

Trade Policy and Intellectual Property Protection: The North–South Dispute

Do inventors have a right to profit from their inventions? The implications of this question have evoked controversy in recent years, and much of the dispute has occurred between developing and developed countries. The major producers of intellectual property, the developed nations, typically want strong intellectual property protection. Developing nations, which traditionally consume more intellectual property than they produce, prefer not to pay for it. They often want weaker protection. (See the box titled “What Is Intellectual Property?”)

Recently, however, some developing countries have begun to tighten their protection of intellectual property. This article discusses the motives behind these countries’ recent changes and focuses on the experience of Latin American countries in this process. In large part, the bases for these changes involve trade policy.

I argue that two types of linkages between trade policy and intellectual property exist. First, as has often been noted, weak intellectual property laws in developing countries have led developed countries to retaliate with selective barriers to Third World exports. Some developing countries have begun to respond by tightening their intellectual property laws. But there is much that this standard argument cannot explain. Not all countries under the highest pressure to change their laws have changed them. The difference between countries that have not changed and those that have appears to reflect a second type of linkage.

The second type of linkage involves a specific relationship between a country’s trade policy and what it may perceive as its optimum intellectual property regime. When a country tries to develop a range of home industries by protecting them from foreign competition, a loose intellectual property

regime may seem rational. As I will explain, getting the latest technology in such a country may not be easy. Without foreign competition, however, industries may not need the latest technology; without intellectual property protection to hinder them, they can get older technologies for nothing.

But many developing countries are shifting from strong trade protectionism to more liberal trade and foreign investment policies and to an increasing focus on manufacturing exports. For their products to compete more intensely in both domestic and world markets, developing nations must base their products on the latest technology, which they can acquire more easily when they protect intellectual property. In sum, two of my principal arguments are that trade protectionism rationalizes loose intellectual property laws and that trade liberalism rationalizes tight laws.

Why has Latin America preferred weak protection?

During the first two decades after World War II, Mexico, Brazil, Argentina, and most other countries in Latin America followed trade policies focused on *import substitution*, a policy that entailed the protection of local markets with high barriers to imports. Most of these countries continued their adherence to import substitution policies in the 1960s, but by the 1970s, the distribution of trade

Stephen P.A. Brown and David M. Gould offered many helpful comments as reviewers of this article. I also benefited from discussions with Alison Butler, Edwin F. Einstein, Joe W. Pitts III, and Robert M. Sherwood. Any errors or omissions are my own.

What Is Intellectual Property?

Intellectual property has two attributes. First, it is a tangible product of the intellect—an invention, an idea, a product, or a process. Second, a nation's laws say that intellectual property can be owned; it may not be used by others without the owner's permission.

In the most general sense, laws concerning intellectual property address four types: trade secrets, patents, trademarks, and copyrights.¹ Even though each of these four types is different, the lines separating what they protect are often blurred. In the United States, for example, a computer program may be protected either by copyright or patent. Despite these ambiguities, an understanding of the broad distinctions between such laws is useful.

Among the alternatives in protecting intellectual property, the patent is the most powerful. The *patent* is a temporary right to exclude others from using an invention. Patent laws grant this right for only a certain number of years, and it is not unusual for inventors to complain that a patent's duration is not long enough.

The *copyright* is also a temporary right. It is the right to keep others from selling copies of one's creative expression. Pirating copies of copyrighted material—such as films, books, and computer programs—may be among the

most publicized class of violations of intellectual property rights.

A *trade secret* consists of otherwise legally unprotected confidential information that, in a firm's opinion, gives the firm a competitive edge. The trade secret, although possibly not covered or even subject to coverage by patent or copyright law, has demonstrable value; a firm could legitimately claim damage if a departing employee left with the secret and transmitted it to a competitor.

Last is the trademark. The *trademark* is a word or mark that identifies the source of a good or service. The sale of clothing and athletic shoes that display unauthorized trademarks is another of the more publicized classes of intellectual property rights violations. In the United States, protection of trademarks and trade secrets lies principally with the states, as contrasted with the federal protection that dominates for copyrights and patents.

