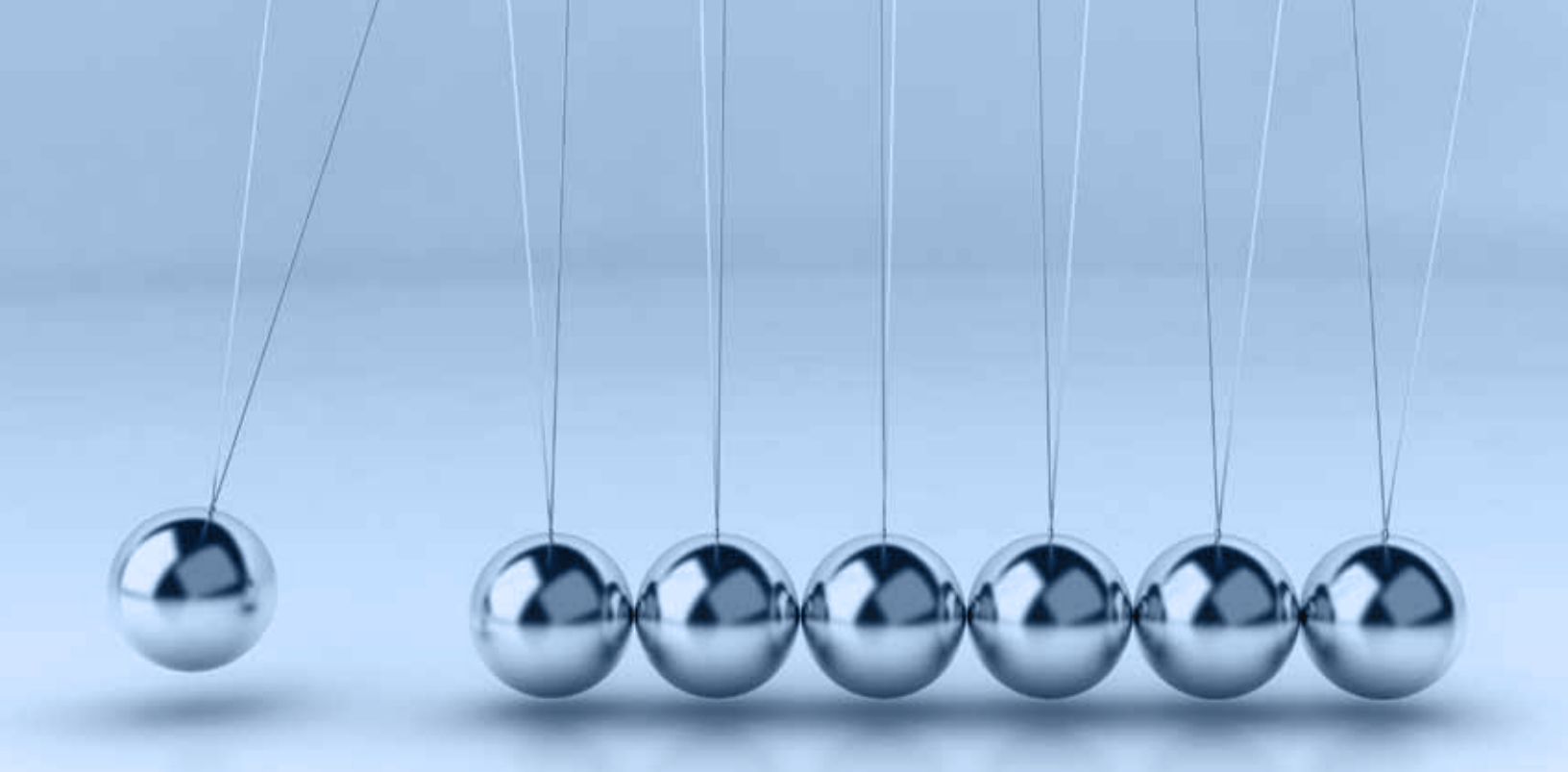

MEASURING MOMENTUM

GIPC International IP Index

First Edition, December 2012

Global Intellectual Property Center
U.S. CHAMBER OF COMMERCE

GIPC
Global Intellectual Property Center
U.S. CHAMBER OF COMMERCE

The U.S. Chamber of Commerce's Global Intellectual Property Center (www.theglobalipcenter.com) is working around the world to champion intellectual property rights as vital to creating jobs, saving lives, advancing global economic growth, and generating breakthrough solutions to global challenges.

The U.S. Chamber of Commerce is the world's largest business federation representing the interests of more than 3 million businesses of all sizes, sectors, and regions, as well as state and local chambers and industry associations.

