Intellectual Property Rights: Economic Principles and Trade Rules

By Carsten Fink

May 2007 (revised version)

I. Introduction

One of the most significant developments of the Uruguay Round of Trade Negotiations (1986-94) was the inclusion of intellectual property rights (IPRs) issues on the agenda of the multilateral trading system. The resulting Agreement on Trade-Related Intellectual Property Rights (TRIPS) is one of three pillar agreements, setting out the legal framework in which the World Trade Organization (WTO) has operated since the end of the Uruguay Round.

For the multilateral trading system, TRIPS marked the departure from narrow negotiations on border measures such as tariffs and quotas toward the establishment of multilateral rules for trade-affecting measures beyond borders. This move reflected underlying trends in international commerce. Due to the growth of trade in knowledge and information-intensive goods, the economic implications of imitation, copying, and counterfeiting had in many industries become at least as relevant for international commerce as conventional border restrictions to trade.

Yet the TRIPS negotiations on intellectual property were marked by significant North-South differences. Developed countries, which host the world’s largest intellectual property-producing industries, were the key advocates for comprehensive minimum standards of protection and enforcement of IPRs. By contrast, many developing countries, which see themselves mostly as a consumer of intellectual property, felt that stronger standards of protection would serve to limit access to new technologies and products, thereby undermining poor countries’ development prospects.

Not surprisingly, IPRs remain one of the most controversial topics in the WTO. The implementation of the TRIPS standards of protection has raised concerns about adverse development implications, particularly in the area of pharmaceuticals. These concerns have prompted WTO members to clarify and amend certain TRIPS rules. At the same time, the new generation of free trade agreements (FTAs) concluded in the past ten years has led to the adoption of new IPRs standards, especially in agreements involving the US. In addition, technological developments and new business models are challenging the premise of the
traditional intellectual property regime, leading to a continuous adaptation of policies at the national level.

What are the key economic trade-offs related to the protection of IPRs? How has policymaking evolved since the end of the Uruguay Round? This module offers a short introduction into the economics and law of intellectual property protection. In particular, the module will review the main instruments used to protect intellectual property (Section II), the key economic trade-offs of stronger IPRs (Section III), the basic provisions of the TRIPS Agreement (Section IV), recent IPRs developments affecting access to medicines in developing countries (Section V), and the intellectual property disciplines found in free trade agreements (Section VI).

II. What are intellectual property rights?

Intellectual property broadly refers to creations which result from intellectual activity in the industrial, scientific, literary, and artistic fields. Over the course of history, different legal instruments for protecting intellectual property have emerged. These instruments differ in their subject matter, extent of protection, and field of application, reflecting society’s objective to balance the interests of creators and consumers for different types of intellectual works. Table 1 provides an overview of the different IPRs instruments.

**Patents** are legal titles granting the owner the exclusive right to make commercial use of an invention. To qualify for patent protection, inventions must be new, non-obvious, and commercially applicable. The term of protection is usually limited to 20 years, after which the invention moves into public domain. The patent system is one of the oldest and most traditional forms of IPRs protection. Almost all manufacturing industries make use of the patent system to protect inventions from being copied by competing firms. Since the early 1980s, patents have also been granted for agricultural biotechnology products and processes and for certain aspects of computer software.

As an adjunct to the patent system, some countries have introduced **utility models** (or petty patents). The novelty criteria for utility models are less stringent and are typically granted for small, incremental innovations. Their term of protection is far shorter than for ‘regular’ invention patents (typically four to seven years). Similarly, **industrial designs** protect the ornamental features of consumer goods such as shoes or cars. To be eligible for protection, designs must be original or new. They are generally conferred for a period of five to fifteen years.

**Trademarks** are words, signs, or symbols that identify a certain product or company. They seek to offer consumers the assurance of purchasing what they intend to purchase. Trademarks can endure virtually indefinitely provided they remain in use. Almost all industries use trademarks to identify their goods and services. The use of trademarks has

---

3 Several sections of this module draw from Primo Braga, Fink, and Sepulveda (2000), Fink and Primo Braga (2001), Fink (2005a), Fink (2005b), and Fink and Reichenmiller (2005). These papers as well as Maskus (2000) and World Bank (2001) offer a more extensive treatment of the material covered in this module.
turned out to be of high significance in certain consumer goods industries, such as clothing and watches. Similar to trademarks, *geographical indications* identify a product (e.g., wine or olive oil) with a certain city or region.

*Copyright* protects original works of authorship. Copyright protection differs from patent protection in that copyright solely protects the expression of an intellectual creation, whereas the ideas or methods advanced in the title can be freely copied. Copyright protection typically lasts for the life of the author plus 50 to 70 years. It is applicable to literary, artistic, and scientific works. During the past decade, copyright protection has also developed as the main form of protection for computer software. Rights related to copyright—sometimes referred to as *neighboring rights*—are accorded to phonogram producers, performers, and broadcasting organizations. Their term of protection typically varies between 50 and 95 years (see Box 1 below). Limits to copyright and neighboring rights exist in certain “fair use” exemptions, such as educational or library use or for purposes of criticism and scholarship.

Besides these traditional forms of IPRs, ongoing technological change and the unique characteristics of certain industries and products have led to additional, so-called *sui generis* forms of protection. *Layout designs for integrated circuits* protect producers of semiconductors. Protection is limited to the design of an integrated circuit and does not restrict reverse engineering of a semiconductor. In this regard, protection of layout designs is similar to copyright. However, the term of protection is shorter than under copyright—typically ten years. Title holders have the right to prevent unauthorized reproduction, importation, sale or other distribution of the layout design for commercial purposes.

*Exclusive rights to test data* submitted to regulatory agencies have been granted in the pharmaceutical and chemical industries. Companies that first submit these data can prevent competing firms from using the same data to obtain own marketing approval.

*Plant breeders’ rights* (PBRs) protect new plant varieties that are distinct from existing varieties, uniform, and stable. Exclusive rights, in principle, include the sale and distribution of the propagating materials for a minimum of 15 years. PBRs are typically subject to two general exemptions: the *research exemption*, which permits the use of a protected variety as a basis for the development of a new variety; and the *farmers’ privilege*, which gives farmers the right to re-use seeds obtained from their own harvests. With the advent of biotechnology, however, many breeders in industrial countries are increasingly using the regular patent system for protecting agricultural products and processes. Breeders enjoying patent protection can not only prevent their competitors from using their protected material for breeding purposes, but also prevent farmers from reusing harvested seed.