¹ While these four classes of intellectual property law are the most important, there are others. Sherwood (1990) adds a fifth class: laws that protect computer "mask works," or chip designs. It is possible to protect mask works by patent, copyright, or trade secret law, but increasingly, a separate body of law is developing for them. Lesser (1990) also cites a fifth class: special laws that offer patent-like protection to cover bred plant varieties. Lesser does not include mask works as a separate category.

policies among these countries had begun to widen. A few began efforts to develop some manufacturing for export.¹ But for the most part, even these nations persisted with their import substitution policies. It is no coincidence that, through this entire period and into the 1980s, these countries also offered relatively weak and spotty intellectual property protection.

Import substitution and intellectual property.

Latin American countries commonly based import substitution and intellectual property policies on the arguments of Raul Prebisch (1950 and 1959), who maintained that the terms of trade were turning against nations whose chief exports were raw materials, and in favor of exporters of manufactures.

Prebisch counseled continued exports of raw materials together with the development of domestic manufacturing capacity targeted toward the home market. This strategy would not only foster development, but also save foreign exchange. Following Prebisch, Mexico, Brazil, Argentina, and some smaller countries protected

¹ Among the most noticeable such countries were Brazil and Korea.

manufacturers with high tariffs and other barriers.

The protection of their markets gave most manufacturers in these countries little incentive to buy the latest technology because trade barriers barred many of the foreign producers who had it from competing in the developing countries' markets anyway.² Prebisch and his followers counseled weak intellectual property protection, so that the local developing country producers could avail themselves of technology without the discomfort of paying for it.³ Pressures against strong intellectual property protection were not only high and widespread in these countries, but also effective. Local manufacturers might not have been able to get the very latest technology but, for what they could get, the price was right.

Although Latin American and other developing countries have traditionally offered weak intellectual property protection, they have offered some. The difference between the motivations of consuming countries and the motivations of producing countries has made developing-country protection spotty. A country can vary its degree of intellectual property protection among individual products and processes. Developing countries' protection may have traditionally been spotty in order to encourage innovations the country otherwise could not get; spotty protection enabled the country to avoid paying for innovations that would occur anyway.

For example, where an intellectual-property-consuming country's distribution of demands for innovations differs from the producing country's distribution of demands for innovations, the consuming country is motivated to protect (Diwan and Rodrik 1991). Suppose the consuming country demands innovations that are very different from innovations the producing country demands. The producing country may still innovate products the consuming country wants, but only if the consuming country protects intellectual property. If the consuming country has a polio epidemic and the producing country does not, the producing country may still invent a cure for polio, if the consuming country protects the cure.⁴

Suppose a polio epidemic hits both countries. In this case, the producing country and consuming country have identical preferences, so the consuming country has less incentive to protect. The producing country may still innovate what the

consuming country wants because firms in the producing country can at least benefit from innovating when they sell the product at home.

Other arguments for weak intellectual property protection. The case for weak intellectual property protection does not rely solely on the ability to acquire innovations without paying for them. Strong intellectual property protection may also permit monopolistic abuses. Under some conditions, a monopolist may accumulate patents to preserve the monopoly and then allow the patents to "sleep" so as to deter entry into an industry (Gilbert and Newbery 1982). Chin and Grossman (1990) cite cases in which, for innovation-consuming countries like the developing nations, the cost of monopolization more than offsets the contribution that stronger intellectual property protection can make in stimulating cost-saving innovations.⁵

² This relationship between trade protectionism and the demand for new technology has persisted. Using data from a 1981 survey of more than 3,000 Brazilian firms, Braga and Willmore (1991) found that firms' development of technology through research and development and their likelihood of purchasing foreign technology were both negatively related to the degree to which their industries were protected from foreign competition.