This report was conducted by Pugatch Consilium (www.pugatch-consilium.com) a boutique consultancy that provides evidence-based research, analysis, and intelligence on the fastest growing sectors of the knowledge economy. Authors of this report are Meir Pugatch, Rachel Chu, and David Torstensson.

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Prof. Pugatch founded Pugatch Consilium in 2008. He specializes in intellectual property policy, management and exploitation of knowledge assets, technology transfer, market access, pharmacoeconomics and political economy of public health systems.

He has extensive experience in economic and statistical modeling and indexing, valuation of assets and design of licensing agreements, and providing strategic advice to international institutions, multinational corporations, and SMEs from all sectors of the knowledge economy.

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Foreword

Today more than ever, intellectual property (IP) rights fuel successful and dynamic economies. Companies and innovators of all shapes and sizes seek the guarantee of patents, trademarks, and copyrights to compete in a 21st century global economy. Countries that foster robust intellectual property policies are facilitating the creation of jobs, continued innovation, public health, and access to new technologies.

So how do governments create such an environment? And how do they build the momentum for creators and inventors to succeed?

The U.S. Chamber of Commerce's Global Intellectual Property Center (GIPC) set out to create an IP roadmap that can be applied to countries around the world. GIPC's International IP Index (GIPC Index), ***Measuring Momentum,*** is a first-of-its-kind academically rigorous, empirical assessment of what countries are doing well and what they can be doing better.

The result is a constructive tool for policy makers to assess how they are building momentum in their countries. The GIPC Index is also an important guide for businesses seeking to assess risk to one of their most valuable trading assets— intellectual property—when operating overseas.

This year's GIPC Index shows that there is a lot of work to do. Of the 11 countries assessed, only 4 (the United States, United Kingdom, Australia, and Canada) rank above 50 percent. At the bottom of the list are Russia, Brazil, China, and India.

While the United States may lead the rankings, no country receives a perfect score. The GIPC Index has identified areas where the United States can do more to protect and enforce IP rights. The GIPC Index also highlights important efforts made by countries to recognize the value of IP and address the harm caused by IP theft.

The release of this year's Index is particularly timely as 11 countries are negotiating a comprehensive gold standard trade agreement—the Trans-Pacific Partnership (TPP) Agreement. Six of those countries—Australia, Canada, Chile, Malaysia, Mexico, and the United States—are included in this Index.

An essential component of the TPP is creating the right IP rules. This Index, while not meant to be a comprehensive guide of all factors that make up a robust IP protection and enforcement system, provides a useful tool to those countries evaluating the strengths and deficiencies in their IP environments.

The GIPC Index provides a blueprint for economies seeking to create and attract jobs and investment and move up the innovation ladder. We believe the resulting dialogue is an essential one to promote inventive and creative excellence around the globe.

David Hirschmann
President and CEO
Global Intellectual Property Center
U.S. Chamber of Commerce

Executive Summary

No country aspires to be on the bottom of the jobs-supply chain. Promoting IP means protecting domestic innovators and creators, attracting world-leading research and development, and creating and sustaining high-quality future jobs. The GIPC Index provides a clear and objective roadmap for nations to compete in a global economy, which is fueled by innovation, investment, and jobs.

The inaugural edition of the GIPC International Intellectual Property (IP) Index (GIPC Index) identifies 25 factors that are indicative of an IP environment that fosters growth and development and applies those factors to a geographically and developmentally diverse group of countries. The result is a rigorous statistical tool that businesses and policy makers can use to measure a country's momentum toward building innovative and creative economies, fostering economic growth, and attracting investment.

This first-of-its-kind report provides a robust and empirically-based measurement and point of comparison of the national IP environments in 11 countries:

Australia	China	Russia
Brazil	India	United Kingdom
Canada	Malaysia	United States
Chile	Mexico	

For this first edition, the countries selected reflect differences in market size, level of development, and geography.

Six of the eleven economies sampled are upper middle income economies, measured on a per capita gross national income basis. These are: Brazil, Chile, China, Malaysia, Mexico, and Russia. The sole lower middle income country included is India. As a point of comparison the GIPC Index also includes four high income economies: Australia, Canada, the United Kingdom (UK), and the United States (U.S.).

Utilization of Report

The GIPC Index provides a statistical tool that can be used by policy makers and industry leaders to measure and compare both the overall national IP environment and the major forms of IP (e.g. patents, copyrights, trademarks, enforcement, and membership in international treaties) in selected markets. Based on extensive research and charting of a country's IP landscape, the GIPC Index is a multifaceted tool that can be used in a number of ways.

The GIPC Index provides a clear and objective roadmap for nations to compete in a global economy, which is fueled by innovation, investment, and jobs.

