GLOBALIZING INTELLECTUAL PROPERTY RIGHTS

Asian Resistance and U.S. Pressure

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Over the last twenty years, the U.S. government has repeatedly clashed with Asian countries over their intellectual property laws and enforcement. Arguing that weak Asian intellectual property laws fail to adequately protect the intellectual property of its citizens, the U.S. government has regularly threatened to impose trade sanctions unless Asian intellectual property rights (IPRs) are strengthened. These hard-nosed threats have been accompanied by some remarkable rhetoric: Asian countries should readily agree to take the IPR medicine prescribed by the U.S. because it will improve the health of their own economies. Asian governments have responded to these threats by gradually strengthening their IPRs, but they have also objected to the rhetoric, arguing that the U.S. IPR prescription is more like Jonestown kool-aid than strong medicine.

The clash over the wisdom of stronger Asian IPRs raises two fundamental sets of questions. Most importantly, will developing countries in Asia be harmed or helped by stronger IPRs? Discussions regarding the impact of U.S. policy on IPRs naturally raise the issue of the source of U.S. interest in Asian IPRs. Why has the issue of Asian IPRs assumed such a prominent position in U.S. foreign policy?

To set the stage for discussing these questions, we should first consider the economic rationale for individual countries to establish property rights in new technologies and creative works.[1] We must then consider the problems that arise when countries have different IPRs and discuss the worldwide harmonization of IPRs brought about by U.S. pressure and, more recently, by the provisions of the Trade Related Intellectual Property Rights Agreement (TRIPS).

THE SEVEN MAJOR IPRs

There are seven major forms of intellectual property, each of which is governed by its own legislation and a body of judicial decisions interpreting the law.

1. A **patent** provides the holder with the right to exclude other parties from using, selling or manufacturing the product or process described by the patent for a specified number of years. A patent is not intended to protect new knowledge, rather the embodiment of knowledge in new products or manufacturing processes. Examples include pharmaceuticals and the antilock brake system.
2. A **copyright** provides the holder with the right to exclude others from reproducing the expression of an idea, such as a book, a song, or a painting. It does not protect the idea.
3. A **trademark** establishes rights to a brand name or mark and excludes others from using them without permission. Pepsi, Levis, and Pokeman are examples of trademarks.
4. A **trade secret**, such as the recipe for Coca-Cola, is information critical to the success of the business that the holder chooses to keep confidential. Trade secret protection provides a barrier against the appropriation of such information by competitors or potential competitors.
5. A **mask word** protects certain aspects of the design of a semiconductor chip and is essentially a specialized type of copyright protection for semiconductor chips.
6. **Plant breeders** rights grant exclusive rights to the holder to use and distribute new and clearly distinguishable varieties of plants.
7. Finally, an **industrial design** grants the holder exclusive use of designs for such products as clothing, furniture, appliances, etc.

ECONOMICS OF IPRs

In the twentieth century, economic growth in the industrialized countries has been driven by waves of new ideas, technologies, and creative works. These bursts of intellectual innovation have allowed the standard of living in the developed world to soar by adding to the variety of products available, improving the quality and attributes of existing products, and enriching culture. New technologies and creative works are different from most other goods because they frequently have both characteristics of a public good: non-rivalry and non-excludability. Non-rivalry means that one person's use of the good leaves no less for a second person. Consider a new melody. When you hum the melody in the shower, it's not used up; other people can still hum the melody in their showers.

The same reasoning applies to a firm's use of a new technology to manufacture a new pharmaceutical. This firm does not use up the technology—a second firm can still use the formula. Non-excludability means that it is prohibitively costly to exclude someone from consuming the good. Consider the new melody again. Unless Orwell's Big Brother is now everywhere, it will be prohibitively costly to exclude you from humming the melody in the shower.

Since many new innovations are public goods, they will tend to be under-supplied in an unprotected marketplace. Once the innovation is revealed, an imitator may easily copy the invention without compensating the inventor, paying the research and development costs, or suffering the risk of a failed invention. Thus, innovative activities will generally be unprofitable.

