In the 1960s, economists began to speak of an emerging “knowledge economy” in which the traditional factors of production (land, labor, and capital) were of less importance than the knowledge used to combine them in new ways and apply them to new problems.¹

Knowledge has always played a vital role in the economy.³ It takes knowledge to determine what crops can be grown on land in a particular climate and where the produce can be sold. It takes knowledge to become a skilled laborer who designs, builds, and operates machinery and devises and applies scientific processes. It takes knowledge to save and invest money (capital) for individual and corporate profit and national and social well-being.

What was new in the 1960s was that, instead of a few major entrepreneur-industrialists such as Henry Ford devising radically different ways to combine land, labor, and capital,⁴ the majority of workers in developed economies were developing, applying, and sharing knowledge. From 1920 to 1956, the percentage of manual or “blue collar” workers in the United States fell from 66% of the work force to 50%, and the percentage of knowledge or “white collar” workers increased from 33% to 50%. By 1980, knowledge workers were 66% of the American labor force.⁵ Today, approximately 44 percent of workers worldwide work in service or “white collar” jobs.⁶

Increasing reliance on knowledge for economic growth and development has two contradictory implications. First, the knowledge economy demands well-educated workers who have the knowledge and skills to try new things. Thus education is even more important as a national and international social goal than it was in the past. Second, knowledge workers and the companies and countries in which they work wish to be compensated for the years of education and training that it takes to develop “intellectual property” such as software, movies, and medicine. Thus the individual profit motive remains strong.

Together, these aspects of the knowledge economy raise the question of what is the right balance between the social goal of education and for national and international economic growth, on the one hand, and the individual goal of profit for individual and corporate reward. Specifically, to what extent and for how long should knowledge workers and the companies and countries that sponsor them have exclusive rights to develop sell their products?

¹ This document was written by Karen Ruth Adams, faculty advisor, Kedra Hildebrand, 2009 research assistant, and Eric Hines, faculty advisor, with contributions from Jim Zadick, 2005 CCPCJ Chair and Nicholas Potratz, 2014 teaching assistant. Copyright 2014 by Karen Ruth Adams.


Developing and enforcing rules about “intellectual property rights” is a vital issue, both for the normal functioning of modern economies and to address two of the world’s most pressing issues: public health and global warming.

History and Current Events

In an intellectual property rights dispute, inventors of intellectually-derived products claim that copying their products violates their rights. Today, there are intellectual property disputes in many areas of international commerce, including counterfeit drugs, pirated music and software, and knock-off watches and purses.

According to the World Intellectual Property Organization (WIPO), intellectual property (IP) encompasses “creations of the mind” including inventions, literary works, artistic works and symbols, names, images, software, pharmaceuticals and designs used in commerce. Intellectual property rights (IPRs) are the “legal and institutional devices” used to protect these creations of the mind. These rights fall into three categories:

-- patents, which provide inventers with the legal rights to prevent others from using or selling their inventions for a fixed period;
-- copyrights, which give authors legal protection for various kinds of literary and artistic work and exclusive rights to sell copies of their work;
-- trademarks, which are marketing tools used to support a company’s claim that its products or services are unique and authentic.

Today, information and products spread quickly across the globe. It is not unusual to find a company that develops software in Germany to be manufactured in China and sold worldwide, from the US to Zimbabwe. Yet each country has different laws about which products are intellectual property and whether and how IPRs should be protected. This creates a situation in which IPRs are constantly in question and companies may be deterred from developing products and selling them abroad.

At the same time, developing countries have begun to question whether consumers in their countries should have to pay the same prices for goods made in developed countries, where incomes are higher. In fact, some of the companies producing less-expensive versions of HIV drugs have been encouraged and supported by countries such as India, which argue that it is more important for people to receive medical treatment than for companies to make profits.

A Short History of Intellectual Property Rights

Patents for inventions originated in Italy during the Renaissance. In 1474, the Republic of Venice passed a law to attract foreign engineers by giving them a ten-year monopoly on their work and tools. Similarly, in 1624, the English Statute of Monopolies was passed to encourage craftsmen from around the world to settle in England. In 1836, the United States passed the Patent Act, which required all inventions proposed for patents to be examined for “novelty and usefulness.”

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With the movement toward intellectual property protection, inventors such as Thomas Edison began to work closely with patent lawyers to protect their work. From 1885 to 1901, Edison spent $2 million in more than 200 patent infringement lawsuits. Edison’s legal campaign was later revealed to be a business plan to gain a monopoly on certain technologies, such as the lamp. In the early 20th century, Edison’s path from inventor to business man and monopoly holder was duplicated by others, as the number of patents handed out each year grew fifty-fold.