³ For discussions of the early arguments of Prebisch and his followers, see Sherwood (1990, 173-74) and Gadbow and Richards (1988, 21). Sherwood notes that Prebisch, not long before his death in 1986, rejected these earlier arguments. During the period I am discussing, however, the consistency of weak intellectual property laws with import substitution was perceived as high. When Prebisch finally did turn against the notion of weak intellectual property protection, he also turned against the idea of import substitution.

⁴ It is interesting to note that Frischtak, in a paper that offers a plan for tightening Brazil's intellectual property policies, suggests changes that are completely consistent with these arguments: "The introduction of full (product and process) patent protection might lead to market disruption and, possibly, increases in drug prices without clear benefits. A possible transitional step might be the development of a 'positive list' of diseases for which new drugs would be patentable, such as tropical diseases highly prevalent in Brazil (Chagas' disease, schistosomiasis, malaria, etc.)" (Frischtak 1990, 64).

⁵ Here, the degree to which the consuming country is motivated not to protect is, in part, inversely related to the relative size of its market.

From the perspective of net innovation-consuming countries that want to encourage innovation at home, an additional argument against strong intellectual property protection involves the institutional structures in which such property is produced and distributed. Vessuri (1990) notes that transnational computer corporations in Brazil were not interested in developing or absorbing local technological efforts because of the centralized nature of their own research and development. So, instead of protecting this intellectual property strongly, Brazil tried to foster local innovation by reserving a portion of the market for minicomputers, microcomputers, and their peripherals for domestic producers.

For Latin American and other consuming countries, another argument against strong intellectual property laws is that enforcement costs can be very high (Primo Braga 1990b). When the bulk of protection is for foreign innovations, these enforcement costs lead to increased royalty gains for foreigners and greater royalty expenses for nationals.⁶ Foreigners do, in fact, hold the bulk of patents that are registered in developing countries.

Not only might foreigners benefit disproportionately from licensing and royalties, but also from cost advantages. The introduction and enforcement of tougher intellectual property laws would increase production costs for domestic producers who had not been paying for the intellectual property that they were using. These domestic producers might be supplanted by the foreign firms that had originally produced the intellectual property on which the domestic firms' production processes were based. Pirates who continued to sell products of the intellect, or use them in production processes, without paying the producers would in any case be run out of business.

The changing role of the United States in international trade liberalization

In the 1980s, new pressures motivated some developing countries to change both their trade

policies and their intellectual property regimes. Some of the pressures involve events in the United States.

From the end of World War II until the late 1970s, the United States adopted a relatively liberal trade regime based on the idea of *multilateralism*, the idea that trade agreements among many nations at the same time work best. The United States expressed this commitment through its support and use of the *most favored nation* clause of the General Agreement on Tariffs and Trade (GATT). By this clause, any reciprocal tariff reduction negotiated between the United States and any of its trading partners applies to all U.S. trading partners.

However, under the GATT, the United States also offered special trade privileges for developing countries through the Generalized System of Preferences (GSP). Through the GSP, the United States and other developed countries may waive duties on selected imports from selected developing countries. Currently, a number of products of the Mexican in-bond plants (*maquiladoras*) flow back to the United States under the GSP.

By the 1980s, the United States had begun to back well away from trade liberalism and had started to use GSP provisions as weapons. Frustrated with what it viewed as the contamination of multilateralism, the United States markedly increased its use of *countervailing actions*, such as raising trade barriers it had lowered and increasing its filings of dumping charges. Whatever else these actions meant, they signaled a rise in U.S. protectionism. Beginning in 1984, the rate of acceleration became more acute. One route the United States chose for this escalation is particularly relevant to intellectual property protection in developing countries.

The United States provides itself retaliatory remedies for "unfair trade" through Section 301 of the U.S. Trade Act of 1974 and Section 337 of the Tariff Act of 1930. Section 337 protects U.S. firms from "unfair" competition from imports. Section 301 offers more leeway; it allows the United States to act against inadequate protection of its intellectual property in other countries, even if the violations do not involve products imported into the United States.

