

## MEASURING PIRACY AND COUNTERFEITING IN CHINA

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### I.

In June 2010, the ITC held a public hearing on the impact of intellectual property infringement and indigenous innovation policies in China on the U.S. economy. This hearing, along with two new studies, was initiated at the request of the U.S. Senate Finance Committee. While the first study focuses on the development of a framework to measure the effects of intellectual property infringement and indigenous innovation policies in China on the U.S. economy, the follow-up study will document these effects. Drawing on the ITC's efforts to conduct these studies and my earlier testimony at the public hearing, this section outlines six different challenges in measuring the cross-border economic impact of piracy and counterfeiting.

The first three challenges are of a general nature and relate to virtually all surveys of intellectual property protection and enforcement. The first challenge concerns the difficulty in determining which U.S. industries are relevant to the studies. With the ubiquity of intellectual property-related goods and services, intellectual property protection and enforcement affects virtually all industries. The only differences among these industries seem to be how much and how significant. The growing impact of intellectual property standards is indeed the reason why intellectual property has now moved from a legal backwater to the forefront of the domestic and international policy debates.

In the past decade, the publishing, recording, movie, software and game industries have greatly emphasized their important contributions to the U.S. economy. Their assessments include not only their direct contributions, but also the contributions of other supporting industries, including those whose positions may differ significantly from theirs. In recent years, however, these other industries have become more active in documenting their own economic contributions. The Computer and Communications Industry Association, for example, pioneered a study to measure the contributions of the so-called fair use industries. Even though this new

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set of studies is just as self-interested as the entertainment industries' studies, the proliferation of studies from disparate industries that take drastically different policy positions does make salient the importance of, and challenges to, determining the relevant industries for analytical purposes.

The second challenge concerns the difficulty in collecting data to illustrate the extent of piracy and counterfeiting. Admittedly, practical challenges to collecting data about illicit activities exist. As a result, self-interested trade groups often have to collect the data themselves. Nevertheless, given how these data are collected, they remain highly suspect. In fact, unless the data are corroborated by independent researchers, studies that rely solely or primarily on them are likely to run into a serious "garbage in, garbage out" problem.

Consider, for example, the figures supplied by the Business Software Alliance (BSA) in its effort to document global piracy rates. Policymakers, commentators and academics have widely questioned their accuracy. While a draft Australian government report described these statistics "as a 'self-serving hyperbole,' 'unverified and epistemologically unreliable,'" Gary Shapiro, the president of the Consumer Electronics Association, called these figures "absurd on [their] face" and "patently obscene." Ivan Png further demonstrated that the BSA's change of consultants had led to a change in methodology for measurement, which, in turn, resulted in systematic effects on published piracy rates. Sadly, despite these many criticisms, the industry-supplied figures remain in wide use among policymakers, researchers and the mass media.

Among the flaws in the BSA study, the most widely criticized are the highly incredulous one-to-one substitution rate between legal and infringing goods and the overvaluation of pirated and counterfeit goods. As Carsten Fink observed in an issue paper he wrote before joining WIPO as its first-ever chief economist:

[BSA's assumption] that, in the absence of piracy, all consumers of pirated software would switch to legitimate copies at their current prices . . . is unrealistic—especially in developing countries where low incomes would likely imply that many consumers would not demand any legitimate software at all. Accordingly, estimated revenue losses by software producers are bound to be overestimated.

Indeed, it is virtually impossible to count as lost sales those products that firms cannot sell in less developed countries. At best, the figures reflect the retail value of pirated goods based on U.S. prices, or whatever prices researchers have set. Those figures, however, are drastically different from lost sales.