Finally, the protection of *trade secrets* is part of many countries’ IPRs systems. Trade-secret protection differs from other forms of protection in that it does not grant an explicit title to the creator of an original work. Instead, it protects businesses from the unauthorized disclosure or use of confidential information. Such confidential information includes inventions not yet at the patenting stage, ways of organizing business, client lists, purchasing specifications, and

---

4 Geographical indications and trademark typically do not involve any inventive or creative input. They therefore do not fall within the definition of intellectual property as a product of intellectual activity. As will be further explained below, the protection of these two types of IPRs is also rooted in a different economic rationale.
so on. In agriculture, breeders rely on trade secrets to protect hybrid plant varieties, if they can be kept secret. Copying through reverse-engineering does not infringe trade-secret laws. In essence, all industries possessing secret business information rely on trade-secret protection to guard their intangible assets.

These legal instruments are just one of the pieces that form a national system of intellectual property protection. Also crucial to the system’s overall effectiveness are the institutions administering these instruments, the mechanisms available for enforcing IPRs, and the rules regarding the treatment of non-nationals.

The administration of IPRs is most significant in the area of patents, industrial designs, trademarks, and plant breeders’ rights. To obtain protection for these types of intellectual property, applicants have to submit their intellectual creations to a national IPRs office, which examines their eligibility for protection. Copyright and neighboring rights protection typically applies automatically upon creation of the intellectual work, although for evidentiary purposes authors may choose to register their works at copyright offices.

The enforcement of intellectual property rights relies on a country’s judicial system. Title holders fight infringement of their exclusive rights in front of courts. To immediately stop infringing activities, they can request seizures or preliminary injunctions. If the claim of infringement is verified by trial, courts can demand the payment of punitive charges to the infringed title holder (or secret holder in the case of trade secrets).

IPRs are created by national laws and therefore apply at the level of each jurisdiction, independent of such rights granted elsewhere. Accordingly, nations must reach accommodation as their residents seek protection for their intellectual works abroad. Numerous international treaties to promote cooperation among states in the protection of intellectual property have been negotiated over the last 100 years (see Table 1). These treaties are administered by a specialized agency of the United Nations—the World Intellectual Property Organization (WIPO). They typically require their signatories to follow national treatment in the protection of IPRs (equal treatment of nationals and non-nationals) and facilitate the registration of intellectual property titles in foreign jurisdictions. But for the most part they do not promote harmonized standards of protection.

III. The economics of intellectual property protection

Why do governments extend legal protection to intellectual property? From an economic perspective, one can broadly classify the various forms of IPRs into two categories: IPRs that stimulate inventive and creative activities (patents, utility models, industrial designs, copyright, plant breeders’ rights and layout designs for integrated circuits) and IPRs that offer information to consumers (trademarks and geographical indications). IPRs in both categories seek to address certain failures of private markets to provide for an efficient allocation of resources.
Patents, copyright and related rights

IPRs in the first category resolve inefficiencies in markets for information and knowledge. As opposed to, say, an automobile, information and knowledge can be copied easily once first put on the market. This characteristic is inherent in what economists refer to as ‘public goods’. As the name suggests, public goods are usually not provided by private markets. Profit-oriented firms have little incentive to invest in the production of public goods, as third parties can free ride on the good once it is first produced. In the specific case of information and knowledge, if creators of intellectual works cannot protect themselves against imitation and copying, they have little economic incentive to engage in inventive or creative activities, as they cannot recoup any expenditure incurred in the process of creating new information and knowledge.

Patents and copyrights offer a solution around this dilemma, as they prevent free-riding on intellectual assets by third parties and thereby create an incentive to invest in research and development (R&D) and related activities. Because the fruits of inventive and creative activities—in the form of new technologies and new products—push the productivity frontiers of firms in an economy, patents and related instruments are often seen as important policy tools to promote economic growth.

At the same time, IPRs in this first category are considered as only “second best” instruments of economic policy. This is because the exclusive rights of patents and copyrights confer market power in the supply of the protected good to the title holder, which poses a cost to society in that firms can charge prices above marginal production costs. In theory, governments can adjust the length and breadth of protection such as to maximize the net benefit that accrues to society from new knowledge and literary and artistic creations, while taking into account the distortion that arises from imperfectly competitive markets. In practice, such a welfare maximization exercise is complicated by the fact that the societal value of new intellectual creations is typically not known in advance and different sectors may require different levels of protection. Actual patent and copyright regimes are often the outcome of history, rules of thumb, and the influence of vested interests. Still, economic analysis can play an important role in decisions on the strength of IPRs—as illustrated by the recent debate in the UK on the extension of the copyright term (see Box 1).

Box 1: Should the copyright term for sound recordings be extended from 50 to 95 years?

In anticipation of a review by the European Commission on the length of copyright protection, a policy debate has been under way in the United Kingdom on the desirability of extending the copyright term for sound recordings from 50 to 95 years. Members of the UK music industry have called on the UK Government to support such an extension. They further demand that the extended copyright term apply prospectively (to any future sound recordings) as well as retrospectively (to past sound recordings eligible for protection under the new rules).

The arguments advanced by the supporters of an extended copyright term include the following:
(1) Parity with other countries. In particular, in the United States, the 1998 Copyright Act extended the term of protection for sound recordings to 95 years.

(2) Incentives to invest in new music. Increasing the copyright term would encourage more investments, because performers and producers would have more time to recoup any initial outlay.

(3) Maintaining the UK’s positive trade balance. In 2004, the UK sound recording industry showed a trade surplus of £83.4 million, earning £238.9 million in export incomes. Stronger copyright protection would solidify the UK’s competitiveness in this industry.

How convincing are these arguments? A recent independent inquiry into the UK intellectual property regime requested by the UK Treasury was charged to consider these arguments and offer policy recommendations. The inquiry was led by Andrew Gowers—the former editor of the Financial Times newspaper—and its final report was published in December 2006.

Drawing on economic analysis, the Gowers report rejected each of the arguments in support of copyright term extension. With respect to the first argument, the report noted that the term of copyright protection is only one factor determining the royalties that artists and recording companies receive. Equally important is the breadth of protection. In the US, certain exceptions to copyright law allow 70 percent of eating and drinking establishments and 45 percent of shops to play music royalty-free, generating no income for performers and producers. The report conjectures that total royalties received in the EU may be no less than, and may even be more than, those received in the US.

More fundamentally, the report sheds serious doubts on the hypothesis that copyright term extension would create significant incentives for the supply of new music. Additional royalty flows from extended protection would only materialize after 50 years. To measure their incentive effect today, these flows must to be discounted. Estimates suggest that prospective term extension would increase the net present value of total royalty flows by less than 1 percent. Moreover, retrospective extension of the copyright term would not add any additional investment incentive whatsoever. Investment decisions are made on the basis of expected future returns rather than those already received. Where producers have access to capital markets, future investment decisions will be unaffected by the length of protection of current works.

Finally, the report disbelieved that term extension would serve to strengthen the UK’s positive trade balance and, in fact, argued that extension would have a negative effect on the trade balance. Due to the territorial nature of copyright, term extension would not apply to music produced in the UK but performed abroad. However, it would apply to music produced abroad and performed in the UK. Even though the UK sound recording industry is extremely successful, 43 percent of the UK market consists of international repertoire. In combination, term extension in the UK would cause little additional inflows, but would increase remittances abroad.