In 1984, the U.S. Congress passed a Trade and Tariff Act that strengthened options under

⁶ According to the Organization for Economic Cooperation and Development (OECD 1989), nationals of developing countries hold only 1 percent of existing patents in the world.

Section 301. The 1984 act explicitly designates weak intellectual property protection in a country as grounds for withdrawing trade concessions extended to that country under the Generalized System of Preferences. Next, Congress passed the Omnibus Trade and Competitiveness Act of 1988. This act requires the United States Trade Representative to specify timetables for investigation of actions and to identify countries that have inadequate intellectual property regimes.

In sum, these measures expanded options the United States could use to pressure countries to change their intellectual property protection. Congress added provisions to signal to U.S. officials that they had better use these new tools. Mody (1990, 219), commenting on the 1984 Trade and Tariff Act, notes that "four countries, Korea, Mexico, Brazil, and Thailand, have been affected by this legislation." With the 1988 act, the list lengthened considerably.

Foreign debt, trade liberalization, and intellectual property reform

Part, although not all, of the increase in U.S. protectionism constituted retaliation for increases in Third World protectionism during the 1980s.⁷ During the 1970s, several Third World countries had chosen to expand their development programs by resorting to foreign loans. These countries borrowed under the assumption that the prices of their exports, which had been high during much of the 1970s, would remain high enough to allow repayment. When the prices of many developing countries' principal exports fell hard in the early 1980s, a world debt crisis ensued.

To revive their sagging terms of trade and to earn hard currency to pay their external obligations, some developing countries commenced the same beggar-thy-neighbor policies that the developed countries had used during the Great Depression. That is, they increased protectionism.

In the face of massive trade retaliation from the United States, however, some countries changed course and opened their own economies. If Mexico's economy, or Korea's, became more open, how could the United States, with its ongoing declarations of commitment to free trade, remain closed to them? Of ten developing nations in the Western Hemisphere evaluated by Williamson

(1990, 26), "only Peru and Brazil remain locked in the old protectionist mode."

By themselves, these trade liberalizations offered a good deal of motivation for the increased intellectual property protection that occurred in Latin America in the late 1980s and early 1990s. Trade liberalization, after all, means that foreign products incorporating and produced by the latest and most inexpensive technology will now be competing at home with domestically made goods and services.

If developing-country producers wish to replicate this latest technology, they will often have to pay for it. The latest technology is often harder to acquire by subterfuge than are processes that have been longer in the market in some form. Moreover, the policies of a nonprotecting consuming country can affect its businesspersons' ability to purchase such technology, even if they are willing to pay for it. When dealing with firms in such countries, foreign producers of technology are cautious about selling it because the prospective buyers may violate purchasing agreements with impunity. Sherwood (1990) cites anecdotal evidence in which a Brazilian firm's employees have approached companies abroad to gain cost-effective technology. However, the firm's negotiations with the foreign source often came to an abrupt end when the source learned of Brazil's weak protection for many innovations.

Increased competition from foreign technologies may also convince a developing country to seek domestic innovations as well, and there is much evidence to suggest that weak intellectual property protection discourages innovation. In a Brazilian survey, 80 percent of 377 firms said they would invest more in internal research and would improve training for their employees if better legal protection were available (Sherwood 1990). While Brazilian survey evidence suggests that the lack of protection discourages innovation, U.S. survey evidence (Mansfield 1986) suggests that protection stimulates innovation.

Protectionism in the United States had been rising during the 1970s as well, before the developing countries began to raise theirs

And, at least in the United States, there also appears to be a high social rate of return to innovation, considerably higher than the rate of return to the innovator (Mansfield et al. 1977).

Latin America's widening technological gap in the 1980s

While their trade liberalizations alone might well have motivated Latin American countries to tighten their intellectual property protection, the pressures for such protection increased in the 1980s as the technological gap between Latin America and the developed countries widened.

One reason this technological gap widened so much in the 1980s is because terms of trade shocks and debt problems forced a slump in Latin American investment that lasted much of the decade. New capital goods were not replacing old and, as the average age of Latin American plants and equipment rose, the region's capital stock became increasingly obsolete.

