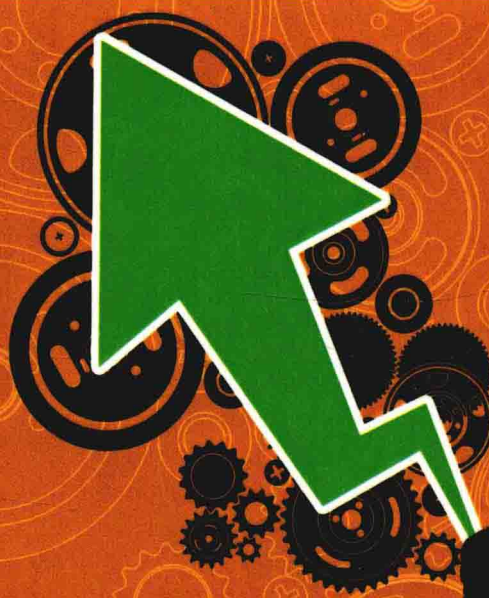
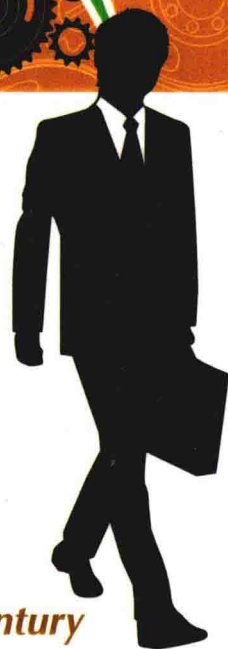


# Intellectual Property

## Trade Considerations and Protection Efforts



**Nicholas D. Melark**  
Editor



*Intellectual Property in the 21st Century*

NOVA

INTELLECTUAL PROPERTY IN THE 21<sup>ST</sup> CENTURY

# **INTELLECTUAL PROPERTY**

## **TRADE CONSIDERATIONS AND PROTECTION EFFORTS**

**NICHOLAS D. MELARK**  
**EDITOR**



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**INTELLECTUAL PROPERTY IN THE 21<sup>ST</sup> CENTURY**

# **INTELLECTUAL PROPERTY**

## **TRADE CONSIDERATIONS AND PROTECTION EFFORTS**

# **INTELLECTUAL PROPERTY IN THE 21<sup>ST</sup> CENTURY**

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## PREFACE

This book provides background on intellectual property rights (IPR) and discusses the role of U.S. international trade policy in enhancing IPR protection and enforcement abroad. IPR are legal rights granted by governments to encourage innovation and creative output by ensuring that creators reap the benefits of their inventions or works, and they may take the form of patents, trade secrets, copyrights, trademarks or geographical indications. U.S. industries that rely on IPR contribute significantly to U.S. economic growth, employment, and trade with other countries. Counterfeiting and piracy in other countries may result in the loss of billions of dollars of revenue for U.S. firms as well as the loss of U.S. jobs.

Chapter 1- This report provides background on intellectual property rights (IPR) and discusses the role of U.S. international trade policy in enhancing IPR protection and enforcement abroad. IPR are legal rights granted by governments to encourage innovation and creative output by ensuring that creators reap the benefits of their inventions or works, and they may take the form of patents, trade secrets, copyrights, trademarks, or geographical indications. U.S. industries that rely on IPR contribute significantly to U.S. economic growth, employment, and trade with other countries. Counterfeiting and piracy in other countries may result in the loss of billions of dollars of revenue for U.S. firms as well as the loss of U.S. jobs. Responsibility for developing IPR policy, engaging in IPR-related international negotiations, and enforcing IPR laws cuts across several different U.S. government agencies.

Chapter 2- A patent, which is a form of intellectual property right (IPR), is a legal, exclusive right granted for the invention of a new product, process, organism, design, and plant. It allows the right holder to exclude others from making, using, or selling the protected invention for a period of 20 years. Patents constitute the most common method for governments to encourage research and development (R&D) in order to find pharmaceutical treatments and cures for diseases and other illnesses.

Chapter 3- Many businesses have developed proprietary information that provides a competitive advantage because it is not known to others. As the United States continues its shift to a knowledge- and service-based economy, the strength and competitiveness of domestic firms increasingly depends upon their know-how and intangible assets. Trade secrets are the form of intellectual property that protects this sort of confidential information.

