherent in some markets could rebut the TRIPS-mandated presumption that the use of identical marks on identical goods is likely to cause confusion.²¹⁸ A country with a pervasive counterfeit market that requires strict proof of likelihood of confusion might plausibly continue to permit the local manufacture and sale of counterfeit goods, especially if it requires disclosure of the unauthentic nature of the goods.²¹⁹ This justification, however, relies on a technical reading of Article 16 that would directly frustrate the goals of the TRIPS Agreement in a way that other arguments offered in this Article do not.²²⁰ Even if toleration of counterfeit-

216. See TRIPS Agreement, *supra* note 1, art. 16(1) (providing that members must prohibit the use of "identical or similar signs for goods or services which are identical or similar to those in respect of which the trademark is registered where such use would result in a likelihood of confusion").

217. See Chow, *supra* note 209.

218. See TRIPS Agreement, *supra* note 1, art. 16(1).

219. The only section of the TRIPS Agreement that mentions counterfeiting in the absence of a confusion requirement merely requires members to provide border control measures that are effective to prevent the importation of the goods. See *id.* art. 51 (members shall "adopt procedures to enable a right holder, who has valid grounds for suspecting that the importation of counterfeit trademark or pirate of copyright goods may take place, to lodge an application . . . for the suspension by the customs authorities of the release into free circulation of such goods"). Although Article 51 speaks only to preventing importation, if all members comply, an export ban is also essentially in effect.

220. Thus leaving the door open for a nonviolation complaint to be filed with the WTO. See generally Tuan N. Samahon, *TRIPS Copyright Dispute Settlement After the Transition and Moratorium: Nonviolation and Situation Complaints Against Developing Countries*, 31 LAW & POL'Y INT'L BUS. 1051 (2000) (examining potential nonviolation and situation complaints for inade-

ing might sometimes be theoretically justified, it is bound to attract serious complaints before the WTO.

As a further note of caution, foreign investors may care about the state of a country's trademark law when that country contains a large number of consumers. If corporations like Nike or The Gap are unwilling to open stores and manufacture goods in a country that condones counterfeiting, then an open and effective crackdown on counterfeiters may change their minds. Increased investment may be especially plausible in markets like clothing and footwear that are particularly susceptible to counterfeiting and that do not demand a highly trained and educated workforce.

2. Protecting Product Configurations Under Antidilution Law

One interpretation of trademark law may impose significant costs on consumers, but courts in developing countries can easily avoid it. The United States, and much of the rest of the world, protects "famous" marks from unauthorized commercial uses that cause "dilution of the distinctive quality of the mark" even in the absence of a likelihood of consumer confusion.²²¹ The cautious use of dilution doctrine to protect word marks would not seem to involve significant costs—a local coffee shop owner's inability to call itself the "Kodak Café" should not have a serious economic impact on a developing economy. Costs may be higher, however, when the doctrine is used to protect product shapes and configurations. Unfortunately, some courts in the United States have begun to extend trademark dilution protection to product configurations²²² absent proof of likely consumer confusion.²²³ This extension poses a greater threat to

quate copyright protection under the WTO Dispute Settlement Understanding).

221. See 15 U.S.C. § 1125(c) (2000) (codifying the Federal Trademark Dilution Act of 1995).

222. Trademark law generally protects any "sign, or any combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertakings." TRIPS Agreement, *supra* note 1, art. 15(1). When the shape of a product communicates to consumers that it comes from a unique source, then it functions as a trademark and is entitled to protection. See 15 U.S.C. § 1127 (2000). Famous protected configurations include the Coca-Cola bottle and the hood ornament of the Rolls-Royce automobile. See, e.g., *Rolls-Royce Motors, Ltd. v. A & A Fiberglass, Inc.*, 428 F. Supp. 689, 698 (N.D. Ga. 1976) (holding that the "Flying Lady" hood ornament identifies Rolls-Royce as the manufacturer of a vehicle under 15 U.S.C. § 1125(a)).

223. See *Sunbeam Prods., Inc. v. The W. Bend Co.*, 39 U.S.P.Q.2d (BNA)

competition.

Although the definition of "trademark" in the TRIPS Agreement is broad enough to include product configurations,²²⁴ the trademark articles do not require members to adopt dilution protection. Although some commentators have opined that Article 16(3) of the TRIPS Agreement requires members to protect famous trademarks from dilution,²²⁵ a close examination of its language reveals no such requirement. Article 16(3) provides that "Article 6bis of the Paris Convention (1967) shall apply, *mutatis mutandis*, to goods or services which are *not similar* to those in respect of which a trademark is registered."²²⁶ If we insert *not similar* into Article 6bis of the Paris Convention, it reads:

[Members shall] prohibit the use of a trademark which constitutes a reproduction, an imitation, or a translation, *liable to create confusion*, of a mark considered by the competent authority of the country of registration or use to be well-known in that country as being already the mark of a person entitled to the benefits of this Convention and used for identical or similar [or *not similar*] goods.²²⁷