The technological gap widened further because, while investment was plunging in Latin America, the developed countries were entering a period of particularly rapid technological advance (Baer 1993). During this period, spending on research and development was growing much more rapidly than gross national product in all major OECD countries, and product life cycles were becoming shorter. Moreover, while the productivity of knowledge was increasing relative to other inputs, the cost of generating it was also rising. Accordingly, knowledge became increasingly privatized (Mody 1990). In light of these

changes, Frischtak (1990, 62) notes, "The trade-off between encouraging the diffusion of existing technology through unlicensed imitation and stimulating the creation of new technology becomes steeper over time."

This last argument became particularly compelling in a Latin American context during the 1980s. Latin American countries' "severe loss of competitiveness" was worsened by their "inability to carry out the structural modifications of an institutional character that would have enabled them to develop sources from which they could create and disseminate new technologies" (Barbera 1990, 92).

In sum, at the same time that foreign debt problems had led many developing countries to seek new avenues to earn foreign exchange, these countries were suffering from increasing technological backwardness. Moreover, it had become obvious that many of these nations' deteriorating competitiveness resulted, in part, from institutional problems that impeded the development and transfer of technology. In the new atmosphere of falling Latin American trade barriers, with its resulting increases in local competition from imports, the incentives for technologically competitive domestic products and forms of production had risen. In any case, the debt problem and technological backwardness were important factors that affected Latin America's ability to respond to foreign competition, and they may also have been important in changing developing nations' responsiveness to U.S. initiatives concerning Third World intellectual property protection.

Has U.S. policy caused the Latin American move toward stronger intellectual property protection?

Considering that the United States has not only empowered itself to inflict trade retaliations upon countries that do not fully protect intellectual property, but also to impose schedules by which the U.S. Trade Representative is supposed to inflict them, increased Third World compliance might be expected.

Moreover, a preponderance of Third World changes in intellectual property protection has occurred since the passing of the United States' 1984 Trade and Tariff Act and of the Omnibus

⁸ *Gadbaw (1988, 284) notes that "in 1986 and 1987, the Republic of Korea [Korea] enacted into law a series of revisions to its intellectual property regime that provide a dramatic example of U.S. success in promoting intellectual property reform through the combined use of negotiation and the threat of trade retaliation." The U.S. government maintains that enforcement remains a problem, however (East Asian Executive Reports 1990). In 1990, Mexico proposed sweeping reforms of its intellectual property laws that constituted "a virtual laundry list of the present law's major inadequacies" (Einstein 1991, 134). In June of 1991, Mexico passed these reforms into law.*

Trade and Competitiveness Act of 1988. Gadbow and Richards (1988, 21) offer the argument, written under the heading of "Trade Pressure," that "only when the potential loss of other economic benefits is introduced into the equation have governments of the nations studied concluded that it is in their interest to reform their intellectual property protection regimes."

While the potential loss of economic benefits surely motivates countries to strengthen their intellectual property laws, the perception of potential loss appears to be a more complicated phenomenon than Gadbow and Richards' characterization of it. If U.S. trade pressure is the direct and preponderant reason developing countries have strengthened their intellectual property law, what explains the laggards? As an example, consider the four countries Mody notes as affected by the 1984 Trade and Tariff Act. By the end of 1990, Mexico and Korea had both greatly liberalized their trade regimes (see above) and had taken steps to markedly strengthen their intellectual property laws,⁸ while Brazil and Thailand had done neither.⁹

The recalcitrance of Brazil and Thailand¹⁰ does not mean U.S. trade pressures are ineffective any more than the continuation of speeding in the United States means that traffic laws are ineffective. But this recalcitrance does suggest that other factors are involved. Here, a broader definition of "potential loss" than what Gadbow and Richards seem to be using is in order. That is, countries that impose barriers to foreign competition may more fully serve themselves by making backward technology cheap than by allowing the most modern technology to be expensive. But when (as in the case of Mexico) they choose to open their economies to foreign competition, it is the loose intellectual property regime that becomes more expensive.

