

Intellectual Property:

Making It Personal

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Citizens Against Government Waste

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Introduction

Most Americans do not think much about how property rights affect them in their daily lives. If they consider the subject at all, they are likely to be more aware of the monetary value of private property than intellectual property (IP). People will protect their valuables at home and work by locking their doors and installing security systems, and they usually have a good idea of how much their business, home, car, and investments are worth.

But few people realize that nearly every product they use is the result of someone's idea, or IP; nor are they likely to know the value of IP to the economy. And it is even more unlikely that they understand the impact of IP theft on either the creative process or the tens of millions of ordinary Americans who participate in that process.

A Brief History of Intellectual Property Protection

During medieval times guilds, associations, or artisans were granted authority by the government to control the regulation and conduct of various industries.¹ In England, personal property and IP were traditionally viewed as distinct subjects with different origins. Personal or tangible property was viewed as “a creature of common law,” whereas copyrights and other IP were considered “largely a creature of statute.”²

The 1623 Statute of Monopolies provided for the exclusive control over an invention for a period of 14 years to the “true and first inventor.”³ The Statute of Anne in 1710 granted an initial 14-year protection period with a possible 14-year renewal for protection of IP rights.⁴

In the United States, following the Revolutionary War every state had its own patent law, and every state except Delaware had its own copyright law.⁵ The protection and promotion of IP was so important to the Founding Fathers that they included it in the General Welfare Clause, Article 1, Section 8 of the U.S. Constitution:

To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.⁶

Unlike IP, personal property is protected under the Fourth and Fifth Amendments, not in the Constitution itself. During the First Congress, H.R. 43, the Copyright Act of 1790, was enacted and signed into law on May 31, 1790 by President George Washington. As one of the first laws enacted by Congress, the legislation provided copyright protection for books, maps, and charts and established both the U.S. Copyright Office and the U.S. Patent and Trademark Office (PTO). These agencies were tasked with cataloguing, analyzing, and protecting IP rights.

Musical compositions were not mentioned in the text of the act and would not be expressly covered by copyright until the Copyright Act of 1831. However, they were routinely registered under the 1790 Act and categorized as “books.”⁷

Unlike the PTO, there is no “Office of Personal Property” or a “Department of Personal Property.” In fact, Article 5 states that private property can be taken for public use with just compensation. Although the government can exercise eminent domain over private property under such circumstances, it has no similar right to take away IP.

The legal protection of IP has enormous value. It turns intangible assets into exclusive property that can be traded in the marketplace. A March 2012 report by the U.S. Department of Commerce Economics and Statistics Administration and the PTO found that direct employment

in the most IP-intensive industries in the U.S. accounted for 27.1 million jobs in 2010, and indirect activities associated with those industries provided an additional 12.9 million jobs for a total of 40 million jobs, or 27.7 percent of all jobs in the economy.⁸

In a comparative study on the value of IP, economists Kevin A. Hassett and Robert J. Shapiro estimated that “innovation in its various forms accounts for 30-40 percent of the gains in growth and productivity by the American economy during the 20th century.”⁹ The study further found that the value of IP in the U.S. was between \$5 trillion and \$5.5 trillion in 2005.¹⁰ By comparison, in 2010 that value had increased to between \$8.1 trillion and \$9.2 trillion, or the equivalent of 55–62.5 percent of U.S. GDP.¹¹

In 2010, the value of IP comprised approximately 80 percent of a company’s total assets based on the Standard & Poor’s 500 Index.¹² This compares to the 1975 value of intangible assets comprising only 17 percent as IP, with the remaining 83 percent found in physical and financial assets.¹³

Internationally, some governments have been developing policies that threaten IP. The creative process will suffer as a result of such policies, because individuals and companies will not be willing to spend as much time or money on new IP if they believe the fruits of their labor will be taken away without sufficient – or any – compensation.

In a 2007 CAGW report entitled “Property Rights in the 21st Century: Don’t Steal This Paper or My Ideas,” one of this report’s co-authors examined four “myths and reality” surrounding the definition and use of IP. These premises hold true today.

Four Intellectual Property Myths

1. Myth: The price of information and ideas should be zero because products should be priced at marginal cost.

Reality: Economists reject marginal cost pricing because such policies destroy investment.

2. Myth: Intellectual property rights result in information and ideas being “locked down” by their owners.

Reality: The creators of art, books, movies, and inventions want their creations to reach as many people as possible, so long as they are compensated.

3. Myth: Intellectual property rights are monopolies that give their owners too much economic power.

Reality: Patents or copyrights support competition by encouraging inventors and creators to enter new markets; IP gives its owners no more economic power than any other asset.

4. Myth: Intellectual property rights benefit big firms at the expense of “the little guy.”

Reality: Patents are often the best protection that a small inventor has against large firms; copyright benefits creative ventures of many sizes, from solo musicians to big studios.

Strong protection of IP provides real benefits. Consider the following American inventions and whether they would have come about in a climate of weak IP protection:

- The telegraph in 1835¹⁴
- The phonograph in 1877¹⁵
- The light bulb in 1880¹⁶
- Air conditioning in 1902¹⁷
- The television in 1927¹⁸
- The point contact transistor in 1947-1948¹⁹
- Marshmallow Peeps in 1952²⁰
- Magnetic tape cartridges in 1964²¹
- The cell phone in 1973²²
- The microprocessor in 1973²³

The value of these and future inventions relies on strong IP protection. This report will review copyright, trademark, and patent issues, as well as ongoing threats to IP protections from piracy, counterfeiting, and illegal sharing online.

Many individuals who buy a fake Gucci bag on the corner or illegally download a TV show, movie, or music, share the view of Hana Beshera, one of the founders of NinjaVideo, who served 16 months in prison for violating copyright laws. Even after she got out of jail, Beshera still believed that “the movie business is so large that skimming a little off the top doesn’t hurt anybody.”²⁴ IP theft is wrong at every level; its impact affects everyone associated with the creative process. Indeed, with more than 40 million Americans directly or indirectly working in an IP-related industry, one of the victims of IP theft might well be personally known to the perpetrator.

The importance of protecting IP rights cannot be overemphasized. The right to retain legal possession of, and benefit financially from, IP is constantly being threatened. The intent of this publication is to help educate the public about the value and importance of IP, the impact on individuals and the economy from the theft of IP, and how IP helps innovation flourish and economies around the world thrive.

Chapter 1 – The Changing Face of Piracy

“Pirate” conjures up swashbuckling raiders capturing merchant ships plying their trade on the open seas. These individuals were infamous: Barbarossa, Black Bart, Blackbeard, Captain Kidd, and of course, the Dread Pirate Roberts.

Their victims were not as well-known and often elicited little sympathy, particularly if they were considered to be wealthy or otherwise elite.

Today’s pirates operate in the hidden sea of the Internet behind seemingly innocuous websites and hack into computer systems to capture trade secrets in order to produce counterfeit goods or make available stolen copyrighted material. They are mostly anonymous: unknown individuals, organized criminals, and terrorists. On the other hand, some are well-known: China, India, Russia, and Kim Dotcom.

Their victims are not so faceless. They are the creators, designers and innovators of products and services used by billions of people every day. They are the local furniture maker and wedding dress designer; they are also Ethan Allen and Vera Wang. They are the songwriter trying to share new music and the budding moviemaker with an HD video camera; they are also Bob Dylan and Disney.

With everyone now being only a mouse click away from the global marketplace, the Internet has opened up the world to economic opportunity. But the information superhighway is also wide open to criminals, who can now steal virtually what they used to have to take physically. And most of what they want is IP. Essentially, everything that can be touched, smelled, listened to, watched, worn or used can be copied or pirated from the original creator, illustrator, artist and manufacturer.

In order to help reduce such theft, governments around the world need to do everything possible to protect IP. The status of such efforts by the United States’ trading partners has been included in the U.S. Trade Representative’s (USTR) “Special 301 Report” since 1989.²⁵

The 2014 report listed 10 countries on the USTR’s Priority Watch List: Algeria, Argentina, Chile, China, India, Indonesia, Pakistan, Russia, Thailand, and Venezuela. Another 27 trading partners are on the USTR’s Watch List.²⁶

The report highlighted positive steps in IP protection in countries such as Italy, Korea, and the Philippines. These countries were removed from the watch list as a result of their efforts to combat copyright piracy, increase enforcement activities, provide more patent transparency, and adopt international treaties designed to protect the rights of authors, performers, and producers of IP.

Korea’s progress toward protecting IP is notable, since it appeared on the USTR’s first watch list in 1989. According to the 2014 report, Korea is now one of the top patent filers internationally, with state-of-the-art standards for IP rights protection and enforcement.²⁷ Unfortunately, far too many countries have failed to make such progress in protecting IP.

According to the World Intellectual Property Organization’s 2013 IP indicators report, there were more than one million patents granted in 2012 and an estimated 8.66 million patents in force worldwide.²⁸ However, protecting patents, copyrights and trademarks from IP theft remains a problem.

Every time something is designed, created, manufactured and sold in the United States and globally, it has an intrinsic IP value. When that item has a patent, trademark or copyright and is copied or remanufactured without the permission of the inventor, creator, or artist, it is stolen. While most people don’t think about the illegal knockoffs they buy online or on the street corner as stolen goods, these items are not innocuous.

The broad impact of IP theft was described by U.S. Immigration and Customs Enforcement (ICE) Assistant Secretary John Morton, who said it “robs people of their innovation, jobs and tax revenue that funds vital government services, ... IP theft is a crime organized criminals engage in, turning their profits toward other criminal activities, and IP theft creates safety risks for everyone due to the proliferation of substandard goods, including counterfeit pharmaceuticals, aircraft parts or daily consumables like toothpaste.”²⁹

On the other side of this equation, the production and use of IP creates millions of jobs and provides incentives for the development of new technology. According to the Global Intellectual Property Center (GIPC), in 2012 IP was responsible for more than 55 million jobs across the country, including California (7.3 million jobs), Texas (4.6 million jobs), Illinois (2.8 million jobs), New York (2.7 million jobs), Ohio (2.6 million jobs), Pennsylvania (2.5 million jobs), and Florida (2 million jobs).³⁰

On January 29, 2014, GIPC released its second annual IP index, rating IP protection around the world.³¹ GIPC ranked the countries through a point system based on six categories: patents (7 points), copyrights (6 points), trademarks (5 points), trade secrets and market access (2 points), enforcement (6 points), and, membership and ratification of international treaties (4 points).³²

The United States topped the list of countries with the most protection for IP with a score of 28.52 out of 30, closely followed by Great Britain, France, and Singapore. Argentina, Indonesia, Nigeria, Thailand, and Vietnam all had poor GIPC scores; Argentina, Indonesia and Thailand also appear on the USTR’s Priority Watch List, and Vietnam appears on the USTR’s Watch List. Bottoming out on the list for the second year in a row was India, with a ranking of 6.95 out of 30.

It is little wonder that India again had the worst score. On December 29, 2013, *The New York Times* reported on the ongoing struggle that drug manufacturers have protecting their patents in India,³³ which is one of the world’s leading producers of generic pharmaceuticals. Maintaining that patented drugs are too expensive for people in developing countries,³⁴ India has ruled invalid patents protecting exclusive sales of Novartis’ Gleevec, Pfizer’s Sutent and Roche’s Tarceva. The Indian government agreed that Bayer’s Nexavar patent was valid, but overrode the patent anyway because a generic drug company promised to lower the price of the treatment.

A May 30, 2014 briefing on Capitol Hill, hosted by the Information Technology Innovation Foundation (ITIF) and GIPC, highlighted the issues and challenges that India faces in moving forward on IP protection following the installation of Narendra Modi as the country’s new Prime Minister on May 26, 2014. GIPC Executive Vice President Mark Elliot stated that India’s low rankings on protecting copyrights, patents, IP, trade secrets and market access, trademarks and following international treaties contributed to its low score on the GIPC’s International IP Index. Representative Ami Bera (D-Calif.) suggested that companies would like to invest in India, but need to have knowledge of and predictability in how India engages in the protection of IP.

An April 2014 ITIF report criticized India’s use of “innovation mercantilist measures,” which force companies to abide by rules that offer public procurement of information and communication technology products, compulsory licensing of foreign bio-pharmaceutical IP, and restrictions on market access and direct foreign investments in e-commerce, retail and financial services.³⁵ The report recommended changes to India’s IP laws that could help India achieve improved economic stability and growth.³⁶

Given India’s track record, the path to improved protection of IP rights will not be smooth or easy. Moving forward, the U.S. government should continue to engage with all of its trading partners, including India, to ensure that IP is respected and protected.

IP theft affects many other industries in addition to pharmaceuticals. An August 2007 Institute for Policy Innovation report estimated that millions of illegally downloaded songs have cost the U.S. economy \$12.5 billion, 70,000 lost jobs and \$2 billion in lost wages, as well as \$422 million in tax revenue (\$291 million in personal income tax, and \$131 million in lost corporate income and production taxes).³⁷ In a 2012 report on the impact of Internet piracy on sales and revenues of copyright owners, Dr. Stan J. Liebowitz, Ashbel Smith Professor of Economics at the University of Texas at Dallas stated, “On average, the findings for music are that the entire decline in sales since 1999 is due to piracy, and these values tend to be in the vicinity of 50%-70% when dollars are measured in inflation adjusted units.”³⁸

In addition to the adverse financial consequences caused by counterfeit goods, they can also cause physical harm. On May 13, 2013, an ABC News story about a raid on a Los Angeles store selling counterfeit goods included an interview with Underwriters Laboratories, Inc. (UL) in Northbrook, Illinois. UL experts demonstrated the hazards of counterfeit extension cords that caught fire when in use, and suggested that counterfeit products that are used in everything from toasters to the wall outlets in homes have the potential to also cause damage or injury.