Chapter 4- Intellectual property (IP) plays a significant role in the U.S. economy. Enforcing IP laws involves many U.S. agencies, making coordination essential. Under the Prioritizing Resources and Organization for Intellectual Property Act of 2008 (PRO-IP Act), Congress required the U.S. Attorney General, through the Department of Justice (DOJ), to

devote additional resources and undertake other specific IP efforts. The PRO-IP Act also created the position of the Intellectual Property Enforcement Coordinator (IPEC) to enhance interagency coordination. The act mandates that GAO provide Congress with a report on the efforts of DOJ and the IPEC.

Chapter 5- In October 2008, Congress passed the Prioritizing Resources and Organization for Intellectual Property Act of 2008 (PRO-IP Act), to improve the effectiveness of U.S. government efforts to protect intellectual property (IP) rights such as copyrights, patents, and trademarks. The act also directed GAO to provide information on the quantification of the impacts of counterfeit and pirated goods. GAO (1) examined existing research on the effects of counterfeiting and piracy on consumers, industries, government, and the U.S. economy; and (2) identified insights gained from efforts to quantify the effects of counterfeiting and piracy on the U.S. economy.

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*Chapter 1*

# INTELLECTUAL PROPERTY RIGHTS AND INTERNATIONAL TRADE

*Shayerah Ilias and Ian F. Fergusson*

## SUMMARY

This report provides background on intellectual property rights (IPR) and discusses the role of U.S. international trade policy in enhancing IPR protection and enforcement abroad. IPR are legal rights granted by governments to encourage innovation and creative output by ensuring that creators reap the benefits of their inventions or works, and they may take the form of patents, trade secrets, copyrights, trademarks, or geographical indications. U.S. industries that rely on IPR contribute significantly to U.S. economic growth, employment, and trade with other countries. Counterfeiting and piracy in other countries may result in the loss of billions of dollars of revenue for U.S. firms as well as the loss of U.S. jobs. Responsibility for developing IPR policy, engaging in IPR-related international negotiations, and enforcing IPR laws cuts across several different U.S. government agencies.

Promoting the enforcement of IPR is an important component of U.S. international trade policy. Since the 1995 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) at the World Trade Organization (WTO), trade policy has been used to promote enforcement of IPR abroad. The United States and several trading partners have been negotiating the Anti-Counterfeiting Trade Agreement (ACTA), which would surpass TRIPS Agreement commitments.

The United States also pursues international IPR support through regional and bilateral free trade agreements (FTAs), which often include IPR commitments by U.S. partners exceeding their TRIPS Agreement obligations. However, the May 10, 2007 bipartisan trade agreement led to a scale-back of some of the IPR requirements in the Peru, Panama and Colombia FTAs, in an effort to bolster bipartisan support for the FTAs. Other trade policy tools also are available for U.S. efforts to advance international IPR. Pursuant to Section 182 of the Trade Act of 1974 as amended (P.L. 93-618), the Office of the U.S. Trade Representative (USTR) identifies countries providing inadequate IPR protection in its annual "Special 301" report. Section 337 of the amended Tariff Act of 1930 authorizes the U.S.

International Trade Commission (ITC) to prohibit U.S. imports of infringing products. Additionally, under the Generalized System of Preferences (GSP), the United States may consider a developing country's IPR policies and practices as a basis for offering or suspending preferential duty-free entry to certain products from the country.

IPR protection and enforcement has been a focal point of legislative activity in recent sessions of Congress. In the 110<sup>th</sup> Congress, legislation was enacted to establish a new entity to coordinate intellectual property activities within the federal government (P.L. 110-403). In the 111<sup>th</sup> Congress, legislation was introduced calling for greater U.S. international IPR enforcement efforts and increased prioritization of resources devoted to such activities (H.R. 496 and related bill S. 1466; H.R. 2410 and H.R. 2475).