It is difficult to see how incorporating this section, which specifically requires a likelihood of confusion, requires members to enact laws that provide protection in the absence of confusion. In fact, Article 16 further narrows liability to situations where the "use of [a] trademark in relation to . . . goods or services would indicate a connection between those goods or services and the owner of the registered trademark and . . . the interests of the owner of the registered trademark are likely to be damaged by such use."²²⁸ What seems to be required is protection against what U.S. law refers to as confusion as to "spon-

1545 (S.D. Miss. 1996), *aff'd*, 123 F.3d 246 (5th Cir. 1997) (enjoining manufacture of a stand mixer on "likelihood of confusion" grounds only). For an analysis of the opinion, see Paul J. Heald, Sunbeam Products, Inc. v. The West Bend Co., *Exposing the Malign Application of the Federal Dilution Statute to Product Configurations*, 5 J. INTEL. PROP. L. 415 (1998).

224. See TRIPS Agreement, *supra* note 1, art. 15(1) (protecting any "sign . . . capable of distinguishing the goods or services of one undertaking from those of other undertakings").

225. See, e.g., J.H. Reichman, *Universal Minimum Standards of Intellectual Property Protection Under the TRIPS Component of the WTO Agreement*, 29 INT'L LAW. 345, 363 (1995). *But see* Heald, *supra* note 191, at 654-55 (arguing that "no federal cause of action for dilution is necessary to harmonize [U.S.] domestic law with the TRIPS Agreement").

226. TRIPS Agreement, *supra* note 1, art. 16(3) (emphasis added).

227. Paris Convention, *supra* note 127, art. 6bis(1) (emphasis added).

228. TRIPS Agreement, *supra* note 1, art. 16(3).

sorship or approval.”²²⁹ Courts in developing countries should be able to resist dilution protection altogether, creating yet another bargaining chip to use with foreign firms.

IV. A RATIONAL EXECUTIVE (OR AGENCY) AGENDA

Depending on its governmental structures, a developing country may perform the executive function through different mechanisms, ranging from a unitary executive to a diffuse one functioning through multiple agencies, to some combination thereof. Regardless of the particulars of governmental structure, the executive will sometimes be the most effective monitor of the welfare costs imposed by compliance with the TRIPS Agreement.

A. ANTITRUST AND COMPETITION LAW

Although much enforcement of antitrust law in the United States occurs in the federal courts through private causes of action, in many countries regulatory agencies are the primary watchdogs of anticompetitive behavior.²³⁰ A competent administrative agency or other executive body can reduce some of the costs of intellectual property law by policing abusive owners under antitrust principles. And, since antitrust law is underdeveloped or nonexistent in much of the nonindustrialized world,²³¹ placing oversight responsibility with a specialized agency, rather than with a diffuse judiciary, may be particularly appropriate.

1. Policing Patent Owners

Article 40 of the TRIPS Agreement provides that “[n]othing in this Agreement shall prevent Members from specifying in their legislation licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market.”²³² The WTO affirms that governments can “prevent patent owners and other holders of intellectual property rights from abusing intellectual property rights, ‘unreasonably’ restraining trade, or hampering the international transfer of

229. See 15 U.S.C. § 1125(a)(1)(A) (2000); Heald, *supra* note 191, at 642.

230. David J. Gerber, *Competition Law*, 50 AM. J. COMP. L. 263, 275 (2002).

231. See Reichman, *supra* note 21, at 25–26.

232. TRIPS Agreement, *supra* note 1, art. 40(2).

technology.²³³ Professor Reichman has suggested that the developing world has much to gain from waving the flag of free and fair competition in the face of multinational intellectual property monopolies.²³⁴

For example, some multinational agricultural firms contract around laws permitting seed saving by farmers. Seed sellers in the United States frequently require farmers to promise not to save sufficient seed to plant for a subsequent harvest.²³⁵ In a highly competitive seed market, the attempt to contract around a statutory seed-saving exception²³⁶ is probably inconsequential. If farmers do not like the contractual term, they can buy unpatented seeds or turn to a competitor who permits seed saving. However, if a single patented product dominates the market or firms do not compete in their contractual terms,²³⁷ then a governmental agency might be justified in intervening and declaring anti-seed-saving clauses in private contracts void as anticompetitive.

United States law provides other doctrines that police anti-competitive behavior by intellectual property owners. In *Image Technical Services v. Eastman Kodak Co.*,²³⁸ the Ninth Circuit found that Kodak's refusal to sell patented photocopy machine parts to independent repair services violated the Sherman Act. Although refusal-to-deal cases are controversial, it is difficult to argue that the TRIPS Agreement prohibits members from tak-

233. World Trade Organization Information and Media Relations Division, *Fact Sheet: TRIPS and Pharmaceutical Patents, Obligations and Exceptions* (Apr. 2001), at http://www.wto.org/english/tratop_e/trips_e/factsheet_pharm02_e.htm.

234. See Reichman, *supra* note 21, at 25–26 (arguing that, in implementing the TRIPS Agreement, developing countries should “shoulder the pro-competitive mantle that the developed countries have increasingly abandoned” and “seek to maintain the maximum amount of competition in their domestic markets that is consistent with a good faith implementation of the international minimum standards of intellectual property protection”).

