Denver Journal of International Law & Policy

Volume 21
Number 2 *Winter*

Article 7

January 1993

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Malcolm D. Rowat, An Assessment of Intellectual Property Protection in LDCs from Both a Legal and Economic Perspective - Case Studies of Mexico, Chile and Argentina, 21 Denv. J. Int'l L. & Pol'y 401 (1993).

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Keywords
Intellectual Property Law, International Law: History

This article is available in Denver Journal of International Law & Policy: https://digitalcommons.du.edu/djilp/vol21/iss2/7

INTERNATIONAL TRADE SECTION

An Assessment of Intellectual Property Protection in LDCs from Both a Legal and Economic Perspective — Case Studies of Mexico, Chile and Argentina

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I. INTRODUCTION

"Intellectual property" (IP) is a compounding of two things. First, it

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is ideas, inventions and creative expression. They are essentially the result of private activity. Second, it is public willingness to bestow the status of property on those inventions and expressions. The most common techniques for conferring a protected status are the trade secret, patent, copyright and the trademark, with one new category for mask works (or "chips") added in the last decade.[1]

Though the definition of these terms varies from country to country, the following is a broad summary definition of terms that is widely accepted particularly in the U.S., beginning with a basic classification that differentiates industrial property (patents, trademarks and trade secrets) from copyright, with mask works as a unique special category.

Patent law confers property rights on new, useful and nonobvious processes and products. It excludes others from making, using, or selling the patented invention for seventeen years.[2] Patent law provides a more exclusive monopoly than copyright law. Patent protection extends to functional features of products and encompasses ideas to the extent that the ideas are inextricably embodied in the products or process. Unlike a copyright or trademark, a patent is much more difficult to obtain. To be patented, an invention must not only be new and original, but it must also be an improvement over the prior art such that one with ordinary skill in that art could not consider the invention obvious.[3]

Trade secrets are industrial or commercial information that enterprises wish to keep confidential, but here reliance is placed either on private contractual measures with existing employees or on public law or guarantees where third parties, without contractual relationships, need to be prevented from engaging in trade secret violations.

> Trademarks are marks to distinguish goods or services of an industrial or commercial enterprise or group of enterprises. They include words, letters, numbers, drawings, pictures, emblems, monograms, signatures, colors, and occasionally packaging forms. Most countries require registration of the mark for protection. Usually there are no time limits on trademark protection, although many countries require periodic registration.[4]

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1. R. SHERWOOD, INTELLECTUAL PROPERTY AND ECONOMIC DEVELOPMENT 11 (1990). Other beneficiaries of intellectual property protection include industrial designs, utility models, marks of origin and plant breeders' rights (PBRs). In the latter case, PBRs are covered under the International Convention for the Protection of New Varieties of Plants (UPOV), concluded in Paris on December 2, 1961, as amended in 1991. The Convention, which had 21 member states as of January 1, 1992, provides plant protection for between 15 and 18 years though breeders can use an existing protected plant to produce a new variety. As of 1990, UPOV had about 1,000 new plant varieties registered in member states.

2. 17 years is the present period in the U.S. for patent protection from the date of granting, though for most countries, the period ranges from 15 to 20 years from the date the patent is filed.

3. Marshall A. Leaffer, *Protecting United States Intellectual Property Abroad: Toward a New Multilateralism*, 76 IOWA L. REV. 279 n.31 (1991).

4. ROBERT P. BENKO, PROTECTING INTELLECTUAL PROPERTY RIGHTS - ISSUES AND CON-

Copyright protection covers original expression but not the ideas behind the expression. Copyrightable material includes artistic, literary, musical, photographic and cinematographic works, etc. Some countries require registration formalities while for others protection is available automatically. The international standard for most works usually extends for fifty years beyond the life of the author.

Finally, the mask work represents the expression of the design elements of a semiconductor "chip" for which its creator holds exclusive rights, and thus can be seen as a hybrid between a patent and a copyright.[5]

This paper attempts to assess the impact of a variety of multilateral and bilateral initiatives with respect to IP reform in three Latin American countries (Mexico, Chile and Argentina), all of which are contemplating or completing legal reforms in this area. The paper begins with an overview of the multilateral framework for IP protection, an assessment from an economic perspective of the costs and benefits of increased IP protection, followed by a detailed country by country evaluation of IP reforms to date and their origins, and concluding with an assessment of possible outcomes in future for both multilateral and bilateral IP reform.

II. THE MULTILATERAL FRAMEWORK FOR IP PROTECTION

Even though IP protection is a function of country specific legislation and enforcement, a multilateral regime has existed dating back to the 19th century covering at least some elements of IP (trade secrets and mask works are essentially excluded), but with no real effective dispute resolution mechanism. Most international agreements that are assigned to protect IP are administered by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations (as of December 1974), established by a Convention signed at Stockholm on July 14, 1967, which came into force in 1970.[6] The three most important conventions under WIPO's responsibility are the Paris Convention for the Protection of Industrial Property (103 members), established in 1883, and last revised in 1967, the Berne Convention for the Protection of Literary and Artistic Works (ninety members), adopted in 1886, and last revised in 1971, and the Madrid Agreement concerning the International Registration of Marks (twenty nine states) adopted in 1891 and amended as of 1979. In all, WIPO administers nineteen Unions and Conventions.[7]

TROVERSIES 3 (1987).

5. SHERWOOD, *supra* note 1, at 12.

6. *See* WORLD INTELLECTUAL PROPERTY ORGANIZATION (WIPO), GENERAL INFORMATION (1992). As of January 1, 1992, there were 128 states that were party to the WIPO Convention.

7. One of these of special interest is the Patent Cooperation Treaty (PCT) which was concluded in 1970 and as of January 1, 1992 comprised 49 states. The treaty provides for the filing of an international application which can then be subject to an "international search" by one of the major patent offices thereby facilitating the examination of patent

The Paris Convention covers inventions, trademarks, service marks, industrial designs, etc. (article 4) and provides for national treatment (article 2) whereby each Contracting State must grant the same protection to nationals of other Contracting States as it grants to its own nationals. Furthermore, the Paris Convention (article 4A) provides for a right of priority of filing (relating back) in a second member country for periods of one year from filing in the first member country for patent and utility models, and six months for industrial designs and trademarks (article 4 C (1)).

Compulsory licenses (article 5) are of great interest to both developed and developing countries. These licenses are available for lack of working a patent by the owner within four years from the date of filing or three years from the date of granting the patent, whichever is later, in the absence of legitimate reasons. In addition, no proceeding for actual forfeiture can be made prior to the completion of two years from the grant of a compulsory license (article 5(3)), and an assessment that the compulsory license did not eliminate the cost of not working the patent. Developed countries have tended to object to compulsory licenses particularly if they were coupled with mandatory fixed royalty payments while developing countries have favored compulsory licenses without such a time delay.

Finally, the dispute settlement mechanism (article 29) appears to be particularly ineffective in that any country at the time of accession can declare itself not bound by the dispute settlement provision (article 28(i)). But even in the absence of such a declaration, the dispute goes to the International Court of Justice, after which the losing party could leave the Paris Convention to avoid the sanction.[8]

The Berne Convention encompasses literary and artistic works including every production in the literary and artistic domain whatever the mode or form of its expression (article 2 (1)). The Berne Convention requires that protection be given to published or unpublished works of an author who is a national of a member state. Berne protection also is required for a work of a non-national of a member state if the work is first published in a member state or simultaneously published in a non-member and a member state. A work is published "simultaneously" if it is published in a member country within thirty days of its first publication.[9]

The Berne Convention explicitly rejects the requirement that works

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applications in the patent office of another member country. This facility could be of value in the future to developing countries. *Id.* at 26-29.

8. The Madrid Agreement, revised seven times since 1891, is open to States party to the Paris Convention, and provides for the registration of both trademarks and service marks at the International Bureau of WIPO in Geneva. This can be accomplished once the owner of the mark has registered it in the national trademark office of the country of origin (provided it is a Contracting State). By the end of 1991, the number of international registrations affected by the Agreement was 280,000 covering on average 10 countries. *See* WIPO, *supra* note 6 at 32-33.