Given the role of IPR in the U.S. economy and its contribution to U.S. employment and trade, IPR issues related to international trade policy may figure prominently in the 112<sup>th</sup> congressional agenda. Congress may choose to consider whether or not FTAs are an appropriate vehicle for boosting intellectual property protection and enforcement. Congress also may balance IPR protection and enforcement with other public policy goals such as access to medicine in poor or developing countries. In addition, Congress may examine the effectiveness of the current U.S. coordinating structure for promoting international IPR support.

## INTRODUCTION

Intellectual property rights (IPR) traditionally have been matters of national concern. Individual nation states have developed IPR regimes reflecting their domestic needs and priorities. Over time, intellectual property protection and enforcement have come to the forefront as a key international trade issue for the United States, figuring prominently in the multilateral trade policy arena and in regional and bilateral U.S. free trade agreements (FTAs).

The protection and enforcement of IPR in the United States and abroad is of key interest to Congress. Intellectual property is an increasingly critical component of the U.S. economy. Industries that rely on intellectual property protection in the United States claim to lose billions of dollars each year due to overseas IPR infringement. In light of the recent international financial crisis and global economic downturn, congressional interest has grown in the role of IPR in advancing U.S. industrial competitiveness and contributing to U.S. economic recovery following the recent international crisis. Members of Congress also have expressed concern about the potential health and safety consequences of counterfeit pharmaceutical drugs and other products, as well as the possible link between terrorist groups and traffic in counterfeit and pirated goods.

This report discusses the different kinds of IPR and forms of IPR infringement; importance of IPR to the U.S. economy; estimated losses associated with IPR infringement; organizational structure of IPR protection in multilateral, regional, bilateral arenas; U.S. government agencies involved with IPR and trade; and issues for Congress regarding IPR and international trade.

## INTELLECTUAL PROPERTY RIGHTS BASICS

This section provides definitions of the various kinds of intellectual property rights (patents, trade secrets, copyrights, trademarks, and geographical indications) and intellectual property rights misappropriation (infringement, piracy, and counterfeiting).

### Types of IPR

IPR are legal rights granted by governments to encourage innovation and creative output. They ensure that creators reap the benefits of their inventions or works and may take the form of patents, trade secrets, copyrights, trademarks, or geographical indications. Through IPR, governments grant a temporary legal monopoly to innovators by giving them the right to limit or control the use of their creations by others. IPR may be traded or licensed to others, usually in return for fees and or royalty payments. Although the World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) provides minimum standards for IPR protections, such rights are granted on a national basis and are, in general, enforceable only in the country in which they are granted. However, countries are obliged to abide by WTO rules and their IPR enforcement practices can be challenged by other countries at the WTO.

#### Patents

The Patent Act (35 U.S.C. 101 *et seq*) governs the issuance and use of patents in the United States. Patents are granted for inventions of new products, processes, or organisms (known as utility patents). Patents also may be granted for designs and plants. For an invention to be patentable, it must be new, “non-obvious” (involving an inventive step), and have a potential industrial or commercial application. The patent provides the holder with the exclusive right to sell the invention for a period of 20 years, or to prevent the incorporation of the invention into other products without the permission of the rights-holder. The patent right is based on the proposition that inventors must be granted a temporary monopoly over their invention in order to encourage innovation and to promote the expenditure of money on research and development. The patent holder recoups these up-front costs through a temporary monopoly over sale of the invention. In return for this economic rent, the patent holder must disclose the content of the patent along with test data and other information concerning the invention. This is meant to spur further creativity by those seeking to build on the patent after its expiration. Domestically, patents are granted by the Patent and Trademark Office (PTO) of the Department of Commerce.

#### Trade Secrets

A trade secret is any type of valuable information, including a “formula, pattern, compilation, program device, method, technique, or process,” that derives independent economic value from not being generally known or readily ascertainable and is subject to reasonable efforts by the owner to maintain its secrecy.<sup>1</sup> Examples of trade secrets include blueprints, customer lists, and pricing information. While protection of patents and copyright

is a matter of federal law, trade secret protection is found also in state law. However, most states subscribe to the Uniform Trade Secret Act (UTSA).

There are important differences between trade secrets and patents. Individuals do not have to apply for trade secret protection as they would for patents. Protection of trade secrets originates immediately with the creation of the trade secret; there is no process for applying for or registering trade secrets. Trade secret protection does not expire unless the trade secret becomes known. In contrast, patent applicants must disclose information about their innovation to the PTO in order to acquire a patent. Patents offer rights holders stronger protection but for a limited period of time. While applying for a patent can be a costly and lengthy process, patents are valuable if the confidentiality of the innovation is fragile or if the area of research is highly competitive.