235. See generally Nicole C. Nachtigal, Note, *A Modern David and Goliath Farmer v. Monsanto: Advising a Grower on the Monsanto Technology Agreement 2001*, 6 GREAT PLAINS NAT. RESOURCES J. 50 (2001) (discussing the Monsanto Technology Agreement, which bars growers from saving any of Monsanto's “Roundup Ready” genetically engineered seeds to replant during the next growing season).

236. See 7 U.S.C. § 2543 (2000).

237. For example, if form contracts used by all seed producers require a promise not to save seeds. Cf. *Henningsen v. Bloomfield Motors Inc.*, 161 A.2d 69 (N.J. 1960) (criticizing the form contract employed by the three biggest auto manufacturers to limit consumer warranties).

238. 125 F.3d 1195, 1209–11 (9th Cir. 1997).

ing action when patent owners with significant market power refuse to deal with competitors. In another case, the Federal Circuit held that a patent owner with the requisite market power can violate antitrust law by deliberately and unjustifiably designing a product to be incompatible with a competitor's.²³⁹ Again, deciding when such conduct should be considered predatory is hotly debated, but correcting market distortions created by patent owners seems squarely within the letter and spirit of Article 40 of the TRIPS Agreement. Perhaps the best example of antitrust scrutiny of an intellectual property owner involves the continuing litigation brought against Microsoft by the U.S. Department of Justice,²⁴⁰ a case that will be discussed in a moment when we turn our attention to copyright law.

Although an overly enthusiastic embrace of antitrust law might "reduce incentives for firms to invest in a reforming economy,"²⁴¹ judicious use of competition principles could lower the cost of technology transfer to the developing world.²⁴²

2. Policing Copyright Owners

A valid copyright seldom gives its owner significant market power, defined as the ability to raise prices and dictate contractual terms as if it had little or no competition.²⁴³ Even if the newest record by They Might Be Giants or the newest *Flashman* novel by George MacDonald Fraser are the best in their respective fields, they will be sold for about the same price and under the same terms as their less eloquent competition. There is seldom a valid antitrust reason to intervene in markets for copyrighted goods. The most important exception to this rule, however, is computer software. Because software functions like a machine,²⁴⁴ it can dominate a market if it is a superior prod-

239. See *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1382–83 (Fed. Cir. 1998).

240. *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) (per curiam).

241. See A.E. Rodriguez & Malcolm B. Coate, *Limits to Antitrust Policy for Reforming Economies*, 18 HOUS. J. INT'L L. 311, 312 (1996).

242. In general, an agency may be better off focusing on actual incidents of market abuse by firms with significant market power, rather than regulating complex technology transfers between foreign and local firms. See generally Kanaan Al-Ahmar, *The New Transfer of Technology Rules in Egypt*, 32 IIC 519 (2001) (criticizing Egyptian attempts to regulate complex transactions involving intellectual property).

243. See *Microsoft Corp.*, 253 F.3d at 51.

244. See *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d

uct (like TurboTax) or it has become a de facto standard (like Microsoft Windows). The United States and the European Union are currently breaking new ground in the regulation of Microsoft, and developing countries should consider following suit.

In *United States v. Microsoft Corp.*,²⁴⁵ the D.C. Circuit affirmed that the Microsoft Windows operating system possessed monopoly power and that Microsoft maintained its position through anticompetitive practices.²⁴⁶ The court found that Microsoft's attempt to defend itself on grounds that it owned a valid copyright "border[ed] upon the frivolous."²⁴⁷ It held that several of the provisions of its original equipment manufacturer and Internet access provider licenses were anticompetitive and remanded for further consideration of the government's claim that Microsoft illegally tied the sale of its operating system to the sale of its Internet Explorer browser. The European Union also announced that it will take action against Microsoft for "discriminatory licensing and refusal to supply information regarding its software."²⁴⁸ Although both of these actions are likely to continue for some time (under very different sets of rules governing competition)²⁴⁹, it is increasingly clear that Microsoft's conduct in the software market will be closely regulated. Microsoft may eventually be sanctioned for illegal tying, stifling innovation through intentional incompatibility, predatory pricing, failure to license, and other refusals to deal.²⁵⁰ U.S. and E.U. oversight of Microsoft provides a valuable example of how a developing country—that may have a gross national product smaller than Microsoft's gross yearly income—can re-

1368, 1374-75 (Fed. Cir. 1998); *In re Alappat*, 33 F.3d 1526, 1543-44 (Fed. Cir. 1994) (en banc).

245. *Microsoft Corp.*, 253 F.3d at 45.

246. *Id.* at 78-79.

247. *Id.* at 63.

248. Justin O'Dell, Note, *Trouble Abroad: Microsoft's Antitrust Problems Under the Law of the European Union*, 30 GA. J. INT'L & COMP. L. 101, 101 (2001); see also *EU Accuses Microsoft of Abusing Dominance To Squeeze Out Rivals*, 79 Antitrust & Trade Reg. Rep. (BNA) No. 1971, at 131, 147 (Aug. 11, 2000).