9. C. JOYCE, W. PATRY, M. LEAFFER, P. JASZI, COPYRIGHT LAW 927 (1991).

be protected by formalities outside the country of origin (article 5(2)), and has established a minimum term of protection of life plus fifty years, or fifty years from publication for anonymous and pseudonymous works (articles 7(1) and 7(3)). Moreover, a large number of "exclusive" rights are to be protected including those of translation (article 8), reproduction (article 9), public performance (article 11) and adaptation (article 12), though distribution and display rights are not included unlike the U.S. Copyright Act of 1976 (article 106). Berne provides for a fair use privilege (article 9(2)) and for moral rights (article 6 bis) independently of economic rights particularly with respect to the right of attribution and integrity. In the latter case, the U.S. has long opposed such a provision, and even when it acceded to the Berne Convention at long last in 1988, the implementing legislation[10] did not include such a clause on the grounds that such a provision was already available under the common law, a questionable argument. Finally, the dispute settlement arrangements (article 33) are similar to those of the Paris Convention, with the same shortcomings.

Given the perceived weaknesses in the WIPO framework for IP protection, particularly from the perspective of developed countries, and the fact that during the 1980s, a number of developed countries, particularly the U.S., began to run substantial trade deficits, it is not surprising that more attention from developed country policymakers began to focus on the need to strengthen the international framework for IP protection.[11] Thus, at the inauguration of the Uruguay Round of trade negotiations under the GATT[12] in Punta del Este in 1986, the Ministerial Declaration included for the first time, largely at the insistence of the U.S.,[13] a mandate to address Trade-related aspects of Intellectual Property Rights (TRIPs), including Trade in Counterfeit Goods:

> In order to reduce the distortions and impediments to international trade, and taking into account the need to promote effective and adequate protection of intellectual property rights, and to ensure that measures and procedures to enforce intellectual property rights do not themselves become barriers to legitimate trade, the negotiations shall aim to clarify GATT provisions and elaborate on appropriate new rules and disciplines.
> Negotiations shall aim to develop a multilateral framework of princi-

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10. The Berne Convention Implementation Act of 1988, Pub. L. 100-568, 102 Stat. 2853.

11. However, it should be pointed out that WIPO has taken the initiative to attempt to harmonize patent and trademark law through the preparation of a draft Patent Law Treaty and a Draft Treaty on the simplification of administrative procedures concerning marks. In addition, WIPO is also considering a multilateral treaty on the settlement of IP disputes between states.

12. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. 43, T.I.A.S. No. 1700, 55 U.N.T.S. 187 [hereinafter GATT].

13. For a detailed background to the talks that led up to the Uruguay Round, *see* A. Jane Bradley, *Intellectual Property Rights, Investment, and Trade in Services in the Uruguay Round: Laying the Foundation*, 23 STAN. J. INT'L L. 57 (1987).

> ples, rules and disciplines dealing with international trade in counterfeit goods, taking into account work already undertaken in the GATT.[14]

Over the next five years, negotiations continued on this and many other issues with no immediate resolution in sight given the obvious linkages of most issues since concessions would be expected in one area by developing countries (e.g., TRIPs) in exchange for concessions in another by developed countries (e.g., agriculture, textiles). A complicating factor was that many developing countries saw no need to include TRIPs as part of the GATT Round, even though article XX(d) of the GATT makes a brief reference to IP, when an existing UN agency (WIPO) that had been clearly established for that purpose was already available. Developed countries, particularly the US, were unwilling to support further negotiations under the auspices of WIPO given the lack of results in the past, and the alleged bias of WIPO against the enforcement of IP rights, particularly against a backdrop where developed countries had considerably more voting strength in the GATT than in WIPO.

As a result of the impasse, the GATT Secretariat itself drafted a compromise document[15] based on earlier competing texts covering all aspects of the Uruguay Round with the hope that all parties would agree, though this to date has proven to be premature given the subsequent lack of progress in negotiations, particularly initially in the agricultural area between the European Community and the U.S. Given the recent change in the U.S. administration, it is unclear if and when a successful Uruguay Round will be achieved.

Even before the inauguration of the Uruguay Round, however, the U.S. moved to proceed unilaterally to increase pressure on its trading partners, primarily developing countries (eg. Korea), to improve their IP protection legislative and enforcement frameworks, in the light of the mounting U.S. trade deficit. In March 1987, the United States Trade Representative (USTR) at the request of President Reagan asked the U.S. International Trade Commission (ITC) to prepare quantitative estimates of the distortions in U.S. trade caused by inadequate IP protection, and to identify the products and countries that were the major culprits. The results,[16] qualified by limitations due to lack of statistical validity, estimated worldwide losses to U.S. industry from inadequate foreign IP protection ranging from US$43 to US$61 billion per annum. Whatever

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14. Ministerial Declaration of Punta del Este of September 20, 1986, *reprinted in* LAW AND PRACTICE UNDER THE GATT 31 (Kenneth R. Simmonds & Brian H.W. Hill eds. 1988).

15. Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, MTN.TNC/W/FA, December 20, 1991 (Dunkel Draft) *reprinted in* THE DUNKEL DRAFT, FROM THE GATT SECRETARIAT (The Institute for International Legal Information ed., 1992).

16. USITC, FOREIGN PROTECTION OF INTELLECTUAL PROPERTY RIGHTS AND THE EFFECT ON U.S. INDUSTRY AND TRADE, REPORT TO THE UNITED STATES TRADE REPRESENTATIVE, INVESTIGATION NO. 332-245, at H-3 (1988).

the accuracy of the numbers, they were sufficient to persuade the U.S. Congress to include "tougher" provisions in its 1988 Trade Act[17] which

> requires the USTR to identify, within thirty days after submission of the annual National Trade Estimates (foreign trade barrier) report to the Congress, those foreign countries that (1) deny adequate and effective protection of intellectual property rights or fair and equitable market access to U.S. persons that rely upon intellectual property protection, and (2) those countries under (1) determined by the USTR to be priority foreign countries. The USTR identifies as priorities only those countries that have the most onerous or egregious acts, policies or practices that have the greatest adverse impact on the relevant U.S. products and that are not entering into good faith negotiations or making significant progress in bilateral or multilateral negotiations to provide adequate and effective intellectual property right protection.[18]

In May of 1989, the USTR announced no "Priority Foreign Countries" but instead developed a "Priority Watch List" of eight countries (including Mexico) and a "Watch List" of seventeen countries. The "Priority Watch List" was reduced to five when the USTR reported to Congress on November 1, 1989 (Korea, Taiwan and Saudi Arabia had been removed based on substantial progress). "In January 1990, Mexico was removed from all "Special 301" lists after outlining a program for improved protection for patents, trademarks, and trade secrets as well as improved enforcement of the laws in these areas."[19]

In addition, the U.S. government had begun negotiations initially with Mexico on the possibility of joining the North American Free Trade Agreement (NAFTA), a step that would require an improved Mexican IP environment which in fact occurred even prior to the NAFTA agreement. In August 1992, provisional agreement was reached amongst the U.S., Canada and Mexico[20] on NAFTA. Similarly, other Latin American coun-

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17. Omnibus Trade and Competitiveness Act of 1988, 19 U.S.C. §§ 1301-1303 (amending Section 301 of the Trade Act of 1974 to include a "special 301" to deal with priority IP protection).

18. Committee on Ways and Means, Overview and Compilation of U.S. Trade Statistics, H.R. Doc. No. 102-5, 102nd Congress, 1st Session. 76 (1991).

19. *Id.* at 77.

20. The broad outlines of the agreement are contained in a "Description of the Proposed" prepared by the three governments dated August 12, 1992 and which contains at 26-27 the following provisions on IP protection:

> Building on the work done in the GATT and various international intellectual property treaties, NAFTA establishes a high level of obligations respecting intellectual property. Each country will provide adequate and effective protection of intellectual property rights on the basis of national treatment and will provide effective enforcement of these rights against infringement, both internally and at the border.
>
> The Agreement sets out specific commitments regarding the protection of: copyrights, including sound recordings; patents; trademarks; plant breeders' rights; industrial designs; trade secrets; integrated circuits (semiconductor

tries, as part of the Enterprise for Americas Initiative (EAI), anticipated similar possibilities, particularly Chile. Thus, the U.S. took the lead in attempting to reform IP protection at the multilateral level through the TRIPs negotiation, while at the same time, moving aggressively to negotiate bilateral concessions from developing countries particularly when trade benefits (or denial of existing benefits) were at stake.

III. ECONOMICS OF IP PROTECTION

Until recently, most of the literature on the economics of IP protection concentrated on developed countries and in a "closed" economy, ignoring the international trade and investment dimension. Under a domestic analysis, IP would be viewed as an

> asset generated by creative action, such as invention or authorship. As with more tangible forms of private property, the owners of intellectual property are, in most countries, allowed to garner its returns through commercial exploitation. It is the ability to appropriate these returns that provides the necessary incentive for further creative activity, a big factor in an economy's commercial and cultural growth. Unlike tangible property, however, intellectual property derives from the creation of new information, which is essentially a public good. Among the characteristics of public goods that would influence eco-

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chips); and geographical indications.