On June 13, 2014, ABC’s “20/20” had a segment on counterfeit goods such as name brand shampoos, soaps, and cosmetics sold at a steep discount, which have little similarity to the original product other than packaging.³⁹ Many of these counterfeits contain carcinogens, heavy metals and other chemicals known to be harmful to humans. The products are sold at various retail establishments nationwide as well as online, and are now in millions of homes across the country.⁴⁰

The U.S. Immigration and Customs Enforcement Homeland Security Investigations (HSI) directorate operates the National Intellectual Property Rights Coordination Center (IPR Center), which includes 17 key federal agencies, Interpol, Europol and the governments of Canada and Mexico. The IPR Center’s mission is to “ensure national security by protecting the public’s health and safety, the U.S. economy, and its war fighters, and to stop predatory and unfair trade practices that threaten the global economy.”⁴¹

IPR Center case studies included Operation Safe Summer, which discovered the importation of counterfeit and faulty airbags; Project Copy Cat, which seized 70 domain names of websites that mimicked real store websites to mislead consumers into purchasing counterfeit goods; Cyber Monday 3, which targeted websites selling counterfeit products during the holiday season; and Project TransAtlantic, a joint effort with Europol that led to the seizure of 182 domain names of websites selling and distributing counterfeit goods.

Counterfeit sports apparel and souvenirs have also been the target of IPR Center activities. Operation Red Zone led to the seizure of 196,333 sports-related items with a retail value of more than \$17.3 million, and Operation Team Player has resulted in the seizure of more than \$37 million in fake sports merchandise as well as 163 websites, along with the arrest of 70 individuals involved in these schemes.⁴²

The IPR Center’s ongoing operations target websites that distribute counterfeit products, pirated movies and television content; both websites and smugglers who sell fake and adulterated drugs; and the importation of counterfeit goods into the Department of Defense (DOD) and federal government supply chain.

The Internet has widely changed the way consumers purchase goods and services, but this process has also opened the door to increased fraud, counterfeiting and theft. Criminals have used the Internet to sell counterfeit drugs, bootlegged videos and songs, counterfeit apparel, and fake trademarked items.

One might wonder where the money from all of these stolen goods is going. More often than not, it is being used to fund even more nefarious activities, including the illegal drug trade, slave trade, child labor, organized crime and terrorism.⁴³ In addition, covert activity to steal trade secrets is being supported by nation-states in order to allow their domestic companies to develop their own version of these products to sell at a cheaper price.

For example, on May 19, 2014, the Federal Bureau of Investigation (FBI) placed five Chinese military officers on its most wanted list for cyber-espionage. Included in the charges are “conspiring to commit computer fraud; accessing a computer without authorization for the purpose of commercial advantage and private financial gain; damaging computers through the transmission of code and commands; aggravated identity theft; economic espionage; and theft of trade secrets.”⁴⁴

In making the announcement, U.S. Attorney General Eric Holder stated that “the range of trade secrets and other sensitive business information stolen in this case is significant and demands an aggressive response.”⁴⁵

During a trip in April 2014, to Los Angeles, California, one of this publication’s authors noted that the streets of the garment district were lined with storefronts offering steep discounts on designer clothing and handbags, and other shops offering low prices on various electronic goods. Many of these prices just seemed too good to be true.

This experience called to mind an October 22, 2013 report on ABC’s “Nightline,” which discussed seizures by the FBI and the Los Angeles Police Department of goods brought into the U.S.⁴⁶ Among the highlights of the story was the seizure of 16,000 fake Hermes handbags that had a street value of \$300,000. If these handbags had been genuine, they would have been worth more than \$210 million.

While U.S. government agencies, private-sector companies, trade associations, and nonprofit organizations are engaged in the battle to protect IP, consumer awareness is also a key component of these efforts.⁴⁷ By paying attention to details, consumers can avoid purchasing items that may be counterfeit or fake. If the price appears too good to be true, it probably is. If the product is found in a location where one would not expect to find it, such as a Prada handbag sold at a gas station, the authenticity should be in question. If the seller is not authorized to sell the item, it is probably counterfeit. If the packaging is of poor quality or torn, or contains misspelled words or other printing errors, the product is probably stolen.

Consumers shopping online should make certain that websites are authentic by checking the fine print on product descriptions, reading the FAQ section, and reviewing the “Contact Us” page. If typographical, grammatical or spelling errors appear, or incomplete information is presented, chances are the website is a fake; they are not selling the real deal and are instead luring consumers in to steal their credit card numbers and other information for more nefarious purposes.

Changes in technology have brought about new methods for pirates to steal from others. Gone are the days of the swashbuckler, replaced by nebulous criminals who use subterfuge to mislead and redirect consumers into purchasing stolen, fake or counterfeit goods. Domestic and international law enforcement agencies are taking steps to stop these thieves, but consumers must also be made aware of the threats posed to the economy and their personal safety when they purchase these products, as well as how that money is being further misused.

Chapter 2 – The Dangers of Counterfeit Drugs

Every day, doctors and health professionals prescribe millions of medications to help individuals manage everything from the common cold to chronic conditions such as high blood pressure, cancer, and diabetes. If these prescriptions are filled through the patients' healthcare plans and purchased at local pharmacies such as Rite Aid and Walgreens or through pharmacy benefit managers such as CVS Caremark and Express Scripts, the drugs are presumed to be approved as safe and effective by the U.S. Food and Drug Administration (FDA).

As healthcare costs escalate, however, alternatives to these legitimate sources of pharmaceuticals are becoming more attractive. Taking advantage of this growing market, drug “resellers” from around the world have opened up shop online. Many of their customers are elderly, poor, or otherwise disadvantaged, who are trying to stretch their limited income and are usually relatively new online shoppers. For example, they may be inclined to trust a Canadian online pharmacy, but there is no way to determine the origin of the drugs being sold on that website.

The counterfeit drug industry generates approximately \$75 billion annually.⁴⁸ According to the National Association of Boards of Pharmacy (NABP), counterfeit drugs comprise 1 to 2 percent of all drugs purchased in North America. On July 17, 2012, CNN issued the results of a study detailing the rise of counterfeit drugs in the U.S.⁴⁹ According to the study, even if only .001 percent of the more than 4 billion prescriptions filled each year in the U.S. were compromised, that would mean 40,000 fake drugs were distributed in the pharmaceutical supply chain.⁵⁰ And even one brand of counterfeit drugs can be both deadly and costly: between 2007 and 2008, a counterfeit version of the blood thinning drug Heparin entered the market, leading to 149 deaths in the U.S.⁵¹ As a result of the distribution of the fake drug, 740 lawsuits were filed against Heparin's manufacturer, Baxter, which eventually sold the division that produced the medicine.⁵²

While the dangers of counterfeit drugs are well-documented, the reasons for manufacturing the fake pharmaceuticals are less obvious. Novartis Security Chief Andrew Jackson offered this “cost-benefit analysis” of why someone would make counterfeit drugs:

Pretend that you graduated from the ‘University of Crime’ and you are considering two career options. Which path would you follow? First, you can manufacture and sell cocaine, and if you get caught, you may spend 20 years or more in jail. Your second option is to manufacture and sell counterfeit pharmaceuticals. If you get caught, in many jurisdictions, you'll be sentenced to prison for two years and may be back on the street in six months.⁵³

The World Health Organization (WHO) first identified international sales of counterfeit medicines as a problem in 1985.⁵⁴ As consumers increasingly purchase products online, the problem has become even more difficult to control.

The Federal Food, Cosmetic and Drug Act provides the following definition of a counterfeit drug: “... a drug which, or the container or labeling of which, without authorization, bears the trademark, trade name, or other identifying mark, imprint, or device, or any likeness thereof, of a drug manufacturer, processor, packer, or distributor other than the person or persons who in fact manufactured, processed, packed, or distributed such drug and which thereby falsely purports or is represented to be the product of, or to have been packed or distributed by, such other drug manufacturer, processor, packer, or distributor.”⁵⁵ The WHO identifies a counterfeit drug as “one which is deliberately and fraudulently mislabeled with respect to identity and/or source.

Counterfeiting can apply to both branded and generic products and counterfeit products may include products with the correct ingredients or with the wrong ingredients, without active ingredients, with insufficient active ingredients or with fake packaging.”⁵⁶

The WHO noted that the lack of a universal definition of a counterfeit drug makes it difficult to either consolidate information from various countries or determine the full extent of the problem around the world.⁵⁷

In the U.S., a counterfeit drug would likely be copying a drug that has been approved by the FDA, since neither a brand name nor a generic pharmaceutical can be sold unless the agency has found that it is safe and effective. In order to help consumers and healthcare professionals purchase and use medications safely, the FDA provides resources to help make everyone aware of the consequences of purchasing medicine from outside the U.S.⁵⁸

In fact, the FDA has stated, “In most circumstances, it is illegal for individuals to import drugs into the United States for personal use. This is because drugs from other countries that are available for purchase by individuals often have not been approved by FDA for use and sale in the United States.”⁵⁹ On June 7, 2001, FDA Senior Associate Commissioner for Policy, Planning, and Legislation William K. Hubbard testified that the importation of prescription drugs is a dangerous practice. He noted that such drugs could be contaminated, subpotent, or superpotent, all of which could cause harm to individuals.

In October 2003, the FDA’s Counterfeit Drug Task Force recommended that the FDA, other government agencies, and the private sector take steps to minimize the risks to the public from counterfeit drugs and biologics.⁶⁰ The report noted that nearly 50 percent of the drugs in China were counterfeit; up to 40 percent of the drugs in Argentina, Columbia, and Mexico might be counterfeit; and about 10 percent of the drugs in Southeast Asia were counterfeit.⁶¹ The task force’s “multi-pronged” approach to combat counterfeit drugs includes using technology to authenticate all drug products; updating state licensing standards to improve the U.S. drug distribution system; creating a rapid alert and response system for counterfeit drugs; conducting public awareness and education campaigns; and, coordinating anti-counterfeiting efforts with foreign countries.

On August 19, 2014, the FDA updated its Import Alert on reimportation of all prescription drugs for human use, noting that the law prohibits the reimportation of a prescription drug unless it is being returned to its original manufacturer.⁶²

There are other exemptions for the ban on the importation of drugs: treatment of a serious condition for which effective treatment is not available in the U.S.; the drug is considered not to represent an unreasonable risk; or, the individual importing the drug verifies in writing that it is for his or her own personal use, and provides contact information for the doctor providing treatment or shows the product is for the continuation of treatment begun in a foreign country.⁶³ Should the importation of medication be allowed by the FDA, no more than a three-month supply may be imported into the U.S.⁶⁴

There is a good reason for the FDA’s concerns over the potential for imported or re-imported drugs to be counterfeit and cause harm. In June 2005, a joint effort by the Ontario Regional Coroner’s Office, Royal Canadian Mounted Police, and Health Canada found that a Canadian pharmacist licensed by the Ontario College of Pharmacists had distributed a counterfeit version of Norvasc, a well-known blood pressure medication, which turned out to be made from talcum powder.⁶⁵ Following this discovery, 11 reported deaths were examined to see if there was a link to the fake drugs. In four of those deaths, the coroner was unable to rule out the counterfeit medication as the cause of death.⁶⁶

This is not an isolated incident. A September 2013 NABP report found that up to 77 percent of Viagra purchased online could be fake, with potentially dangerous side effects.⁶⁷ The pills could contain unknown ingredients such as blue printer ink, speed or amphetamine, antibiotics, drywall or plaster, and other ingredients used to make the pill look and feel like the real deal.⁶⁸ Because counterfeit drugs are unregulated, the fake pills could also be superpotent, increasing the risk of a heart attack.⁶⁹ The NABP report found that only 257, or 3 percent of the 10,275 online prescription medication sites the organization reviewed could be considered legitimate, while the other 97 percent were operating illegally or not following U.S. pharmacy laws and standards.⁷⁰

While the impact of adulterated ingredients contained in fake pharmaceuticals is somewhat limited in the U.S. due to the relatively small percentage of sales of such drugs, elsewhere in the world counterfeit drugs have had devastating consequences. Every year, a reported 100,000 deaths occur in Africa that can be linked to the counterfeit drug trade. The International Policy Network estimates that 700,000 deaths a year globally are caused by counterfeit malaria and tuberculosis drugs.⁷¹

In addition to the problem of counterfeit and substandard drugs, some prominent U.S. trading partners have little or no regard for patent protection. The official policy in these countries permits domestic manufacturers to produce a pharmaceutical regardless of the existence of a patent for that drug. The government claims that it has a “moral obligation to make cheaper, generic drugs available to their populations,” which includes limiting or voiding patents.⁷²

Perhaps the most frequent abuse of IP rights has occurred in India. Various branches of the government have sanctioned the following incursions on drug patents between 2012 and 2013:

- October 2012: India’s patent board revoked the patent for Pfizer’s cancer drug Sutent, even though 90 other countries had approved a patent for the drug.
- November 2012: The Delhi High Court ruled in favor of Cipla, a generic drug with the same active ingredients as a patented Roche cancer drug.
- April 2013: The Indian Supreme Court overruled the patent protecting a cancer treatment developed by Novartis in favor of the production of generic drugs using the same patented process.⁷³
- August 17, 2013: Roche announced it was dropping plans to patent its breast cancer-fighting drug, Herceptin, in India after a health ministry committee urged the government to issue a compulsory license to the company obligating them to allow an Indian generic drug manufacturer to make a less expensive version of the drug.⁷⁴

Other countries have also taken steps to restrict patent protection in order to produce cheaper generic drugs for domestic use. Argentina and the Philippines have enacted strict limits on patents, while “Brazil and Thailand have been issuing compulsory licenses for AIDS drugs for years under multilateral agreements that allow such actions on public health grounds.”⁷⁵ In order to help prevent more nations from voiding valid drug patents, the U.S. is continuing to seek greater patent protection in trade agreements. As a result of the laws and court decisions in these countries, the pharmaceutical industry is now fighting both official and illegal theft of IP.