In light of these considerations, the Gowers report recommends that the European Commission retain the length of protection on sound recordings and performers’ rights at 50 years and that intellectual property rights should not be altered retrospectively.

Even though patents and copyright are only considered second-best, policymakers see these instruments as superior to government-funded research and artistic creation, as decisions about inventive and creative activities are decentralized and market driven. Government bureaucrats are only imperfectly informed about society’s technology needs, whereas such information is conveyed by market signals. Notwithstanding these considerations, the public sector in middle and high income countries does finance and conduct R&D in areas ignored or neglected by private markets. In particular, this is the case for basic scientific research and areas of technology to which societies attach special importance despite the lack of private demand (for example, aerospace, defense, or neglected diseases).

Patents and copyrights also impact on the diffusion of new knowledge and information. On the one hand, patent and copyright protection has a negative effect on diffusion to the extent that third parties are prevented from using proprietary knowledge. For example, some commentators argue that companies with strong intellectual property portfolios in the electronics and biotechnology industry may stifle follow-on research, as competing innovators cannot—or only at a high cost—access key technologies and fundamental research tools.

At the same time, IPRs can play a positive role in diffusion. Patents are granted in exchange for the publication of the patent claim. In return for temporary exclusive rights, inventors have an incentive to disclose knowledge to the public that might otherwise remain secret. Although other agents may not directly copy the original claim until the patent expires, they can use the information in the patent to further develop innovations and to apply for patents on their own. Moreover, an IPRs title defines a legal tool on which the trade and licensing of a technology can be based. Protection can facilitate technology disclosure in anticipation of outsourcing, licensing, and joint-venture arrangements. The IPRs system can thus reduce transaction costs and help create markets for information and knowledge.

Governments and academics have long thought to assess how effective the patent system really is in promoting industrial innovation and technology diffusion. In 1958, an economist named Fritz Machlup conducted an investigation on behalf of the United States Congress into the functioning of America’s patent system and concluded:

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

The effectiveness of the patent system remains a controversial topic to date. Few economists would disagree that the patent system has been a stimulus to innovation over the past decade. At the same time, few economists would say with confidence that today’s patent system strikes the optimum balance between innovation incentives and competitive access to new products and technologies.

---

5 See Machlup (1958).
Trademarks and geographical indications resolve inefficiencies that result from a mismatch of information between buyers and sellers on certain attributes of goods and services. Nobel prize-winning economist George Akerlof first pointed out that markets may fail when consumers have less information than producers about the quality of goods. Uncertainty about quality will make consumers reluctant to pay for high quality goods, eroding incentives for companies to invest in quality. Trademarks can help reduce—though not completely eliminate—this uncertainty. They identify a product with its producer and its reputation for quality, generated through repeat purchases and word of mouth. Trademarks thus create an incentive for firms to invest in maintaining and improving the quality of their products. Trademarks can be considered as first-best tools of economic policy, in the sense that they do not confer any direct market power and can co-exist with competitive markets. The presence of a trademark does not restrict imitation or copying of protected goods as long as they are sold under a different brand name.

Advertising-intensive consumer products, or so called status goods, constitute a special group within products bearing trademarks. For these types of goods, the mere use or display of a particular branded product confers prestige on their owners, apart from any utility derived from their function and physical characteristic. Since in this case the brand name plays a central role in firms’ product differentiation strategies, it is no surprise to find that owners of well-known brands often register up to 40 or more different trademarks to deter competing firms from entering their ‘brand space.’ Market research reports regularly put the value of well-known brands at billions of dollars. For instance, the Mercedes brand is estimated to be worth about 22 billion dollars (see Fink and Smarzynska, 2002). Status value is also associated with certain agricultural products protected by geographical indications, such as sparkling wine from the French Champagne region or ham from the Italian city of Parma.

In the case of status goods, brands can confer substantial market power to producers. In contrast to patents and copyrights, however, market power is not created by trademark ownership per se, but rather by heavy investments in marketing and sales promotion. In addition, firms with valuable brands may not necessarily generate ‘supernormal’ profits. Even though prices may be above marginal production costs, firms have to bear the costs of fixed marketing investments. Typically, the resulting market structure for many status goods industries can be characterized as monopolistically competitive: firms have a monopoly within their brand space, but have to compete with the brands of close substitute products.

The welfare consequences of status value associated with certain goods are complex and few generalizations can be made. For example, status value may stem from exclusive consumption, or, in other words, from the fact that only a selected group of consumers enjoys them. This interdependency between consumers inside and outside the exclusive group suggests that firms’ marketing activities can make some consumers better off and others worse off (Grossman and Shapiro, 1988).

---

**IPRs in open economies**

If one moves from a closed economy to an open economy, additional considerations arise. Consider the case of a small economy, in which most intellectual property titles are owned by foreign residents. This economy may be better off by weak standards of protection, if this leads to lower prices for goods and technology and the global incentives for the creation of new products and technologies are not much reduced (Deardorff, 1992). To put it differently, if a hypothetical small economy with little intellectual property ownership introduced patent rights from one day to another, the main effect would be a transfer of rents to foreign title holders, with little benefit to the local economy. At the same time, if a small country has special technological needs not present in other countries, such as drugs to fight country-specific diseases, it has a stronger incentive to protect foreign intellectual property (Diwan and Rodrik, 1991).

An additional consideration is that IPRs are likely to affect the international diffusion of new technologies. On the one hand, one might argue that countries that host few creative industries may benefit from weak IPRs protection, as it would allow them to imitate foreign technologies and thus build technological capacity. For example, India abolished in the early 1970s patent protection for pharmaceutical products and subsequently experienced rapid growth of the domestic pharmaceutical industry (Fink, 2001). On the other hand, it is not always possible to imitate a technology without the participation of the firm that originally developed it. In these cases, countries have an incentive to protect IPRs to provide incentive for technology transfer to foreign intellectual property holders.

International technology transfer occurs through a variety of channels: trade, foreign investment, and international licensing. Economists have in recent years attempted to empirically link the extent of trade, investment, and licensing activities to the degree of intellectual property protection in developing countries. While measurement problems are inherent in any such assessment, several empirical patterns have been established. First, international trade generally seem to respond positively to the degree of IPRs protection and more so in the case of middle income countries than low income countries. However, this effect is surprisingly absent in the case of high technology products. One explanation is that high technology products may be more difficult to imitate than other products. Another is that high technology companies may choose to invest in countries with stronger protection rather than export to these countries.