Copyright. The Agreement's obligations include requirements to: protect computer programs as literary works and databases as compilations; provide rental rights for computer programs and sound recordings; and provide a term of protection of at least 50 years for sound recordings.

Patents. The NAFTA provides protection for inventions by requiring each country to: provide product and process patents for virtually all types of inventions, including pharmaceuticals and agricultural chemicals; eliminate any special regimes for particular product categories, any special provisions for acquisition of patent rights and any discrimination in the availability and enjoyment of patent rights made available locally and abroad; and provide patent owners the opportunity to obtain product patent protection for pharmaceutical and agricultural chemical inventions for which product patents were previously unavailable.

Other Intellectual Property Rights. This section also provides rules for protecting: service marks to the same extent as trademarks; encrypted satellite signals against illegal use; trade secrets generally, as well as for protecting from disclosure by the government test data submitted by firms regarding the safety and efficacy of pharmaceutical and agri-chemical products; integrated circuits, both directly and in goods that incorporate them; and geographical indications so as to avoid misleading the public, while protecting trademark owners.

Enforcement Procedures. The NAFTA also includes detailed obligations regarding: procedures for the enforcement of intellectual property rights, including provisions on damages, injunctive relief and general due process issues; and enforcement of intellectual property rights at the border, including safeguards to prevent abuse.

A more detailed statement of agreement of the parties with respect to intellectual property is contained in The North American Free Trade Agreement, September 6, 1992, U.S.T. 17-1 to 17-29.

> nomic behavior is the problem that market participants have little incentive to compensate the inventor once the information underlying the invention becomes known. . . . This problem necessitates the establishment of a set of protective devices that go beyond forms of protection for ordinary property. These devices assign and preserve the rights to exploit intellectual property. In general, intellectual property rights (IPRs) refer to the legal authority of a creator to control the means by which the new information or idea is disseminated and commercialized and to the enforcement mechanisms to which the creator may appeal to prevent unauthorized use.[21]

Before examining the special economic dimension of IP protection in developing countries, the following is a brief summation of the economic arguments underlying each of the major forms of IP protection. In the case of patents, governments have traditionally emphasized two primary objectives in adopting a system of patents for inventions, namely to provide economic incentives to encourage investment activity and to have inventors disclose their "secrets" to society thereby encouraging the speed in the use of technology. The dilemma facing policy-makers is that inventions are "public goods", and in the absence of any form of protection, it is problematic whether "consumers" can be prevented from using such goods without appropriate remuneration, thereby creating a free-rider problem. This is compounded by the fact that the costs of invention can be substantial while the cost of disseminating that knowledge is close to zero. Thus,

> the distribution of an additional unit of knowledge goods does not diminish the stock of those goods. The marginal cost of an additional unit will therefore be influenced not by production cost but only by distribution cost, which are insignificant. According to static economic criteria, the optimum market price for the knowledge or invention, once produced, should be roughly zero. The normal function of the market thus poses a problem of appropriatability for the inventor. At a normal selling price of near zero, there is no incentive to produce knowledge goods.[22]

In order to avoid the appropriatability problem, the patent provides for a temporary monopoly (but only with respect to the specific invention but not to the market it serves since there is often competition from similar competing substitutes) leading to quasi-rents that provide sufficient incentives to investors faced with market failures to continue both to invent and disseminate their inventions to the public. The optimal policy package may be to strengthen IP protection, but lower tariffs and other barriers to competition that naturally work on the non-technology barriers in the competitive advantage package.

There is little empirical evidence available that could categorically

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21. Keith Maskus, The Economics of International Protection of Intellectual Property Rights: Background and Analysis 5-6 (June 1989) (unpublished).

22. BENKO, *supra* note 4, at 17.

document the impact of the availability of patent protection on levels of investment in technological innovation though this would certainly vary with the type of industry involved (pharmaceuticals and chemicals having among the highest correlation).[23] This raises the question as to whether normal competition provides, in many industries, a sufficient basis for innovation or where market imperfection in terms of the rapidity with which competing firms could imitate the technology in the absence of patent protection negates the need for such a device. In any event, firms must constantly make the trade-off between filing for patent protection to gain a "monopoly" advantage for seventeen years but with ultimate disclosure of its invention, versus the option of using trade secret protection which can be infinite unless violated where either breach of contract or tort remedies are available (though in the case of pharmaceuticals, trade secret protection is not an option given the ease with which such products can be copied). However, trade secrets also run the risk of being lost either through reverse engineering or through normal independent commercial developments.[24] A related issue for which there is again no conclusive evidence available is whether seventeen years constitutes an appropriate length of time for protection, with the expectation that the longer the period, the more likely that "monopoly" profits or quasi-rents more than offset the development costs of the invention.

In the case of copyrights, the economic justification for providing protection is similar to that of patents with respect to industrial property. Creative literacy and artistic works require an investment of time, the application of originality, and the benefits of training which, without protection, would permit others to "free ride" particularly in an environment where advances in copying technology worldwide has made the mechanism of copying relatively simple and cheap.

> The traditional economic and welfare implications of this trend are well-known. Clearly, the greater use of copying technologies delivers creative goods to consumers at lower costs. The reduction in demand for originals lowers the gap between price and marginal production and distribution costs, raising social welfare. Stronger laws against copying would increase this distortion, reducing welfare. However, copying also diminishes incentives for creative activity and the legitimate dissemination of new creations, resulting in a welfare decline that would be offset by greater performance of property rights. Copyright policy should presumably be designed to effect an optimal trade-off between these impacts.[25]

In addition, the evolving nature of technology with the growth in the

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23. E. MANSFIELD, PATENTS AND INNOVATION: AN EMPIRICAL STUDY, MANAGEMENT SCIENCE, 1986.

24. For a more detailed treatment of the economic justification for trade secret laws at the State level in the U.S. see D. Friedman, William Landes & Richard Posner, *Some Economics of Trade Secret Law* 5 J. ECON. PERSP., No. 1, 61-72 (1991).

25. Maskus, *supra* note 21, at 26-27.

use of software, semiconductors and satellite transmissions has raised additional questions as to whether patents or copyright is the more appropriate form of protection. In a few countries (U.S. and Japan), this has led to the creation of new categories of protection such as for computer chips (mask works[26]) or special measures such as compulsory licenses for broadcasters (U.S.) who transmit satellite signals to cable operators at rates set by a government regulatory agency (Copyright Royalty Tribunal).[27]

Trademarks are one of a variety of means (including brand names and marks of origin) that are used to identify and provide protection for goods or products from firms, and at the same time, protect consumers from false advertising and fraud.

> Like patents and copyright, trademarks carry legal authority to enforce the exclusive use of an asset created by human thought. In this case, the asset is a symbol or other identifier that conveys information to the customer about the product being purchased. If consumers view the mark as an indicator of some desirable product characteristic, such as high quality, they will be willing to pay a premium price for the good. This premium price compensates the firm for the cost of developing and advertising the trademark. If competitors were allowed to duplicate the mark or use a confusingly similar mark these costs could not be recovered. Unlike patents and copyrights, however, trademarks do not protect the creation of additional human knowledge, but rather the identification of a product. Such identification is not a public good. Thus, trademarks serve in part to augment the ability to differentiate products and to sustain associated monopoly profits.[28]

However, consumer preferences in the light of disappointments in quality choice can offset such monopoly profits as can legal remedies involving false advertising as well as the availability of other trademarks to reduce market power.

IV. THE PROTECTION OF IP FROM A DEVELOPING COUNTRY PERSPECTIVE

With the recent prominence of TRIPs negotiations as part of the Uruguay Round, increasing attention has been paid by economists to the tradeoffs at the international level of increased IP protection particularly including the perspective of developing countries.

Given the paucity of data on such matters in developing countries and the fact that in most developing countries, recent legislative reforms involving increased domestic IP protection provide insufficient time in which to make a "with" and "without" assessment, nevertheless, a num-

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26. Semiconductor Chip Protection Act, 17 U.S.C. §§ 901-914 (1984).
27. *See* 17 U.S.C. § 111(c)(1); 17 U.S.C. § 801(b)(1)(A).
28. Maskus, *supra* note 21, at 32-33.

ber of recent efforts have been made to develop models to analyze[29] the problem or to itemize the various pros and cons that developing countries should consider in general in deciding on an appropriate level of protection.[30]

In the latter case, Primo-Braga has assembled a reasonably comprehensive list of factors that developing countries should consider in their IP policy.