On February 27, 2014, Government Accountability Office (GAO) Director of Health Care Marcia Crosse testified before the House Energy and Commerce Subcommittee on Oversight and Investigations that there are more than 36,000 rogue Internet pharmacies in operation, which violate a variety of federal laws.⁷⁶ According to Ms. Crosse, some of these websites seek to assure consumers that their drugs are safe because they are coming from a “Canadian” company.

However, there is no assurance that the website is physically located in Canada and even less assurance that the drugs are being sourced from that country rather than somewhere else around the world.

FDA Deputy Commissioner for Global Regulatory Operations and Policy Howard Sklamberg testified at the hearing about the agency's efforts to combat the counterfeit drug trade.⁷⁷ He said:

Those who manufacture and distribute counterfeit medical products not only defraud patients and consumers, they also prevent patients from getting the safe, effective drugs that can improve health, alleviate suffering, and possibly save their lives. They put people at risk of harm from drugs that may contain too much or too little active ingredient, the wrong active ingredient, or even toxic ingredients. But even a counterfeit drug with no active ingredient could prove harmful to patients who think they are taking a lifesaving or life-sustaining medication.⁷⁸

Mr. Sklamberg noted that these drugs could contain toxic ingredients or be “processed under poorly controlled and unsanitary conditions. Substandard drugs are also a major public health concern, especially regarding infectious disease drugs, such as anti-HIV and anti-malarial drugs.”⁷⁹ He said that nearly 40 percent of the drugs taken by Americans are made outside of the U.S., and “80 percent of manufacturing sites of active pharmaceutical ingredients (APIs) used in drugs manufactured in the United States are located outside our borders—in more than 150 countries, many with less-sophisticated manufacturing and regulatory systems than our own.”⁸⁰

While he assured the committee that U.S. laws and regulations have made the production of counterfeit drugs in the U.S. nearly obsolete, there are serious challenges to assuring the security of the complex global supply chain. To help protect that supply chain, the FDA uses its own law enforcement authority and partners with both domestic and international law enforcement agencies.

For example, in January 2014, following an investigation conducted by HSI and the FDA's Office of Criminal Investigations (OCI), a U.S. permanent resident living in Texas pleaded guilty to conspiring to import counterfeit and misbranded drugs, including 3,200 counterfeit Viagra and 4,000 counterfeit Cialis pills that were sent to the individual from China.⁸¹ The drugs looked authentic, but tests showed that the pills contained less than the required active ingredients.

In a second case, an investigation by the FBI and the Sacramento County Sheriff's Hi-Tech Crimes Task Force led to a California resident pleading guilty to conspiracy to traffic in counterfeit pharmaceuticals.⁸² The defendant offered drugs for sale online using Craigslist and PennySaver, along with text message blasts.

In March 2013, a Yorba Linda, California man was arrested by HSI and subsequently charged with eight counts of selling counterfeit sexual dysfunction medicine on Craigslist.⁸³ He advertised Cialis, Viagra, and Levitra for sale without a prescription from \$6 to \$10 each, claiming that the drugs were “real.” However, a chemical analysis of some of the seized tablets showed they contained active ingredients that were different than the ones used in genuine versions of the pills.⁸⁴

In an investigative piece on ABC's “20/20” aired on June 13, 2014, reporters followed federal, state, and local law enforcement officials as they arrested several individuals selling counterfeit products, including Viagra.⁸⁵ Tests showed that the pills contained only talcum powder and road paint. The drugs had no medical value, but the seller had on hand \$4,200 at the time of

his arrest. According to the report, most of the counterfeit drugs found by law enforcement officials come from China, Latin America, and India, and are sold from people's homes, cars, and online.⁸⁶

The "20/20" report showed how OCI had uncovered foreign, unapproved, and counterfeit versions of the cancer treatment drug Avastin being sold in the U.S., leading to the conviction of the Turkish nationals whose company supplied the drugs along with Canadian and American wholesalers and middlemen.⁸⁷ OCI has also arrested a number of health providers who purchased unapproved foreign cancer drugs at a discount yet billed government health insurance programs at the full price, including a California oncologist who purchased more than \$3.4 million in foreign unapproved cancer drugs; a physician in Tennessee who purchased more than \$3 million in foreign unapproved medications; seven Ohio physicians who purchased and administered more than \$2.6 million in unapproved cancer medications; and, a Texas oncologist who administered more than \$1 million in unapproved drugs.⁸⁸

Mr. Sklamberg also detailed the circuitous money trail involving a counterfeit drug website. Billing itself as the "Pharmacy You Can Trust," the website was hosted in New York, but sold drugs that were manufactured in clandestine laboratories in China and shipped to U.S.-based confederates known as "drop shippers." They, in turn, sent packages to customers from a U.S. address, giving the appearance that the drugs were dispensed from a U.S. pharmacy. The OCI investigation showed that the payments were processed by a credit card processor in the Netherlands, after which the funds were transferred to Cyprus, then to Hong Kong, and finally to Israel. According to the OCI, from 2005 to 2007, the website operators processed more than \$1.8 million in sales from 12,000 orders from their yacht, which was docked in Tel Aviv.⁸⁹

The cost to bring a new drug to market can range from \$242 million to \$1.8 billion, depending on the size of the drug manufacturer and the number of similar products being developed at the same time.⁹⁰ Among these financial costs are the lengthy process required to perform the appropriate research, including product testing, as well as the time and financial burden in applying for a patent and obtaining FDA approval for the use and marketing of any new medication. This time-consuming process can take between 10 and 15 years before a drug is ready for the market.⁹¹

The pharmaceutical and biopharmaceutical industries spend an average of 15 to 17 percent of their revenues in research and development.⁹² Comparing the amount of time, energy, and associated costs invested by pharmaceutical companies to bring a new drug to the market against the counterfeit drug industry, which can garner approximately \$75 billion in sales worldwide,⁹³ drug piracy has a substantial impact on healthcare innovation.

It is clear that protecting Americans from counterfeit drugs is a priority for law enforcement officials. Many of the fake or counterfeit pharmaceuticals are processed in questionable facilities and contain chemicals that may cause more harm than the disease they are supposed to prevent or help manage. In addition to continued law enforcement efforts, the incidence of counterfeit drugs entering the market can also be reduced by educating consumers, physicians, and pharmacists about how to identify counterfeit or fake drugs as well as their health hazards. Pharmaceuticals should always be used to enrich, rather than endanger, people's lives.

Chapter 3 – Music and Movies and Torrents, Oh My

"Many worked very hard to bring this story to the big screen, and their work should not be taken advantage of including the Godfather or and his many contributions to society," – Deanna Brown Thomas, daughter of the "Godfather of Soul" James Brown, confirming she had heard of illegal copies of "Get On Up" being found on the streets of Augusta, Georgia.⁹⁴

On June 15, 2014, HBO aired the Season 4 finale of its hit series "Game of Thrones." Within 12 hours of its initial televised showing, the episode had "roughly" 1.5 million online downloads worldwide, the equivalent of two petabytes of data.⁹⁵ The problem with this surge of downloads is that they were mostly pirated copies, meaning the vast majority of those who downloaded the program never paid to watch the show.

Although the illegal copying and distribution of music, television shows, and movies has been made easier with the advent of computer file sharing networks, the practice, at least for music, dates back to cassette and 8-track tapes, which made duplication of recordings fairly easy. Albums such as Kraftwerk's 1974 album "Autobahn" included a "Buyers Bulletin," warning consumers that copying the recording was illegal. The document included a story about singer and songwriter Jerry Lee Lewis smashing a rack of pirated tapes outside of a gas station. According to the bulletin, bootlegging provided music pirates with \$200 million annually.⁹⁶

While illegal taping required playing an entire album (many of which were not in pristine condition), the advent of the Internet increased both the speed and quality of pirated music. In May 1999, Shawn Fanning and Sean Parker debuted Napster, a peer-to-peer file sharing network.⁹⁷ Through the Napster website, users stored and retrieved songs in a central computer server, with no payment to the copyright holders.

In December 1999, the Recording Industry Association of America (RIAA) found that Napster users had figured out how to illegally share music files, and sued the company for copyright infringement.⁹⁸ On July 27, 2000, a federal judge in San Francisco shut Napster's website down, noting that the company had acknowledged that they encouraged "wholesale infringement" against music copyrights.⁹⁹ Napster got the message and now operates as a music subscription service, paying copyright fees to artists, creators, and owners.¹⁰⁰

However, other file sharing sites have evolved through which illegal downloads of music and videos take place. First used in 2001, torrent technology provides an easy way for users to trade and share large media files online, including software, music, movies, and digital books.¹⁰¹ Taking small pieces of information (known as bits) from several different web sources, torrents filter the content to remove any corrupted files and encourage users to share any complete files they hold.¹⁰² Downloads on torrent file sharing networks can be performed at speeds of more than 1.5 megabits per second. The code for torrents is supposed to be open source, ad-free, and adware/spyware-free.¹⁰³

Torrent file sharing networks have thus enabled users to share both legally and illegally obtained copyrighted material, including pirated movies, music and television programs. While the technology may be neutral, a 2011 study by Envisional concluded that more than 99 percent of the traffic on the global file sharing website BitTorrent contains infringing content.¹⁰⁴ On January 2, 2014, *Wired* announced the most pirated movies of 2013, including major blockbusters such as "The Hobbit: An Unexpected Journey;" "The Hobbit;" "Django Unchained;" "Fast and Furious;" "Silver Linings Playbook;" "Gangster Squad;" and, "Now You See Me."¹⁰⁵ "The

Hobbit: An Unexpected Journey” topped *Wired’s* list, with an estimated 8.4 million downloads via BitTorrent.¹⁰⁶

Speaking about the effects of pirating videos on the movie industry, Actress Chloe Moretz, who played the teenage version of Dirty Harry in the movie series “Kick-Ass” and “Kick-Ass 2,” stated:

Sadly, I think I’m done with the character. Hit-Girl was a very cool character, but I don’t think there will be any more movies. You make these movies for the fanboys, but nowadays everyone seems to pirate them rather than watch them in the movie theatre. KICK-ASS 2 was one of the number one pirated movies of the year, but that doesn’t help us because we need box office figures. We need to prove to the distributors that we can make money from a third and fourth movie – but because it didn’t do so well, we can’t make another one. If you want more than one movie, everyone has to go and see movies at the cinema. It’s all about the numbers in the theatre.¹⁰⁷

A March 2013 University of Lund study reviewed one of the global file sharing sites, Pirate Bay, to determine who was involved in pirating various types of media, including music, movies, TV shows, sports material, games and software, e-books, and pornography. The study found that 93.8 percent of the 75,616 file sharers who responded were male, with almost half of the respondents between the ages of 18-24.¹⁰⁸ The study also found that music files were the most prevalent with 46,554 files shared, despite the availability of legal streaming solutions.¹⁰⁹ As to why more males than females share files, an August 5, 2014 editorial in *TechCentral* surmised that women are more risk-averse than men when it comes to pirating files, even though music pirating is a low-risk activity with little chance that those sharing files will be prosecuted.¹¹⁰

On March 10, 2012, Rick Carnes told the Music Technology Policy blog:

[As] President of the Songwriters Guild of America ... if I am supposed to be getting ‘untold riches’ someone forgot to tell me! The mission statement of the SGA is two words ‘Protect Songwriters.’ That lack of specificity has forced me to show up in all kinds of places I never thought I would be! I was the lead witness in the latest Copyright Rate Board hearing. I have testified on behalf of songwriters in both the Senate and the House of Representatives on many issues concerning song writers rights, and I have spent the last ten years flying all over the country talking to people about the harm that is being done to American music by the widespread theft of songs on the internet by a mob of anonymous looters.¹¹¹

Musician David Lowery (of Cracker and Camper Van Beethoven fame) explained the musician’s position when he responded to a June 16, 2012 letter posted by Emily White at National Public Radio (NPR):

The fundamental shift in principals [sic] and morality is about who gets to control and exploit the work of an [sic] artists. The accepted norm for hundreds [sic] of years of western civilization is the artist exclusively has the right to exploit and control his/her work for a period of time. (Since the works that are [sic] almost invariably the subject of these discussions are popular culture of one type or

another, the duration of the copyright term is pretty much irrelevant for an ethical discussion.) By allowing the artist to treat his/her work as actual property, the artist can decide how to monetize his or her work. This system has worked very well for fans and artists. Now we are being asked to undo this not because we think this is a bad or unfair way to compensate artists but simply because it is technologically possible for corporations or individuals to exploit artists work without their permission on a massive scale and globally. We are being asked to continue to let these companies violate the law without being punished or prosecuted. We are being asked to change our morality and principals [sic] to match what I think are immoral and unethical business models.¹¹²

During a March 2, 2011 hearing before the office of the U.S. Trade Representative, Michael Schlesinger, chief counsel of the International Intellectual Property Alliance, testified that 90 percent of newly-released movies pirated by thieves are stolen in a movie theater with a digital recording device that takes the image and/or sound off the screen.¹¹³ Movies are also pirated before they appear in theaters. In July 2014, a DVD quality copy of “The Expendables 3” appeared online and was downloaded millions of times before a single ticket was sold at theaters in September. The movie then flopped at the box office.¹¹⁴ On average, pre-release piracy cuts box office revenues by 19 percent compared to piracy that occurs after a movie is released in theaters.¹¹⁵

Unfortunately, the pirate’s gain is the creative and financial loss of those individuals who make music, films, and television programs. For example, fewer new artists are likely to become successful because they will not be able to make even a basic living from the intellectual property they have produced. In a September 4, 2014 interview in *Esquire*, the legendary Gene Simmons of KISS spoke about the demise of rock and the challenges facing new musicians:¹¹⁶

The masses do not recognize file-sharing and downloading as stealing because there’s a copy left behind for you – it’s not *that* copy that’s the problem, it’s the *other* one that someone *received* but didn’t pay for. The problem is that nobody will pay you for the 10,000 hours you put in to create what you created. I can only imagine the frustration of all that work, and having no one value it enough to pay you for it.