Just as individual inventors have tried to retain monopoly rights to their work, states have competed with one another for technological leadership. In fact, according to some scholars, technological competitiveness is the most important determinant of which states become great powers and how long their influence lasts.

To gain and preserve technological leadership, states have historically engaged in a variety of activities, including industrial espionage, subsidizing domestic research and development efforts, and giving their inventors preferential legal treatment. Until the mid-1800, for example, most countries with patent laws allowed their citizens to patent (and thus profit from) imported inventions. Similarly, companies and countries frequently disguised the origins of imported products.

The first international discussion of IPRs occurred in 1873 among countries that belonged to the Congress of Vienna, a European multilateral forum. In response to lobbying by German and Austrian patent attorneys and engineers, the Congress established a commission that produced the first international convention regarding IPRs. In 1883, the Paris Convention for the Protection of Industrial Property was ratified by 11 countries, which then became members of the International Union for the Protection of Intellectual Property (the Paris Union). Today, 175 states have ratified the Paris Convention and participate in meetings of the Paris Assembly, which addresses patent and trademark law.

In 1886, a similar international treaty on copyrights -- the Berne Convention for the Protection of Literary and Artistic Works -- was ratified by 10 European states. Today 167 states are part of the Berne Union.

After 1945, the US and its Western bloc allies established the General Agreement on Tariffs and Trade (GATT) to promote free trade among them by reducing trade barriers such as tariffs (taxes on imported goods). GATT achieved several successes, including the 1964-1967 Kennedy Round of talks which achieved tariff cuts

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13 Sell and May, “Forgetting History is Not an Option,” pp. 16-20.


16 Sell and May, “Forgetting History is Not an Option,” pp. 15-16.

17 For the text of the treaty and a list of contracting parties, see Paris Convention for the Protection of Industrial Property, http://www.wipo.int/treaties/en/ip/paris/

18 Sell and May, “Forgetting History is Not an Option,” p. 16.

worth $40 billion, and the 1986-93 Uruguay Round of talks which included discussion of trade in agriculture and services for the first time. But GATT never discussed IPRs.20

In 1967, a new organization, the World Intellectual Property Organization (WIPO), was founded to encourage “creative activity” by promoting “the protection of intellectual property throughout the world,” especially through acceptance of the Paris and Berne Conventions. In 1974, WIPO became one of the UN’s specialized agencies. Thus it reports to the General Assembly (GA) through the Economic and Social Council (ECOSOC). Today, 187 states belong to WIPO.21

During the 1970s, WIPO’s agenda was dominated by developing country complaints about IPRs as a way for developed countries to maintain their privileged positions. As part of their call for a New International Economic Order (NIEO) in which resources would be distributed fairly, not just on a first-come, first-served basis, developing countries argued that their inventors should be able to pay lower licensing fees than their developed country counterparts, and that they should enjoy longer periods for patent and copyright protection.22 Due to developed-country opposition, these measures were never adopted. But when WIPO joined the UN system in 1974, its purpose was broadened to “promoting creative activity and … facilitating the transfer of technology related to industrial property to the developing countries in order to accelerate economic, social, and cultural development.”23

In 1986, partly in reaction to developed-country calls for reform and partly because the US was concerned that the rights of US corporations were not being enforced in other states, the US called for consideration of IPRs at the Uruguay Round of GATT talks.24 By the end of that round in 1993, GATT members had agreed to replace GATT with a new organization, the World Trade Organization (WTO), which would include states from all over the world (not just the erstwhile Western bloc). In addition, they agreed that the WTO would address not only tariffs but also non-tariff barriers to free trade, including the subsidies, quotas, and regulations states use to benefit their own economies and companies.

Among the regulations the US and other developed country GATT members were especially determined to address were IPRs. Thus the agreement establishing the WTO in 1995 contained an agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). Today, 160 states belong to the WTO and thus have agreed to uphold the TRIPS agreement. Specifically, member states agree to:

-- treat all national and foreign products equally;
-- establish at least 20 year minimums for patents;
-- forbid patent holders whose patents have expired from issuing “exclusive compulsory licenses” that enable the technology to spread only to countries and firms chosen by the patent holder;
-- shift the burden of proof in patent infringement cases from the patent holder to the alleged infringer;
-- grant grace periods of five or ten years to developing countries implementing the agreement, depending on their level of development;
-- refrain from patenting “diagnostic, therapeutic, and surgical methods of human or animal treatment,” as well as “plants, animals and their biological processes.”