On the cost side, any acceleration of IP protection may involve increased royalty payments based on licensing agreements which would be particularly important for countries at the earlier stages of development that are largely dependent upon imported technology,[31] while many of those at a more advanced stage are already facing substantial outflows due to large debt service. However, without protection, those who are willing to license will tend to charge higher royalties because of the higher risk of loss. This is an area on which further empirical research would be helpful.

Secondly, tighter enactment and enforcement of IP laws could displace to a variable extent, depending upon local circumstances, local "pirates" for on-patent products on the assumption that most excess demand would be obtained by foreign IP holders. An attempt to quantify the impact of this across seven countries (Argentina, Mexico, Brazil, India, Korea, Taiwan, and Singapore) was made in 1985 for a variety of industries using somewhat questionable assumptions of price elasticities of demand, market size and the fact that private domestic firms would not survive a tightened level of IP protection.[32] This resulted in revenues foregone to IP holders in 1985 for all seven countries of $1.7 billion for the pharmaceutical industry and $0.5 billion for the software industry, with lesser amounts for a range of other industries (e.g., agrochemicals, book publishing, audio, video, etc.). Nevertheless, these numbers should be looked at with some caution given the questionable methodology employed.

A third perceived cost of strengthened IP protection would be the risk of fostering anti-competitive effects through the exercise of market power to reduce output, raise prices, and repatriate the producer surplus

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29. ISHAC DIVAN AND DANI RODRIK, PATENTS, APPROPRIATE TECHNOLOGY, AND NORTH-SOUTH TRADE, (PRE WORKING PAPER SERIES, No. 251 The World Bank 1989); R.M. Feinberg et al., *The Economic Effects of Intellectual Property Rights Infringement*, JOURNAL OF BUSINESS, Jan. 1990, at 79-80.

30. C. Primo Braga, *The Developing Country Case for or Against Intellectual Property Protection in* STRENGTHENING PROTECTION OF INTELLECTUAL PROPERTY IN DEVELOPING COUNTRIES 69-87 (World Bank 1990).

31. Less than one percent of existing patents are held by nationals of developing countries in OECD, *Economic Arguments for Protecting Intellectual Property Rights*, TC/WP (88)70 (1989).

32. INTELLECTUAL PROPERTY RIGHTS: GLOBAL CONSENSUS, GLOBAL CONFLICT? 378-407, (R. Michael Gadbaw and Timothy J. Richards eds., 1988) [hereinafter INTELLECTUAL PROPERTY RIGHTS].

beyond consumer price increases that might be expected as part of adding IP costs to products which, for an industry like pharmaceuticals, could have a substantial impact on the poorer segments of the society. However, in practice this effect could be mitigated in many cases by the availability of a competing substitute that may already be off-patent, particularly with respect to pharmaceuticals.

An additional consideration would concern the non-use of patents, for example, in a particular country which could lead to the use of compulsory licensing under certain circumstances (e.g., reasonable time period for non-use without adequate explanation) though these devices in turn are subject to abuse by developing countries particularly with the setting of artificially low royalty payments. Moreover, where a patentee satisfies the working requirement through importation, there should be little justification for a compulsory license.

Finally, arguments have been made to the effect that IP reform could result in the bidding up of the price of domestic R&D capacity as a result of greater protection thereby having a counterproductive impact on income distribution, though hard evidence is not available to support such a theory.

On the benefit side, the most common argument given for increasing IP protection has been its expected impact on technology transfer on the assumption that multinationals would be more likely to license technology and/or engage in joint ventures where their technology is adequately protected.[33] A more recent survey undertaken by E. Mansfield[34] shows similar results for multinationals though with a clear distinction between industries such as pharmaceuticals and chemicals where R&D costs are high but subsequent entry costs lower causing high reluctance to invest vs. other industries with opposite characteristics.

A second reason given for strengthened IP protection involves its alleged impact on domestic R&D in developing countries. However, strong empirical evidence to support this proposition is not yet available partly because it is too early to measure the impact of IP reform on domestic R&D in countries such as Mexico and Brazil.[35] Nevertheless, some anecdotal evidence suggests that many domestic firms welcome strengthened IP protection as a result of greater confidence in greater investment in R&D and affiliations with research parks and universities in addition to less concern that domestic employees will be hired away in the absence of

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33. 75 percent of respondents of multinational manufacturing enterprises cited inadequate IP protection as a significant problem for licensing to developing countries; *see* OECD, *International Technology Licensing: Survey Results*, mimeo, table 40, (August 1987).

34. E. Mansfield, research project funded by the International Finance Corporation (IFC) to be completed in May, 1993.

35. However, the case of Italy is instructive in that prior to 1979 it provided no patent for pharmaceuticals, but since that time, Italy has become one of the leading producers of new pharmaceutical products in the world.

trade secret legislation, for purposes of a competitor obtaining secret formulas, customer lists, etc.[36]

A third rationale for IP protection has been the greater likelihood that more information would be diffused in the domestic economy concerning technology developments though it is not clear that a developing country could not avail itself of good library facilities overseas dealing with patents to achieve the same objectives as in the case of Brazil.[37]

While a number of less important benefits are sometimes cited,[38] the most important remaining factor concerns the trade impact of IP protection (the so-called "marriage of convenience") which arises as a result of the threats and/or actual actions that developed countries have taken (e.g., the U.S. and the EC) on a bilateral basis in the face of inadequate IP protection. While this element goes beyond purely economic arguments, the practice of imposing tariff penalties on even unrelated export goods from developing countries is of sufficient importance to warrant considerable weight in the policy debate of developing countries and which has already resulted in substantial IP reforms particularly in the Far East.

V. MEXICO

Over the past fifteen years, the legal regime providing for IP protection in Mexico has undergone radical changes in the direction of enhancing such protection to the point where it substantially exceeds the level of protection provided by most other developing countries, and indeed, begins to match, at least in some initial areas, the kind of protection provided in the U.S. The evolution of such reforms[39] can be traced to a number of factors including: (a) the aftermath of the debt crisis that Mexico experienced in the early 1980s when it became clear that a substantial opening up of its economy both with respect to trade and foreign investment, including technology transfer, was required to improve international competitiveness of its domestic industry, and in the late 1980s to reduce levels of inflation; (b) as part of that process, Mexico's accession to the GATT in August 1986 as a developing country and its consequent effect on overall trade reform and in Mexico's participation in the Uruguay Round begun in 1986 in Punta del Este including TRIPs negotiations; (c) Mexico's receipt of technical assistance from WIPO to reform its IP regime, which oversees the Paris and Berne Conventions to which

36. SHERWOOD, *supra* note 1, at 132-149.

37. *Id.* at 56.

38. *See* Braga, *supra* note 30, at 83.

39. *See* Gretchen A. Pemberton and Mariano Soni, Jr., *Mexico's 1991 Industrial Property Law*, 25 CORNELL INT'L L.J. 103, 104 (1992); John McKnight and Carlos Müggenburg, R.V., *Mexico's New Intellectual Property Regime: Improvements in the Protection of Industrial Property, Copyright, License and Franchise Rights in Mexico*, 27 INT'L LAW. 27 (1993) (for a detailed discussion of the background to the recent legal reform in the IP area in Mexico).

Mexico is a signatory; and finally (d) bilateral negotiations with the U.S. on trade and investment culminating in Mexico's inclusion in USTR's "priority watch" list under Section 182 of the Omnibus Trade and Competitiveness Act of 1988 (Special 301), all of which subsequently led to the major legislative reforms in all areas of IP protection in Mexico in 1991. Thus, it was a combination of both external and internal pressures (including domestic industries who saw advantages from their own perspective in increased IP protection)[40] that led to the IP reforms in Mexico in the past year.