249. O'Dell, *supra* note 248, at 118-28 (noting that the antitrust and regulatory systems of the European Union and the United States differ greatly and analyzing the European Union statutory provisions and regulatory systems that provide the structure for judicial decisions); see also STEPHEN KINSELLA, *EU TECHNOLOGY LICENSING* (photo. reprint 1999) (1998); VALENTINE KORAH, *AN INTRODUCTORY GUIDE TO EC COMPETITION LAW AND PRACTICE* (6th ed. 1997).

250. See O'Dell, *supra* note 248, at 131-34 (alleging Microsoft's abuses of its dominant position).

duce the cost of protecting software.

Applying antitrust scrutiny to software may have other benefits for developing countries. Currently, many software owners, including Microsoft, keep their source code secret, in part to make it more difficult for competitors to make compatible products. Although reverse engineering a piece of software to uncover its underlying object code is relatively easy, it cannot usually be recompiled into a precise copy of the original source code used by its programmers. For this reason, writing interoperable software is a challenge and users lament, "Windows doesn't like WordPerfect" or "Windows doesn't like Netscape."²⁵¹ One suggested remedy would force Microsoft to make the source code of its Windows operating system freely available to its competitors,²⁵² a move that would increase both the quality and quantity of Windows-compatible software. Until the time that the United States or European Union forces such a disclosure, any country willing to demand publication of the Windows source code on plausible antitrust grounds should gain leverage over the software giant.

The TRIPS Agreement would not stand in the way of forced disclosure of secret source code because Article 40 of the TRIPS Agreement clearly states that "[n]othing in this Agreement shall prevent Members from specifying in their [national] legislation licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market."²⁵³ In the proper circumstances, Article 40 would seem to authorize a member of the WTO to order revelation of a trade secret. Article 39 on trade secrets only requires that members protect owners of confidential information from disclosure "in a manner contrary to honest commercial practices."²⁵⁴ This does not expressly preclude disclosure forced pursuant to a valid court order after a finding of anticompetitive conduct. The only

251. See, e.g., *Microsoft Corp.*, 253 F.3d at 65 ("[T]he District Court found that Microsoft designed Windows 98 'so that using Navigator on Windows 98 would have unpleasant consequences for users.'" (citations omitted)).

252. Barry J. Lipson, *Thoughts on Terrorist Legislation*, 25 LAW. J. 7, 7 (2001) ("[T]he Honorable Colleen Kollar-Kotelly, informed Microsoft that if a settlement was not reached any remedies against the company would be 'the harshest and broadest possible.'" A subsequent judge in the litigation "intimated that these 'harshest' remedies could include the opening of the Windows source code to competitors." (citations omitted)).

253. TRIPS Agreement, *supra* note 1, art. 40(2).

254. *Id.* art. 39(2).

express obligation on governmental agencies is to maintain the secrecy of data submitted to obtain marketing approval for pharmaceuticals or chemical products.²⁵⁵ In a situation where a failure to disclose a secret such as the Windows source code has “adverse effects on trade and may impede the transfer and dissemination of technology,”²⁵⁶ it seems likely that the competitive principle of Article 40 would trump the right to secrecy established in Article 39.

B. STRATEGIC EXECUTIVE INITIATIVES

In addition to regulating intellectual property owners, executive branch decision makers can significantly reduce the welfare costs of intellectual property laws by engaging in imaginative strategic initiatives.

1. Building Intellectual Property Power in the Developing World: Linux and Gene Banks

Developing countries can help themselves by taking advantage of technology that is distributed for free. Mexico, for example, has mandated use of the Linux computer operating system in all of its government offices and public schools.²⁵⁷ Linux is an operating system distributed for free with the source code available for programmers to adapt.²⁵⁸ It occupies much less drive space than Windows and can therefore be run on older, slower computers. It is generally considered to be more reliable and secure than Windows. Approximately sixty percent of the world’s servers use a version of Linux called Apache.²⁵⁹ A great deal of free software has been written to run on the Linux operating system, and support for programmers is widely available in many different languages.²⁶⁰

Beyond the obvious cost savings, choosing Linux should be appealing to a developing country for several other reasons.

255. *Id.* art. 39(3).

256. *Id.* art. 40(1).

257. See Leander Kahney, *Mexican School Systems Embrace Linux*, WIRE (Nov. 6, 1998), at <http://www.wired.com/news/print/0,1294,16107,00.html>.

258. See Open Source Initiative, at <http://www.opensource.org> (last visited Sept. 25, 2003).

259. See Netcraft, at <http://www.netcraft.com> (last visited Sept. 25, 2003).

260. See GNU’s Not Unix!, at <http://www.gnu.org> (last modified Sept. 10, 2003) (information on Linux variant); Open Source Initiative, at <http://www.opensource.org> (last visited Sept. 25, 2003) (information on free software and Linux-compatible systems).