### **Copyright**

Protection of copyrights in the United States is based on the Copyright Act (17 U.S.C. 101, *et seq.*). Copyrights protect original expressions of authorship. Such protections include literary or artistic works such as books, music, sound recordings, movies, paintings, architectural works, and computer software and databases (though not individual bits of data). Traditionally, copyrights differed from patents in that there was no claim to industrial applicability or novelty of the idea. The expression of the idea, not the underlying idea, was being copyrighted. While some of the criteria for copyrights differ from those of patents, the objective is the same: investments of time, money, and effort to create work of cultural, social and economic significance should be protected to encourage further creativity. U.S. law protects authorship for life plus 70 years for personal works, or 120 years from creation (or 95 years from publication) for corporate works. Copyrights may be registered by the Copyright Office of the Library of Congress, or acquired through creating and fixation of the work of authorship.

### **Trademarks**

Trademark protection in the United States is governed jointly by state and federal law. The main federal statute is the Lanham Act of 1946 (15 U.S.C. 1051, *et seq.*). Also known as service marks, trademarks permit the seller to use a distinctive name, mark, or symbol to identify and market a product, service, or company. The trademark allows quick identification of the seller's product, and for good or ill, can become an indicator of a product's quality. If for good, the trademark can be valuable in the introduction of new products by conveying an instant assurance of quality. The trademark is designed to prevent other companies with similar merchandise from free-riding on the association of quality with the trademarked item. Thus, a trademarked good may command a premium in the marketplace because of its reputation. For trademarks, distinctiveness is at a premium because a trademark must capture the consumer's imagination to be effective as generic names of commodities cannot be trademarked. Trademark rights are acquired through use or through registration with the PTO.

A related concept to trademarks is the geographic indication, which is also protected by the Lanham Act. The geographic indication acts to protect the quality and reputation of a distinctive product originating in a certain region; however, the benefit does not accrue to a sole producer, but rather the producers of a region. Geographic indications are generally sought for agricultural products, or wines and spirits. Protection for geographical indications

is acquired in the United States by registration with the PTO, through a process similar to trademark registration.<sup>2</sup>

## **Infringement of IPR**

IPR infringement is the misappropriation or violation of the IPR. In the case of patents, infringement of a patent owner's exclusive rights (as afforded by patent laws) involves a third party's unauthorized use of the patented device. As relates to international trade, the greatest challenge to the patent right is infringement in foreign countries, or non-observance by WTO member states to the minimal standards of the TRIPS Agreement. Copyright infringement occurs when a third party engages in reproducing, performing, making sound or visual recordings of, or broadcasting a copyrighted work without the consent of the copyright owner.

### ***Piracy***

The term "piracy" has applications to both copyrights and trademarks. The major challenge facing copyright protection is piracy, either through physical duplication of the work, illegal dissemination of copyrighted material (such as computer software, music, or movies) over the Internet, and/or participation in commercial transactions of copyrighted materials without the consent of the copyright owner. With respect to trademarks, piracy involves the registration or use of a famous foreign trademark that is not registered in the country or is invalid because the trademark has not been used.

### ***Counterfeiting***

An imitation of a product is referred to as a "counterfeit" or a "fake." Counterfeit products are manufactured, marketed, and distributed with the appearance of being the genuine good and originating from the genuine manufacturer.<sup>3</sup> The purpose of counterfeit goods is to deceive consumers about their origin and nature. Counterfeiting and copying of original goods are major challenges for trademarked products. The counterfeited product can be sold for a premium because of its association with the original item, while reducing the sales of the original items. Furthermore, consumer experience with a counterfeited good of inferior quality, can damage the reputation of the trademark product. Popular examples of counterfeit products in fake fashionwear, such as Louis Vuitton bags or Rolex watches, or fake pharmaceutical products, such as popular brand-name prescription medicines.

A related issue is the imitation of labels and packaging of trademarked goods. In this situation, the imitator uses a trademark that is confusingly similar to a well-known trademark in order to benefit from the reputation of the product with which he is competing.