Granting IPRs provides ownership of new technologies and creative works, and thus helps to create a viable private market in new knowledge. By providing an exclusive right of sale or use of the technology, IPRs allow the creators of new technologies or creative works to charge for the use of the new product. Establishing a copyright in a melody cannot prevent someone from humming it in the shower, but it can allow the owner to collect royalties for public concerts, radio play, or CD sales. Ideally, the price for singing a melody should be sufficiently high to compensate the inventor for production and creative costs, provide a reasonable rate of profit, and offset the risk burden associated with the creative process. By doing so, IPRs stimulate the supply of intellectual innovations, the essential ingredient in modern economic growth. Like most good things, however the social benefits of IPRs come at a cost. Once a melody composer receives a copyright for a new melody, the composer is then able to charge a monopoly price for the technology. But once a technology has been developed, the social resource cost of using the melody is zero. In this case, allowing the IPR owner to charge a monopoly price for the melody results in it being sung far too little.

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To sum up, IPRs create dynamic benefits to an economy by stimulating the production of new technologies and creative works but come with the tradeoff that they restrict wide dissemination and use of the new innovations. Because of this tradeoff, governments restrict property rights in intellectual innovations to a fixed period of time, thereby limiting the period during which monopoly prices can be charged. For example, a patent on a new

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technology lasts twenty years. Once the patent has expired, the technology can be more widely used and freely disseminated.

Depending on their circumstances, different countries are likely to adopt IPRs with varying degrees of "strength," measured by such factors as the scope of protection and enforcement activities. Developed countries with extensive research and development activities and well-developed legal systems are more likely to adopt stronger IPRs, while developing countries with limited research and development activities and less well-developed legal systems are more likely to adopt weaker IPRs.

Since World War II, the proliferation of trade, investment, transportation, and communication links between countries has led to growing disputes over protection of foreign intellectual property. As economies become more integrated, intellectual innovations spill over borders more readily. The trade-off between encouraging innovative activity and the dissemination and use of the new innovation takes on global dimensions. Developed countries with stronger IPRs have pressured developing countries with weaker IPRs to adopt higher standards. Developing countries, with low indigenous levels of research and development (R&D), resist the pressure and tend to permit weaker IPR laws and enforcement.

Will developing countries gain or lose if they succumb to the pressure? We isolate three factors that are important in answering this question for developing Asian economies: the wealth transfer effect, the innovation effect, and the technology transfer effect.

WEALTH TRANSFER EFFECT— Most Asian countries are net importers of technologies and creative products. Consequently, they have traditionally maintained low IPR protection to encourage low-cost domestic imitation of foreign technologies and products. For example, many Asian firms regularly counterfeit and sell foreign copyrighted movies, music, and computer software. The temptation to infringe on IPRs is fueled by the large gap between the higher price of the imported product and the lower domestic cost of production. The strengthening of IPR protection essentially raises the cost of technology acquisition to Asian countries and worsens their competitiveness in these sectors. Local producers are forced to either pay royalties to Western intellectual property owners or to exit the market. This induces increases in product prices, thereby transferring wealth from Asian consumers to foreign IPR owners.

INNOVATION EFFECT— Strengthening IPR protection could have a beneficial effect on innovation and R&D in Asia if a country has reached a critical level of development. Early on in the development process, weak IPRs encourage imitation and copying that, while harmful to foreign owners of intellectual property, can serve to expand a nation's stock of knowledge and, most importantly, to strengthen its future capacity to innovate. As developing countries make the transition to producing new frontier technologies and products, they will, at some point, gain by strengthening their IPR institutions. Gains or losses from stronger IPRs will depend on whether developing countries have made this transition. For example, it is doubtful that Indonesia and Bangladesh have made this transition, while Singapore and Korea are both clearly developing new frontier technologies and creative products.

Some minimum amount of intellectual property protection is likely to benefit even the poorest developing countries. The tastes of consumers and technological constraints of producers in developing countries differ greatly from their counterparts in advanced nations. Many products and technologies originally conceived for use in developed countries need to be modified if they are to be used profitably in developing countries. By establishing minimum levels of IPR protection, developing countries may attract local and foreign innovation that favors these local needs.

While weak IPR regimes allow Asian countries to imitate foreign inventions and thereby build up their overall R&D capacity, they also discourage domestic innovation. Consider the case of China, a country which has slowly enhanced its IPRs throughout the 1980s and 1990s. Chinese inventors and artists are producing important inventions in some industries, as well as literary, artistic, and musical works. Without IPR protection, these products are often copied or imitated by other Chinese firms and individuals, thereby reducing the rate of return to Chinese inventors and artists. Since the IPR violators are sometimes difficult to detect and prosecute, Chinese inventors and artists frequently have little recourse but to accept the piracy. Since piracy erodes returns, fewer people will undertake the risk and effort involved with creative activities. This slowdown in innovation depresses economic growth in artistic and technology industries.