Second, and confirming the last point, firm-level studies suggest that intellectual property policies do affect the extent and nature of investments undertaken by multinational enterprises. At the same time, relative to other factors determining foreign investment decisions, IPRs seem to be of relatively minor importance. To illustrate, China has attracted vast amounts of foreign investment, even though multinational companies and foreign governments regularly complain about weak intellectual property enforcement in the country.

---

7 Fink and Maskus (2004) review the empirical literature on the linkages between IPRs and trade, investment, and licensing decisions in greater detail. See also Branstetter et al (2006) for a prominent recent study on the link between IPRs reforms and the activity of multinational enterprises. Note that most of the arguments on the open economy effects of IPRs presented here apply mainly to patents, copyrights and related forms of protection.
Finally, the cross-border licensing of technology is found to respond positively to the degree of IPRs protection in the destination country. This is not surprising, given the central importance of legal protection for firm-to-firm technology transactions. At the same time, little is known about how the formal transfer of IPRs affects knowledge diffusion and productivity growth in the receiving countries.

IV. The TRIPS Agreement

The TRIPS Agreement is a multilateral WTO agreement and, as such, applicable to all 150 members of the WTO. It is also binding for every country that accedes to the WTO. The Agreement’s general obligations require countries to apply the principles of national treatment (same treatment of foreign title holders and domestic title holders) and most favored nation treatment (same treatment of foreign title holders regardless of their country of origin).

Unlike the IPRs treaties administered by WIPO (see above), TRIPS sets minimum standards of protection with respect to all forms of intellectual property: copyright, trademarks and service marks, geographical indications, industrial designs, patents, layout designs of integrated circuits, and trade secrets. In respect of each of these areas of intellectual property, the Agreement defines the main elements of protection, namely, the subject-matter to be protected, the rights to be conferred, and permissible exception to those rights. For the first time in an international agreement on intellectual property, TRIPS addresses the enforcement of IPRs by establishing basic measures designed to ensure that legal remedies will be available to title holders to defend their rights. The approach taken by the Agreement is to set general standards on, among other things, enforcement procedures, the treatment of evidence, injunctive relief, damages, and provisional and border measures. The TRIPS Agreement also requires WTO members to make publicly available all laws, regulations, final judicial decisions, and administrative rulings related to the Agreements’ subject matter.

In principle, the provisions of TRIPS became applicable to all signatories by the beginning of 1996 and are binding on each WTO member. Certain transition periods applied to developing countries and economies in transition, but those expired on January 1, 2005. Many developing countries (e.g., Mexico, South Korea) strengthened their intellectual property regimes before the coming into force of the TRIPS Agreement, such that no or only few adjustments were necessary to comply with its provisions. For others (e.g., Brazil, India) certain changes to intellectual property laws have been made since 1996, as these countries have faced the end of the transition periods outlined above.

Least developed countries (LDCs) still receive special treatment under TRIPS. The original agreement granted them a ten year transition period that was to expire at the end of 2005.

---

8 The Agreement makes reference to several of the conventions listed in Table 1, requiring WTO members to adhere to certain principles of these conventions.
However, recognizing the economic, financial, and administrative constraints of LDCs, WTO members in 2005 agreed to extend the implementation deadline for LDCs until July 1, 2013.  

TRIPS has made disputes between WTO members with respect to the Agreement’s obligations subject to the WTO’s integrated dispute settlement procedures. WTO disputes are always state-to-state disputes. In other words, disputes are not about individual IPRs infringement cases, but are about disagreements between governments on whether a country’s laws and regulations meet the TRIPS requirements. In case a WTO member is found to violate its obligations, complaining governments obtain the right to impose trade sanctions in the form of punitive tariffs. Since 1996, there have indeed been more than 20 TRIPS-related disputes between WTO members. Interestingly, only a minority share of these disputes involved a defendant from a developing country. Most disputes are between developed country members, especially between the United States and the European Union. 

Economic benefits and costs of TRIPS

As mentioned at the outset, the signing of TRIPS has generated much controversy about its economic implications for developing countries. Proponents of the Agreement have argued that stronger IPRs will stimulate creative industries in developing countries and promote foreign direct investment, with an overall positive development outcome. Opponents of TRIPS have claimed that the Agreement will forestall developing countries’ access to new technologies, lead to higher prices and rent transfers from poor to rich countries, and impose high implementation costs in resource-constrained environments. As always, the truth lies somewhere in between these two polar views.

Developing countries indeed host inventive and creative industries that stand to benefit from stronger IPRs. However, these industries can mostly be found in middle income countries, rather than the least-developed countries. The empirical evidence discussed above on the link between FDI and IPRs, suggests that the mere strengthening of an intellectual property regime is unlikely to result in a dramatic increase in inflows of foreign investment. At the same time, past reform experiences suggest that stronger IPRs can positively impact on domestic enterprise development and foreign investment, if they are complemented by improvements in other aspects of the investment climate. By signaling a country’s commitment to internationally binding rules, TRIPS can make a positive contribution in this regard—though it is difficult to assess the quantitative importance of this contribution.

Turning to the costs of TRIPS, it is first important to point out that the Agreement generally did not require the extension of patent protection to products and technologies that did not

---

9 Notwithstanding this transition period, LDCs are required to meet the national treatment and most favored nation treatment obligations of TRIPS. In addition, as will be discussed in Section V, a longer transition period for LDCs applies to patents for pharmaceutical products.

10 The TRIPS Agreement requires developed country WTO members to provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed countries. However, the Agreement does not spell out the nature and extent of such incentives.

11 See the review by Fink and Maskus (2004).
receive protection prior to the Agreement’s implementation. Information and knowledge that were in the public domain at the time TRIPS requirements became effective will continue to be in the public domain. The implementation of the Agreement has therefore not led to actual prices rises of previously existing products and related rent transfers, because patent protection only applies to new products and technologies entering the market. Still, as the market share of newly protected products and technologies increases over time, prices above marginal production costs and associated rent transfer are a cause for concern—especially in the case of pharmaceutical products, as will be further explained in the next section.

As for the implementation of the Agreement, a number of commentators have argued that TRIPS poses significant institutional and financial challenges for developing countries. For example, based on figures from World Bank assistance projects, Finger and Schuler (1999) put the cost of upgrading intellectual property laws and enforcement in Mexico at $30 million. For many resource constrained governments in poor countries, implementation costs of this magnitude would likely impose a significant burden on public sector budgets and draw away resources available for other development priorities.

At the same time, it can be questioned whether the $30 million figure from Mexico is a realistic estimate of TRIPS-related implementation costs. The underlying World Bank project in Mexico was not aimed at implementing the TRIPS Agreement (the project was completed before the coming into force of TRIPS) and mostly consisted of activities not directly mandate by TRIPS, such as staff training, computerization of the patent and trademark office, and the creation of a specialized intellectual property court. Indeed, it is important to point out that the institutional obligations of TRIPS accommodate the weaker institutional capacities of developing countries. For example, while TRIPS does set certain principles on rights enforcement, it does not require members to redistribute scarce law enforcement resources towards the enforcement of IPRs. Similarly, in the area of rights administration, TRIPS only requires that IPRs are administered such as to avoid “unwarranted delays” in the grant or registration of an IPR. Finally, the Agreement calls on developed country WTO members to provide technical and financial assistance to developing and least-developed countries to support the development of IPRs laws and institutions.