First, because it can be run on older computers, it can be made more widely available to users than Windows. More importantly, because the source code is open, it invites local programmers to experiment and adapt it. Perhaps the easiest way for a country to foster creativity and technological development is to encourage the adoption of Linux as its standard operating system. If the developing world chooses Linux, it would result in an entire generation of programmers and software independent of Microsoft, a generation with a different ethic and a more creative problem-solving ability. This is why one famous internal Microsoft memo labeled Linux the greatest threat to its hegemony in the field of software.²⁶¹ Imagine the United States losing its preeminent global position in the production of computer geeks!

Developing countries have also adapted creatively to the dominance in seed production and sales by a small number of large international agricultural firms. A system of gene banks has been created around the world to help preserve the diversity of a wide variety of different crops.²⁶² Most of these gene banks are located in developing countries, where the widest variety of plant germ plasm is usually found.²⁶³ In addition to collecting plant DNA, the Indian government is establishing a database of traditional knowledge about plant genetic resources.²⁶⁴ The information stored in these databases could provide the raw material for a counteroffensive against the agricultural hegemony enjoyed by a few firms. On the other hand, gene banks could be utilized cooperatively as income sources through the selling of germ plasm needed for research purposes. Income appears to be part of the motivation behind the recent formation of human gene storage facilities.²⁶⁵ One report

261. Marcus Maher, *Open Source Software: The Success of an Alternative Intellectual Property Paradigm*, 10 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 619, 682 n.296 (1999–2000) (“Microsoft has itself expressed the view that Linux poses a threat.”); Chris Oakes, *MS: Open Source Is Direct Threat*, WIRED, at <http://www.wired.com/news/technology/0,1282,15990,00.html> (last modified Nov. 2, 1998) (noting Microsoft’s acknowledgment of the validity of the Halloween memos and recognizing the threat open source software poses to Microsoft).

262. NAZAREA, *supra* note 105, at 6 (showing the geographic distribution of major gene banks).

263. *See id.*

264. *See* V.K. Gupta, *An Approach for Establishing a TKDL*, 5 J. INTELL. PROP. RTS. 307 (2000), <http://www.patentmatics.com/pub2002/pub69.htm>.

265. Andreas Schrell & Nils Heide, *Licensing Estonian Genes: The Human Genes Act Has Entered into Force*, 24 EUR. INTELL. PROP. REV. 337 (2002) (ex-

on a new government-sponsored Estonian gene bank concludes that "the international research community and the pharmaceutical industry will welcome Estonia's offer with open arms."²⁶⁶ Whether they are intended to obtain leverage over multinational corporations or capture some of the huge worldwide profits, the creation of gene banks and knowledge banks is a rational response to TRIPS.

2. Developing a Library Strategy

As regards to computer software, the TRIPS Agreement requires members to "prohibit the commercial rental to the public of originals or copies of their copyright works."²⁶⁷ Nothing, however, expressly prevents the executive branch of the government of a developing country from making copies of software freely available through public libraries. In fact, the inclusion of such express language in the TRIPS Agreement prohibiting only "commercial rental" may even imply that free lending by public libraries is permitted. Making copies of basic business and word processing software widely available through a system of free lending would be an inexpensive way to disseminate technology. Software firms, of course, would worry that the open lending of software would facilitate widespread copying by individuals. Infringement would undoubtedly occur, but as long as adequate and expeditious remedies were available to rights holders, the enforcement provisions of the TRIPS Agreement would be met.²⁶⁸

Software firms would also undoubtedly argue that either remedy against individual infringers would be ineffective and therefore vicarious or contributory liability should be available against public lending institutions. Two responses could be offered by the developing world. First, secondary liability would only be proper when the library has actual knowledge that a patron plans to make an illegal copy of the software rather than merely use it and return it.²⁶⁹ An actual knowledge stan-

plaining the regulation of Estonian human genetic database).

266. *Id.* at 339.

267. TRIPS Agreement, *supra* note 1, art. 11.

268. *See id.* art. 41 ("Members shall ensure that enforcement procedures as specified in this Part are available under their [national] law so as to permit effective action against any act of infringement . . . including expeditious remedies to prevent infringements and remedies which constitute a deterrent to further infringements.").

269. The importance of the prior discussion of exhaustion of rights and other contract doctrines that limit overreaching by copyright owners is clear at

dard is difficult to meet, and constructive knowledge of infringement could be eliminated American-style, with a statutory exemption for libraries that post adequate copyright warnings.²⁷⁰

A different sort of justification for protecting public lending institutions from contributory liability is based on the U.S. position regarding immunity for state actors. Nothing in the TRIPS Agreement makes member states liable for infringement of intellectual property rights, even if the state itself is a direct infringer. The United States Supreme Court recently held that U.S. states are immune in cases brought under federal copyright, patent, and trademark law²⁷¹ and would undoubtedly hold that the federal government would enjoy similar immunity in the absence of a waiver.²⁷² A member of the WTO does not have to make itself amenable to suit in its own courts, which leaves copyright owners to lobby their governments to invoke the TRIPS dispute resolution procedures on their behalf. It may be politically difficult for the home states of large software firms to advocate a crackdown on the lending practices of libraries in developing countries. In any event, it is at least plausible for a developing country to take the position that lending software with adequate anti-infringement warnings does not violate the letter or the spirit of the TRIPS Agreement.