A few examples may be helpful. Mr. Ling Yan, chairman of the Chinese software company, Sun Tendy, estimates that less than 10 percent of the copies of his Chinese language software program, Chinese Star, are legal. Mr. Wang Shuo, the author of twenty best-selling novels, has encountered thousands of infringing copies of his books in bookstalls in China's major cities. China's most famous rock-and-roll artist, Mr. Cui Jian, has sold 1.2 million CDs and audio tapes, but he estimates that over 10 million infringing copies are in circulation.[2]

China's IPR laws and enforcement are likely to be strengthened as innovative activities in China expand. As innovative

firms and individual inventors and artists become more numerous and more influential, the balance in intellectual property law is likely to shift, perhaps with some delay, towards stronger protection of domestic innovative activities.

TECHNOLOGY TRANSFER EFFECT— Finally, better enforcement of intellectual property rights could induce more foreign firms to locate plants and R&D activities in Asia, thereby stimulating increased spillovers of knowledge to Asian workers, engineers, and scientists. By enhancing the technological base, technology transfers and foreign direct investment contribute to employment and economic growth. The argument implies that foreign firms are more likely to share technology with Chinese affiliates and licensees when local competitors are legally restrained from infringing on the domestic firm's intellectual property. Empirical studies find, however, only weak evidence of a positive relationship between foreign direct investment and IPRs.

UNITED STATES PRESSURE ON ASIAN COUNTRIES
History and Sources

Since the early 1980s, the United States has regularly threatened to impose trade sanctions on countries with weak IPR laws and institutions. Investigations of Brazil and South Korea under U.S. trade law were successful in the mid-1980s in obtaining changes in both countries' IPR laws and enforcement. These successes prompted the U.S. Congress to pass the "Special 301" amendments to U.S. trade law in 1988. They require an annual review of IPR laws and enforcement practices of U.S. trade partners. Using a number of designated threat levels—for example, countries could be placed on a "watch list," a "priority list," "designated" for such but not yet placed on it, and so forth—the United States warned virtually all Asian countries that it would impose trade sanctions unless these countries upgraded their IPR laws, institutions, and enforcement activities. From the U.S. perspective, problems included inadequate protection of patented chemicals and pharmaceuticals; copyrighted first-run films, video cassettes, sound recordings, and personal computer software; and a wide variety of entertainment and fashion trademarks.

The combination of domestic and international pressure prompted some Asian countries to establish their first IPR laws and others to upgrade their existing IPR laws. Indonesia enacted its first patent law in 1982, while China enacted its first modern patent law in 1982, trademark law in 1984, and copyright law in 1990. Despite the recent vintage of these laws, the U.S. Trade Representative (USTR) used the Special 301 trade law to initiate complaints about their provisions, and both China and Indonesia made extensive changes in response. Conflict between China and the United States over IPRs intensified in the 1990s, as bilateral IPR agreements in 1992 and 1995 led to further IPR disputes. Since the most recent U.S.-China IPR agreement in 1996, the U.S. government has been generally satisfied with China's progress towards improving its IPR laws and enforcement, although new outbreaks of video piracy in Hong Kong have attracted its attention.

The USTR placed several other Asian countries with inadequate IPR laws on its "watch lists" during the 1980s and early 1990s. Thailand, Taiwan, Korea, the Philippines, and India were targeted for inadequate protection of pharmaceutical products, counterfeiting of well-known trademarks, and widespread copyright violations of movies, books, computer software, and CDs. Virtually all targeted countries responded by passing, after long delays in some cases, new IPR legislation to remedy the problems.

Why did the United States government set a higher priority in the early 1980s on enforcement of U.S. intellectual property in Asian markets? The explanation can be found in four major factors that have changed significantly over the last forty years.

First, U.S. firms have more incentives to enforce against infringing uses of their technologies or copyrighted products as foreign market demand for their products increases. Market demand in Asia for many copyrighted, patented, and trademarked products has increased dramatically with the rapid income growth in many Asian countries during the last thirty years.

Second, growing U.S. trade deficits since 1980 have led to political pressure to increase U.S. exports to Asian economies with which the United States has run a bilateral trade deficit, such as China, Taiwan, and Japan. Of the $330 billion U.S. trade deficit in goods (1999, Foreign Trade Division, U.S. Census Bureau), the trade deficit with Pacific Rim countries accounts for more than half, or $186.7 billion. The 1999 U.S. merchandise trade deficit with China is $68.7 billion, with Japan it is 73.9 billion, and with the Newly Industrialized Countries (Hong Kong, Korea, Singapore, and Taiwan) it is $24.2 billion. Third, the U.S. comparative advantage has changed over time, moving away from manufactured goods to IPR-intensive goods and services.