Importance of flexibilities

Although the TRIPS Agreement lays the foundation toward higher standards of protection for intellectual property rights on a global scale, it leaves its signatories with important flexibilities in designing national IPRs regimes. It is important for governments to carefully consider alternative ways of implementing provisions in the TRIPS Agreement that only set a broad standard of protection and choose the options that are most suited to domestic needs.

12 Certain exceptions to this principle apply in the case of copyright and neighboring rights.

13 The World Bank (2001) presents estimates of rent transfers associated with the TRIPS Agreement. However, they should be regarded as hypothetical and interpreted with caution, as they do not account of the fact that knowledge related to products and technologies for which patents were previously unavailable will remain in the public domain.
For example, the criteria used for determining the novelty, non-obviousness, and usefulness of patentable inventions can be defined differently across countries. Thus, a WTO member may deny patent protection for, say, business methods that are frequently claimed to involve only a minor inventive step. TRIPS also does not require countries to extend patent protection to computer software as well as plants or animals.

Countries are free to override the exclusive rights of patents by granting so-called compulsory or government use licenses (government authorizations to use a patent without the patent holder’s consent). TRIPS only imposes certain conditions on the use of such licenses, including that they be considered on their individual merits, that “adequate remuneration” be paid to rights holders, and that prior efforts are undertaken to obtain a voluntary license from the right holder. Importantly, the latter requirement can be waived “…the case of a national emergency or other circumstances of extreme urgency or in cases of public non-commercial use.”

In the area of copyright, TRIPS allows for important leeway in defining fair use exemptions to strike a balance between the interests of copyright producers and the interests of the general public.

TRIPS does not address the question of so-called parallel trade. In some jurisdictions, IPRs holders have the right to block the importation of products that they have placed for sale in a foreign market. In other jurisdictions, IPRs holders do not have such a right and parallel imports can be an important means of creating price competition for products such as books, CDs, or pharmaceuticals. Under TRIPS, countries are free to allow or disallow parallel importation.

Additional flexibilities exist in many other areas of TRIPS. As already pointed out, bilateral FTAs or WTO-plus commitments in accession agreements may reduce these flexibilities. It is important for governments to carefully assess whether the benefits of “TRIPS-plus” standards outweigh their costs and defend their interests in the course of trade negotiations.

**TRIPS in the Doha Development Agenda**

Several intellectual property issues are the subject of discussions in the current multilateral trading round—the Doha Development Agenda (DDA). The three most prominent discussion areas relate to IPRs and public health (see next section), geographical indications, and bioresearch.

In the area of geographical indications (GIs), the TRIPS Agreement has already established certain standards of protection. WTO members must prevent GIs from being used by non-original producers in a way that would mislead the public as to the geographical origin of a good or would constitute an act of unfair competition. A higher level of protection is reserved for GIs relating to wines and spirits, for which members have to prevent the use by non-original producers of a GI even where the true origin of the good is made clear. At the same time, the TRIPS Agreement allows for certain exceptions to these rules, notably when a GI

---

14 See TRIPS Article 31.
has become part of the common language in a certain member country—such as the term “china” for porcelain wares.

Discussions on GIs in the DDA have consisted primarily of two elements: the establishment of a multilateral system of registration for GIs and the extension of the higher level of protection to products other than wines and spirits. The main demandeurs for stronger disciplines include the European Union and Switzerland. But several developing countries also see themselves as having ‘offensive’ interests in this area—including Bulgaria, Georgia, India, Kenya, Mauritius, Sri Lanka, Thailand, and Turkey. Members with less ambitious interests in strengthening GI protection are often associated with the “New World”—which refers primarily to countries in the Western Hemisphere.

WTO members have put forward several explicit negotiating proposals on the design of a multilateral GI register. However, deep divisions remain on the scope of the new registration system and the legal effect registered GIs would have in the national jurisdiction of member countries. Even less progress has been made on the question of GI extension, where WTO members still disagree on whether there exists a negotiating mandate for such a move in the first place.

In the area of bioresearch, DDA discussions have centered on the proper use of genetic resources and traditional knowledge. The TRIPS Agreement came into force four years after more than 160 countries signed up to the UN Convention on Biological Diversity (CBD)—an outcome of the 1992 Earth Summit in Rio de Janeiro. That Convention calls for the conservation of biological diversity and the fair and equitable sharing of the benefits from the use of genetic resources. Ever since, there have been concerns about possible tensions between these two treaties.

Genetic resources can serve as inputs for research and development of new products and production methods. Some WTO members worry that the TRIPS Agreement has inadequate safeguards against so-called “bio-piracy”—the acquisition of patent rights for biological material (and related traditional knowledge) simply taken from one country’s biological resources and without inventive effort. In addition, they argue that TRIPS insufficiently promotes the fair and equitable sharing of benefits when bio-prospecting activities lead to the commercialization of new products. The 2001 Ministerial Declaration launching the DDA calls for a review of the relationship between the TRIPS Agreement and the CBD. The scope of this review also extends to the protection of traditional knowledge.

Since then, discussions at the WTO have gone into considerable detail. A group of developing countries (Brazil, Cuba, Ecuador, India, Pakistan, Peru, Thailand, Venezuela, and others) have argued for a requirement to disclose the source and origin of genetic resources and traditional knowledge in patent applications. This group also calls for patent holders to submit evidence that they have obtained “prior informed consent” for using genetic resources and traditional knowledge and that benefits are shared in a fair and equitable manner. Where non-compliance with these requirements is discovered after the grant of patents, those patents should be revoked.
Developed countries stress that they do not see a conflict between the TRIPS Agreement and the CBD. Still, the European Union has come out to support an international disclosure requirement of the source and origin of genetic resources and traditional knowledge, but opposes patent revocation in case of non-compliance. The United States, in turn, opposes a disclosure obligation, claiming that such a move would introduce uncertainty into the patent system. It argues that there are other mechanisms to prevent the erroneous grant of patents, including the use of searchable databases of genetic resources and the examination of relevant information already submitted by patent applicants. The United States also opposes the submission of evidence proving “prior informed consent” in patent applications, favoring instead a contractual approach outside the patent system to promote the fair and equitable sharing of benefits.

V. IPRs and access to medicines

In few other sectors is the role of patents as important—and as controversial—as in the pharmaceutical industry. Research-based pharmaceutical companies invest heavily in the development of new drugs, which is a risky and lengthy process. At the same time, new chemical entities can easily be imitated by competing firms—unless these chemical entities are protected by patent rights.