A. *Patents, Trademarks and Trade Secrets*

Until July of 1991, Mexico's overall IP regime was governed by the Law on Inventions and Trademarks[41] which was subsequently amended in 1987,[42] and clarified as part of regulations issued to implement the 1987 amendments. Overall, this law and its amendments were considered to be deficient in a number of respects.[43]

Mexico provided protection for inventions through patents (both process and product) and through what were called certificates of invention which provided royalties to the holders of the certificate from anyone using the invention under a non-exclusive license. Up until July 1987, no certificate of invention had ever been granted in Mexico.[44] With respect to product and process patents, the 1987 amendment provided for inclusion of the following but only after 1997:

> 1. Biotechnological processes to obtain the following products: pharmaceutical and chemical products, medicines in general, beverages and food for animal consumption, fertilizers, pesticides, herbicides, fungicides or biological-activity products;
> 2. Genetic processes to obtain vegetables and animal species or varieties thereof;
> 3. Chemical products;
> 4. Chemical and pharmaceutical products, medicines in general, beverages and food for animal consumption, fertilizers, pesticides, herbicides, fungicides, and biological-activity products.[45]

The 1991 law[46] both did away with the 1997 target date and ex-

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40. INTELLECTUAL PROPERTY RIGHTS, *supra* note 32, at 238-244.

41. Ley de Invenciones y Marcas, D.O. [Official Federal Diary of Mexico] (10 February 1976) [hereinafter 1976 LAW].

42. SECRETARIA DE COMERCIO Y FOMENTO INDUSTRIAL, Decreto por el que se Reforma y Adiciona la Ley de Invenciones y Marcas, D.O. (16 January 1987) [Directive to Reform and Amend the Law on Inventions and Trademarks].

43. For an assessment of the IP laws prior to 1991, *see* USITC, REVIEW OF TRADE AND INVESTMENT LIBERALIZATION MEASURES BY MEXICO AND PROSPECTS FOR FUTURE UNITED STATES-MEXICO RELATIONS, INVESTIGATION NO. 332-282, 6-3 - 6-5, (1990) [hereinafter USITC, U.S.-MEXICO REVIEW].

44. INTELLECTUAL PROPERTY RIGHTS, *supra* note 32, at 253.

45. USITC, U.S.-MEXICO REVIEW, *supra* note 43, at 6-2.

46. Ley de Fomento y Proteccion de la Propriedad Industrial, D.O. (June 27, 1991)

panded coverage to include:

> alloys; chemicals in general; pharmaceuticals, drugs, agriculture chemicals and products with a biological activity; foods and beverages in general, including those for human consumption, biotechnological processes to obtain pharmaceuticals, drugs, food and beverages, agriculture chemicals, and products with a biological activity (these were previously protectable under a certificate of invention, but these certificates have disappeared from the Mexican law); peanut varieties; microorganism-related inventions; genetic methods to obtain plant varieties; and compositions of matter in general . . . . The new law provides for restrictions to patentability in the case of the following types of inventions, all relating to living matter: essentially biological processes involving plants, animals and their varieties; genetic methods regarding biological material capable of self-replication; plant species and animal brands and species; biological material, as found in nature; genetic material; and inventions regarding the living matter of the human body.[47]

Complementing this broadened scope of coverage of the new law is the inclusion, for the first time of a definition of invention namely "every human creation that allows matter or energy existing in nature to be transformed, for exploitation by man, through the immediate satisfaction of a specific need. Included among inventions are processes or products for industrial application."[48] Inventions must also meet a test of novelty and be the result of inventive activity. Novelty is preserved for up to twelve months, provided that within twelve months prior to the filing date of the patent application, or in such case, of the recognized priority date, the inventor or his assignee had disclosed the invention by any communication medium or had exhibited it at a domestic or international exhibition.[49] Specifically excluded from inventions are theoretical or scientific principles, discoveries consisting of making known or disclosing something that already existed in nature; schemes, plans, rules and methods to perform mental feats, games or businesses; computer software, forms of presentation of information; aesthetic creations and artistic or literary works; the methods of surgical or therapeutic treatment or diagnosis applicable to the human body . . . ; the juxtaposition of known inventions or mixtures of known products.[50] The duration of the patent has been increased to twenty years from the date of filing though given the long time to process an application (three to five years under the old system), the net effective life of the patent may be substantially less. The term of the patent for pharmochemical or pharmaceutical products may be extended by three years if the patent owner grants a license to a corporation with majority Mexican capital subject to other procedural re-

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[hereinafter 1991 LAW].

47. WORLD INTELLECTUAL PROPERTY REPORT (BNA), 236 (Sept. 1991).

48. 1991 Law, *supra* note 46, Art. 16 (translation).

49. *Id.* arts. 15 & 18.

50. *Id.* art. 19.

strictions.[51] The new law also provides, for the first time, for the protection of utility models with ten year protection and industrial designs and models with fifteen year protection but only covering domestic novelty, a distinction not explained or justified.[52]

Another major area of reform has been in the area of compulsory licenses, which are permitted under the Paris Convention under certain circumstances but can be refused if the patentee justifies his inaction for legitimate reasons.[53] Under the 1976 law, as amended, the Mexican Patent and Trademark Office (MPTO) could issue a compulsory license to a third party:

> (1)where a patent holder has not satisfied the working requirements
> (2)exploitation of the patent has been suspended for six months
> (3)exploitation of the patent does not satisfy the national market, and
> (4)the patent is not being used in the export market and someone has expressed an interest in using the patent for exports.[54]

The provisions for compulsory license now come closer to the provisions of the Paris Convention (though there is still a public interest basis for a compulsory decision) in that there is no obligation to work a patent but compulsory licenses are available to third parties under the same Paris Convention conditions with the addition that the patentee would have an additional one year following notice of the request for a compulsory license to begin working the patent.[55] However, of considerable significance is the provision in Article 70 of the amended 1976 law which recognizes the act of importation as precluding the use of compulsory licenses.

With respect to trademarks, most of the objectionable features in the 1976 IP law were removed by the 1987 amendment including the compulsory linkage of foreign marks to Mexican marks.[56] Under the new law, the term of registration is increased from five to ten years, the registration will lapse if the mark is not used for three consecutive years at any time during the ten year period, without adequate justification, and marks would be non-registrable that are confusingly similar to well-known marks in Mexico. Further, under the new law, nullity actions have been foreclosed based on the fact that the registration was granted in violation of any provision of the law at the time the registration was granted, thereby removing great uncertainty amongst mark owners.[57]

With respect to trade secrets, prior to the 1991 law, protection was very limited as a result of a vague definition of what constituted a trade

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51. WORLD INTELLECTUAL PROPERTY REPORT, *supra* note 47, at 236.
52. *Id.* at 238.
53. Paris Convention, *supra* note 7, art. 4.
54. USITC, U.S.-MEXICO REVIEW, *supra* note 43, at 6-2.
55. 1976 Law, *supra* note 41, art. 71.
56. INTELLECTUAL PROPERTY RIGHTS, *supra* note 32, at 263.
57. WORLD INTELLECTUAL PROPERTY REPORT, *supra* note 47, at 239.

secret and by deduction a violation of such, a threshold of burden of proof on the plaintiff to demonstrate a violation against third parties, cumbersome procedures through the MPTO to investigate violations, and finally the absence of preliminary remedies such as injunctions to prevent injury while a trade secret investigation is underway.[58]

The 1991 law includes significant changes in the trade secret protection regime. To begin with, trade secrets are now more clearly defined to include any information having industrial utility that is kept in confidential fashion, regarding which sufficient means or systems have been undertaken to preserve its confidential nature and limit access thereto. The trade secret must necessarily relate to the nature, characteristics or purposes of products, production methods or processes, the means and forms of distribution or trade or the rendering of services.[59]

Secondly, both the firm hiring an employee that is allegedly "bringing" the trade secret to this new position as well as the employee would be liable for trade secret violation. Furthermore, technology transfer agreements would be permitted to include confidentiality clauses[60] which in the past required special government approval if the agreement exceeded ten years.[61] On the other hand, protection is only provided for trade secrets that are reduced to documentary form (i.e., no intangible protection). Moreover, no specific provision was made for preliminary injunctions to reduce the impact of the violation.

While the above measures have certainly strengthened the legal framework for IP protection, unless this is accompanied by improvements in enforcement effectiveness, the impact of such changes will be seriously undermined.

Under the previous law, which provided for both civil and criminal penalties for patent and trademark violations, the time required to pursue civil or criminal actions was so lengthy that the vast majority of suits were settled to avoid years of delay involving administrative review within the MPTO followed by a layer of appeals through the court system (including a substantial number of recourses necessitating a restarting of proceedings). Moreover, even though criminal prosecutions could be commenced simultaneously with civil action, the prosecution could only proceed once the civil actions were completed.[62] On the other hand, the law did provide for temporary relief in the form of the prohibition of sale of infringing products by the MPTO and/or the seizure of the infringing products and closure of stores selling such items under certain circum-

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58. USITC, U.S.-MEXICO REVIEW, *supra* note 43, at 6-16.