An additional problem concerns the failure by these studies to recognize the existence of a wide variety of offsetting welfare benefits. As the U.S. Government Accountability Office (GAO) pointed out in its recent study, although piracy and counterfeiting may affect the core intellectual property industries, these industries, along with those in other sectors and individual consumers, may have obtained offsetting benefits. As stated in the study:

[C]onsumers may use pirated goods to 'sample' music, movies, software, or electronic games before purchasing legitimate copies, which may lead to increased sales of legitimate goods. In addition, industries with products that are characterized by large 'switching costs,' may also benefit from piracy due to lock-in effects. . . . [Moreover,] companies that experience revenue losses in one line of business—such as movies—may . . . increase revenues in related or complementary businesses due to increased brand awareness. For instance, companies

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may experience increased revenues due to the sales of merchandise that are based on movie characters whose popularity is enhanced by sales of pirated movies. One expert also observed that some industries may experience an increase in demand for their products because of piracy in other industries. This expert identified Internet infrastructure manufacturers (e.g., companies that make routers) as possible beneficiaries of digital piracy, because of the bandwidth demands related to the transfer of pirated digital content. While competitive pressure to keep one step ahead of counterfeiters may spur innovation in some cases, some of this innovation may be oriented toward anticounterfeiting and antipiracy efforts, rather than enhancing the product for consumers.

Although the GAO study did not go further, one could easily question how much of the losses the intellectual property industries claimed to have suffered would be cancelled out by these benefits. If the benefits indeed outweigh the claimed losses, the country will have a *net* economic gain even though the core intellectual property industries may have suffered losses.

The third challenge concerns the complexity of intellectual property laws and the significant differences between “law on the books” and “law in action”—two areas that economists sometimes ignore. Consider patent law, for example. It is pointless to assume that the length of patent protection to be a static 20 years without taking into consideration maintenance or renewal fees and potential regulatory delays. Likewise, it will be ill advised to focus on the total patent count if many of the counted patents are likely to be invalidated upon legal challenge. At the international level, it is also worth thinking more about the complications caused by the prosecution of identical patents by firms in different jurisdictions with varying patent quality.

In addition, it is highly important to distinguish between infringement on the one hand and piracy and counterfeiting on the other—a distinction that policymakers and industry groups often overlook. Microsoft, MGM, Twentieth Century Fox and Universal Studios have all been found to have repeatedly infringed others’ intellectual property rights. Yet most would find it absurd to classify these firms as “repeat pirates.” The important policy question, therefore, is not whether these firms have infringed—and in these examples, repeatedly infringed—but whether such infringement is a necessary part of doing legitimate business and how large the infringement-innovation ratio is. John Walsh, Ashish Arora and Wesley Cohen, for example, found that many university and industrial researchers use patented technology without a license when patent protection prevents them from gaining access to the needed research tools.

It is important to remember that creativity and innovation often involve risks. Some industries, indeed, are more vulnerable to litigation than others—think newspapers and broadcasters in the copyright context and software developers in the patent context. Because an intellectual property system where firms are highly concerned about legal risks is likely to greatly stifle creativity and innovation, researchers need to think more about whether they should limit their studies to piracy and counterfeiting, as opposed to all forms of infringement.

Moreover, many intellectual property issues cannot be examined by focusing on economics alone. To be certain, many non-legally trained researchers have acknowledged their limited knowledge of intellectual property laws and the judicial process. Some laws also remain unsettled. Nevertheless, researchers will greatly benefit from a better understanding of the interplay between law and economics. These benefits are, indeed, why law schools in the United

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States and elsewhere have now championed the “law and economics” approach. Thanks in no small part to the pioneering efforts of William Landes and Richard Posner, an ever-growing number of scholars have conducted research using this approach—through cross-disciplinary collaborations or otherwise.

While the first three challenges appear in virtually all surveys on piracy and counterfeiting, the next three challenges relate specifically to the ITC studies. The fourth challenge concerns the difficulty in quantifying such intangibles as the promotion of free speech, free press and democratic transition. As economists have widely noted, depending on a country’s market size and conditions as well as its imitative or innovative capacity, inadequate intellectual property protection can affect a country’s ability to generate taxes, create jobs, transfer technology, diffuse knowledge, attract FDI, increase trade flows and develop human capital. The lack of protection, nevertheless, can *enhance* welfare by encouraging the free flow of information.