It’s very sad for new bands. My heart goes out to them. They just don’t have a chance. If you play guitar, it’s almost impossible. You’re better off not even learning how to play guitar or write songs, and just singing in the shower and auditioning for *The X Factor*. And I’m not slamming *The X Factor*, or even pop singers. But where’s Bob Dylan? Where’s the next Beatles? Where are the songwriters? Where are the creators? Many of them now have to work behind the scenes to prop up pop acts and write their stuff for them.¹¹⁷

The creative writing of music that Simmons spoke about in his interview is protected by U.S. copyright law, which is based on the Constitutional protection for intellectual property. In 1897, Congress founded the U.S. Copyright Office (USCO) as a department within the Library of Congress, in order to provide for a centralized licensing process for creative works found in literature, drama, music, and art.¹¹⁸ The USCO maintains the registration of “copyright claims in books, music, movies, software, photographs, and other works of authorship. In fiscal year 2011, the USCO processed more than 700,000 registration claims.”¹¹⁹

Authors of original creative work eligible for copyright are not required to register their work; it is copyright protected from the moment of creation. However, the USCO recommends registering works in order to have factual documentation of a copyright on the public record, a certificate of registration, and eligibility for statutory damages and attorney fees in the event of litigation over the work. If registration occurs within five years of publication, it is considered prima facie evidence of the copyright.¹²⁰

Some of the creative works that are not protected by copyright include an individual recipe or listing of ingredients; names, titles, slogans, or logos which may be protected under trademark law; and “ideas, concepts, systems, or methods of doing something.”¹²¹

Copyright infringement, which is the legal term for stealing a copyrighted work, is subject to both civil and criminal penalties. Civil penalties include injunctions, impoundment and disposition of infringing items, damages and lost profits, and attorney’s fees. Criminal cases can be brought against anyone who makes a fraudulent copyright claim or uses copyrighted material for commercial or private financial gain. Copyright infringement affects all sizes and kinds of copyright holders, from large record companies to budding artists and major movie studios to novice filmmakers. In fact, despite the (false) impression that theft of copyrighted material hurts only the big movie studios that can “afford” the cost, many movies are produced by individuals or small independent studios running on a shoestring budget. In 2010, several independent filmmakers cried foul when their movies were posted online, and filed lawsuits against thousands of individuals who were illegally distributing their videos over the Internet.¹²² These filmmakers, whose profit margins are typically very thin, remain concerned that illegal file sharing will drive them out of business.

For example, in the spring of 2010, school teacher Ellen Seidler released the independently produced film “And Then Came Lola.”¹²³ She and her co-producers used \$250,000 of their own money and paid for the film through personal loans, and credit cards.¹²⁴ Unfortunately, shortly after the movie’s release, unauthorized copies of the film began to spread on the Internet, landing on websites specializing in pirated movies and TV shows.

The companies and organizations hosting pirated versions of the films on their websites care little about the impact of their illegal activities on filmmakers and songwriters. They seem to believe that the copyright laws are free to be broken and everyone should be able to share copies of songs, television shows, and movies.¹²⁵ And, as evidenced by the email string that Ms. Seidler shared with NPR, many of those infringing upon copyrighted movies and television shows are under the mistaken belief that all movies are produced by large companies that have an army of lawyers at the ready to kill their “business.”¹²⁶

The NPR blog stated:

Seidler was attempting to get the attention of whoever was running Pirate Bay at the time, and another site that connected to them called novamov.com. She never got through to Pirate Bay or Novamov directly. But she did reach Sven Olaf Kamphius, who runs Cyberbunker.com.

It’s a web hosting service inside a former NATO bunker in the Netherlands that was hosting Pirate Bay and several similar websites. Seidler’s legal notice to Novamov to take down her copyrighted film reached Kamphius and he responded.

Kamphuis's e-mail comes out strongly against any kind of copyright protection. He dismissed Seidler's references to United States copyright law by saying:

... the laws of that retarded ex-colony cannot be enforced here, thank god;).

Seidler tried to explain that she doesn't have a battalion of high-paid lawyers helping her fight copyright violations:

I am an independent filmmaker who has put her life savings into a project and now see it uploaded illegally on the Web before the DVD is even released.

But Kamphuis responded [sic] as if she *was* a lawyer representing a large client:

i'd [sic] suggest your clients just fix their own business model and find a way to make money on their productions which doesn't involve bugging everyone else to get other people to remove stuff for them.

You, nor your clients, pay us for our time, and our time is worth more than lousy entertainment anyway.

Kamphuis actually threatened Seidler with legal action for 'spamming' him:

Similar [sic] organisations like yours try to infringe on OUR rights by wasting our time (yes, immunity from liability also includes not having to waste my man hours or the ones of my attorneys on this without financial compensation, now where do we send the bill for answering this email ? ;)

Should there be any further questions, I'm quite sure I can get our shiney [sic] attorney firm, to make things clear to you, like they are doing against some other movie firms at this moment already (Don't you worry about that ;)

It sounds as he thinks he is addressing a big Hollywood operation, not an independent artist.¹²⁷

In 2012, another independent filmmaker, Tom Lowe, tried a different approach to draw individuals away from pirating sites that were hosting counterfeit copies of his movie, "TimeScapes." He posted a note on the websites asking anyone uploading the film to consider purchasing a copy of the movie from his website, or from the iTunes store, so that he could recover the money he invested in producing the film.¹²⁸ As of the date of publication of this report, "TimeScapes" is still posted on Pirate Bay's website.

The New York Times reported on September 27, 2014 that according to Tru Optik, a media analytics company, “nearly 10 billion movies, television shows and other files, including games and pornography, were downloaded globally in the second quarter of 2014.”¹²⁹ The company estimates that there are about 400 million illegal downloads monthly just in the United States.

According to a July 17, 2014 article in *The Guardian*, almost 30 percent of individuals in Great Britain now watch movies illegally online or purchase counterfeit DVDs.¹³⁰ These thefts have cost the audiovisual industry in the UK about £500 million a year (the equivalent of more than \$855 million).¹³¹ A study conducted by the University of Portsmouth found that, on average, individuals involved in illegally downloading movies and music had downloaded around 2,900 music files, and 90 movie files.¹³²

According to Tru Optik’s “*Digital Media Unmonetized Demand and Peer-to-Peer File Sharing Report* ... there were 2 billion TV show downloads and 2.2 billion movie downloads worldwide in the first half of 2014 from peer-to-peer sites.”¹³³ The company estimates that these illegal activities represent more than “\$12.5B in ‘unmonetized demand.’”¹³⁴

The impact of the theft of IP on individual creators or smaller companies is relatively easy for them to calculate. However, the “rich” movie studios, “major” record producers, and “profitable” networks that are viewed by some as “victimless” entities are only part of the economic infrastructure of the creative process. There are thousands of individuals involved behind the scenes whose earnings are far from extravagant and who are disproportionately affected by piracy.¹³⁵

For example, the film industry spends tens of millions of dollars across the country, filming movies in locations far removed from Hollywood. In 1978, eastern central Ohio was abuzz with the news that a film would be produced by 20th Century Fox in Fairfield, Licking and Perry Counties.¹³⁶ A rural area of farms, coal mines, and small pottery and glass factories, the region that had previously hosted filmmakers from “*Green Grass of Wyoming*” (1948) found itself at the hub of “*Brubaker*,” starring Robert Redford. The producers used more than 300 local extras for filming at the Junction City Treatment Center in Perry County.¹³⁷ Many more films have been produced around Ohio since then, including “*Amish Ice*” (2013); “*Bad Grandpa*” (2013); “*The Christmas Spirit*” (2013); “*Fear Clinic*” (2014); “*Love Finds You in Sugarcreek*” (2014); “*Miss Meadows*” (2014); “*The Tribunal*” (2014); “*The Do Over*” (2014); “*Jenny’s Wedding*” (2014); “*Captain America: The Winter Soldier*” (2014); and, “*Draft Day*” (2014).¹³⁸

A 2013 study by Film L.A. Inc. found that the top five locations for filming movies and television shows were Louisiana, Canada, California, the United Kingdom, and Georgia; the average production budget for these films is around \$71 million.¹³⁹ The study found that nearly 20 different states and foreign countries were used in film production, with 65 percent of those films being produced in the U.S.¹⁴⁰ In 2012, movie and TV producers spent \$717 million filming in the state of Louisiana.¹⁴¹

States are well aware of and welcome the positive impact of film and television production. In an August 5, 2014 press release, Georgia Governor Nathan Deal said that the industry has created jobs, revitalized communities, and increased tourism in the state. There were 158 feature film and television productions shot in Georgia in fiscal year 2014, which generated an economic impact of \$5.1 billion. The press release stated that according to the Motion Picture Association of America (MPAA), the industry is responsible for more than 77,900 direct and indirect jobs and \$3.8 billion in wages in Georgia. In 2013, MPAA member companies paid \$696 million to 4,066 local food service, lodging, real estate and technology businesses.¹⁴²

For the most part, the money spent in these local vicinities stays local, providing an important source of revenue for cities and towns, regardless of the financial success of the movie or TV show. However, piracy eats into the profits of both large media companies and small independent production companies alike, which leads to the production of fewer movies and TV shows. IP theft, therefore, has more widespread consequences than most people, particularly the pirates, imagine.

While movies generally provide a one-time infusion into the local economy, television series that are renewed for several years have a long-term impact on the communities in which they are filmed. Every member of the production team benefits when the program is renewed and suffers when it is cancelled. Since the decision to renew a program is based on paid viewership, illegal downloads cannot be considered to assess the market value of a program.

For example, Netflix' "The Killing" was renewed twice after fans legally downloaded the program in sufficient numbers to keep it on the air. One of the show's producers, Dawn Prestwich, wrote that "Networks rely heavily on that type of honest feedback from the audience, in order to tailor their programming. In short: if you don't buy it, they don't make it."¹⁴³ Prestwich noted that the two extra seasons "provided hundreds of jobs, paid for people's health insurance and pensions, and provided eighteen more hours of creative content."¹⁴⁴ Prestwich spoke for all TV production teams when she added that strong, legal, paid support for programs "not only helps me as a writer, it leads to further investment in the shows audiences like."¹⁴⁵

In addition to BitTorrent and Pirate Bay, massive online theft is being perpetrated by CiNEDUB and Kim Dot Com's file sharing network, megaupload.com.¹⁴⁶ Even though Denmark, the Netherlands, and the United Kingdom have ordered Internet service providers (ISPs) to block Pirate Bay's website due to copyright violations, the number of visitors to its website has doubled since the bans were instituted in 2011.¹⁴⁷

Even YouTube has had illegal movies uploaded to its network, although Google, YouTube's parent company, claims that it makes every effort to remove illegal content as soon as it is notified of copyright violations.¹⁴⁸ For those that are not taken down, illegally distributed copyrighted material now appears with paid ads, making the site appear legitimate.¹⁴⁹

Music and movie companies are taking several steps to combat illegal file sharing. Music companies are monitoring file sharing sites like Ares, BitTorrent, and LimeWire and issuing takedown notices to ISPs when they detect any illegal activity.¹⁵⁰ Movie companies are developing anti-piracy technology that imbeds graphic designs into the movies that can only be viewed with a camcorder recording of the movie¹⁵¹ and audio watermarks.¹⁵² Even as these efforts move forward, video pirates have become more tech savvy as well, imbedding videos into still pictures on file sharing sites in order to thwart enforcement efforts.¹⁵³

Both industries are trying to reduce traffic on illegal file sharing sites by making consumers aware that content is widely available through legitimate online distribution platforms. MPAA's wheretowatch.com website lists more than 100 legal online distribution outlets for movies and TV shows.¹⁵⁴ RIAA's whymusicmatters.com website details more than 70 authentic sources of online music.¹⁵⁵

In addition, several laws have been enacted to protect copyrighted material. The No Electronic Theft (NET) Act of 1997 made it illegal to distribute unlicensed copies of music CDs, films, DVDs, and other copyrighted digital media regardless of whether money was exchanged.¹⁵⁶ The Digital Millennium Copyright Act (DMCA) of 1998 gave copyright owners the ability to remove infringing content by sending a takedown notice to online providers.¹⁵⁷ The

providers were granted a broad safe harbor from prosecution if they promptly responded to the notice.¹⁵⁸

However, takedown notices have not functioned as intended. When infringing content is removed, it is usually instantly reposted, requiring rights holders to spend an enormous amount of time and money repeating the process over and over again. On December 5, 2013, the Center for the Protection of Intellectual Property released a report by Professor Bruce Boyden of Marquette University that found copyright owners were sending than 6.5 million takedown notices each month for content that appeared on more than 30,000 websites. Between March and August 2013, the six MPAA member companies alone sent 25.3 million takedown notices combined to search engines and site operators.¹⁵⁹ In January 2014, RIAA announced that the recording industry had sent its 100 millionth takedown notice to Google.¹⁶⁰

While the massive number of notices is indicative of an ongoing problem for every content creator, sending notices is a far greater burden for individuals than large companies. On March 13, 2014, three-time Grammy Award-winning composer, conductor, and producer Maria Schneider told the House Judiciary Subcommittee on Courts, Intellectual Property and the Internet that she spends more time issuing takedown notices than creating new music. Schneider suggested that content creators should be allowed to stop the uploading before infringement takes place and that takedown should mean what it says.¹⁶¹

I'm now struggling against endless Internet sites offering my music illegally. After I released my most recent album, *Winter Morning Walks*, I soon found it on numerous file sharing websites. Please understand, I'm an independent artist, and I put \$200,000 of my own savings on the line and years of work for this release, so you can imagine my devastation. Taking my music down from these sites is a frustrating and depressing process. The DMCA makes it my responsibility to police the entire Internet on a daily basis. As fast as I take my music down, it reappears again on the same site—an endless whac-a-mole game.¹⁶²

While the DMCA may not be as effective as it could be, law enforcement agencies are having some success in fighting piracy. On April 26, 2012, ICE announced that it had seized more than 70,000 pirated copies of music and movies in Fresno, California, valued at more than \$900,000.¹⁶³ In commenting on the seizure, HSI Special Agent Clark Settles stated, “Commercial piracy and product counterfeiting undermine the U.S. economy, rob Americans of jobs, stifle American innovation and promote other types of crime. Intellectual property theft amounts to economic sabotage, which is why HSI will continue to aggressively pursue product counterfeiters and those who sell counterfeit products.”¹⁶⁴

On June 25, 2014, American Society of Composers, Authors and Publishers (ASCAP) President Paul Williams told the House Judiciary Committee that the U.S. Copyright Act fails to meet marketplace challenges for songwriters, creators, and performers of music who are increasingly faced with new transformative technologies that include iTunes Radio, Pandora, and Spotify.¹⁶⁵ ASCAP and its counterpart, Broadcast Music Inc. (BMI), use a collective licensing model for businesses seeking to perform copyrighted music. Williams stated that he believes this licensing model is the most effective, efficient and compelling model to serve the needs of music creators, businesses that perform music, and listeners everywhere.¹⁶⁶

In his testimony before a February 12, 2011 Senate Judiciary Committee hearing on “Targeting Websites Dedicated to Stealing American Intellectual Property,” ITIF Senior Analyst

Daniel Castro stated, “Online piracy harms the artists, both the famous and struggling, who create content, as well as the technicians, sound engineers, editors, set designers, software and game programmers who produce it. Piracy ultimately also hurts law-abiding consumers who must pay higher prices for content, enjoy less content or relatively lower quality content, or pay higher prices for Internet access to compensate for the costs of piracy.”¹⁶⁷

It should not matter whether a movie is produced by a major film studio or by a small independent filmmaker; or if a song is distributed by a large recording label or independently distributed by a budding young artist: IP is being stolen and widely distributed without any compensation returning to the creators and without their consent. Until it is reined in, this industrial-scale theft will continue to rob the U.S. economy and consumers of jobs, investment, innovation, and creativity.