The extent to which innovative drug companies have pricing power depends critically on the therapeutic efficacy of a new medicine and the availability of substitute products that compete with this medicine. For some drugs, the pricing power can be substantial. This is revealed when drug patents expire and competing producers—so-called generics companies—enter the market. For example, the wholesale price of Pfizer’s blockbuster drug Prozac fell from $240 to less than $5 per bottle within six months after patent expiry in the United States in 2001.  

The TRIPS Agreement requires WTO members to protect patents without discrimination as to the field of technology, which means that countries are obliged to grant 20-year patent protection for pharmaceutical products and processes. This represents a significant shift in a number of developing countries such as Brazil, India, and Thailand that previously allowed generics producers to freely copy medicines protected by patents in other countries. Those medicines—including important drugs classified by the WHO as essential medicines—will continue to be available generically at competitive prices. However, the share of patented drugs that will be introduced to developing country markets is likely to increase from 2005 onwards. Even though TRIPS came into force in 1996, it usually takes 8-10 years from the grant of the patent for a new medicine to be introduced to the market.  

---

15 As reported by Frontline documentary “The other drug war”, June 19, 2003.
16 In principle, the TRIPS Agreement allowed developing countries to delay the introduction of pharmaceutical product protection until 2005. However, a convoluted negotiating compromise during the Uruguay Round required countries—such as India—that chose to make use of this transition period to grant ‘exclusive marketing rights’ to patent application filed in the interim. Effectively, most pharmaceutical products that were at the stage of patenting between 1996 and 2005 benefit from TRIPS-style patent protection in developing countries.
The shift in global pharmaceutical patent rules has raised concerns that greater pricing power by pharmaceutical companies would adversely affect access to medicines in poor countries. These concerns were brought to the fore by the spreading HIV/AIDS pandemic in large parts of the developing world. Treatments in the form of antiretroviral drugs became available in the second half of the 1990s, but initially these drugs were priced at levels unaffordable to poor people and health systems in the developing world. However, the introduction of generic versions of these drugs—marketed by developing country producers in which they were not patent protected—contributed to a steep price decline, starting in 2000 (see Figure 1).

Responding to concerns that the TRIPS patent rules could undermine access to medicines in poor countries, members of the WTO issued a Declaration at the Ministerial Meeting in Doha, Qatar in 2001. In this Declaration, WTO Members agreed that “the TRIPS Agreement does not and should not prevent members from taking measures to protect public health.” It reaffirms the right of WTO members to employ compulsory and government use licenses to override the exclusive rights conferred by patents. Moreover, for least-developed countries, it delayed the implementation of TRIPS with respect to pharmaceutical patents until 2016 (with the possibility of further extensions).

In the future, granting a compulsory license to a local producer may emerge as an effective strategy to promote generic competition in developing countries that have the capacity to manufacture pharmaceuticals. For example, well-developed pharmaceutical industries can be found in Brazil, China, India, or Thailand. Yet many other developing countries—especially the least developed countries in Africa—do not possess pharmaceutical manufacturing capabilities. These countries can effectively use the compulsory licensing option only if they are allowed to import generic drugs. Yet there was legal uncertainty in the original TRIPS Agreement whether such importation would be allowed if the drug were patented in the exporting country. The ‘Doha Declaration’ acknowledged the difficulties countries with insufficient or no manufacturing capacity face in effectively using the compulsory licensing mechanism and called for negotiations “... to find an expeditious solution to this problem.”

After almost two years of negotiations, WTO Members decided in August 2003 on a mechanism that creates a framework for the importation of generic drugs produced under a compulsory license. This mechanism includes several safeguards intended to minimize the risk that drugs destined for poor countries leak into rich countries’ pharmaceutical markets. The 2003 Decision was formally integrated into the TRIPS Agreement in 2005. Several developing and developed country WTO members have initiated legislative changes that would allow for the export of generic drugs under terms consistent with the Decision. However, the Decision has not yet been used by any country.

As pointed out above, most medicines in developing countries have been free of patents, such that there has been little need to issue compulsory licenses. More recently, however, several

---

17 The amendment of the TRIPS Agreement will only take legal effect once two thirds of WTO members have formally accepted it. As of January 2007, only four countries have notified their acceptance (United States, Switzerland, El Salvador, Republic of Korea). In any case, until the TRIPS amendment comes into force, the August 2003 Decision has full legal effect.
developing and least developed countries have issued compulsory or government use licenses on selected antiretroviral drugs, including Brazil, Ghana, Malaysia, Mozambique, Thailand, and Zambia. In early 2007, Thailand also issued a government use license for a drug fighting heart disease.\(^{18}\) In addition, the threat of permitting the production of competing generic medicines has led pharmaceutical companies to offer the drugs at cheaper prices themselves. This was arguably the case when some in the United States Government advocated the grant of a compulsory license on the patented drug Ciprofloxacin during the 2001 anthrax crisis. Similarly, the pharmaceutical company Roche offered a 40 percent price reduction on its AIDS drug Viracept to Brazil, after the Government publicly announced in 2001 that it would issue a compulsory license to a local laboratory (Fink, 2005a).

The dilution of patent rights through the exercise or threat of compulsory licenses unquestionably reduces incentives for research-based pharmaceutical companies to invest in new drugs—particularly those fighting diseases mostly found in poor countries. At the same time, this reduced incentive effect is arguably small. In 2003, North America, the European Union and Japan alone accounted for 88 percent of the $466 billion of global pharmaceutical sales. The low income countries with the heaviest disease burden probably account for less than 1 or 2 percent of global sales (Fink, 2005a). It is therefore important to find alternative incentive mechanisms and funding sources to encourage more developing-country specific R&D. A number of policy initiatives to this effect have recently been considered by members of the World Health Organization.\(^{19}\)

**VI. TRIPS-plus provisions in recent FTAs**

Since the end of the Uruguay Round, there has been a rapid proliferation of bilateral and regional free trade agreements (FTAs). From 1950 to 1995, less than three of these agreements were on average notified annually under the General Agreement on Tariffs and Trade (GATT). Since 1995, this number has jumped to 11 agreements per year. Between January 2004 and February 2005 alone, the World Trade Organization (WTO) received 43 notifications, setting a historical record.\(^{20}\)

A number of the ‘new generation’ FTAs have established rules for the protection of intellectual property that go beyond the minimum standards set by the TRIPS Agreement. These so-called TRIPS-plus provisions have to date been most ambitious in FTAs negotiated by the United States, though certain TRIPS-plus elements can also be found or are envisaged in FTAs negotiated by the European Union (EU) and the European Free Trade Association (EFTA).\(^{21}\)

\(^{18}\) See http://www.cptech.org/ip/health/cl/recent-examples.html.