For example, the reuse of copyrighted content helps provide information that otherwise may not be available. The provision of affordable communications technologies—whether licensed or not—also helps enlarge the much-needed public sphere. Although many assume that only certain types of information—such as news stories—will help promote democratic transition and civil society development, this is not entirely true. Entertainment products that are uncontroversial, highly commercial and seemingly frivolous could easily contain useful political information. While many of these commercial products may have been created to provide entertainment, in some countries they also supply an important window to the outside world. In addition, the creative reuse of pre-existing materials can promote the development of a vibrant democratic culture, which in turn affects a country’s political future.

It is not uncommon to find Hollywood movies or American television programs portraying different forms of government, the need for checks and balances or separation of powers, and the protection of constitutional rights and civil liberties. The three prequels to *Star Wars*, for example, are filled with issues concerning corruption, slavery, federalism, democracy, racial tension and the American Government. Although I would not go so far to claim that the broadcast of the television series *Dallas* in East Germany led to the collapse of the Berlin Wall, as some suggested, I also hesitate to claim that Western entertainment products played no role at all. After all, it is more than simple trade protectionism when countries choose to ban Hollywood movies from their domestic markets!

As far as intellectual property enforcement in China is concerned, one area that researchers have largely overlooked is its relation to the way the masses communicate. Because of heavy information control, it is highly important that the public can reuse, without permission, materials previously approved by censors or that are only available abroad. To provide an alternative source of information, they may need to repost copyrighted stories, videos or photos that otherwise would not have been available. They may also need to repurpose pre-existing materials to address issues that they otherwise cannot discuss because of government censorship.

At times, parodies, satires, coded words, euphemisms and allusions to popular culture are the dominant vehicles of communication. Materials that are seemingly unrelated to the intended original message may need to be used to create associations, build in tacit meanings, provide

emotional effects and ultimately avoid censorship. Whether it is a remix of video clips from Western movies, the synchronization of contents to rock ‘n roll songs or the modification of news reports from foreign media, repurposed contents carry within them rich “hidden transcripts” that provide important social commentary.

An additional concern relates to the potential for intellectual property rights to be used as a pretext to suppress or silence dissent. After all, many of the reused contents are copyrighted. Only a few months ago, the *New York Times* provided a detailed report on the complaints by an outspoken Siberian environmental activist group about how Russian authorities had confiscated their computers (as well as those of other advocacy groups and opposition newspapers) in the name of protecting Microsoft’s copyrighted software. That report eventually generated a raging public debate about the need to re-examine intellectual property protection and enforcement through the lens of corporate social responsibility.

In short, there are clearly costs to strengthened intellectual property protection and enforcement. Some of those costs, however, are hard to quantify. Although commentators have widely embraced democratic society and the promotion of human rights and civil liberties, the value of these benefits are often ignored in economic analyses—through convenient definitions, unrealistic assumptions or crafty interpretation of the researchers’ mandates. As Amartya Sen reminded us, freedom and democracy are important because of:

- 1) their intrinsic importance;
- 2) their consequential role in providing political incentives for economic security;
- 3) their constructive role in the genesis of values and priorities.

The fact that freedom and democracy are not readily measurable does not mean that we should ignore their uneasy relationship with stronger intellectual property enforcement. In fact, given their paramount importance, freedom and democracy deserve greater recognition in empirical studies on intellectual property enforcement.

To be certain, it is fair to ask why intellectual property right holders need to subsidize free speech developments in foreign countries. However, if a country, like the United States, has already decided to provide funding to promote free speech developments in other countries, that question seems to be more about internal allocation of gains and losses through the legislative process than about whether subsidies should be made in the first place. For instance, should the entertainment industries be able to seek compensation from a pool of funds that have been earmarked for the promotion of democratic transition and civil society development? Should the government provide tax benefits to those whose works have been used to promote democracy and the protection of human rights—for example, by allowing entertainment firms to write off democracy-inducing losses? Should the government introduce an alternative means of compensation to support democracy-inducing activities—such as the purchase at reasonable cost of blanket licenses for civil society organizations? More challengingly, could the government introduce some of these measures without getting into a subjective and highly political debate about what democracy, freedom and human rights are?