Chapter 4: Trademarks: Iconic Icons

In 1886, Coca-Cola sold for five cents a glass as a fountain beverage. In 1894, Joseph A. Bideharn, a Vicksburg, Mississippi, candy store owner, began bottling and selling the beverage in a common glass bottle.¹⁶⁸ In 1916, after receiving ideas from various glassmakers, Coca-Cola Company selected a contoured design from the Root Glass Company of Terre Haute, Indiana, as its specific packaging in order to prevent its product from being confused with other glass-bottled sodas on the market. This classic bottle design with its scripted name was granted trademark status by the PTO, and is now one of the most recognizable brands around the world.¹⁶⁹

The global economy has created the opportunity for many brand name and trademarked products to become well-known across international boundaries, including apparel, automobiles, beverages, clothing, household cleaners, fast food chains, liquor, and tobacco. Companies spend hundreds of millions of dollars on advertising and marketing, hoping that their brands become iconic household names.

When brands become widely successful and well-recognized, consumers seek out them out. Such highly-visible trademarks span language barriers and lifestyles. The value of individual branding can be seen in the reverse side of the equation, when protestors in other countries attack symbols and facilities of U.S.-based companies to object to certain policies or practices. In such cases, the company more or less is the country.

According to the PTO, a trademark is a “word, name, symbol, or device that is used in trade with goods to indicate the source of the goods and to distinguish them from the goods of others. ... Trademarks are used to identify goods that are sold or otherwise transported or distributed through interstate commerce. Service marks serve the same purposes as trademarks but identify services or intangible activities that are performed by one person for the benefit of someone else either for pay or otherwise.”¹⁷⁰

Inventors, creators, and innovators file trademark and service mark applications with the PTO to protect their IP and business identities.¹⁷¹ The registered symbols, words, or packaging can only be used with the trademark owner’s permission or license. For instance, CAGW’s trademarked logo on the cover of this report can only be used by CAGW or those authorized by CAGW.

Counterfeiters are well aware of the value of a familiar trademark. They copy the packaging on products ranging from toothpaste to deodorant to tennis shoes in an effort to cash in on the market. Other frequently-counterfeited items include batteries, extension cords, perfume, shampoo, and toys.¹⁷²

The products may look the same, but they are certainly not the same. For example, on June 14, 2007, the FDA announced a recall of counterfeit Colgate toothpaste that had been imported from South Africa and sold in discount stores in Maryland, New Jersey, New York, and Pennsylvania.¹⁷³ The 5-ounce tubes were found to contain antifreeze. Even though Colgate-Palmolive did not import toothpaste from anywhere in Africa, the counterfeiters might have gotten away with their scheme had the product not been tainted.

In January, 2014, firefighters followed up on an April 2013 fire at a manufacturing facility in Valley Stream, N.Y. They discovered a number of suspicious-looking goods and contacted the FDA. Investigators determined that the products, including Chap Stick, Johnson’s Baby Oil, Vaseline, and Vicks VapoRub, were indeed counterfeit. The facility was one of five in Nassau County being used to make these goods.¹⁷⁴ Four tractor-trailers were required to haul off the millions of dollars’ worth of fake products. The operation was described as the largest of its kind in U.S. history.¹⁷⁵

The beauty product bust is one of many efforts being made by law enforcement officials against counterfeit products. In 2012, ICE seized 22,848 shipments of counterfeit goods worth \$1.26 billion, which kept them from reaching merchants and consumers.¹⁷⁶

In a coordinated effort between the National Football League (NFL) and ICE officials, Operation Team Player seized \$37.8 million in fake Super Bowl merchandising and tickets during the 2013-14 football season. The total was more than the previous six Super Bowl seasons combined.¹⁷⁷ After the Seahawks won the NFC Championship, \$200,000 of phony merchandise was seized in the Seattle area.

The NFL actively identifies websites that are selling fake NFL merchandise, and closes them down with the assistance of brand protection companies, such as MarkMonitor.¹⁷⁸ The league then takes these scofflaws to court. In 2013, the NFL was awarded a \$273 million default judgment against the operators of more than 1,000 websites.¹⁷⁹

While law enforcement pursues trademark infringement after it occurs, business owners should do all they can to guard their intellectual property. Although registration is not required under federal law in order to protect a company's right to use a trademark, owning a federal trademark provides some advantages over common law rights, including:¹⁸⁰

- Legal presumption of ownership of the mark;
- Public notice of ownership of the mark;
- Listing in PTO's database of trademarks;
- The ability to notify the U.S. Customs and Border Protection Service of the registration in order to prevent importation of counterfeit foreign goods illegally using the mark;
- The right to use the federal registration symbol "®";
- The ability to file legal action in federal court; and,
- The ability to use the federal registration as a basis by which to file for registration in foreign countries.¹⁸¹

Trademark owners can register their brands with the PTO by themselves; however, many choose to work with a law firm that specializes in patents and trademarks. A June 2011 article in *Inc.* magazine recommended that the same attorney who registers the trademark should also provide counsel regarding anti-infringement activities and help locate a trademark watch service to assist in monitoring any potential infringement activities.¹⁸² The *Houston Chronicle* made several recommendations about how to protect a trademark on the Internet, including building a unique brand, registering the mark, monitoring competitors online to ensure they are not also using the mark, fighting infringement, and protecting the brand.¹⁸³

Some IP owners have been able to stop infringement on their own. For example, when Daniel Lubetsky, the chief executive of Kind Snacks, heard that someone else had copied the company's distinctive packaging, he sent the offending company a cease-and-desist letter and was able to get them to stop using similar packaging for their products.¹⁸⁴ However, not everyone is so successful.

On January 13, 2014, artist Tiffany Bozic detailed on Tumblr her ongoing battle against infringement of her artwork when she discovered that clothing manufacturer Romwe was selling sweatshirts with an image of her painting of Strigiformes owl faces. She requested that people not purchase the sweatshirt from Romwe or provide the company with any support.¹⁸⁵ In her posting, she detailed how she tries to prevent her work from being distributed without her authorization:

According to Fields, Tide-buy is one of the largest counterfeit sites, grossing \$5 million in sales in 2013. Fields estimated that, with an average Internet sale price posting of \$150 per dress, the company may have sold more than 30,000 dresses that year. Fields explained that not only do consumers purchase dresses from these counterfeit sites, but retailers also buy from them in an effort to increase their profit margins. This makes it difficult for small businesses like hers to continue to compete.

In addition to the impact of the counterfeit sites on her sales, in the fall of 2013, government enforcement efforts against counterfeit goods led to a delay in Fields' importing of a large shipment of samples for customers to try in authorized shops before placing orders for their gowns. Her shipment was stopped at the border despite the fact that all the paperwork was in order and taxes and fees on the goods had been paid. The dresses should have been in the stores before the holiday shopping season. Fields estimates that the delay cost her nearly \$4,000 in sales. This official insult on top of illegal injury helped push Fields to close her business in 2014.

While law enforcement efforts to stop Fields' samples were clearly in error, official government action to prevent counterfeit trademarked products from reaching the marketplace is an essential part of the worldwide fight against the theft of intellectual property. Unfortunately, while one branch of government is investigating counterfeit activities, another branch may be taking steps tantamount to stealing IP by forcing certain products to be sold in plain packaging, thus diluting the trademark and eliminating the familiar look of the brand. Among other issues, these actions raise questions about whether the affected companies would be entitled to compensation from the government.

For example, Australia apparently believes that it is not sufficient that tobacco products bear warning labels about the risk of cancer and other diseases. Beginning in December 2012, all such products sold in Australia must have a label that contains a photo intended to shock consumers, accompanied by phrases such as "Smoking Causes Cancer" or "Smoking Causes Blindness." The package colors are the same for all brands and therefore become difficult to distinguish. For example, Marlboro Red, which normally has a distinctive red and white label with the Phillip Morris logo on the front of the package, is sold in Australia in a solid green package with pictures of body parts on the side and the words "Marlboro Red" on the back and bottom. The Phillip Morris logo does not appear anywhere.



A study conducted by the Australian Institute of Health and Welfare (AIHW) from 2010 to 2013 claimed that, as a result of plain packaging, the smoking rate in Australia declined by more than 2 percent.¹⁸⁹ The study further found that daily smoking rates had almost halved since 1991; people aged 40-49 were most likely to smoke daily; people aged 18-49 were less likely to smoke daily than they were 12 years ago, but there was little change for those aged 60 or older; smokers

reduced the number of average cigarettes they smoked weekly (from 111 cigarettes in 2010 to 96 in 2013); and, about 1 in 6 smokers had smoked unbranded tobacco in their lifetime, although only 3.6 percent smoked it currently.¹⁹⁰ However, the attribution of plain packaging for the drop in smoking from 2010 to 2013 is a dubious claim on its face since the law passed at the end of 2012. The more likely reason for the decrease was the 12.5 percent increase in cigarette taxes over the course of those four years.¹⁹¹

During a July 17, 2014 NewsCorp Australia interview, AIHW Senior Executive Geoff Neideck admitted that it would be a stretch to claim that the use of plain packaging played “a key factor” in cutting the smoking rate.¹⁹² Nonetheless, the lack of evidence that plain packaging changes behavior has not stopped legislators from going after other products. A bill that would restrict packaging on alcoholic beverages has been introduced for the past several years, although it has not yet been enacted.¹⁹³

Other countries have considered the adoption of plain packaging for various products. The New Zealand parliament has hinted that it plans to institute plain packaging with graphic warnings on alcoholic beverages sometime this year,¹⁹⁴ while India,¹⁹⁵ France,¹⁹⁶ South Africa,¹⁹⁷ and the United Kingdom¹⁹⁸ are considering tougher packaging laws for tobacco products by 2015.

One wonders which legitimate industry will be next. For example, during his tenure as Indonesia’s Minister of Trade, current Indonesian Director General for International Trade Cooperation Gita Wirjawan warned New Zealand’s Ministry of Health that, “If the cigarettes we export there [New Zealand] are not allowed to have brands, then the wine they sell here [in Indonesia] shouldn’t also.”¹⁹⁹

Not only does plain packaging create a disadvantage to consumers wishing to purchase specific brands based on familiarity, quality, or brand loyalty, it also increases the risk of counterfeit or fake products entering the marketplace by allowing bootleggers to easily copy plain packaging. Following the implementation of plain packaging rules in Australia, counterfeiting and smuggling of illicit cigarettes increased by 40 percent, and seizures of illicit cigarettes increased by 143 percent, from 82 million in 2012 to 200 million in 2013.²⁰⁰

The entry of additional counterfeit goods into the marketplace puts consumers at increased risk. For example, bootlegged cigarettes can contain caustic or toxic chemicals, including high levels of arsenic, due to fewer controls over manufacturing.

Imagine plain packaging appearing on every product that a bureaucrat finds objectionable: trucks and SUVs; fatty and salty foods; beer, wine, and liquor; and, even certain types of clothing. The government is already far too involved in everyone’s life; such additional overprotection is both unnecessary and ineffective. Plain packaging also undermines the credibility of government efforts to protect IP.

Fortunately, some industries are fighting back. In 2012, Mars, Inc., the American-owned global confectionery and food manufacturer and the third-largest privately held company in the U.S., wrote to the United Kingdom Department of Health voicing its concern over the impact of plain packaging.²⁰¹ The letter stated that “Mars is concerned that the introduction of mandatory plain packaging in the tobacco industry would also set a key precedent for the application of similar legislation to other industries, including the food and non-alcoholic beverage industries in which Mars operates.”²⁰²

While a plain label on a candy bar may be costly to companies and confusing to consumers, plain packaging for beer, wine and liquor would create far more challenges. For example, even the most sophisticated buyers of fine and rare wines have been duped by fake labels; the problem would be even more pronounced with plain packaging.