59. WORLD INTELLECTUAL PROPERTY REPORT, *supra* note 47, at 238 (reflecting a translation of art. 82 of the 1991 law).

60. *Id.* art. 84.

61. USITC, U.S.-MEXICO REVIEW, *supra* note 43, at 6-16. The Law on the Control and Registration of the Technology Transfer (D.O., January 11, 1982) has been repealed.

62. For a more detailed treatment of the enforcement problems under the old 1991 law, see USITC, U.S.-MEXICO REVIEW, *supra* note 43, at 6-8 to 6-9.

stances.[63] Nevertheless, the inadequate staffing, both legal and technical, of the MPTO contributed substantially to the general delay in enforcement. As of 1988, MPTO had 330 employees in its patent examination division to handle roughly 500 applications, of which ninety percent were foreign.[64]

Under the new law, enforcement measures have been strengthened through stronger procedures for inspection authorized by the MPTO to seize infringing goods, a simplified system of launching criminal prosecution whereby only an opinion from the MPTO rather than a time-consuming administrative declaration is required, and the inclusion of trade secrets violation as a criminal offense.[65] Specific fines, shutdowns and administrative imprisonment for infringement have been included.[66] Finally, the new law proposes the creation of a new Industrial Property Institute which would provide support for the promotion of technology development and research and development as well as begin to take on some of the functions of the understaffed and underresourced MPTO. A special study financed by the World Bank is underway by WIPO to ascertain the appropriate role for the new Institute in addition to examining the need for judicial reform in this area.

While all these measures are welcome, it is still too early to judge their efficacy, particularly since accompanying regulations are still tobe issued, though they represent a significant step in the right direction.

B. *Copyright*

Copyright protection is provided by Article 28 of the Mexican Constitution and the Law Amending the Federal Law of Copyright of December 23, 1956 (as amended up to December 30, 1981).[67] On July 3, 1991 the law was again amended to deal with some of the weaknesses of the earlier law. Mexico is already a member of the Rome, Berne, Universal Copyright and Geneva Phonogram Conventions. Overall, Mexico's Copyright Law, even prior to the latest amendments, was considered to be quite comprehensive, and as elsewhere in Latin America, more so than its corresponding laws on patents, trademarks and trade secrets.[68]

Nevertheless, the International Intellectual Property Alliance (IIPA) estimated losses to piracy by U.S. firms (excluding, of course, other non-U.S. foreign firms and domestic firms) at US$263 million per year composed primarily of losses for the recording industry (US$75 million), motion pictures (US$88 million) and most importantly computer software

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63. *Id.* at 6-8.

64. INTELLECTUAL PROPERTY RIGHTS, *supra* note 32, at 253, 256.

65. WORLD INTELLECTUAL PROPERTY REPORT, *supra* note 47, at 240.

66. Pemberton, *supra* note 39, at 103; Ley de Fomento y Proteccion de la Propriedad Intellectual, Art. 214, *supra* note 39.

67. Law Amending the Federal Law of Copyright, D.O. (11 January 1982).

68. USITC, U.S.-MEXICO REVIEW, *supra* note 43, at 6-10.

(US$100 million).[69] Though these numbers may represent negotiating tools, they can be largely explained by discrete lacuna in the Copyright Law which, for the most part, have been filled by the most recent amendments but whose enforcement is still found to be lacking. These involve for the first time the inclusion of sound recordings as protected works as well as the producer of records[70] and computer programs.[71] Moreover, in order to overcome the losses to movie owners in the U.S. as a result of unauthorized reception and retransmission of broadcast signals from U.S. and Intelsat satellites by hotels and resorts in Mexico for the benefit of paying guests, the definition of public performance has been tightened to include representatives or performances when it is presented by any means to audiences or spectators without restricting it to persons belonging to a private group.[72] However, probably the most important change in the new law was the significant increase in the level of criminal penalties for copyright infringement with many violations carrying prison terms of six months to six years and fines up to 500 times the minimum daily general salary or US$2,000, which is still small but a substantial increase over the historical fine of US$4.00 which had eroded over time due to inflation.[73] Nevertheless, for these reforms to have an appropriate impact, they will have to be accompanied by the strengthening of the Prosecutor's Office, Mexican police and the Copyright Office.

VI. CHILE

As in the case of most of the rest of Latin America, Chile struggled through most of the 1980s as a result of a legacy of excessive foreign debt, insufficient exports to compensate for the fluctuation in export earnings from copper, its primary export item, and insufficient foreign direct investment partly the result of the presence of a military dictatorship for most of the decade. Nevertheless, Chile was one of the first Latin American countries to launch an "adjustment" program partially funded by the International Monetary Fund (IMF) and the World Bank involving substantial cuts in public expenditures, reductions in tariff protection and measures to boost exports, further privatization efforts, and special incentives to attract foreign direct investment through such measures as debt/equity swaps. The process of adjustment has been completed for a number of years, and as a result, Chile has enjoyed average growth rates of GDP in excess of six percent over the past two to three years, coinciding with a return to democracy in 1989.

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69. IIPA, REPORT TO SECTION 301 COMMITTEE OF THE OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE, February 25, 1992 at 61 in which it recommended that Mexico be placed once again on the Special 301 *Watch List* from which it was removed in January 1990 when the Mexican government first outlined its planned reform in its 18 regions in its "Industry and Trade Sectoral Plan."

70. Law Amending the Federal Law of Copyright, art. 83 D.O. (July 9, 1991).

71. *Id.* art. 7.

72. *Id.* art. 72.

73. *Id.* arts. 135-143.

As part of its more outward looking strategy, Chile has sought more direct trading ties with its major trading partners, particularly the U.S. As a result of the Enterprise for Americas Initiative (EAI) announced by the U.S. in 1990, Chile signed a framework agreement with the U.S. on October 1, 1990 which established a U.S.-Chile Council on Trade and Investment with the objective to monitor trade and investment relations, open markets between the two countries and negotiate agreements when appropriate. The Council's agenda includes cooperation in the Uruguay Round of multilateral trade negotiations in the GATT, increased market access, adequate and effective protection for IP rights, investment policy, and the reduction of barriers to trade and investment in the hemisphere.[74] The backdrop to this initiative is that both countries have been exploring the possibility of concluding a free trade agreement following the lead provided by Mexico. Chile has made a conscious decision to seek closer trade ties with the U.S. rather than with its immediate neighbors that make up the proposed Mercado del Cono Sur (Brazil, Argentina, Uruguay and Paraguay) to take effect in 1994/95 on the grounds that it wishes to associate itself with the more stable policy environment of its potential North American FTA partners.

As with the rest of Latin America, Chile has also actively participated in multilateral trade negotiations in the GATT, and on January 23, 1991, Chile's Parliament approved Chile's accession to the Paris Convention.[75] Nevertheless, it is clear that the accelerated bilateral discussions with the U.S. have been instrumental in promoting recent reforms of Chile's IP laws.

A. *Patents and Trademarks*

Up until this year, Chile's patent and trademark protection had been governed by the 1931 Law.[76] However, through a major change in its legislative framework, the Chilean Parliament passed a new IP law on January 25, 1991[77] followed by detailed regulations on September 30, 1991 which signalled the formal effectiveness of the law. While the old law covered many of the traditional elements of a typical IP law, the new law is noteworthy for a number of significant major reforms.

To begin with, for the first time, the new law includes the possibility of protection for pharmaceuticals by virtue of it not being included in a list of negative items (articles 38 and 39) such as scientific theories or inventions that are contrary to morality or public order. As in many other countries, the inclusion of pharmaceuticals in an IP law was hotly contested, particularly by the domestic Chilean pharmaceutical industry (ASILFA) which saw the inclusion as a threat to its own livelihood as well

74. 4 WORLD INTELLECTUAL PROPERTY REPORT, 245 (1990).
75. *Id.* vol. 5, at 55.
76. Decree Law 958.
77. Law 19.039.

as from the public at large which feared that the cost of pharmaceuticals would skyrocket making them unaffordable to the poorer segments of the population.[78] Partly to deal with the possibility of monopoly pricing once protection was established, the law provides (article 51) for compulsory licenses with a guaranteed minimum royalty when abuse of market power is evident. Moreover, when a pharmaceutical patent has been filed abroad, an application may be filed only when the foreign application postdates entering into force of the new law.[79] Finally, the duration of all patents is fifteen years from the date a patent is granted, or less than the seventeen years from the date a patent application is granted as in the U.S.