The TRIPS agreement also provides for cooperation between WTO and WIPO to collect information about IPRs in member states. Moreover, it provides for enforcement actions against states that violate the agreement.


Specifically, the WTO Dispute Settlement Body can impose trade sanctions on states that are party to the agreement but fail to enforce its provisions.25

IPRs and Public Health

One of the most contentious debates about IPRs has been around the patenting of knowledge necessary to maintain public and individual health, especially on HIV/AIDS treatment. According to the TRIPS agreement, pharmaceutical companies are acting within their rights when they block the export of drugs to countries that refuse to enforce their IPRs.26 Yet this did not stop countries such as India from copying the drugs and exporting them in violation of TRIPS to developing countries where incomes are low and need for the drugs is high. This caused uproar among the pharmaceutical companies that invested time and money to research and develop the originals. In the United States, anti-HIV treatment for one patient can cost $15,000. With 4.2 million HIV/AIDS patients in South Africa alone, knock-off drugs represented a loss of income to the originating companies of more than $63 billion. According to the companies, this loss of income would reduce their ability to recoup their costs and research the next generation of drugs.27

Following an outcry by public health advocates and developing states that corporate profit should not be allowed to trump the right to health articulated in the Universal Declaration of Human Rights, strict enforcement of TRIPS became unfeasible. The WTO Ministerial Conference adopted a declaration in 2001 in Doha that recognized the need for member states to have a flexible interpretation of patent rights in TRIPS when necessary to provide better access to essential medicine.28 In 2003, WTO members agreed to a procedure for granting temporary waivers to the provisions in TRIPS that were leading to complaints against several member states, like India, that were breaking the agreement.29 Although TRIPS requires patent holders to license their pharmaceutical products under certain circumstances, the agreement forbids the export of any products made under compulsory licensing. The waiver allows the export and import of pharmaceuticals made under compulsory licensing if certain conditions are met. In 2005, WTO members agreed to an amendment to TRIPS that would make the waiver procedure permanent but the amendment has not been ratified by the required 2/3 of the WTO’s membership. In 2013, the waiver was extended for another 10 years for all least-developed countries.30 Although the use of these waivers has increased the supply of certain drugs, the conditions imposed on importing countries to receive a waiver are often so cumbersome and time-consuming that they are difficult for developing states to implement.31

Patenting of traditional knowledge about herbal remedies is also contentious. The greater economic power and legal knowledge of individuals in developed countries enables them to profit from the traditional knowledge of individuals and communities in developing countries. As explained by the UN Development Programme,

> Bioprospectors have for many years taken samples of plant material and documented their traditional medicinal uses. Without the consent of local people, this knowledge has been used to develop highly


profitable drugs. In any other situation this would be called industrial espionage—theft of both the genetic materials and the long-acquired knowledge of using them to develop medicines. The rosy periwinkle found in Madagascar, for example, contains anticancer properties, and drugs developed from it give $100 million in annual sales to a US-based multinational pharmaceutical company, Eli Lilly—but virtually nothing for Madagascar.32

In 2000, in response to pressure from India, Peru and other countries, WIPO created the Intergovernmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore (IGC). The purpose of the IGC is to promote the active participation of different stakeholders in particular indigenous groups in the future development of IPR. Although the discussion has not generated any concrete outcomes, the WIPO General Assembly instructed the IGC in 2009 to accelerate its work on developing an international agreement to protect genetic resources, traditional knowledge and traditional cultural expressions.33 An expert working group was created to accomplish this goal and several concrete proposals have been made.

IPRs and Climate Change

Often lost amongst the larger debate over the responsibility for greenhouse gas emissions and reductions is the conflict over technology transfers of “green technologies” from developed states to the developing world. Since 1978, over 60% of patents for climate-mitigation technologies have been registered in the United States, Germany, or Japan. Although the rate is rising rapidly, only 10% of the patents for innovations in climate mitigation technology in that time have come from emerging markets like China and Brazil, with almost none from the least-developed states.34 The transfer or licensing of these technologies has also been unequal, with 73% of transfers occurring between developed states and a further 22% being transfers from emerging markets to developed states. Although these figures do not measure the export of finished products like solar panels, the inequality of access to new innovations in climate mitigation technologies represents a fundamental challenge to LDCs who face the biggest risks from climate change.