On August 6, 2014, wine “dealer” Rudy Kurniawan was sentenced to 10 years in prison for fraud, along with a \$20 million fine and \$28 million in restitution to the people he had defrauded. Beginning in 2004, Kurniawan mixed bottles of young wine together with older French wines of questionable vintage, slapped on fake labels, and sold them at exorbitant prices to wealthy clients who believed they were genuine rare bottles worth thousands of dollars.²⁰³

The scheme worked for several years in part because most of the buyers simply bought and stored the wine without tasting it, a common practice of rare wine collectors. It unraveled in part because Kurniawan created a label for a Domaine Ponsot vintage that never existed.²⁰⁴

Creating and protecting IP is the goal of every individual or company that wishes to become successful in the marketplace. Indeed, some names have been used so often that they have replaced a group of products that have a more ubiquitous description. For example, “Xerox” was once used instead of “copy”; “Kleenex” is often used instead of “tissue”; and, “Google it” is used instead of “search.” These are classic examples of the importance of branding.

While few products become so iconic, even the smallest icons need to be protected from infringement. With the help of the PTO, legal counsel, law enforcement, and non-interference from plain packaging proponents, any product has the potential to become a true household name.

Chapter 5 –Patents: To Create; Perhaps to Use, Perhaps to License, Perhaps to Litigate

“This is a great day for me. I feel that I have at last struck the solution of a great problem--and the day is coming when...friends converse with each other without leaving home.” – Alexander Graham Bell, March 10, 1876, on the successful testing of the first telephonic transmission.²⁰⁵


On July 31, 1790, Samuel Hopkins was issued the first U.S. patent for improving “the making of Pot ash and Pearl ash by a new Apparatus and Process.” Pot ash was the nation’s first industrial chemical. Since there was no federal trademark or patent office at that time, the Hopkins patent was signed by President George Washington, Attorney General Edmund Randolph, and Secretary of State Thomas Jefferson. Two other patents were issued in 1790: one for a new candle-making process and the other for Oliver Evans’ flour-mill machinery.²⁰⁶

Since those first three patents were issued, 5.1 million patents have been approved by the U.S. government, including a record 302,948 patents in 2013.²⁰⁷ That total was 49.7 percent of the 609,082 applications that were filed with the agency.²⁰⁸ There were 571,612 utility patent applications, or 93.9 percent of the total patents filed. The rest of the patents were for design (36,064) and plants (1,406).

According to the PTO, a patent is a grant of a property right issued to the creator of an invention for a certain period of time.²⁰⁹ Specifically, a patent “confers ‘the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States’ and its territories and possessions...”²¹⁰ Patents that were in force on June 8, 1995, and patents issued after that date are in force for a term that is the greater of the 20-year term, or 17 years from the patent grant.²¹¹

Once a patent is granted, the owner has several options: use the patent actively, hold the patent inactive, license the patent (both active and inactive) to others, or pursue claims of infringement against unauthorized users of the patent. Patent holders who cannot afford the cost of development, have been unable to license their inventions, or have no intent to develop their patents, have come to be labeled over the past two decades as non-practicing entities (NPEs). NPEs often include universities, individual inventors, and companies of all sizes, both domestic and foreign.

Approximately 2.3 million patents are considered to be “active.” Small businesses, individual inventors, research labs, and universities own 60 percent of all patents, yet those patents generate a miniscule 1 percent of licensing revenue. In fact, 95 percent of patents do not provide a single dollar of licensing revenue.²¹² This inefficient commercialization of U.S. innovation annually wastes more than \$1 trillion in the potential value of patents by American firms that are failing to extract the full value of their IP.²¹³ This factor, in and of itself, has a significant impact on the U.S. economy, global competitiveness, and the nation’s ability to create high-paying, high-value jobs.



***On May 22, 1849,
Abraham Lincoln was
issued patent number
6,469 for an invention
for buoying vessels.
U.S. Patent and
Trademark Office.***

There are several reasons why patents are underutilized, including over-valuation, the cost and risk of litigation, and lack of internal resources. Unlocking these tangible assets would create added value and permit inventors to monetize their ideas. One of the most effective ways to achieve that objective is through licensing, which has been a standard practice since the patent system was established in the U.S. The third patent signed by President George Washington, for Oliver Evans' flour-mill machinery, was eventually licensed by Washington himself to modernize grain processing at the grist mill on his Mount Vernon estate.

According to Bowdoin College Professor of Economics B. Zorina Khan, "a remarkably high proportion of the great inventors extracted much of the income from their inventions by selling or licensing the rights to their inventive property."²¹⁴ Although Professor Khan was speaking about nineteenth century inventors, the same reality applies today.

For example, one-third of Qualcomm's revenue comes from licensing, accounting for 80 percent of the company's profits. Qualcomm, which holds the most important patents for code division multiple access (CDMA) chips, the standard used in 3G phones, gets paid between \$6 and \$7 for each smartphone sold.²¹⁵

In the first half of its 2014 fiscal year, licensing comprised 70.2 percent of Microsoft's revenue and 93.7 percent of the company's gross margin. Licensing revenue is derived from Windows and Office for consumers, phone patent licensing, and commercial licensing.²¹⁶

Although these companies have a clear vision of how to maximize the use and licensing of their patents, other companies both large and small, as well as universities and individual inventors, either do not have a similar mission or cannot find users or licensees for their patents.

According to the PTO, a license is a contractual agreement that gives a licensee the right to use the patent and prevents the patent owner from suing the licensee for infringement, as long as the licensee abides by the terms of the agreement in its use of the patent. These agreements usually limit the length of time, field of use, and geographic area. Licenses may be exclusive (one licensee) or non-exclusive (multiple licensees). In both cases, the patent holder retains title to the patent.²¹⁷

There are many resources to help patent holders license their patents. Law firms that specialize in patents help inventors obtain, protect, and license their patents. The PTO website includes links to several independent inventor organizations, information about every state's attorney general office, and a list of the PTO's designated Patent and Trademark Resource Centers.²¹⁸ And, of course, there are numerous websites that provide guidance on how to license patents; these should be viewed with the usual caveats about randomly seeking advice on the Internet.

Some patent holders have taken their own steps to license underutilized patents. During a two-week period in April 2014, Pennsylvania State University conducted an online auction of 59 portfolios of patents. Although the university did not state whether the auction made any money, the process provided a better understanding of the market value of the patents. The auction will also help the university decide whether to renew or abandon the portfolios that were not licensed.²¹⁹

While Penn State at least tried to obtain some return from its underused patent assets, many universities retain far too many patents because they believe they are worth more than they really are. However, the number of high-value patents is limited.²²⁰

According to a November 20, 2013 Brookings Institution report, 87 percent of universities that licensed patents did not break even on the costs related to research and development, patent filing, and patent maintenance over the prior 20 years.²²¹ That, of course, means that a small number of universities accounts for a significant amount of licensing revenue. In 2012, eight

universities that comprise the top 5 percent of licensing income earners took in 50 percent of licensing revenue and the top 16 percent earned 70 percent of licensing revenue. The Brookings report noted that “only 37 universities have been able to reach the top 20 of licensing revenue in any given year over the last decade.”²²²

According to surveys by the Association of University Technology Managers, universities “make more than 4,000 patent licensing agreements annually and collect about \$2 billion a year in licensing revenue.”²²³ The Brookings report recommended several ways to improve the return to universities for their investment in patents, such as expanding the Small Business Technology Transfer program to universities and creating a new pool of federal funds that would be distributed “more equitably” to universities based on the number of faculty.²²⁴

However, before more taxpayer dollars are spent on technology transfer, universities should take advantage of the available opportunities to sell or license their patents through private sector companies. For example, two companies, PatentBooks and Patent Properties, have developed systems that offer patent licenses at disruptively low prices. PatentBooks offers patent users licenses to all of the patents it represents. Patent Properties, through its United States Patent Utility, offers patent users licenses to packages of the 50 most relevant patents as determined by a proprietary statistical analysis. Each approach is designed to create a marketplace for both creators and users of patented IP, as well as to reduce the impact that high litigation costs have on the ability of patent licensing to scale beyond the small percentage of patents currently being licensed.

PatentBooks was founded by Art Nutter in 2014. The company facilitates “cost-effective patent licenses between patent owners and patent users by aggregating patents relevant to a product, offering patent users a single price to license all the aggregated patents, and distributing the licensing income to patent owners according to the quality of their aggregated patents.”²²⁵ The value of each patent is determined by TAEUSworks, which uses economic, technical, and legal parameters to evaluate and rate patents. The process was developed by the TAEUS International Corporation, which was founded by Mr. Nutter in 1992.²²⁶

PatentBooks permits patent owners to sell their patents on a voluntary basis and patent users to license all of the aggregated patents for a particular product. Patent owners can list their patents at no charge in PatentBooks and are paid licensing fees according to the value of their patents in three tiers as determined by TAEUSworks. The licenses are non-exclusive, and patent owners remain free to license their patents in any other manner.²²⁷

The PatentBooks website claims that the licensing system will be disruptive to several stakeholders in the patent marketplace. With more voluntary transactions online, there will be fewer bilateral licensing agreements, reducing the need for in-house licensing departments and their attorneys. There will be less work for patent litigation lawyers. There will be fewer lawsuits by patent trolls, because the value of patents will be published in Patent Books.²²⁸

Patent Properties, Inc. was developed by Jay Walker, the founder of priceline.com, who personally has more than 700 issued and pending U.S. and international patents and ranks as the world’s 11th most patented living inventor.²²⁹ Patent Properties has stated that the company “develops and commercializes its unique portfolio of assets and is creating a disruptive licensing solution for the mass market of patent owners and users.”²³⁰

In November, 2014, Patent Properties is scheduled to release its United States Patent Utility, which the company’s website describes as “a neutral platform that will provide a full package of patent-related licensing, information and financial services at disruptively low prices to patent owners and users alike.” This “innovative way to license innovation” will be completely voluntary.²³¹

The intent of the utility is to change the patent system from one that finds fault and generates lawsuits to a more reasonable standard of “‘no fault,’ based on ‘statistical probability’” as determined by a proprietary formula. The United States Patent Utility will also provide patent and product comparison testing, as well as market and litigation information. The company claims that this will be “the first time ... the huge un-served market of patent owners and users will be able to benefit from the invention marketplace by participating in a simple and affordable way.”²³²

In an August 18, 2014 interview in the *Stamford Advocate*, Walker and Patent Properties CEO Jon Ellenthal discussed the company’s approach to patent licensing. Walker compared providing access to large numbers of patent licenses by a single user at a reasonable price to the long-standing process used by ASCAP that allows radio stations to pay a single fee in order to obtain access to a large catalog of songs licensed by ASCAP. Walker stated, “by using simplicity, technology and common sense that works for everybody, and especially by keeping prices very low, we can replicate in the intellectual property and patent world what ASCAP did in the music world.”²³³

Although Patent Properties’ Patent Utility is focused on small and medium-sized businesses, Walker believes that larger companies, which also have a need to manage patent risk and access the innovation locked away in more than 2 million unlicensed U.S. patents, will find significant value in marketplace-based licensing. The cost per subscriber will be about \$1,200 for a package of 50 patents, plus a variety of other patent information services. Patent owners will receive 85 percent of the total licensing revenue achieved through the Utility, with owners of the more highly-valued patents in the 50-patent packages receiving a larger share of the overall licensing income than owners of patents with less statistical relevance to a user’s product or service.²³⁴

Villanova University School of Law Professor Michael Risch, an expert in patent law, said that the approach of the United State Patent Utility to charge a relatively low and flat price was something that he had not previously seen. He noted that the proposal would work if the inventions were sufficiently important for users to pay the fees for the patents.²³⁵

Both PatentBooks and Patent Properties appropriately assert that one of the results of their licensing programs will be a reduction in patent litigation. Another approach to that objective is being taken by RPX Corporation, which was founded in 2008 as “the first defensive patent litigation firm in the intellectual property market” and “a leading supplier of patent risk solutions ... to technology companies worldwide.”²³⁶ The company “acquires high-risk patents and patent rights”²³⁷ by buying them on the open market. RPX clients “generally receive a license to every patent we own, making each patent in the RPX portfolio one less patent that could be used in an infringement assertion against the members of our network.”²³⁸ According to the company’s website, RPX has “acquired more than 2,000 patent assets in the open market, representing approximately 1,900 avoided litigations for our clients” as of June 30, 2014.²³⁹

According to a March 24, 2012 *Forbes* article, RPX uses its subscription fees to “buy and retire patents that could be problematic. Collectively buying patents is more efficient and cost effective. It’s like having a consortium without the hassle of creating one.”²⁴⁰ RPX does not assert any of the patents it owns; the company will only defend those patents. Therefore, the value transferred from patent users to patent owners will occur “as efficiently as possible (without unnecessary and expensive legal conflict).”²⁴¹

The company also provides risk management services, litigation insurance, and strategic advice. For example, RPX “combines a traditional claims-paying policy with proactive intervention into the patent market to reduce the likelihood and expense of NPE litigation.”²⁴²

In regard to NPEs, also called patent assertion entities (PAEs) or the more derogatory patent trolls (used by companies subject to a patent infringement lawsuit or a demand letter from a patent owner), there is an ongoing debate over whether the PAEs are doing anything differently than past patent holders in asserting their patent rights; whether they are a “problem” that needs to be addressed; or, whether they are “outliers” in the patent system.