Fourth, the increasing electoral importance of California in U.S. presidential and congressional elections has led U.S. politicians to focus more attention on California's economy and interest groups. California has fifty-four "Winner-Take-All" electoral votes in U.S. presidential elections, or 20 percent of the 270 electoral votes required to win the presidency. In 1996 California's economy had a large concentration of U.S. employment in IPR-intensive industries: 57.3 percent of U.S. employment in the motion picture industry, 17.7 percent of software programming employment, 26.2 percent of electronic computer employment, and 23.8 percent of semiconductor employment. About 30 percent of U.S. biotechnology firms were located in California in 1996. As political parties moved to cater more to California-based interests, it is not surprising that they moved to strengthen the position of IPR-intensive California firms in Asia's export markets.

FROM UNILATERAL U.S. PRESSURE TO THE MULTILATERAL TRIPS AGREEMENT

The 1994 Uruguay Round Agreements creating the World Trade Organization were another large step toward free international trade, but also a giant leap toward the creation of a viable worldwide regime governing intellectual property. Previous international accords governing intellectual property rights, e.g. the Paris Convention and the Berne Convention, had focused on establishing national treatment for foreigners seeking to establish

and enforce domestic IPRs. These accords failed to establish strong minimum standards for different types of intellectual property or to require effective enforcement procedures to remedy violations of foreigners' IPRs.

The 1994 Uruguay Round Agreements went far beyond these earlier international IPR agreements, since the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement requires member countries to bring their IPR laws closer to the standards found in most high-income countries and to provide more effective private and public IPR enforcement mechanisms. By forcing WTO member countries to adopt strict minimum standards for establishing and enforcing IPRs, TRIPS is compelling extensive, but not complete, harmonization of national IPR regimes. Developed countries were given until 1996 to comply with TRIPS, developing countries were given until 2000, and the least developed countries until 2005.

Since 1995, there has been an outpouring of proposed and enacted legislation amending patent, copyright and IPR laws in all Asian countries. While several Asian countries are still not in accordance with TRIPS, there has been a remarkable convergence of IPR law across Asian countries and across developing and developed countries throughout the world.

While Asian countries were focused on bringing their laws into accordance with TRIPS, the focus of U.S. pressure on Asian countries had already shifted from stronger IPR standards to stronger enforcement of IPRs, especially of computer software and entertainment copyrights. Some Asian countries have responded by devoting more resources to enforcement. A few selected examples from the last few years serve to illustrate this trend. Singapore has prosecuted software pirates and raided electronic bulletin board services that download copyrighted software. In Thailand, enforcement activities against software pirates have expanded in Bangkok and selected provinces, but illegal use of computer software remains extensive; an estimated 90 percent of computer software in use has been illegally copied, and government raids against retail software stores have had limited impact. After pressure from French fashion designers, Indonesia has cracked down on misappropriation of trademarks in the fashion industry.

Many foreign corporations have taken advantage of changes in Asian IPR laws that reduce the cost of bringing private enforcement actions. The Walt Disney Company, for example, has threatened illegal users of its cartoon characters in Singapore and Indonesia with lawsuits unless they cease illegal uses and make a public apology to Disney and Indonesian consumers.

Have Asian developing countries benefited from the push for higher global IPR standards? No reliable empirical studies have yet been conducted. But higher-income Asian countries, such as South Korea and Singapore, that were already engaged in extensive R&D activities surely gained from strengthening their IPRs, although it is likely that they would have upgraded these laws on their own. For lower-income Asian countries, such as Indonesia and the Philippines, the jury is still out, as IPR enforcement remains a severe problem for both foreign and domestic IPR owners. Despite increased enforcement activities, piracy rates remain particularly high in many Asian economies. The high piracy rates provide important signals that the United States will continue to impose pressure on Asian countries' IPR practices whether it comes via the U.S. trade laws (Special 301) or the TRIPS Agreement. ■

SUGGESTED READINGS

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NOTES

1. Due to space constraints, our discussion focuses on copyrights and patents.
2. See Matt Forney, "Now We Get It," *Far Eastern Economic Review*, February 15, 1996, pp. 40–43.

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