## **GLOBAL INTELLECTUAL PROPERTY HOLDINGS**

The total number of patent filing applications received under the Patent Cooperation Treaty (PCT), an international patent filing system administered by the World Intellectual Property Organization (WIPO), has grown in recent years. After peaking in 2008,

international patent filings under the PCT fell by 4.5% in 2009, reflecting the international financial crisis. The contraction of the global economy has been associated with a decline in investment and spending on research and development.<sup>4</sup> In 2010, international patent filings grew by 4.8% to 162,900—nearly 2008 levels (see Table 1).<sup>5</sup>

Intellectual property holdings that are protected by international agreements are highly concentrated in certain countries. The United States continues to be the source of the world's largest number of patent filing applications under the PCT, accounting for nearly one-third of such filings in 2010. However, the U.S. growth rate of patent filings has been negative in recent years. The United States, along with Germany and Japan, accounted for about 60% of all patent applications filed in 2010 under the PCT. China ranked as the fourth largest source of international patent filings under the PCT in 2010, representing about 8% of global filings. China had the highest growth rate in such filings, at about 56% in that year.

## CONTRIBUTION OF INTELLECTUAL PROPERTY TO U.S. ECONOMY

Intellectual property is an important source of comparative advantage for the United States. Nearly every industry depends on IPR for its businesses. Among the industries that are dependent on patent protection are the aerospace, automotive, computer, consumer electronics, pharmaceutical, and semiconductor industries. Copyright-based industries include the software, data processing, motion picture, publishing, and recording industries. Other industries that indirectly benefit from IPR protection include retailers, traders, and transportation businesses, which support the distribution of goods and services derived from intellectual property.<sup>6</sup>

The role of IPR in the U.S. economy has been longstanding. Some evidence suggests that factors linked to innovation account for about three-fourths of the United States' post-World War II growth rate.<sup>7</sup> In recent years, the role of IPR in the U.S. economy has grown. Various studies suggest that IP-related industries are one of the largest source of jobs in the United States. One study using data from 2000-2007 found that, among tradable industries, IP-intensive industries surpass non-IP-intensive industries on a range of economic measures, including job creation, wages, output and sales per employee, and exports. During this time period, according to the study, IP-intensive industries paid both their low- and highly skilled employees close to 60% more than non-IP-intensive industries. The report also found that IP-intensive industries represented nearly 60% of total U.S. exports during 2000-2007.<sup>8</sup> More broadly, IPR-intensive industries may contribute positively to the U.S. economy through productivity gains and other spillover effects.

Industry-specific figures may further demonstrate the importance of IP to the U.S. economy. For example, in 2007, the business and entertainment software, motion picture, recording, and publishing industries, which rely on copyright protection, were estimated to contribute about \$889 billion to the U.S. economy ("value-added" to current GDP), or about 6.44% of the U.S. economy. This was an increase from 2006, during which the value-added of these copyright industries to the U.S. GDP totaled \$837 billion, or 6.35% of the U.S. economy. These copyright industries also accounted for nearly 23% of real U.S. annual economic growth in 2007, up from about 13% in 2006. In terms of U.S. employment, the copyright industries represented 4% of U.S. workers (5.6 million workers) in 2007, similar to

the prior year. Foreign sales and exports from these industries amounted to \$126 billion in 2007, up from \$116 billion in 2006.<sup>9</sup>

The pharmaceutical industry, which is patent-intensive, provides another illustration of intellectual property contributions to the U.S. economy. In 2009, domestic sales by research-based pharmaceutical companies that are members of Pharmaceutical Researchers and Manufacturers of America (PhRMA) reached an estimated \$183 billion, while sales abroad by PhRMA member companies totaled about \$103 billion.<sup>10</sup>

The intellectual property industries contribute positively to the overall U.S. trade balance through royalties and licensing fees. Rights-holders may authorize the use of technologies, trademarks, and entertainment products that they own to entities in foreign countries, resulting in revenues through royalties and license fees.<sup>11</sup> In 2009, U.S. receipts from cross-border trade in royalties and license fees (relating to patent, trademark, copyright, and other intangible rights) totaled \$89.8 billion, down from \$93.9 billion in the previous year. Also in 2009, U.S. payments of royalties and license fees to foreign countries amounted to \$25.2 billion, down from \$25.8 billion in the year before. Industrial processes, computer software, and trademarks accounted for the bulk of U.S. international trade in intangible assets.<sup>12</sup>