\(^{19}\) See http://www.who.int/intellectualproperty/en.

\(^{20}\) See Crawford and Fiorentino (2005). These figures underestimate the number of concluded FTAs, as numerous agreements have not (or not yet) been notified to the WTO.

\(^{21}\) In a related development, requests for stronger IPRs protection have been placed on countries that are negotiating accession to the WTO (e.g., Russia and Ukraine). Even though TRIPS is the primary WTO
**TRIPS-plus provisions in US FTAs**

For the US, the establishment of strong rules for the protection of IPRs is a key offensive market access interest—supported by private sector constituents for whom the export of intangible assets is commercially gainful. Indeed, the Trade Promotion Authority, under which these agreements were negotiated, explicitly states as a negotiating objective to promote intellectual property rules that “…reflect a standard of protection similar to that found in United States law.” US trading partners generally have more defensive negotiating interests in intellectual property, but are willing to commit to stronger intellectual property rules as a quid pro quo for concessions in other areas—most notably, preferential access to US markets for agricultural and manufactured goods.

### Table 2. Recent U.S. Free Trade Agreements

<table>
<thead>
<tr>
<th>FTA signed and approved by US Congress</th>
<th>FTA signed, but not yet approved by US Congress</th>
<th>FTAs currently being negotiated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jordan (2001)</td>
<td>Colombia</td>
<td>Malaysia</td>
</tr>
<tr>
<td>Singapore (2003)</td>
<td>Korea</td>
<td>Thailand</td>
</tr>
<tr>
<td>Chile (2003)</td>
<td>Panama</td>
<td>Southern African Customs Union</td>
</tr>
<tr>
<td>Australia (2004)</td>
<td></td>
<td>United Arab Emirates</td>
</tr>
<tr>
<td>DR-CAFTA (Dominican Republic, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, 2005)</td>
<td></td>
<td>Free Trade Agreement of the Americas</td>
</tr>
<tr>
<td>Bahrain (2006)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oman (2006)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 offers an overview of the US FTA landscape, focusing on the new generation of agreements negotiated after 2000. The twelve agreements negotiated so far include provisions on all types of intellectual property instruments and the mechanisms available to enforce exclusive rights. Even though the detailed TRIPS-plus elements differ from agreement to agreement, there are certain common elements.22

All US FTAs contain provisions that strengthen the protection of IPRs for pharmaceutical products. Most agreements include a requirement to extend the patent term for delays in obtaining authorizations to market new drugs and to make patents available for new uses of known products. In addition, several TRIPS-plus provisions limit the ability of governments to introduce competition from generic producers. First, some agreements limit the use of compulsory licenses to emergency situations, anti-trust remedies, and cases of public non-benchmark on IPRs, existing members of the WTO have demanded in the past TRIPS-plus commitments—similar to what is found in FTAs—as a condition of entry into the WTO.

---

22 See Fink and Reichenmiller (2005) for a more detailed overview.
commercial use. Second, most FTAs prevent marketing approval of a generic drug during the patent term without the consent of the patent holder—an issue on which TRIPS does not impose any obligation. Such a rule may render compulsory licensing ineffective as patent holders could still object to a competing generic drug being marketed. Third, most FTAs mandate the protection of test data submitted to regulatory agencies through exclusive rights. Again, such exclusive rights may pose an obstacle for governments to effectively use compulsory licensing, because generic suppliers may find it prohibitively expensive to generate their own test data for seeking marketing approval. Finally, several agreements introduce restrictions on the parallel importation of pharmaceutical products, effectively prevented the import competition from patented medicines sold more cheaply abroad.

In the area of copyright, most US FTAs extend the copyright term from life of author plus 50 years to life of author plus 70 years. They also include provisions governing the protection of literary and artistic works in digital form, largely based on the US Digital Millennium Copyright Act of 1998. Thus, FTA signatories must have measures against circumventing so-called technological protection measures—devices and software developed to prevent unauthorized copying of digital works. In addition, FTAs establish rules on the liability of Internet Service Providers (ISPs) when copyright infringing content is distributed through their servers and networks.

US FTAs expand on the enforcement obligations of the TRIPS Agreement. To begin with, most US FTAs do not allow countries to invoke resource constraints as an excuse to not comply with specific enforcement obligations (a flexibility available under TRIPS). At the same time, some of the specific enforcement requirements of the FTAs create additional institutional obligations. For example, as in the case of TRIPS, the FTAs require customs authorities to stop trade in counterfeit and pirated goods. But TRIPS only requires these measures for imported goods, whereas most FTAs mandate border measures for imported and exported goods and, in some cases, even transiting goods. Moreover, several FTAs mandate a stronger deterrent against IPRs infringement—for example, by considering certain forms of end-user piracy a criminal offense.

In addition to the rules contained in the intellectual property chapters of the FTAs, IPRs are subject to separate investment disciplines. As no multilateral agreement on investment exists at the WTO or elsewhere, these bilateral investment rules break new ground. Intellectual property rights are explicitly included in the definition of investment under these rules. Thus, the agreements’ specific investment disciplines apply, in principle, to government measures affecting the intellectual property portfolios of foreign investors. A special feature of bilateral investment disciplines is that they allow for direct investor-to-state dispute settlement whereby investors can seek arbitration awards for uncompensated expropriation (though no investment dispute involving intellectual property has been initiated so far).

*TRIPS-plus provisions in FTAs negotiated by the EU and EFTA*

As is the case for US FTAs, there is no single IPRs model in the agreements negotiated by the EU and EFTA. Nevertheless, one can broadly discern three areas of emphasis in the IPRs

---

23 EFTA comprises Iceland, Liechtenstein, Norway, and Switzerland.
obligations established by these agreements. First, they require signatories to ratify a number of WIPO administered treaties—notably those that are not incorporated into the TRIPS Agreement. Second, most of the EU agreements include provisions on the reciprocal protection of geographical indications related to wines and spirits. These agreements contain comprehensive lists of geographical names that can only be used by original producers in the concerned jurisdictions. Third, some of the EFTA agreements feature exclusive rights for pharmaceutical test data submitted to regulatory agencies—similar to what is found in US FTAs (see above). However, the relevant discipline allows for greater flexibility, as parties can allow the use of such data by any pharmaceutical company provided the rights holder is adequately compensated.

In October, the European Union published its new trade policy strategy, a significant part of which relates to the negotiations of new FTAs, particularly with countries in East Asia. While the EU has not so far come forward with a model of the kind of IPRs provisions it wishes to promote in its future FTAs, the strategy document emphasizes the need for disciplines on IPRs enforcement along the lines of the EU’s own enforcement directive.

Economic considerations

What are the economic benefits and costs of TRIPS-plus standards of IPRs protection? It is difficult to assess this question without considering the broader package of commitments embedded in an FTA, including preferential market access for agricultural and manufactured goods. Nonetheless, a number of observations can be made.