The fifth challenge concerns how to determine what researchers should cover in a highly dynamic, complex and interdependent global environment. While it is not that difficult to determine the impact of pirated CDs, VCDs and DVDs on the entertainment industries—

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although researchers continue to disagree over the ultimate figures—it is much more difficult to determine the overall impact of piracy and counterfeiting in China on the U.S. economy.

Consider the following broader questions. Should researchers consider as part of the U.S. economy those Chinese firms that come to the United States and thereby produce U.S. jobs? How should researchers handle those cheap, infringing materials American firms use as inputs in their outsourced productions in China? Should researchers consider as a benefit that piracy has developed in China a pool of cheap, but highly specialized labor that American firms can use for legitimate purposes? Should they consider as a benefit that piracy has led many American products—including Microsoft software—to become the industry standard and thereby produce network effects? What about those Chinese students who now want to study in the United States because they have watched pirated American television programs? What about those Chinese tourists who now want to visit Disneyland, the Universal Studios, the Empire State Building, the bridges in Madison County, Iowa or other places in the United States after they have seen those places in pirated U.S. movies? These are all difficult questions that could raise serious complications when researchers study the cross-border economic impact of piracy and counterfeiting.

Moreover, piracy and counterfeiting can provide benefits to U.S. consumers. Policymakers and industry representatives have a high tendency to equate pirated or counterfeit products with sub-standard goods. However, this tendency is somewhat misguided. Foreign businesses in China have repeatedly complained about how counterfeit products are made in what they call “ghost shifts.” In these shifts, many of the infringing goods are made to the same specifications by the same factories using the same personnel and raw materials. Understandably, there may be limited quality control for infringing products. There may also be cost-cutting measures, especially when the manufacture of the products involves difficult processes or costly raw materials. The infringing factories may even want to introduce irregularities to distinguish the licensed goods from their unlicensed counterparts—or at least count those rejected irregular licensed goods as acceptable unlicensed products.

Nevertheless, it is incorrect to assume pirated products are *always* inferior. It is even more incorrect to assume infringing goods will *always* harm consumers. In many situations involving ghost shifts, factory overruns or contract disputes that have resulted in a *technical* loss of legal authorization, the only difference between the legitimate goods and their infringing counterparts may be legal authorization. Because the infringing goods in these situations are of the same standard, or close to that standard, the unauthorized production of those goods may actually result in a consumers’ surplus: consumers are now getting the same products for a much lower price. While ghost shifts, factory reruns and the continued production amid contract disputes may be bad for intellectual property right holders, they could be good for U.S. consumers.

The final challenge concerns the interactions between intellectual property protection and a country’s competitive position. Although it is widely recognized that strong intellectual property protection is important to American firms, greater intellectual property protection in China can also weaken the U.S. competitive position. This point sounds counterintuitive, but it actually makes sense. From a long-term competition standpoint, greater intellectual property protection will make China more innovative and therefore more competitive. Such increased

competitiveness will slowly erode away the competitive edge that the United States has enjoyed as a result of its much higher intellectual property standards.

In fact, if all countries offer the same level of intellectual property protection and enforcement, other location factors—such as market size and growth or costs of labor, transportation or raw materials—will be determinative. As China offers stronger intellectual property protection, more American and multinational firms may consider relocating to China to take advantage of its lower production costs and considerable market potential. More technology will be transferred as a result, and more U.S. jobs—a key focus of the ITC studies—will be outsourced.

It is no coincidence that many research and development (R & D) intensive industries remain located in the United States—and for that matter, other countries with a strong intellectual property system. It is also worth noting that many researchers and highly educated people choose to stay in the country. To some extent, weaker intellectual property protection abroad may have helped keep U.S. jobs in the R & D intensive industries, especially amid the current global economic crisis. Stronger intellectual property protection and enforcement in China, therefore, is a double-edged sword: it can help and hurt the U.S. economy at the same time.