V. A RATIONAL DIPLOMATIC/FOREIGN AFFAIRS AGENDA

Branches of government frequently have greater bargaining power than individuals or even large businesses. This bargaining power should not be forgotten when negotiations are entered into with intellectual property owners. For example, in the context of pharmaceuticals, many countries reduce the cost of patents by establishing a single buyer for drugs, usually the agency in charge of administering a regime of socialized medicine. When the negotiating power of a government is employed to purchase enough of a particular drug to satisfy the needs of a large population, it is possible to acquire it for less than full

this point. Lending in and of itself would be wrongful in a jurisdiction that permitted enforcement of licenses that restrict the right to loan or resell software.

270. See 17 U.S.C. § 108(d) (2000).

271. See *Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank*, 527 U.S. 627 (1999).

272. See *INS v. St. Cyr*, 533 U.S. 289, 299 n.10 (2001).

monopoly price.

To adopt the terminology of Professors Reichman and Lange, playing within the framework of the TRIPS Agreement is a “non-cooperative game.”²⁷³ After demonstrating the obvious fact that strong enforcement of intellectual property rights favors those who produce the goods protected by those rights, they predict that:

A comparative disadvantage with respect to trade in knowledge goods will, in turn, compel most developing and least-developed countries to adopt defensive strategies for implementing the TRIPS Agreement, to reduce its resulting social costs and tensions, even as they strive to maximize their gains from the WTO Agreement as a whole.²⁷⁴

One rational defensive strategy is for developing countries to comply in a minimalist manner and then to “bargain[] around the TRIPS Agreement”²⁷⁵ with private firms. Each defensive strategy disadvantageous to a foreign intellectual property owner creates a bargaining chip that can be expended in return for foreign investment, importation of technology, or other direct aid. A developing country can accomplish a great deal by carefully shaping its intellectual property laws in concert with an aggressive diplomatic strategy.

A. ENGAGING FOREIGN RIGHTS HOLDERS

A developing country can offer concessions and other accommodations to a private firm when its intellectual property law creates a disadvantage for that firm.²⁷⁶ The willingness to adapt and compromise creates opportunities to leverage capital investment, technology transfer, or other types of aid from disadvantaged firms. The only limit on bargaining initiatives is the imagination:

(i) As noted earlier, a patent may not be enforceable in a country for many reasons, ranging from the failure to file a timely application, to the failure of the invention to fit into a category of patentable subject matter.²⁷⁷ To the extent that dis-

273. Reichman & Lange, *supra* note 4, at 17.

274. *Id.* at 18.

275. I am grateful to Professors Reichman and Lange for introducing me to this apt phrase.

276. *Id.* at 27 (“Nothing impedes developing-country governments from encouraging privately negotiated concessions to foreign firms that are contractually exchanged for reciprocal benefits to their own firms or to specific economic sectors.”).

277. See *supra* notes 109–40 and accompanying text (discussing categories of subject matter that members of the WTO have the choice not to protect).

advantaged foreign firms desire increased rights, they should be willing to impart with some consideration to obtain them. Imagine firm A has invented a popular new tire that provides particularly good traction in mud and sand. It has an enforceable patent in the United States and Europe, but due to country B's strict novelty requirement, it failed to make a timely application in country B's nascent patent office. It currently does not sell its tires in country B because its production and import costs would price buyers out of the market. It has considered opening a plant in country B to lower those costs, but in the absence of patent protection for its product, it worries whether it will be able to recoup the cost of expansion. In other words, competition by another firm would be disastrous. Country B might rationally offer firm A the exclusive right to sell its tires as part of a package to attract the new plant.²⁷⁸

(ii) This Article encourages developing countries to comply with and effectively enforce the TRIPS Agreement; it does not advocate formal compliance accompanied by a widespread failure to enforce intellectual property rights. Some commentators have noted, however, that lapses in enforcement nonetheless create bargaining chips.²⁷⁹ For example, given the widespread availability of infringing music in China—and the disingenuous nature of enforcement efforts there—a seller of music like Sony might be willing to open a compact disc pressing plant in an economically depressed area of China in return for a credible commitment to vigorous enforcement of its copyrights. Developing countries with significant counterfeiting industries should consider pursuing a strategy that would legitimize its extant manufacturing capacity by co-opting rights holders whenever possible.²⁸⁰

(iii) A firm may hesitate to license its technology to another firm (or even one of its subsidiaries) in a developing country if the license would not be enforceable due to principles of anti-

278. Even if there is a local competitor, the local economy might benefit from the existence of two firms, one to service the high-end tire market and the other to service the lower.

279. See Reichman, *supra* note 95, at 468 (offering a hypothetical that envisions "the conversion of alleged pirates into authorized licensees of the intellectual property [owner]").