On September 27, 2013, the Federal Trade Commission (FTC) announced that it would be seeking public comment to obtain information on approximately 25 PAEs in order to determine how they do business and to better understand their impact on competition and innovation. The FTC noted that “PAEs are firms with a business model based primarily on purchasing patents and then attempting to generate revenue by asserting the intellectual property against persons who are already practicing the patented technologies.”²⁴³

The FTC noted that PAEs are not considered to be non-practicing entities such as universities and other patent holders who are seeking to develop and transfer technology. The agency plans to issue two reports; the first will examine how the PAEs operate and the second will discuss how they impact competition and innovation.²⁴⁴

In an interview published in *Law360* on September 4, 2014, FTC Commissioner Joshua Wright said that the PAE report will “probably ... disappoint some people” who are looking for an up-or-down vote on PAEs, but it will nonetheless illuminate an “issue that is ‘chock full of theory and supposition.’”²⁴⁵ Wright noted that data “doesn’t exist” which would determine whether the PAEs are a positive or negative factor in the patent system, and that the commission needs to start with the facts. He also stated that the FTC has the ability under either its consumer protection or competition authority to bring cases against PAEs regardless of the outcome of the two reports.²⁴⁶

The FTC is not the only federal agency looking into NPEs and PAEs. On August 22, 2013, GAO issued a report entitled “Intellectual Property: Assessing Factors That Affect Patent Infringement Litigation Could Help Improve Patent Quality.”²⁴⁷ According to GAO, from 2000 to 2010, the number of patent infringement lawsuits fluctuated slightly. However, from 2010 to 2011, the number increased by about one-third. In a detailed analysis of 500 lawsuits from 2007 to 2011, GAO found that the number of overall defendants had increased by about 129 percent; NPEs filed about one-fifth of all lawsuits. GAO also found that software-related patents constituted about 89 percent of the lawsuits.²⁴⁸

Stakeholders told GAO that there were three reasons for the increase in patent infringement lawsuits: 1) many of these lawsuits are related to the prevalence of patents with unclear property rights; 2) the potential for large monetary awards from the courts can be an incentive for the patent owners to file infringement lawsuits; and, 3) companies are recognizing the patents as a more valuable asset than previously considered.²⁴⁹

The relationship between more patents and more patent litigation was also analyzed by Dr. Khan. She concluded that “...although it has increased over the past few years, the rate of litigation (cases as a percentage of patents), is still unexceptional. This is especially true since changes in legal rules (ironically intended to reduce litigation) have led to a nominal or administrative increase in the numbers of cases filed in the most recent years.”²⁵⁰ The legal rules Dr. Khan alluded to have largely resulted from the enactment of the Leahy-Smith America Invents Act (AIA) on September 11, 2011.

Dr. Khan reviewed the pattern of patenting and litigation between 1790 and 2012 and found that the “per patent rate of litigation was highest in the era before the Civil War and during the subsequent market expansion that started in the 1870s.”²⁵¹ New innovations, such as “the

telegraph, telephone and automobile were invariably accompanied by an upswing in civil litigation.”²⁵² Dr. Khan noted that “‘vexatious’ and costly litigation about all areas of law – patents, property, contracts and torts alike – were inevitably associated with the advent of important innovations, and the moral here is that it is not possible to pre-assign labels that would predict who would act in a meritorious fashion and who would engage in unproductive behavior to drive out competitors.”²⁵³ Indeed, not all NPEs are PAEs and not all PAEs are patent trolls.

Dr. Khan’s perspective on the history of patent litigation; FTC Commissioner Wright’s comments about the likely outcome of the agency’s study and its capacity to address any violations of law; and, the availability of marketplace alternatives to litigation should address many of the issues surrounding how PAEs impact the patent system.

In fact, there is a more serious challenge to patents than the level of domestic litigation. Several countries, particularly China, have been departing from international IP norms in order to pursue domestic economic goals. And according to FTC Commissioner Maureen Ohlhausen, decisions by the FTC itself may have given “some cover to the Chinese for their departure” from international standards.²⁵⁴

Commissioner Ohlhausen cited two FTC decisions involving standard-essential patents that restricted the ability of holders of such patents to seek injunctions. Describing her dissent in the cases, the commissioner said, “I worry that these actions may send the wrong message to our foreign counterparts that we do not place a very high value on intellectual property rights and that we failed to explain adequately why these cases are the exception rather than the norm.”²⁵⁵ Despite U.S. court decisions and FTC statements that support the rights of patent holders in licensing matters, the commissioner heard Chinese officials citing the two FTC cases as settled U.S. law and, therefore, supportive of their policies on such matters.²⁵⁶

FTC Commissioner Wright expressed similar concerns about the FTC as well as the Department of Justice (DOJ) in his remarks to the New York City Bar Association on March 11, 2014. He said that antitrust laws could be used to limit IP rights, “especially in young and emerging antitrust regimes, and most notably China.”²⁵⁷ In its September 2014 report on the implementation of China’s anti-monopoly law (AML), the U.S. Chamber of Commerce echoed those concerns stating, “China appears to be using the AML to promote industrial policy goals, even at the expense of competition” and has engaged in “systemic, officially sanctioned curtailment of IP rights.”²⁵⁸

In addition to his concerns over China’s AML, Commissioner Wright stated that both the FTC and DOJ should enforce antitrust laws equally for both IP and real property rather than establishing a separate, specific analysis for IP cases. Otherwise, special rules for IP could “promote hostility toward the exercise of property rights and their exchange,”²⁵⁹ as well as create an ad hoc approach to enforcement that would make it more difficult to protect IP rights both in the U.S. and around the world.

At the same time the FTC and DOJ may be inadvertently helping to undermine IP rights in other countries, the U.S. patent system is becoming more closely aligned with the rest of the world. Before the enactment of the AIA, patents were provided to the “true and first inventor.”²⁶⁰ The AIA increased efficiency and streamlined the patent application system to “improve patent quality and limit unnecessary and counterproductive litigation costs.”²⁶¹ The legislation also harmonized the U.S. patent grant process with the system used in most other countries.²⁶² In addition, the AIA provided a simplified definition of prior art, a comprehensively revised existing administrative proceedings for post-issuance of patents, and created several new administrative proceedings.²⁶³

On December 5, 2013, the House passed H.R. 3309, the Innovation Act, by a vote of 325-91. The legislation would require patent assertion letters to provide a detailed explanation of the patent being violated, as well as offer other discovery information. In addition, contrary to current law, the patent holder would be permitted to continue to use the patent in question until the matter was resolved and pay additional damages later if the case was decided unfavorably to the defendant. The Senate did not consider the bill, so the issue will be deferred to the 114th Congress.

Spurred by the attention paid to the issue in Washington and given the impact of abusive demand letters from some patent owners to end users of technology seeking monetary settlements in the face of litigation threats, bills have been either introduced or signed into law in 29 states since the beginning of 2013. For example, on August 17, 2014, Illinois Governor Pat Quinn signed a bill that would make it a violation of civil law if an individual sending a demand letter does not hold a patent or represent the patent holder, or if the patent has been overruled in court or expired.

Patent litigation has always had a proper role in the protection of IP. It may behoove Congress and state legislatures to be cautious in moving forward on legislation before the FTC issues its reports on PAEs. As Dr. Khan stated in her report, “data on patents granted, litigation rates over the past two centuries, and the role of non-practicing entities, indicate that these features of the current market in intellectual property are hardly anomalous. Indeed, they have been inherently associated with disruptive technologies that transformed the United States into the world leader in industrial and economic growth.”²⁶⁴

Eli Whitney’s invention of the cotton gin in 1794, Alexander Graham Bell’s telephone in 1876, and Thomas Edison’s development of the light bulb in 1879 were disruptive in their time, yet their positive impact was felt for many years. In modern times, the rate of technological advancement has accelerated these trends.

The next disruptor may be working in his or her parents’ garage or holed up in a college library. Or the upstart venture may be financed by an individual or group of financiers who have already been successful innovators.

In 2013, CNBC began a feature called “The Disruptors” to highlight how private companies were “disrupting the status quo in 10 traditional industries: energy, enterprise, financial services, healthcare, media, manufacturing, retail, telecom, travel & leisure.”²⁶⁵ The network evaluated nominations from venture capitalists, reporters, business school academics, and startup investors to create the first top 50 list in 2013. The CNBC 2014 Disruptor 50 list covers companies in 27 industries “whose innovations are revolutionizing the business landscape.”²⁶⁶

In addition to their unpredictable, yet likely positive, impact on the marketplace, all of these companies have something else in common with the cotton gin, the telephone, and the light bulb: their success will depend in large part upon the creation and protection of their patents and other IP. An efficient licensing system allowing American innovation to reach the marketplace and contribute to global competitiveness will also be needed.

The U.S. must continue to lead the way in promoting and defending IP around the world; of special importance will be its effort to persuade other nations to adopt strong patent laws.

As Mark Twain aptly noted, “That reminds me to remark, in passing, that the very first official thing I did, in my administration – and it was on the first day of it, too – was to start a patent office; for I knew that a country without a patent office and good patent laws was just a crab, and couldn’t travel any way but sideways or backwards.”²⁶⁷

Chapter 6 – Electronics, Software, and National Security: Pulling the Plug on Phony Parts

Consumers want the latest product, the coolest device, and the biggest screen at the lowest possible price. Sometimes their desire for these devices is so intense that fights break out in stores during the first day the product is available for sale. Others patiently wait until the frenzy dies down before they make the purchase.

There is another, less obvious category of “consumers”: individuals who obtain counterfeit versions of a hot new product before it is released for sale to the public.

In July 2014, during the buildup to the release of Apple’s iPhone 6 and 6 plus, several cloned or counterfeit versions became available through various websites.²⁶⁸ The fakes were based on speculation of what the newest iPhone would look like, and the purchasers typically were individuals who wanted to appear to have the latest tech device before the real deal was available.²⁶⁹ While the fake iPhone 6 looked like a genuine iPhone, the similarity stopped there. The cloned versions ran on different operating systems, including Android.²⁷⁰

While the release date of the two new phones was kept confidential by Apple, it turned out that the counterfeit phones were available two months before sales of the real phones began on September 19, 2014.²⁷¹ More than 10 million of those devices were sold during the first weekend they were available.²⁷²

Counterfeiters have targeted and manufactured other valuable products. On September 30, 2014, two men pleaded guilty to conspiracy to commit computer fraud and copyright infringement. One of the charges was manufacturing and selling a counterfeit Xbox One gaming system before it was officially released. Prosecutors alleged that the men stole more than \$100 million in IP and proprietary information relating to the Xbox One and the Xbox Live gaming systems. The men had obtained much of this information through a U.S. Army computer system, targeting Microsoft and several video game developers in order to illegally obtain gaming information and other IP and trade secrets.²⁷³

While the theft of software and electronics has clear financial consequences, the use of counterfeit products can also be deadly. In July 2013, a woman in China died when she answered a call using her iPhone 4. Her phone was connected to a third-party charger and she was electrocuted when the call came through.²⁷⁴ Even though Apple was not at fault, the company responded to the problem in August 2013 by offering a worldwide USB power adapter trade-in of third-party chargers that might not be “designed properly ... resulting in safety issues.”²⁷⁵

Unfortunately, that did not prevent the continued sale of counterfeit phone accessories. In June 2014, a woman died of electrocution in Sydney, Australia. She was found with burns on her chest and ears, wearing headphones while holding her laptop. Officials believe that her death was linked to an unbranded phone charger purchased at a phone accessories kiosk.²⁷⁶

Counterfeit cell phone chargers are not the only potentially lethal electronic products. As noted in chapter 1, on May 13, 2013, ABC 7 News in Chicago covered a raid on a Los Angeles store selling counterfeit goods.²⁷⁷ The news story included an interview with UL experts, who demonstrated the fire hazards of bogus extension cords. The experts said that counterfeit products could be in anything in homes from toasters to wall outlets, with the potential to cause damage or injury.²⁷⁸

There is nothing like a warm fire during the holiday season, but flames shouldn’t be shooting out from holiday decorations. According to the Home Safety Council, lights on Christmas trees account for an average of 240 fires each year.²⁷⁹ The fires can be caused by the

lights themselves or by fake extension cords, which can easily be overloaded. The Electrical Safety Foundation International found that 72 percent of individuals are likely to use at least one extension cord for their decorations, and 33 percent of those individuals are unlikely to check for a certification mark such as UL.²⁸⁰

In addition to consumers being duped by counterfeit electronics, fake parts have entered into the federal government's supply chain. In one of its earliest reports on this problem in October 1990, GAO found that nonconforming parts (including counterfeit parts), such as fasteners, pipe fittings, electrical equipment, and valves were being installed in nuclear power plants. GAO reported that "5 years after DOD had identified certain vendors as suspect, utilities installed steel from these companies in safety systems designed to prevent or mitigate an accident at a nuclear plant. NRC warned utilities about these vendors only after they were indicted for selling nonconforming products."²⁸¹

GAO noted that six federal agencies were planning to create a system to exchange information relating to nonconforming products and develop a clearinghouse for sharing critical information relating to vendors of these goods. GAO recommended that the Office of Management and Budget (OMB) develop an action plan to implement the strategy developed by these six agencies, as well as a computerized tracking system that would provide federal agencies with access to the information.²⁸²

In January 2010, the Department of Commerce, one of the six agencies involved in the proposed information exchange, released a report on a study the agency conducted from 2005 to 2008 evaluating the prevalence of counterfeit electronics in the defense industrial base. The analysis found "that 39 percent of companies and organizations participating in the survey encountered counterfeit electronics during the four-year period. Moreover, information collected highlighted an increasing number of counterfeit incidents being detected, rising from 3,868 incidents in 2005 to 9,356 incidents in 2008."²⁸³

On June 24, 2011, GAO issued a report on the joint plan developed by the National Aeronautics and Space Administration and DOD to stop counterfeit parts from entering the supply chain for space and missile defense systems through a set of standards requiring contractors to prevent and detect counterfeit parts and materials. GAO noted that, despite these efforts, protecting the supply chain remains problematic due to "broader acquisition management problems, workforce gaps, diffuse leadership in the national security space community, the government's decreasing influence on the overall electronic parts market, and an increase in counterfeiting of electronic parts."²⁸⁴

On February 21, 2012, GAO released the results of a study it conducted focused solely on bogus parts entering the DOD supply chain. GAO created a fictitious company to request quotes from numerous vendors in an effort to purchase 16 parts in three categories: "1) authentic part numbers for obsolete and rare parts; 2) authentic part numbers with postproduction date codes (date code after the last date the part was manufactured; and, 3) bogus, or fictitious, part numbers that are not associated with any authentic parts."²⁸⁵ All 12 of the parts that GAO received under the first two criteria were suspect or counterfeit, even though the part numbers used in the request were authentic. The last four parts were ordered with invalid part numbers and were also counterfeit.²⁸⁶