**Table 1. Global Intellectual Property Filings Through the PCT, 2006-2009.**

Country	2008	2009		2010	
	Filings	Filings	Filings	Percent of	Growth from
Country	2008	2009		2010	
				Total	Previous Years
United States	51,637	45,618	44,855	27.5%	-1.7%
Japan	28,760	29,802	32,156	19.7%	7.9%
Germany	18,855	16,797	17,171	10.5%	2.2%
China	6,120	7,900	12,337	7.6%	56.2%
South Korea	7,899	8,035	9,686	5.9%	20.5%
France	7,072	7,237	7,193	4.4%	-0.6%
United Kingdom	5,466	5,044	4,857	3.0%	-3.7%
Netherlands	4,363	4,462	4,097	2.5%	-8.2%
Switzerland	3,799	3,671	3,611	2.2%	-1.6%
Sweden	4,137	3,567	3,152	1.9%	-11.6%
Canada	2,976	2,527	2,707	1.7%	7.1%
Italy	2,883	2,652	2,632	1.6%	-0.8%
Finland	2,214	2,123	2,076	1.3%	-2.2%
Australia	1,938	1,740	1,736	1.1%	-0.2%
Spain	1,390	1,564	1,725	1.1%	10.3%
All Others	13,725	12,659	12,909	7.9%	2.0%
<b>Total</b>	<b>163,234</b>	<b>155,398</b>	<b>162,900</b>		

Source: World Intellectual Property Organization.

Some advocates of civil liberties assert that empirical analysis on the role of IPR in the U.S. economy may not be fully evaluating the economic and commercial benefits of lawful exceptions and limitations to exclusive rights. For example, by one estimate, businesses that rely on “fair use” exceptions to U.S. copyright law contribute \$2.2 trillion to the U.S.

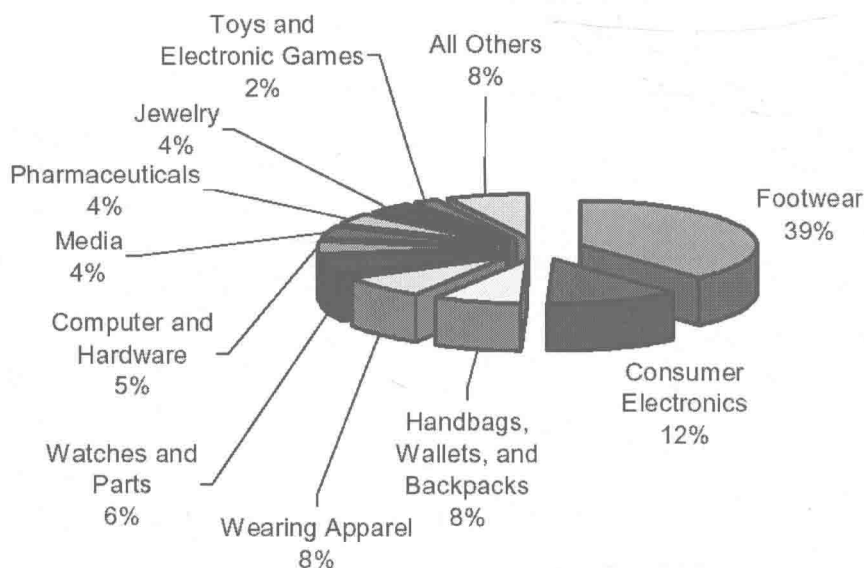


economy. The “fair use” doctrine permits limitations and exceptions to the exclusive right afforded by copyright law. It permits limited use of copyrighted works without requiring permission from the right holder in certain cases, examples of which may include news reporting, research, teaching, and library use.<sup>13</sup>

## Prevalence and Economic Consequences of IPR Infringement

Advances in information and technology and declining costs of transportation and communication, spurred by globalization, have fundamentally changed information and trade flows. Such changes have created new markets for U.S. exporters, but at the same time, have been associated with the proliferation of counterfeiting and piracy on a global scale.