280. See Rochelle Dreyfuss & Andreas Lowenfeld, *Two Achievements of the Uruguay Round: Putting TRIPS and Dispute Settlement Together*, 37 VA. J. INT'L L. 275, 327 (1997) (arguing an intellectual property owner "may gain more by licensing to the . . . 'trademark pirate' than by fighting him through to the end under the WTO system").

trust or contract law. As noted above, developing countries have significant flexibility in the enforcement of licenses.²⁸¹ Imagine that firm A has written a new software program that creates substantial efficiencies in bank record keeping, but it hesitates to license the technology in country B because of its aggressive competition laws. In return for an exemption from antitrust scrutiny, firm A may be willing to do more than sell its software to the banks that can afford it—it may also be willing to provide other software at a reduced cost to local businesses or schools. The deals that might be facilitated are bounded only by the imagination of negotiators for firms and government representatives.

It may be especially easy to cut beneficial deals with owners of software because of the exceptionally low marginal cost of producing it once programming and debugging have been accomplished. In other words, if a software firm has already recouped its research and development costs by selling to firms in the United States and the European Union, the marginal profit from further transactions overseas will be very high. The size of the profit margin should, in theory, make software firms more flexible in making concessions necessary to enter a new market.

(iv) As noted above, a developing country that adopts a minimal compliance strategy puts itself in a strong negotiating position. Not only can it seek concessions beneficial to local firms, but it can also credibly request direct aid in the form of computer equipment for government offices (starting with the patent and trademark office and local courts), technical assistance, judicial training, and other resources necessary to institution building, especially at local schools and universities.²⁸² Imagine firm A desires to expand its sales of gaming and basic business software in country B. Because of the open availability

281. See *supra* notes 203–08 and accompanying text.

282. See Joseph Straus, Comment, *Bargaining Around the TRIPS Agreement: The Case for Ongoing Public-Private Initiatives to Facilitate Worldwide Intellectual Property Transactions*, 9 DUKE J. COMP. & INT'L L. 91, 105 (1998) (“A number of well-known examples exist for such cooperative agreements between U.S. companies and universities and publicly administered or funded institutions in Argentina, Brazil, Cameroon, Chile, Costa Rica, Mexico, Nigeria, and Suriname.” (citing Joshua P. Rosenthal, *Equitable Sharing of Biodiversity Benefits: Agreements on Genetic Resources*, in 1997 PROCEEDINGS OF THE OECD INTERNATIONAL CONFERENCE ON INCENTIVE MEASURES FOR THE CONSERVATION AND THE SUSTAINABLE USE OF BIOLOGICAL DIVERSITY IN CAIRNS, AUSTRALIA 253 (1997))).

of used software in the country and the concomitant high levels of individual infringement, sales are stagnant. Consumers will not buy new software at full price when they can buy it used for less or borrow from the library and make a copy. In return for a strictly enforced ban on the resale and lending of gaming software, firm A may be willing to distribute copies of its basic business software package (word processing, network communications, etc.) to government offices and schools around the country, especially if it plans to substantially upgrade that software in the future.

(v) Policy makers in developing countries must constantly engage foreign firms with two key questions: What do you want? What will you give us in exchange? It is the flexibility inherent in the TRIPS Agreement that provides developing countries with something to exchange. In theory, a developing country could also engage foreign governments in negotiations, but dealing directly with firms has many advantages. First, granting special privileges to a private firm does not normally implicate the Most-Favoured Nation Treatment²⁸³ and National Treatment²⁸⁴ articles of the TRIPS Agreement, which prevent discrimination among nationals of the WTO. Members are freer to pick and choose among firms than among other nations. Second, negotiations between nations are often more prolonged and politically difficult than negotiations between a nation and a firm. Third, if the ultimate goal of a developing country is to stimulate foreign direct investment by private firms, then bargaining with an industrialized nation is like bargaining with a middleman, an inefficient approach. Fourth, a developing country should have more bargaining power in relation to a firm than with the nation standing behind it. Finally, the ability of a developing country to experiment and evaluate the success of its economic initiatives with private firms is easier than judging the effects of compliance with broad treaties. Reichman and Lange reason that “[p]rivate concessions vetted on a case-by-case basis within a minimalist normative framework would provide governments with a practical means of empirically ascertaining the appropriate balance between legal incentives to innovate and free competition in particular sectors of their economies.”²⁸⁵

283. See TRIPS Agreement, *supra* note 1, art. 4.

284. See *id.* art. 3.

285. Reichman & Lange, *supra* note 4, at 27.

B. ENGAGING INTERNATIONAL ORGANIZATIONS AND NGOS TO INSIST ON THE INTEGRITY OF TRIPS

The TRIPS Agreement expressly states:

The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.²⁸⁶

More recently, the WTO ministerial declaration at the Doha ministerial meeting promised "to make positive efforts designed to ensure that developing countries, and especially the least-developed among them, secure a share in the growth of world trade commensurate with the needs of their economic development."²⁸⁷ A rational diplomatic strategy on behalf of the developing world would seek to assure the promise of Article 7 is taken seriously by the industrialized world.