On May 12, 2012, the Senate Armed Services Committee released a report on counterfeit electronic parts in the DOD supply chain. The committee found that China is the primary source for counterfeit goods, accounting for more than 80 percent of seizures in fiscal year 2011; other sources include India and Turkey.²⁸⁷

Some of the fake parts provided to DOD are made from electronic waste sent from the U.S. to other countries. The e-waste is disassembled by hand, washed in rivers, and dried on city sidewalks. The parts are then sanded down to remove part numbers, rebranded, and recoated to disguise their origins. The report stated: “Counterfeit electronic parts pose a significant risk to the performance of defense systems. Even if counterfeits made from previously used parts and salvaged from e-waste may initially perform, there is no way to predict how well they will perform, how long they will last, and the full impact of failure.”²⁸⁸

After the committee released its findings, Senator John McCain (R-Ariz.) said, “We can’t tolerate the risk of a ballistic missile interceptor failing to hit its target, a helicopter pilot unable to fire his missiles, or any other mission failure because of a counterfeit part.”²⁸⁹

One way to avoid purchasing counterfeit parts is to implement better methods of detection. For example, DOD is embedding plant DNA into microchips to confirm their authenticity.²⁹⁰ As required by the National Defense Authorization Act for Fiscal Year 2012, DOD has proposed new rules that would require all contractors to report to the DOD Office of Inspector General any suspected counterfeit or defective parts in the supply chain.²⁹¹

In addition to the fake parts at DOD, dangerous counterfeit products include “jet engines, bridge joints, and fasteners in areas of nuclear facilities responsible for preventing the meltdown of the reactor itself.”²⁹² In 2011, an automotive industry working group identified safety and liability exposure as a concern for companies that inadvertently install counterfeit parts purchased through legitimate commerce avenues. The group cited industry experts who said “the real problem ... is that the government does little to police the importation of counterfeit auto parts into this country.”²⁹³

On October 10, 2012, the National Highway Traffic Safety Administration (NHTSA) issued an advisory urging vehicle owners and auto repair shops to use only certified, original equipment replacement airbags for vehicle repairs. Although NHTSA had not identified any deaths or injuries caused by non-certified airbags, the agency’s test of counterfeit airbags found that they did not deploy properly or propelled metallic shrapnel into the passenger cabin upon deployment.²⁹⁴

The manufacture of counterfeit products can sometimes be traced to organized crime and other nefarious operations. In March 2009, law enforcement officers raided a home in Los Reyes, Michoacán, in Mexico. They found 50 machines used to copy CDs and make counterfeit software, including fake versions of Microsoft Office products and Xbox video games. It was believed that the individuals in the home were part of a counterfeit software ring being run by La Familia, a Mexican drug cartel and organized crime syndicate.²⁹⁵

Both businesses and individuals purchase software and electronics on thousands of websites, but more individuals than businesses buy games. It is a common misperception that, when a game is no longer available in stores, it is not illegal to copy and sell it online; however, copyright protection for works owned by corporations, including gaming software, lasts for 95 years from the year the work was first published.²⁹⁶ The Entertainment Software Association estimates that piracy costs the industry millions of dollars every year.²⁹⁷

Software counterfeiting has become so sophisticated that many businesses have difficulty determining whether the products they have purchased are genuine. A 2009 study conducted by IDC on behalf of Microsoft found that 37 percent of the midsize businesses surveyed were using some counterfeit software and had spent an average of \$10,222 on these purchases.²⁹⁸

When an individual or organization purchases software, the product comes with a specific number of licenses. For example, a small business may purchase a copy of Adobe Paint Shop Pro

to edit photos for use in generating buttons, T-shirt designs, advertising, and web designs. There are several individuals involved in each of these processes who use the software.

Because there are many users, the company must purchase multiple licenses to be in compliance with the end user agreement. This is a legal obligation of every purchaser regardless of its size, from the smallest business to the largest company and government agency. However, if an inventory of license use is not maintained and kept current, it is almost impossible to determine whether the organization has enough licenses or too many licenses and, therefore, whether it is in compliance with software licensing agreements.

The first President to understand that the overuse and underuse of software licenses could be a problem for federal agencies was Bill Clinton. On October 5, 1998, he issued Executive Order (EO) 13103, which included a requirement that agencies track their software assets as part of their responsibility to prevent and combat software piracy. Each federal agency was tasked with providing an inventory of existing software, determining which software they had the authorization to use, and creating and maintaining satisfactory recordkeeping systems.²⁹⁹

As one might unfortunately expect from the federal government, EO 13103 has not been followed all that well. On August 11, 2006, the Secretary of Veterans Affairs (VA) announced the award of a contract for 300,000 encryption software licenses to protect the information stored on the department's laptops and other computing devices, with installation expected to be completed four weeks later.³⁰⁰ Those expectations were never met.

On October 11, 2012, the VA Office of Inspector General (IG) issued its findings on the deployment of the encryption software licenses.³⁰¹ In addition to the original purchase of 300,000 encryption software licenses, the department purchased another 100,000 licenses in April 2011. The IG found that VA failed to use 335,000 of the 400,000 licenses purchased, totaling about \$5.1 million of the \$5.9 million spent. The non-deployment was a result of: 1) the agency failing to test the software for compatibility with existing systems prior to purchase; 2) an insufficient allocation of human resources to install the software; and, 3) insufficient monitoring of the project to ensure it was on track.³⁰²

The VA is, of course, not the only agency that can't keep track of its software. On June 25, 2013, the Treasury Inspector General for Tax Administration (TIGTA) released a report on software license management at the Internal Revenue Service (IRS). According to the report, the IRS spent \$235 million on software licenses in 2011 without an appropriate accounting of its existing software assets. For example, 21 of the 27 software products reviewed did not have unlimited software licenses and six had more than one license deployment record.³⁰³

The mishmash of software inventory records led to some licenses being either overused or underused, including eight software products that were not used in a cost-effective manner because the agency deployed significantly fewer licenses than it had purchased. For three software products, the IRS deployed more licenses than it had purchased.³⁰⁴

TIGTA recommended that the IRS implement a specialized software license tool designed to discover, track, and manage software license deployment and usage. Other recommendations included development of an inventory of software licensing data and maintenance of inventory with a special software license tool designed to discover, track, and manage software license deployment and usage.³⁰⁵

The IRS's response to TIGTA's recommendations was that no such system existed; therefore, the agency would have to create its own software inventory tool to manage software license deployment and usage.³⁰⁶ However, sophisticated software asset management tools exist in the private sector to perform the functions that TIGTA recommended to the IRS. A simple

online search reveals numerous companies offering these programs and services, including Aspera,³⁰⁷ BMS Software,³⁰⁸ Eracent,³⁰⁹ Flexera Software,³¹⁰ Microsoft,³¹¹ and Snow Software.³¹²

GAO has issued several reports regarding software asset management. In its September 23, 2014 report, GAO said, “effective management of software licenses can help organizations avoid purchasing too many licenses that result in unused software. In addition, effective management can help avoid purchasing too few licenses, which results in noncompliance with license terms and may cause the imposition of additional fees.”³¹³

Because EO 13103 and GAO’s recommendations have not been complied with, Congress has taken steps to require agencies to perform inventories of their software assets and implement software asset management processes. Provisions to improve the use and tracking of software licenses have been included in a bill intended to modernize information technology (IT) acquisition and management across the federal government, as well as in the FY 2014 and 2015 DOD authorization acts.

On February 25, 2013, the House of Representatives passed H.R. 1232, the Federal Information Technology Acquisition Reform Act (FITARA). The bill includes a provision that would require the OMB director to develop a plan for conducting a government-wide inventory of IT assets, including software assets, and calls for a review of all existing software licenses on an application-by-application basis, including duplicative, unused, overused, and underused licenses.³¹⁴ Similar language was included in the National Defense Authorization Act for Fiscal Year 2014, which required DOD to conduct an inventory of its software and other IT assets. The House-passed version of the National Defense Authorization Act for Fiscal Year 2015 (H.R. 4435) included an amendment that incorporated FITARA.³¹⁵ However, it is not clear if the final legislation will include such language because the Senate version of the bill did not contain all of FITARA.

The protection of software copyrights and licensing is critical to maintaining the integrity of digital commerce in the U.S. Federal agencies must appropriately deploy and use software assets through the use of existing software asset management tools in order to both be respectful of IP and help prevent piracy. Until this occurs across the federal government, millions of dollars will be wasted by purchasing either too many or not enough software licenses.

Both government agencies and private sector companies must be wary of counterfeit parts and help prevent them from entering the supply chain. Consumers should understand that giving off the appearance of having the newest device on the market can have both financial and physical consequences. These products provide a false sense of security, until that aura is broken by a frayed wire, a faulty airbag, or a bad component in a critical weapons system.

Conclusion

IP rights have been paramount since the Republic was established. As James Madison noted in “Federalist Paper 43,” referring to the authority to promote science and the arts by providing exclusive rights to authors’ and inventors’ writings and discoveries (which became Article I, Section 8 of the Constitution):

The utility of this power will scarcely be questioned. The copyright of authors has been solemnly adjudged in Great Britain to be a right of common law. The right to useful inventions seems with equal reason to belong to inventors. The public good fully coincides in both cases with the claims of individuals. The States cannot separately make effectual provision for either of the cases, and most of them have anticipated the decision of this point by laws passed at the instance of Congress.³¹⁶

The Founding Fathers understood that by protecting the individual rights of artists, authors, entrepreneurs, innovators, and inventors, they were promoting the greater public welfare. These fundamental privileges remain essential to ensure that IP will continue to have a substantial, positive impact on everyone’s life.

Patent holders need strong enforcement of IP laws in the U.S. and by its trading partners. New initiatives to license underutilized patents will increase the availability of hundreds of inventions while reducing the amount of patent litigation. Consumers must have assurances that they are buying safe and effective products that will not cause them harm, and taxpayers need to know that the government is not using fake parts in its weapons systems.

However, there are headwinds to the protection of IP rights. The Internet has spawned a new wave of IP piracy that includes counterfeit drugs being sold on fake pharmaceutical websites and music and videos being illegally downloaded from file sharing or torrent sites. Stealing IP and distributing it without just compensation to its creator has a far-reaching negative impact on the next independent filmmaker, struggling garage band, or young author.

The theft of trademarks creates confusion for consumers who believe they are purchasing specific brand name goods, only to find that the items are mislabeled, counterfeit, or even deadly. Some governments have passed laws that essentially strip trademarks from certain goods, in order to support social goals or policies. Other governments enforce antitrust laws or weaken IP laws to allow their domestic businesses to make a profit from the ideas and sweat of others. If more countries develop policies that threaten IP, there will be less incentive to invest in technology, research, and development, and the global economy will suffer.

Despite these barriers to IP rights, there are many countries that understand and promote the importance of IP for economic growth. As Great Britain’s ITV Director of Policy and Regulatory Affairs Magnus Brooke said, “A strong IP regime is an engine of growth, NOT a barrier.”³¹⁷

Keeping this engine running smoothly, using the recommendations and concepts contained in this report and similar sources, will help the global economy continue to grow. In the U.S. alone, IP-related industries provide more than 40 million jobs³¹⁸ and account for between 55 and 62.6 percent of GDP.³¹⁹ Without the innovation propelled by IP, the global economy would be on a slow (or slower, in current circumstances) train going nowhere.

Everyone benefits from IP. If the Founding Fathers had not recognized its importance, the light bulb, the telephone, the cell phone, and the microchip might never have been invented. Strong IP protection is fundamental to keeping the engine of ingenuity on track for generations to come.



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Mr. Schatz is a nationally-recognized spokesperson on government waste and has been interviewed on hundreds of radio talk shows from coast to coast. He is a regularly featured guest on national television news programs and local news broadcasts. Mr. Schatz has testified numerous times on government waste issues before committees of the U.S. Senate and House of Representatives, as well as before state and local legislative and regulatory bodies.

During his 28 years with CAGW, Mr. Schatz has helped make CAGW a “leading government watchdog on fiscally conservative issues, like taxes and earmarks,” according to *National Journal*. CAGW was cited by *The Hill* for its leading role in successfully pushing for the congressional earmark moratorium, which was identified as one of the “top 10 lobbying victories in 2010.” *The Hill* has

named Mr. Schatz as a “top lobbyist” for five consecutive years, from 2010-2014.

His previous books include “End the Income Tax,” co-authored with Jack Anderson in 1997; and “Telecom Unplugged: Ushering in a New Digital Era,” co-authored with Deborah Collier in 2014.

Prior to joining CAGW in 1986, Mr. Schatz spent six years as legislative director for Congressman Hamilton Fish, Jr. and two years practicing law and lobbying.

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Since joining CAGW in July 2011, Ms. Collier has authored numerous of educational issue briefs; articles and blogs on technology and telecommunications policy, including three reports relating to cloud computing; and a report on the development of government mobile apps. In 2014, Ms. Collier joined with CAGW President Tom Schatz in co-authoring “Telecom Unplugged: Ushering in a New Digital Era.” She

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Prior to her work at CAGW, Ms. Collier spent 24 years on Capitol Hill working in IT and legislative arenas. She worked for Rep. Clarence Miller (R-Ohio) both as a caseworker and system administrator, and then joined the staff of Rep. Steve Buyer (R-Ind.) as the director of information technology. From 2005 to 2010, she served on the House Committee on Veterans’ Affairs as the Republican Legislative Director. Ms. Collier was a member of the House Systems Administrators Association from 1989 until 2005, and served as the organization’s president from 2002 to 2005.

Ms. Collier holds a Bachelor of Arts (AB) degree in History from Ohio University. She is married to Kimo Collier, and has a son, Christian.

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Chapter 1

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