Thus, while U.S. policy encourages countries to tighten their intellectual property regimes, the policy may be most effective with countries that have chosen to open their economies to trade. After all, these countries have the strongest predisposition to tighten their intellectual property regimes, in any case.

This argument has significant implications for the process by which U.S. policy actually affects other nation's intellectual property laws. This argu-

ment suggests that the direct effect of U.S. trade policies upon Third World intellectual property laws may not be as strong as the indirect effect, in which the U.S. trade policies simply influence other nation's trade policies. That is, to the extent that U.S. trade policy motivates Third World countries to lower their trade barriers, then U.S. policy indirectly motivates Third World countries to tighten their intellectual property regimes. If trade liberal-

⁸ Although Brazil did adopt copyright protection for software in 1987 and enforced it (Sherwood 1990, 196), until very recently there have been few other changes to Brazil's intellectual property regime since the early 1970s. In addition, "the Brazilian judicial system does not appear to provide an effective deterrent to violations of intellectual property rights" (Frischtak 1990, 73). In 1991, the office of the U.S. Trade Representative placed Brazil on its priority watch list of areas "where the U.S. faces 'serious problems' with intellectual property protection or market access" (Truell and Lachica 1991, A16). However, Brazil has very lately begun to liberalize more of its trade policies, including those on some high-technology imports. As of last February, Brazil began to allow the free import of hard and floppy disk drives and digital voice mail equipment. Additional products will be subject to liberalization as of October 29, 1992. Meanwhile, some tightening of related intellectual property protection has also begun to occur. In June 1992, Brazil announced that it would begin to protect "franchise agreements" that may include a combination of trademark usage, technical service assistance, and other types of technology transfer included in the agreements. With regard to Thailand, Schumann (1990, 164) notes that "Infringement of intellectual property rights seems to be an ongoing issue despite efforts by some Asian countries to suppress it. In 1988, the Asia-Pacific Council of American Chambers of Commerce view Thailand as the worst offender." She adds that "the United States Trade Representative (USTR) report on 'Special 301' of May 25, 1989, determined Thailand and India as being leaders of its 'priority watch list'..."

¹⁰ This recalcitrance has had its costs. As a result of noncompliance with U.S. requirements, Thailand lost GSP privileges, resulting in a 5-percent to 10-percent import duty increase on \$165 million of Thai exports. The United States also imposed 100-percent duties on \$39 million of Brazilian exports, even though these exports were not related to products or services on which intellectual property infringement was alleged. Moreover, the United States proposed but did not implement punitive tariffs on \$105 million of Brazilian exports as a sanction against Brazilian computer policy. This last measure was withdrawn with the passage of the Brazilian software copyright law mentioned in the previous footnote. As for the other penalties, "exporters in Thailand and Brazil have said they can live with the increased duties." (Mody 1990, 224)

ism motivates intellectual property conservatism, then pressures for trade liberalism are pressures for tight intellectual property protection.¹¹

In this context, however, it is important to remember that the events of the 1980s in the Third World motivated intellectual property protection in any case. Latin America's increasing technological backwardness—caused by a combination of declining investment there, accelerating technological advances in the First World, and Latin

America's own innovation-discouraging institutional structure—should be a strong motivator when nations in the region must focus on manufactures exports to pay their foreign debts.

It is, of course, difficult to know if these pressures alone would have been sufficient to motivate Third World countries to amend their intellectual property laws. But it is unusual to find countries that have tightened these laws when trade liberalization had not occurred as well.

¹¹ *While the importance of what I claim to be the connection between trade policies and intellectual property regimes seems not to be fully appreciated, it certainly has been recognized. Primo Braga (1990b) notes that "the foreign debt crisis, decreasing private capital flows to developing countries, negative experiences with the regulatory approach, outward-oriented development strategies, and the ongoing 'technological revolution' are some of the possible explanations for the more liberal posture adopted by many developing countries on intellectual property" [emphasis mine]*

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