In sum, although it is easy to point out the harmful effects of piracy and counterfeiting in China on the U.S. economy, it is rather hard to determine their overall impact. The assessment of such impact depends on a wide variety of factors, including some of those that are hard to quantify and not readily measurable as well as those that have yet to receive significant research attention. The challenges the ITC now encounters in undertaking its two studies, therefore, provide a good illustration of the immense challenges researchers continue to face in their efforts to measure the cross-border economic impact of piracy and counterfeiting.

## II.

While it has been challenging to undertake research on the cross-border economic impact of piracy and counterfeiting, it is equally challenging to figure out how to compare a multitude of countries with different sizes, economies, market conditions, technological proficiencies, institutional infrastructures and cultural backgrounds. One of the critical challenges in comparative analysis is to locate the *tertium comparationis* (what to compare).

Consider, for example, a cross-country comparison of piracy and counterfeiting—a topic on which many policymakers, industry groups and academic commentators have focused. Should researchers compare the countries based on the total amount of piratical and counterfeiting activities (or the amount of pirated or counterfeit goods they produce)? Should researchers measure the countries against an idealized yardstick of effective intellectual property protection and enforcement? Should the comparisons take into account the various stages of development—and if so, should the stages be determined based on self-selection, GDP, per capita income or the Human Development Index? Does it matter how established the intellectual property system in these countries is? Should researchers rely on subjective perceptions of firm managers—an approach used in Edwin Mansfield's seminal study and the World Economic Forum's *Global Competitiveness Report*? Should researchers consider both the quality and

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quantity of enforcement—for example, does it matter whether enforcement is “consistent, transparent, and procedurally fair”?

Let’s continue to use China for our illustrations. If researchers focus on the total amount of piratical and counterfeiting activities, China is likely to be found one of the world’s biggest pirates by virtue of its huge economy and high export volume. The outcome is likely to be the same in the short term, regardless of whether China has worked very hard to strengthen intellectual property protection and enforcement. It is, indeed, no surprise that China has more piratical and counterfeiting activities than, say, Georgia, Zimbabwe, Bangladesh and Moldova. According to the latest BSA survey—my earlier criticisms notwithstanding—all of these countries have piracy rates of more than 90 per cent and are considered the world’s biggest pirate nations. By contrast, China’s piracy rate was merely 79 per cent, and the country was not even included in the list of the world’s top 25 pirate nations.

Moreover, many of the piratical and counterfeiting activities occur in China because of its low costs of production, labor and distribution. At present, China is the low cost provider of many different categories of goods and services. As Oded Shenkar wrote in 2005: “China-based factories make 70 percent of the world’s toys, 60 percent of its bicycles, half its shoes, and one-third of its luggage. . . . [China also] builds half of the world’s microwave ovens, one-third of its television sets and air conditioners, a quarter of its washers, and one-fifth of its refrigerators.” Given the large amount and variety of products China manufactures, it is understandable why pirates and counterfeiters consider China an ideal location for manufacturing their products. Indeed, if an organized crime syndicate in Europe or the United States, as opposed to China, needs to produce infringing products, they are likely to select China as a place of production for no other reason than it makes simple business sense. It is important to remember that pirates and counterfeiters are rational businesspeople who seek profits and opportunities!

By contrast, if researchers focus on piracy and counterfeiting on a per capita basis, China is likely to be saved by its 1.3-billion population. Other less developed countries may also fare better. As Aaron Schwabach observed with respect to the study conducted for the Motion Picture Association of America:

In only four of the countries listed in the [study] as the top ten markets for losses to U.S. producers does the average person steal more from U.S. studios than do the Americans themselves. Three of these four countries are developed members of the European Union: France, Spain, and the United Kingdom. Mexico aside, the developing countries on this list have far lower per capita piracy rates. . . . Russia, often portrayed in the media as a lawless Wild West dotted with organized-crime fiefdoms, has a per-capita rate only slightly higher than that of notoriously law-abiding Japan, and lower than that of equally staid Germany.

With China, the difference is exceptionally stark: The per capita cost of piracy is negligible, an order of magnitude lower than Germany’s.