The lack of domestic innovation in climate-mitigation technologies has lead to calls by many developing states for greater access to innovations developed elsewhere. During negotiations before the 2009 United Nations Climate Change Conference in Copenhagen, several states lead by China inserted language into the negotiation text limiting IPR for green technologies.35 Echoing the argument made by developing states about IPR and public health, China argued that patents limited their ability to achieve emissions reductions and proposed that patents on green technology be rejected and even revoked. Developed states countered that rejecting IPR would result in a reduction in the dissemination of the technology and a reduction in innovations as corporations would not invest in developing technology they could not profit from.

The World Economic and Social Survey 2013 claims that the transformation of the energy system is necessary for sustainable development and that technology will play a major role. Meeting this goal will require that developing countries turn to traditional knowledge to “leapfrog” over developed states in the areas of sustainable development and that developed states need to cooperate with developing states to provide economic and financial incentives to promote the creation and adoption of new technologies.36 Following an initiative by the Secretary-General, UN


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member states declared 2012 the Year of Sustainable Energy for All.\textsuperscript{37} Referencing this initiative, the United Nations Environment Programme (UNEP) concludes the goal is feasible, but new policy innovations including methods of technology transfer to LDCs are needed for “creating capacity to facilitate technology transfer, adapt technologies to local market conditions and support private-sector players that install, manufacture, operate and maintain the technologies.”\textsuperscript{38}

\textit{Previous Committee Work on This Topic}

Supporters of TRIPS argue that the agreement promotes the spread of needed technology to less-developed countries.\textsuperscript{39} In May 2008, for example, the WIPO Director-General discussed the benefits of WIPO’s work with Ghana to create an Intellectual Property Development Plan. This plan articulates standards for Ghana’s businesses and universities that are consistent with the TRIPS rules. The plan signals to international business that Ghana will prosecute enterprises that sell knock-off products for which patents and copyrights have not yet expired. This makes it more likely that international businesses will allow their latest technologies to be sold in the country, thereby helping Ghana meet its development objectives.\textsuperscript{40}

On the other hand, critics of TRIPS in particular and of IPRs in general argue that they “[retard] socially beneficial innovation by providing monopolies to property owners.”\textsuperscript{41} Since 97 percent of the world’s patents are held by countries or governments in developed countries, developing countries must either wait until patents expire to use technologies or pay patent, trademark, and copyright royalties (use fees) whose costs may “significantly outweigh the benefits” of the products or information.\textsuperscript{42}

In 2009, both WIPO and the UN took steps to support greater use of IP to promote development goals. After years of pressure from developing countries led by Argentina and Brazil, WIPO revised and expanded its strategic goals to include “facilitating the use of IP for development.”\textsuperscript{43} And following a joint statement by the Group of 77 and China on the topic, ECOSOC adopted a ministerial declaration encouraging “encouraging all states to apply measures and procedures for enforcing intellectual property rights in a manner so as to avoid the creation of barriers to the legitimate trade of medicines.”\textsuperscript{44} Despite these changes, critics argue there is still a bias in international organizations for corporate interests. The Third World Network (TWN) criticized a 2013 UN Secretary-General’s report to ECOSOC for blindly supporting the claim that strong IPR promotes innovation and investment and failing to recognize the adverse impacts of current IPR instruments on developing states.\textsuperscript{45}

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\textsuperscript{41} Sell, “Multinational Corporations as Agents of Change,” pp. 1-2.


\textsuperscript{43} World Intellectual Property Organization, “What is WIPO?” Deere, The implementation game, p. 128.

report, issued while negotiations were taking place within the WTO to extend the pharmaceutical waivers to TRIP, made no mention of the issue.

The ongoing failure of the Doha round of global trade talks has generated some interest in regional preferential trading agreements (PTAs), with the two most contentious being US-led talks to create the Trans-Pacific Partnership (TPP) and the Transatlantc Trade and Investment Partnership (TTIP). The TPP started as PTA between Brunei, Chile, New Zealand, and Singapore in 2005 but expanded into a 12-country Pacific Rim PTA whose goal is liberalize trade in areas like investment, regulations, and services where global talks have stalled.46 The TTIP is a PTA agreement between the United States and the European Union focused on similar trade issues. As the TPP is envisioned to include some developing states, critics are concerned about the preserving provisions for “special and differential treatment” those states have at the WTO.47 While the WTO provisions, which allow developing states to maintain some protectionist policies, are consistent with the Millennium Development Goals trade goals which call for addressing the special needs of developing countries and expanding access to pharmaceuticals and information technology, the draft provisions of TPP are not.48 Critics are especially concerned about the intellectual property rights provisions in a negotiating draft of the agreement leaked to WikiLeaks last year.49