Although this Article outlines a minimalist enforcement strategy, it insists on compliance with the TRIPS Agreement. Working within the TRIPS framework allows developing countries to insist on the protections provided by the agreement, including freedom from undue unilateral pressure to strengthen intellectual property laws.²⁸⁸ For example, the United States claims that it may still impose unilateral trade sanctions in cases where the WTO dispute resolution framework is available.²⁸⁹ Developing countries must take advantage of available international fora to insist that everyone plays within the rules of the TRIPS Agreement. For example, the World Intellectual Property Organization (WIPO) has traditionally been receptive to the concerns of developing countries; in fact, its unwillingness to impose high minimum standards provided much of the impetus behind the adoption of the TRIPS Agreement. Its importance as a rule-making body may have diminished, but it may still provide effective advocacy for developing countries adopting a minimal compliance strategy with the TRIPS Agreement. Several important NGOs have also staked positions contrary to firms and governments that push for maxi-

286. TRIPS Agreement, *supra* note 1, art. 7.

287. See *Ministerial Declaration*, *supra* note 91, ¶ 2.

288. See TRIPS Agreement, *supra* note 1, art. 64.

289. See Robert Pechman, *Seeking Multilateral Protection for Intellectual Property: The United States "TRIPs" over Special 301*, 7 MINN. J. GLOBAL TRADE 179 (1998).

mum enforcement.²⁹⁰

The usefulness of a cohesive international strategy is illustrated in the recent compromise reached between owners of patents in AIDS pharmaceuticals and the government of South Africa.²⁹¹ Although a maximalist view was pushed by the patent owners and the U.S. government, pressure from NGOs, WIPO, and the WTO itself resulted in a historic compromise on price and availability of critically needed drugs.²⁹² Having paid the price of compliance with TRIPS, developing countries should find themselves in a politically and morally attractive position. Developing countries must find the right fora and right partners to defend themselves from the inevitable maximalist demands of intellectual property owners and the nations that advocate on their behalf, most importantly, the United States.

CONCLUSION

Crafting a rational intellectual property policy poses a complex challenge for governments in developing countries. Even when a clear economic objective can be identified, the most effective course of conduct may be unclear. Sometimes a policy can be crafted legislatively. Reducing the cost of complying with the patent sections of the TRIPS Agreement, for example, lends itself to relatively clear legislative solutions. If a country would like, however, to increase the level of its protection of trade secrets to attract foreign investment without incurring the administrative costs of patent law, it may find legislation alone inadequate. An effective trade secret policy, and probably an effective first sale doctrine, require a cooperative judiciary and perhaps even a specialized intellectual property court. A competent executive has a critical role to play too, not only in facilitating the public/private initiatives described above, but also in monitoring intellectual property issues that

290. Ellen 't Hoen, *TRIPS, Pharmaceutical Patents, and Access to Essential Medicines: A Long Way From Seattle to Doha*, 3 CHL. J. INT'L L. 27, 34 (2002) (discussing role of groups like OXFAM, South African Treatment Action Campaign, and Act Up).

291. See Frederick M. Abbott, *The TRIPS—Legality of Measures Taken to Address Public Health Crises: A Synopsis*, 7 WIDENER L. SYMP. J. 71 (2001).

292. See *Ministerial Declaration*, *supra* note 91, ¶ 17 (declaration by the WTO ministry “stress[ing] the importance we attach to implementation and interpretation of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) in a manner supportive of public health, by promoting both access to existing medicines and research and development into new medicines”).

might best be addressed through administrative action. Effective control over abusive rights holders through application of antitrust principles or anti-biopiracy measures requires expertise and an ability to coordinate not found in the legislative or judicial branches.

Lack of governmental competence, rather than the express language of the TRIPS Agreement, may pose the biggest obstacle for developing countries that wish to shape their intellectual property laws to minimize costs to consumers and local manufacturers, encourage local inventive activity, and facilitate bargaining with foreign firms. If policy makers in developing countries do not understand the public welfare issues raised by intellectual property law, if they respond in knee-jerk fashion to outside pressure, and if corruption is pervasive, then no amount of flexibility in the TRIPS Agreement will help them. Prescribing a solution for systemic defects in governmental institutions is beyond the scope of this Article, but it is worth noting existing initiatives to encourage self-interested thinking about intellectual property issues by developing countries. Duke University School of Law, for example, has been working to establish a center for public/private initiatives after the TRIPS Agreement.²⁹³ The University of Georgia School of Law will be advising Palestinian law professors under a State Department grant on intellectual property issues that will arise if full statehood arrives. Finally, although it may be naive to expect the U.S. government to side with developing countries in disputes with American intellectual property owners,²⁹⁴ one might hope that ongoing initiatives to promote democracy around the world might encourage policy makers in developing countries to approach all issues, including intellectual property issues, from a standpoint of self-interested rationality.

293. David Lange, *Forward: Public-Private Initiatives After TRIPS: Designing a Global Agenda*, 9 DUKE J. COMP. & INT'L L. 1 (1998) (describing center focused on fostering partnerships in China).

294. See Abbott, *supra* note 291, at 71-72 (noting role of U.S. government negotiators in the South African AIDS drug crisis).