Likewise, China is not much of an outlier if researchers compare China with other countries at comparable levels of economic development. This finding is actually not surprising. From Germany to the United States to Japan, all of today’s industrial powers have passed through what I have described as the “crossover point.” Even though both the United States and Japan have now become major *demandeurs* for strong global intellectual property enforcement

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norms, both of them had a checkered past as one of the world's biggest pirate nations. As William Kingston reminded us: "From the start of the industrial revolution, every country that became economically great began by copying: the Germans copied the British; the Americans copied the British and the Germans, and the Japanese copied everybody."

If researchers are willing to make comparison based on the age of the country's intellectual property system, China may also fare quite well vis-à-vis other countries in both the developed and less developed worlds. The present Chinese intellectual property system was instituted shortly after the country's re-opening to foreign trade in the late 1970s. The trademark, patent and copyright systems in China were established in 1982, 1984 and 1990, respectively. Even if one is willing to trace the Chinese intellectual property system back to the one the imperialist powers imposed on China through gun-boat diplomacy at the turn of the twentieth century, the age of this adolescent intellectual property system is still far younger than that of the fully grown adults in the United States and Western Europe. The system is also much younger than many of the colonial intellectual property systems that the imperialist powers put in place in Africa, Asia and Latin America.

In the United States, for example, the copyright and patent systems were established as early as the eighteenth century. The U.S. Constitution of 1789 stated explicitly that "Congress shall have Power . . . 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." In Europe, one could trace the origin of the patent system to as early as the Renaissance. On March 19, 1474, the Venetian Republic adopted its first patent law to encourage inventors and reward them for ingenuity. The Venetian patent statute has since inspired the development of patent systems in France, the Holy Roman Empire and other parts of Europe.

Notwithstanding this substantial headstart, Italy and many other European countries—such as France, Portugal and Spain—continue to have a piracy rate of between 40 to 50 per cent, according to BSA at least. If these countries have a tough time reducing piracy despite many centuries of headstart, one cannot help but appreciate the tremendous progress China has made in fewer than 30 years of intellectual property law developments (or even 100 years if one counts the imperialist years and ignores all the interruptions from revolutions, warlordism, wars, the UN trade embargo, class struggles and political turmoil). A piracy rate of 79 per cent does not seem to be too high when other more economically developed and technologically advanced countries can only reduce their rates to half of China's current level despite having a well-functioning intellectual property system for many more centuries.

If the challenges in selecting these metrics are not daunting enough, researchers also need to consider whether they should focus on only certain types of intellectual property rights or piratical and counterfeiting activities. For example, intellectual property covers a large and ever-expanding variety of rights, such as copyrights, patents, trademarks, trade names, geographical indications, industrial designs, layout designs of integrated circuits, plant varieties, trade secrets and other undisclosed information, sui generis database rights and the protection of traditional knowledge and cultural expressions.

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It would be misleading to use patent as a proxy for intellectual property rights, even though many researchers have done just that. Most commentators have also treated trademarks separately owing to their very different justifications and goals. In fact, what intellectual property rights a country needs may depend on the type of FDI it wants to attract. If one counts the protection of traditional knowledge and cultural expressions, some less developed countries may even argue that developed countries remain some of the world's biggest pirates because of their engagement in "biopiracy," not to mention their strong and continuous resistance to the protection of traditional knowledge and cultural expressions.

It is also important not to focus solely or primarily on physical piracy while ignoring similar problems on the internet. Although less developed countries, especially those in Asia, have been heavily criticized for their lack of protection and enforcement of intellectual property rights with respect to optical discs, it is important to remember that online piracy has been rather serious in virtually all developed countries. In the past decade, for instance, the U.S. entertainment industries have labeled a large number of American teenagers and college students as "pirates," notwithstanding the fact that they look and behave quite differently from the Asian pirates thousands of miles away. Since 2003, the recording industry alone has filed lawsuits against more than 35,000 individuals in the United States for illegal distribution of copyrighted works via peer-to-peer networks. Courts in the developed world, such as Australia, Canada and the United States, have also been inundated with cases addressing secondary copyright liability. Given the massive online "piracy" in the United States and other developed countries, it is not surprising to find policymakers, commentators and the general populace in less developed countries complaining about the double standards used by developed country governments and industry trade groups.