A further significant change in the new law involves the establishment of an Arbitral Tribunal (article 17) to hear appeals of some of the administrative decisions of the Industrial Property Office, the agency responsible for administering the law. The Tribunal is composed of three members (two ministerial appointments and one lawyer elected by the Court of Appeals in Santiago) for two year terms with an arrangement to meet as often as necessary. This should speed up the process of administrative review of patent decisions.

With respect to trademarks, minor improvements have been included (articles 23 to 26) involving improved protection for well-known marks and the extension of the period of cancellation from two to five years. As before, there would be no compulsory licensing of unused marks.

Finally, fines of between US$4,000 and US$40,000 would be available for any kind of infringement (articles 28 and 52). However, no implicit treatment is given for trade secrets in the new law, though as in Argentina, this is covered under the Penal Code.

B. *Copyright*

Chile is a signatory to the Berne Convention, the Universal Copyright Convention, the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations, and the Geneva Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication.[80]

Chile's copyright protection is contained in Law No. 17.336 as recently amended by Law No. 18.957 of February 22, 1990 and the accompanying Regulations. The law protects seventeen different categories of

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78. A detailed study prepared by the Universidad Catolica de Chile, EFECTOS DE LAS PATENTES DE MEDICAMENTOS SOBRE EL MERCADO FARMACEUTICO Y SU IMPACTO SOBRE LA SALUD Y EL GUSTO FISCAL (1987), concluded that patenting of pharmaceuticals would entail an additional cost of between US$5 to US$18 million for royalty payment per annum as well as up to US$7 million per year in government subsidies and other expenditures. There is considerable dispute within Chile, however, over some of the assumptions of the study.

79. Law 19.039, *supra* note 77, arts. 34-38.

80. For a detailed assessment of the Chile Copyright laws, see IIPA, COPYRIGHT PIRACY IN LATIN AMERICA 48-57 (1991).

works (article 3) including for the first time, as a result of the most recent amendment, computer programs and videograms, a significant development. As in the Berne Convention, the Chilean law also provides for moral rights (articles 14 to 16). However, unlike the Berne Convention, the duration of protection extends only to the life of the author plus thirty years rather than the more typical fifty years, though a bill is now pending to achieve the latter.

The copyright owner enjoys the exclusive right of publication (broadly defined), reproduction, adaptation and performance (article 18). Moreover, in a somewhat unusual feature, a Chilean author of a painting or sculpture has the inalienable right to receive five percent of any increase in price realized when the work is sold at a public sale or through an established dealer.[81] The present law protects the rights of all Chilean authors and of foreigners domiciled in Chile. The rights of foreign authors not domiciled in Chile enjoy the protection to which they are entitled by virtue of the international conventions that Chile has subscribed to and ratified.[82]

Violations of the law are punishable by fines for a maximum of $1,900 (article 78) as well as the possibility of minor imprisonment (article 79). However, for a copyright owner to avail to these rights, registration with the Register of Intellectual Property is mandatory (article 72).

Overall, Chile's copyright protection, particularly with the inclusion of computer programs, appears to be broadly satisfactory with the exception of the life plus thirty duration requirement, the need for some greater precision in the definition of what is covered, and more effective penalties for infringement.

VII. ARGENTINA

Unlike Mexico and Chile, Argentina is still in the process of undergoing a substantial adjustment program to deal with high levels of foreign debt, a stagnant economy and excessive amounts of external protection that permitted the survival of inefficient domestic industries that also benefitted from special subsidies. Whereas Mexico and Chile have largely completed their adjustment programs and fashioned more outward looking economies in anticipation of adherence to free trade agreements with the U.S. and Canada, Argentina is still in the process of improving the public fiscal position through a massive program of privatization, cuts in fiscal expenditures, elimination of special tax incentives for industries, and reduced tariff protection to allow for greater import competition to improve domestic efficiency.[83] Moreover, Argentina has decided for the

81. Law No. 18.457, art. 36.

82. *Id.* art. 2.

83. Despite these lags in adjustment, Argentina has begun to enjoy the substantial flows of foreign direct investment and repatriation of capital which Mexico and Chile have been enjoying for some time.

time being to pursue a regional economic trade bloc, the Mercosur, as part of its new outward looking strategy as opposed to seeking direct free trade links with the U.S. and Canada as Mexico and Chile have, though the Mercosur countries signed the EAI Framework Agreement on Trade and Investment in June 1991. Moreover, on November 14, 1991, Argentina signed a Bilateral Investment Treaty (BIT) with the U.S. which guarantees equal treatment between foreign and domestic investors in addition to provision for international arbitration. Given Argentina's predominantly agricultural base, which provides for the bulk of its exports, in its trade relationships with developed countries, it must face a very elaborate set of protectionist barriers in economies such as the European Community and the U.S. which clearly affect its willingness to offer concessions in other areas such as IP. Nevertheless, Argentina was subject to a Section 301 investigation on pharmaceutical patent protection in 1988 which was withdrawn in 1989 based on expectations of legislative reform, though Argentina was placed on the "Special 301" watch list in 1989 and remains there.[84] As in most Latin American countries, the evolution of IP protection has been more pronounced in the case of copyright rather than patent law, though both still have shortcomings as discussed below. This is particularly true in Argentina, an agriculturally-based economy that would benefit from biotechnology applications to its animals and crops and which also has a long tradition of literacy and cultural development.

A. *Patent Protection*

Argentina's patent law protection dates back to October 11, 1864 with the passage of its first patent law[85] which, aside from minor amendments, has not been substantially modified despite the fact that Argentina acceded to the Paris Convention in 1966[86] but has not made changes in its legislation to conform to the Convention's obligations. Nevertheless, over the years, new patent laws have been proposed to the Congress, none of which has yet been adopted. However, partly in response to the Special 301 pressure, the Menem government recently (October 10, 1991) sent a new law to the Argentine Congress which addresses many of the long-standing objections to the Argentine Law.[87]

The existing law provides patent protection for inventions and designs based on novelty criteria, covering both product and process patents. However, the law (article 4) specifically excludes product patent protection for pharmaceuticals in addition to computer programs and, of

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84. OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE, 1992 NATIONAL TRADE ESTIMATE REPORT ON FOREIGN TRADE DIVISION 8.

85. Patent Law No. 111.

86. INTELLECTUAL PROPERTY RIGHTS, *supra* note 32, at 125.

87. Draft patent law and accompanying explanatory statement submitted to Congress by Domingo F. Cavallo, Minister of Economy and Public Works and Services, and Avelino Jose Porto, Minister of Health and Social Action, on October 10, 1991.

course, items which violate Argentine law or morals. However, under the proposed new law, the restrictions on *product* patent protection on pharmaceuticals is being eliminated (by simply not explicitly mentioning it).[88] Given Argentina's long standing hostility to such a move, this represents a major change in thinking, though respected independent think tanks in Argentina such as the Fundacion de Investigaciones Economicas Latinoamericanas (FIEL) had already reached similar recommendations based on an economic analysis.[89] Specifically, since over ninety percent of pharmaceutical products sold in Argentina are off-patent, any price increases resulting from enhanced protection would only apply to a small fraction of the products on the market.

The present law provides for patent protection for up to fifteen years (no extension) while design patents are good for five years with the possibility of two to five year extensions. The new law is proposing an increase to twenty years from the date of filing.

Another aspect of the Argentine law that has been criticized[90] was the provision (article 47) whereby a patent lapses if not worked within two years from the date of issuance, or if there is more than a two year interruption in working the patent. This was not in conformity with Article 5A(3) and (4) of the Paris Convention, and as a result of the proposed new law (Article 46) provides for compulsory licenses only after three years following patent issuance or four years after filing where the invention has not been exploited (barring force majeure) and no serious effort has been made to exploit it. Nevertheless, the proposed law goes on to suggest that compulsory licenses will be granted when there is an abuse of market position or price discrimination that could itself lead to abuse. It is also unclear as to whether parallel imports would be permitted, a particular concern in the light of developments concerning Mercosur. On a positive note, the proposed law contains "pipeline" protection (Article 101) for patent applications that are covered under the proposed law but not under the existing law provided they are submitted within a year of the effectiveness of the proposed law and that exploitation of the invention or importation on a commercial scale has not begun.

A further area of criticism of the present law has been in the area of remedies and their enforcement. Specifically, the present law does not allow for preliminary injunctions in infringement cases, the burden of proof lies with the infringed party and remedies include only a maximum criminal sentence of one to six months, and a fine of 500 pesos (US$500). While the contours of the proposed new law still must await its passage and the promulgation of the companion regulations, the proposed law

88. Process pharmaceutical patents are already available but this provides very little protection since pharmaceutical products can be manufactured in many different ways that such protection can be circumvented.