Several factors contribute to the growing problem of IPR infringement. While the costs and time for research and development are high, IPR infringement is associated with relatively low costs and risks and a high profit margin. According to PhRMA, it takes a pharmaceutical company about 10 to 15 years of research and development to create a new drug. PhRMA member companies collectively spent an estimated \$46 billion for research and development (domestic and abroad) in 2009.<sup>14</sup> In contrast, drug counterfeiters can lower production costs by using inexpensive, and perhaps dangerous or ineffective, ingredient substitutes.



Sources: U.S. Customs and Border Protection and U.S. Immigration and Customs Enforcement.

Figure 1. Border Seizures of Counterfeit and Pirated Goods: FY2009.

The development of technologies and products that can be easily duplicated, such as recorded or digital media, also has led to an increase in counterfeiting and piracy. Increasing Internet usage has contributed to the distribution of counterfeit and pirated products. Additionally, civil and criminal penalties often are not sufficient deterrents for piracy and counterfeiting. The United States is especially concerned with *foreign* IPR infringement of



U.S. intellectual property. Compared to foreign countries, IPR infringements levels in the United States are estimated to be relatively low.

### *Seizures*

Because of the secretive, illicit nature of IPR infringement, it is difficult to estimate the magnitude of its impact on U.S. producers and exporters. However, customs data on seizures of counterfeit and pirated goods may offer some idea of the magnitudes involved. One study by the Organization for Economic Cooperation and Development (OECD) indirectly extrapolated available customs data on seizures to conclude that world trade in counterfeit and pirated goods may have amounted to about \$200 billion in 2005. In particular, the study used the customs information to estimate the probability that imports of particular goods from particular countries would be pirated or counterfeit. The OECD estimate does not include the counterfeit and pirated goods produced and consumed within a country and does not include infringing goods distributed over the Internet. If these figures were included, the trade estimate likely would be higher.<sup>15</sup> Updated estimates from the OECD suggest that trade in IPR-infringing goods may have totaled up to \$250 billion in 2007. During that same time period, the share of counterfeiting and pirated goods in world trade also is estimated to have increased—from 1.85% in 2000 to 1.95% in 2007.<sup>16</sup>

Data on pirated and counterfeit seizures of imports at the U.S. border shed light of the magnitude of the issue in the U.S. context (see **Figure 1**). In FY2009, the Customs and Border Protection (CBP) and Immigration and Customs Enforcement (ICE) agencies of the Department of Homeland Security (DHS) made 14,841 IPR-related seizures, more than double the FY2005 level of 8,022. Between FY2005-FY2008, the domestic value of IPR-related seizures grew by more than 25% each year. The domestic value of seizures peaked at \$272 million in FY2008 and then dropped by 4% to about \$261 million in FY2009.<sup>17</sup>

Of all U.S. trading partners, China continues to account for the majority of counterfeits intercepted at the U.S. border. In FY2009, seizures of goods originating from China represented 79% of all seizures and \$205 million in value. Other top trading partners from which IPR-infringing goods were seized include Hong Kong, India, Taiwan, and Korea.<sup>18</sup>

A top priority for the CBP is seizing counterfeit imports that endanger the health and safety of consumers, such as fake healthcare products, pharmaceutical products, and consumer electronics. The total value of IPR-related seizures of commodities that represent potential safety and security risks was \$32 million in FY2009. Pharmaceutical goods were the top commodity posing safe and security risks, accounting for 34% (\$11 million in domestic value) of such commodities intercepted at U.S. borders. Imports from China represented 62% of IPR-related goods that were intercepted at U.S. borders and identified as presenting safety and security risks, followed by such imports from India at 9%.<sup>19</sup>

### *Sectoral Infringement*

U.S. industries that rely on IPR protection claim to lose billions of dollars in revenue annually due to piracy and counterfeiting. In addition, beyond the direct losses faced by U.S. intellectual property-based firms, the U.S. economy may face additional “downstream” losses from IPR infringement. According to this view, counterfeiting and piracy losses to U.S. firms, for example, also result in the loss of jobs that would have been created if the infringement did not occur, which translates into lost earnings by U.S. workers. This, in turn, translates into