Although the discussion in this section thus far focuses on intellectual property enforcement alone, it is worth exploring further whether researchers should go beyond the intellectual property field to look at other areas of law enforcement—for example, tax collection, human and drug trafficking and illegal arms sales. To be certain, some would find this approach rather curious given the incommensurability of the different areas. After all, why should researchers compare apples with oranges? Patrick Glenn, however, provided a convincing response to this question in his leading comparative law text, *Legal Traditions of the World*: "[H]ow do we know there is such difference if comparison has not somehow, already, taken place? Think of apples and oranges and how you can actually compare them. There are obvious criteria of roundness, acidity, colour, sweetness, price, and so on." Indeed, both apples and oranges are fruits; people do compare their taste and nutritional value when deciding what fruit to eat. They are also easier to compare than, say, apples and beef (although vegetarians and vegans would do so as well).

With respect to intellectual property enforcement, researchers should therefore think about whether they should compare intellectual property enforcement challenges with other unrelated challenges that are equally widespread and systemic. For example, in the United States, serious enforcement problems exist with drug possession and trafficking and illegal arms sales. While the existence of enforcement problems in these areas does not excuse other countries from a lack of intellectual property enforcement, the discussion of these seemingly unrelated problems does allow us to better appreciate the inherent challenges in confronting problems that are widespread and systemic.

Such comparisons are beneficial for at least three reasons. First, they will raise important questions about how countries can work together to share lessons and best practices, identify common or comparable challenges and ultimately formulate the much-needed solutions to target the crux of the enforcement problems. Secondly, such comparisons will help change the tone of the intellectual property enforcement debate. If countries continue to focus only on areas where some countries have limited enforcement problems while others have very serious ones, the debate will remain an adversarial one with a tone that is closer to accusation—or worse, confrontation—than co-operation. Thirdly, such comparisons take into account the fact that intellectual property enforcement goes hand in hand with other forms of law enforcement. Because there is a significant overlap in infrastructure, personnel, training, techniques and procedures, solutions in one area of law enforcement can easily illuminate another.

It is also worth exploring whether researchers should focus narrowly on the existing intellectual property system. Should researchers go behind the present standards to think more about the ultimate goals of having a well-functioning intellectual property system—for example, economic development, promotion of creativity and innovation, diffusion of knowledge, transfer of technology or facilitation of environmental sustainability? Should researchers rethink enforcement considering the fact that many innovative ways now exist to spur creativity and innovation (including those that are not based on intellectual property protection and enforcement)? Should researchers re-evaluate the suitability of traditional intellectual property standards for stimulating creativity and innovation in countries with limited resources and a small market? Should researchers take into account enforcement measures that are not available in the Western world or currently enshrined in international treaties—for example, a parallel system of administrative and criminal enforcement that was challenged in the recent United States-China WTO dispute? Should enforcement be reconceptualized by taking account of *both* rights and responsibilities—for example, by focusing on abuse of rights or restraint on trade in addition to protection of right holders? If the answer to any of these questions is yes, what should researchers take into account in their comparative analyses?

Finally, commentators continue to question whether we can actually compare countries that are unique, such as Brazil, China and India. With highly uneven economic and technological developments, these countries can be as technologically proficient as developed countries, yet as economically poor on a per capita basis as many other less developed countries. Many commentators, indeed, have considered these so-called “BRIC countries” *sui generis*. Some commentators also noted the need to replace the focus on economic development with one on technological proficiency. In short, the arrival of these middle-income countries has raised important questions about how researchers should undertake cross-country comparative analyses.

Intellectual property enforcement is of paramount importance to both developed and less developed countries. While the former have expressed grave concerns over the growth and spread of piracy and counterfeiting, the latter are equally concerned about the lack of protection for traditional knowledge and cultural expressions. Notwithstanding these shared interests, the positions of these two groups of countries have yet to converge. If we need to get these groups to finally understand their shared interests, a greater appreciation of the challenges in developing mutually satisfactory metrics for measuring piracy and counterfeiting is badly needed.