First, it is important to discern the changes in laws and regulations required by FTAs that do not already reflect actual legal practice in the countries concerned. In many cases, countries already had TRIPS-plus standards in their domestic laws before signing an FTA. To be sure, trade agreements are still relevant even if they do not require changes in laws, because they make it difficult for countries to change their minds and amend laws. But FTAs that simply lock in the domestic policy status quo will have fewer implications than an FTA that requires far-reaching IPRs reforms.

Second, as discussed in Section III, IPRs that protect inventive and creative activities imply a trade-off between incentives for innovation and competitive access to new technologies. There is no assurance that stronger intellectual property rules will always be welfare-enhancing, and the direction and size of the welfare effect will depend on a country’s level of economic development. In the particular case of pharmaceutical products, concerns about adverse effects of stronger IPRs on access to medicines are frequently voiced and have led WTO members to clarify and amend certain TRIPS rules.

Third, improved access to developed country markets for agricultural and manufactured goods is of a preferential nature. These preferences are time-bound because they will be eroded once the trading partner in question reduces remaining tariffs and quotas on a non-

---

discriminatory basis in the current or future multilateral trading rounds (or signs additional FTAs). By contrast, a commitment to stronger IPRs rules is permanent and likely to be implemented on a non-preferential basis. Even if preferential treatment in the area of IPRs were technically feasible, it would likely be inconsistent with the TRIPS Agreement which mandates most-favored nation (MFN) treatment of IPRs holders.

Fourth, it is inherently difficult to quantify the implications of changing intellectual property standards, let alone to compare them in monetary values to the gains derived from improved market access abroad. Certain effects of stronger IPRs are conceptually not well-understood. But even where they are well-understood, the direction and size of net welfare changes depend on future developments that are difficult to predict—such as the nature of future innovations and their relevance to the country concerned.

Fifth, in contrast to the enforcement obligations of the TRIPS Agreement, the implementation of FTA enforcement standards may be costly—both in terms of budgetary outlays and the employment of skilled personnel. For developing countries that face many institutional deficiencies, a critical question is whether stronger enforcement of IPRs would draw away financial and human resources from other development priorities.

VI. Summary of key messages

This short paper offered an introduction to the main instruments used to protect intellectual property, the key economic trade-offs of stronger IPRs, the basic provisions of the TRIPS Agreement, and recent TRIPS developments affecting access to medicines in developing countries. The key messages can be summarized as follows:

- Intellectual property rights protect creations which result from intellectual activity in the industrial, scientific, literary, and artistic fields. IPRs instruments encompass patents, copyrights and neighboring rights, trademarks, geographical indications, layout designs for integrated circuits, plant breeders’ rights, and trade secrets.

- IPRs seek to resolve certain failures of private markets. Patents, copyrights and related forms of protection aim at stimulating inventive and creative activities. Trademarks and geographical indications offer information about the origin of goods to consumers.

- For developing countries, stronger IPRs bring about benefits in terms of increased trade, foreign direct investment and technology transfer. However, these benefits mainly accrue to middle income countries and the size of benefits depends on complementary policy reforms, notably improvements in other aspects of the investment climate.

- The main cost of stronger patents, copyrights, and related rights is the market power conveyed to IPRs holders, leading to prices above marginal production costs for the duration of protection. For small developing economies with little inventive and creative capacity, stronger IPRs may lead to rent transfers to foreign title holders.
• The TRIPS Agreement is the most important international agreement for the protection of intellectual property. It is binding on all members of the WTO and enforceable through the WTO’s dispute settlement system. It sets minimum standards of protection for all IPRs instruments, but also leaves governments important flexibilities to design IPRs regimes to suit domestic needs.

• Stronger pharmaceutical patent rights required by TRIPS have raised concerns that greater pricing power by pharmaceutical companies would adversely affect access to medicines in poor countries. To address these concerns WTO members have reaffirmed the right of governments to use compulsory licenses to override the exclusive rights conferred by patents. In addition, a special importing mechanism was created in 2003 that allows developing countries with insufficient pharmaceutical manufacturing capabilities to import generic drugs.

• Discussions on TRIPS in the DDA have focused, among other things, on strengthening the protection of geographical indications and promoting the appropriate use of genetic resources and traditional knowledge. However, disagreements among WTO members have so far prevented the adoption of new rules or mechanisms in these two areas.

• Many ‘new generation’ FTAs negotiated in the past 12 years—especially by the United States, the EU, and EFTA—feature TRIPS-plus standards of IPRs protection. TRIPS-plus provisions relate to all of the different IPRs instrument and the mechanisms available to enforce exclusive rights. Their acceptance by developing countries cannot be explained by expected economic benefits, but has to be understood as a quid pro quo for preferential market access in developed country markets for agricultural and manufactured goods.
References


## Table 1: IPRs: Instruments, Subject Matter, Fields of Application, and Related International Agreements

<table>
<thead>
<tr>
<th>Type of IPR</th>
<th>Instruments of Protection</th>
<th>Subject Matter</th>
<th>Main Fields of Application</th>
<th>Major International Agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial designs</td>
<td>Ornamental designs</td>
<td></td>
<td>Manufacturing, clothing, automobiles, electronics, etc.</td>
<td>Hague Agreement (1925), Locarno Agreement (1979), TRIPS</td>
</tr>
<tr>
<td>Trademarks</td>
<td>Signs or symbols to identify goods and services</td>
<td>All industries</td>
<td></td>
<td>Madrid Agreement (1891), Nice Agreement (1957), Vienna Agreement (1973), TRIPS</td>
</tr>
<tr>
<td>Geographical indications</td>
<td>Product names related to a specific region or country</td>
<td>Agricultural products, foodstuffs, etc.</td>
<td></td>
<td>Lisbon Agreement (1958), TRIPS</td>
</tr>
<tr>
<td>Sui generis protection</td>
<td>Plant breeders’ rights</td>
<td>New, stable homogenous, distinguishable plant varieties</td>
<td>Agriculture and food industry</td>
<td>Convention of new Varieties of Plants (UPOV, 1961), TRIPS</td>
</tr>
<tr>
<td>Trade secrets</td>
<td>Secret business information</td>
<td>All industries</td>
<td></td>
<td>TRIPS</td>
</tr>
</tbody>
</table>

Note: All international treaties except TRIPS and the Universal Copyright Convention are administered by the World Intellectual Property Organization. Years shown refer to the year in which an agreement was first adopted.

Source: Primo Braga et al. (2000).
Figure 1: The Effects of Generic Competition

*Price for sample of antiretroviral triple-combination*

Notes: Sample combination consists of stavudine (d4T), lamivudine (3TC), nevirapine (NVP). Originator refers to the patent holding company or its licensee. Cipla, Aurobindo, and Hetero are generic pharmaceutical manufacturers based in India.