89. FIEL, PROTECCION EN LOS DOS DERECHOS DE PROPRIEDAD INTELLECTUAL - EL CASO DE LA INDUSTRIA FARMACEUTICA EN LA ARGENTINA, (1990).

90. INTELLECTUAL PROPERTY RIGHTS, *supra* note 32, at 126-7.

does include (Article 76) a modest increase in penalty from six months to three years incarceration in addition to an unspecified level of fine.[91]

Finally, although Argentina is a signatory to the Patent Cooperative Treaty (PCT), the treaty has not been ratified and thus has no effect in Argentina.

It is worth noting that neither the existing or proposed law provides any protection for trade secrets, nor for mask works. However, trade secrets and know-how are recognized as property rights under article 2312 of the Civil Code and are in theory protected under article 156 of the Penal Code.

Argentina registers both trademarks and service marks, and trademark registration is valid for ten years and renewable for additional ten year periods, though violations are subject to imprisonment of one month to one year and a fine also of 500 pesos.

B. *Copyright*

The protection of copyrights in Argentina is based on Law 11,723 enacted on September 23, 1933 and since amended, supplemented by special laws, and clarified in case law, remains in effect.[92] Argentina acceded to the Buenos Aires Convention in 1950, the Universal Copyright Convention in 1958, the Berne Convention in 1967 (the 1948 Brussels text but not the 1971 Berne text), the Geneva Phonograms Convention in 1973, and the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations in 1992.[93]

Article 1 of the Copyright Act covers writings of any nature or length; dramatic works, cinematographic, choreographic and pantomime works; drawings, paintings and works of sculpture; works of architecture and of art or sciences applied to commerce or industry; printed matter, plan and maps; plastic works, photographs, engravings and phonograms; and all scientific, literary, artistic or educational productions regardless of medium.[94] To be copyrightable, the work must contain a minimum amount of originality and novelty, and be expressed in a material form which can be perceived by others.[95] Excluded from coverage are computer programs, though the National Registry of Copyright has accepted applications to register computer programs, as well as compilations and databases which tend to be granted protection under case law though two bills are now pending in Congress which would include protection for computer

91. In addition, the administrative machinery that is responsible for the examination and granting of patent applications needs to be substantially improved.

92. MELVILLE B. NIMMER AND PAUL EDWARD GELLER, INTERNATIONAL COPYRIGHT LAW AND PRACTICE §1, at 8 (1992).

93. For a detailed evaluation of the Argentine Copyright Law, see IIPA, *supra* note 80, at 21-30.

94. NIMMER, *supra* note 92, §2(2) at 20.

95. *Id.* § 2(2) at 10-11.

programs.[96]

> Foreign works are eligible for protection in Argentina as long as the author belongs to a country which recognizes copyright and the author of the foreign work meets any formalities of the country of origin. Such unilateral protection provides full protection to works published in the United States after 1933 as long as those U.S. works comply with U.S. formalities.[97]

Article 2 of the Copyright Act provides for the exclusive rights of publication, public performance, translation, adaptation and reproduction. But the definition of public performance refers only to the radio telephonic transmission, cinematographic exhibitions, television transmissions, or any other method of mechanical reproduction of any literary or outside work but does not include any express provision for communication to the public by wire.

With respect to duration, the Copyright Act provides for protection for the life of the author plus his heirs for fifty years (Article 2), a "normal" period by comparative standards, but photographic works receive only twenty years while cinematographic works only thirty years (Article 34).

Article 57 requires publishers of works to register and deposit copies of their works at the Argentine National Copyright Registry within three months of the date of publication, or face a fine and suspension of the author's economic rights (Article 63).

With respect to enforcement, the Copyright Act (Articles 72, 73 and 75) provides for preliminary injunctions and confiscation of infringing works as well as criminal sanctions involving imprisonment from between one month to one year, and a fine of 1,000 pesos. Estimates of U.S. trade losses due to piracy of motion pictures, sound recordings and musical compositions in Argentina are estimated at US$43.6 million[98] involving primarily computer software, video, cable and audio-cassette piracy.

Thus, while Argentina has a long record of IP protection in the copyright area, its legislation should be brought more up to date (in line with the 1971 text of the Berne Convention) to include provision for the coverage of computer programs, compilations and databases, right of public performance to include retransmission by wire, protection against the parallel importation of works, and enactment of stiffer fines.

VIII. CONCLUSIONS

Any cost benefit analysis of the merits of strengthening IP protection must necessarily be country specific though a broad range of factors on both sides of the argument can be identified. On the cost side, developing

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96. *Id.* § 2(3)(b) at 22.
97. IIPA, *supra* note 80, at 24.
98. *Id.* at 22.

countries might anticipate increased outflows of royalty payments on patent licenses for the patents on products which have not yet expired and formerly pirated copyright works, some displacement of local "pirates", and the somewhat remote risk of abuse of market power by virtue of granting of foreign "monopolies". These monopolies, in the absence of compulsory licensing following the expiration of "grace" periods, might lead to higher domestic prices to segments of the local population. The importance of these factors would vary from country to country, but should be the subject of further empirical research.

On the benefit side, evidence suggests that there is a causal connection between levels of investment including licensing of technology, particularly for industries with high R&D costs such as pharmaceuticals, and adequate IP protection. Furthermore, this should lead, in the case of patents, trademarks and trade secrets, to greater confidence by domestic producers that their own R&D efforts would not be lost through infringement. Indeed, in the course of the Uruguay Round talks over the past six years, many developing countries have come to recognize the benefits of increased IP protection for their own economic self-interest. The case of copyright laws is less clear, though by and large, the three countries examined have been more forthcoming in copyright protection given their long established literary traditions. Nevertheless, in the newer areas such as protection for computer programs, external pressure has been required to achieve improved results.

Applying this broad framework to Mexico, Chile and Argentina, all of which are highly indebted but have either completed (Mexico, Chile) or are in the process of completing (Argentina) major economic adjustment efforts that, amongst other things, involve a liberalization of the trade and investment regime, can help explain the recent IP initiative. Thus, in the final analysis, it is probably the "marriage of convenience" between trade and investment reform on the one hand and IP protection on the other, that has had the greatest impact on the IP reform in the three countries.

Specifically, Mexico's desire to enter into a NAFTA agreement with the U.S. and Canada, with the obvious benefit that would entail, was a contributing factor in encouraging adoption of the very "modern" IP law in Mexico in 1991. Chile, and to a lesser extent Argentina, have similar long-term objectives (though for Argentina this may be done in the context of the Mercosur). Moreover, all three countries have been responding to bilateral pressure from the U.S. as part of its "Special 301" initiative.

In the short run, the direct impact of such new legislation (depending, of course, on the extent to which it is enforced) may entail some increased outflows of payments for IP benefits perhaps partially compensated by increased investment flows. However, the recent inclusion of pharmaceutical protection in the laws of Chile, unlike Mexico and Argentina (proposed), would probably not have significant implications for domestic prices particularly in the short run since patents will be enforced only for products not currently manufactured (no "pipeline" protection)

and prices of imitation products produced by local companies in developing countries are sometimes higher than the price of the original product produced by foreign companies. Finally, benefits should also accrue to consumers in the form of higher quality products based on tightened certification requirements.

Nevertheless, in the medium-term, multilateral solutions under a TRIPs agreement as part of the Uruguay Round appear to show the greatest prospect for sustainability in that they provide a forum for developing countries to offer concessions in some areas that have significant financial and balance of payments implications (such as enhanced IP protection) though accompanied by benefits domestically as well, in exchange for concessions by developed countries such as in agriculture, textiles etc. which would provide compensatory export revenue potential for developing countries. Though bilateral pressure, particularly from the U.S., has clearly accelerated the process of IP reform in these countries, a multilateral framework is far more likely to yield long-term benefits to all parties.

In any event, the optimal policy package may be for developing countries to strengthen IP protection while simultaneously reducing other barriers to competition that relate to the non-technical aspects of competitive advantage which would include further liberalization of trade regimes and focussing on antitrust implications of licensing technology. Finally, for such new laws to achieve the results that were originally intended, they will have to be vigorously enforced with appropriate penalties which in turn would require judicial reform in many developing countries including better court administration, reform of procedural and civil codes, and more relevant training for lawyers and judges.