Conclusion

The majority of debate about IPRs features developed countries on one side and developing countries on the other. Developing countries seek to reform the IPR regime by lowering IPR standards to generate greater technology transfer to promote economic development and to protect the economic and human rights of their people. Among the suggestions for reform are reducing patent life from its current 20 year minimum, offering developing countries lower royalty rates on patented products, and making it easier and less expensive to license technologies once patents have expired. In addition, it has been argued that developed countries and international organizations should help developing countries develop the technical capabilities to conduct research and development, so they too can benefit from patent and copyright law.50 These suggestions arise out of the awareness that today’s developed countries developed without strict IPR laws and with well-documented violations of the few laws that were in place.51

By contrast, developed countries argue that domestic firms have lost billions of dollars through infringement on their property rights due to lax enforcement by developing countries. They also argue that developing countries do not have the research infrastructure to develop technology at the rate developed countries do, thus paying royalties for the use of patented technologies and copyrighted information is an efficient way to improve conditions in the developing world. Critics of further reform also argue that the TRIPS provisions that denying exclusive compulsory licensing and allowing developing countries a grace period make up for developed country advantages, so no further adjustments need to be made.


51 Sell and May, “Forgetting History is Not an Option,” 26-27.
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As the GA subcommittee concerned with economic and financial matters, the GA-2 can make recommendations to UN member states and WIPO about how to respond to these competing views of IPRs. In researching and writing your country’s position on this issue, consider the following questions:

-- Is your country a developed or developing state? Does it produce “creations of the mind” that need to be patented, copyrighted, or trademarked? Is it in need of new “creations of the mind” for development purposes?
-- Is your country a member of the WTO and therefore subject to TRIPS regulations? Has it signed the Paris and/or Berne Conventions? Does it belong to WIPO? Why or why not?
-- What role has it played in recent WTO and WIPO debates about how to reform TRIPS?
-- How can the GA-2 promote IPRs that help both developed and developing countries?
-- Should there be different IPR rules for different countries and/or for different types of products?
-- What is the relationship between IPRs, and innovation and access to new developments in public health?
-- Do IPRs do more to promote or limit mitigation and adaptation to climate change?
-- Is your country participating in any of the US-sponsored trade talks in Asia and Europe? If so, what position has your country taken on the TRIPs elements included in these negotiations?

Recommended Reading


This book looks at the connection between climate change and development. See chapter 5 for a discussion of the role technology transfer will play in climate protection efforts.


This article looks at the implications of a transatlantic trade agreement for the US and the EU in the context of changing global trade patterns and the need for greater competitiveness in developed economies.


This article summarizes recent developments in disputes over access to patented HIV/AIDS medicines and how that fight is now moving to medicines for noncommunicable diseases like diabetes and cancer.


This book provides a good overview of the debates surrounding IPRs, TRIPS, development, and human rights. It also identifies the countries that have been most involved on each side of the debate.


This speech from Chair of the LDC Group at the UN Climate Negotiations, Prakash Mathema, provides insight into the perspective of LDCs on climate change technology. (Also see Mathema’s speeches for the opening and closing of the thirty-ninth session of the Subsidiary Body for Scientific and Technological Advice {SBSTA}), available at http://ldcclimate.wordpress.com/category/ldc-chair-statements/.

This opinion piece by Tim Wilson, Australia’s Human Rights Commissioner, in the Wall Street Journal elaborates the developed state, or market-based, approach to climate technology. For insight on the corporate view of the effects of failing to uphold IPR, see this press release from the US company American Superconductor: AMSC. “China's Sinovel Indicted in the United States for Stealing AMSC Trade Secrets.” 27 June 2013. Available at http://ir.amsc.com/releasedetail.cfm?ReleaseID=774372.


This site provides a ranking of each country by level of development. The UNDP is also a good source for information on the needs of developing countries. On IPRs, see the sections on MDG 8.


WIPO is the UN body that addresses intellectual property concerns. This site provides access to information about WIPO, as well as the texts of the various IPR agreements.


In its mission of promoting free trade, the WTO publishes information on each member state’s involvement in international trade and compliance with trade agreements, such as TRIPS. This is a good place to find out what legal challenges your country is facing on this issue.