By evaluating strengths and weaknesses, the GIPC Index can help U.S. and foreign policy makers identify areas of focus and stimulate thought on how they may further develop policies that support innovative and creative industries, seek greater investment, and promote economic development. This is particularly significant as countries seek to gradually move from middle income to higher income economies. The GIPC Index may also be used as a snapshot of risk for companies seeking to enter or continue to operate in selected markets.

The GIPC Index is a mechanism to benchmark two or more countries overall or across key

categories of IP regardless of differences in market size, purchasing power, and level of development. Because momentum in countries has been measured according to the same definitions and criteria, the GIPC Index allows country comparisons to be made on a "like for like" statistical basis.

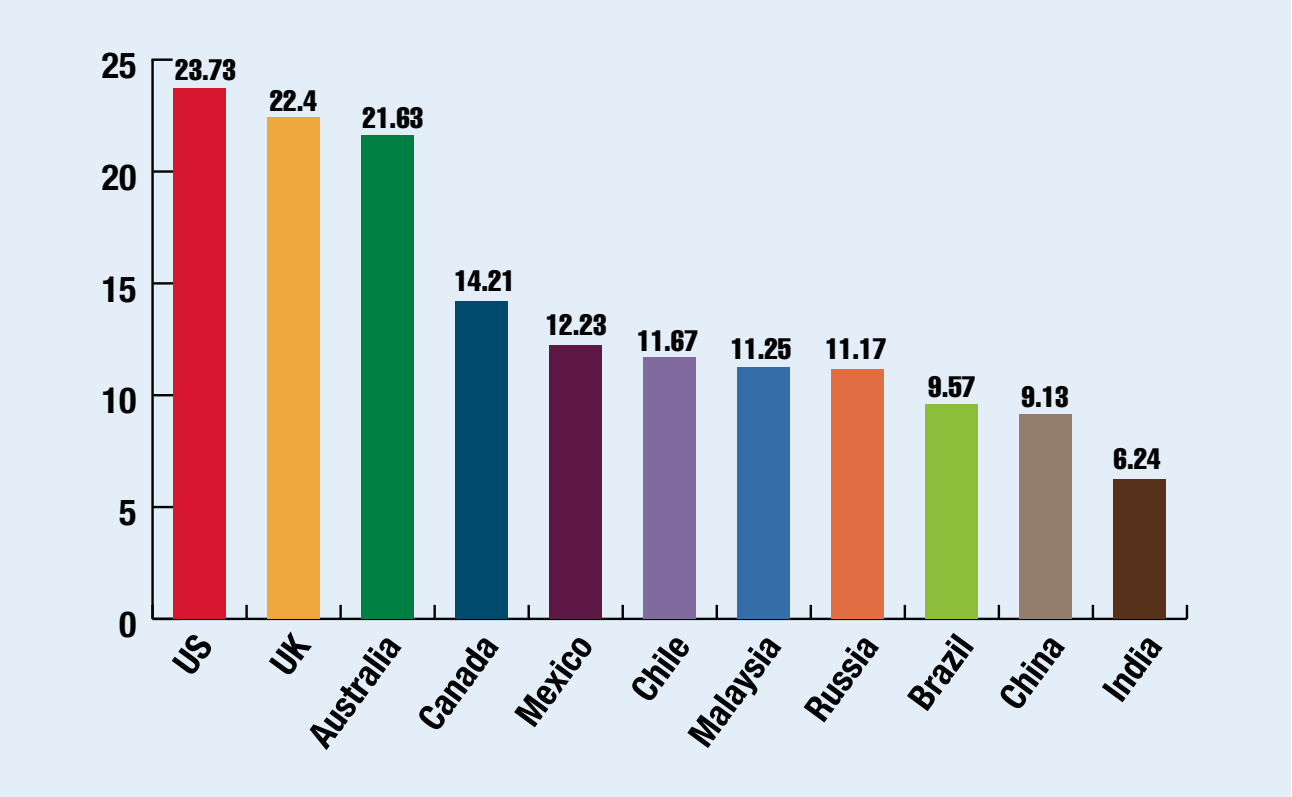
Categories and Indicators:

The GIPC Index maps the national IP environment for 11 countries across five key categories representing all major forms of IP rights. Each of the five categories is broken down into specific data points for a total of 25 indicators. Each indicator is given equal weight and scored between 0 and 1 for a total potential score of 25. Information regarding the individual indicators is provided in detail in the full report.

The GIPC Index: Categories

Category 1 – Patents, related rights, and limitations
Category 2 – Copyrights, related rights, and limitations
Category 3 – Trademarks, related rights, and limitations
Category 4 – Enforcement
Category 5 – Membership and ratification of international treaties

Overall Country Scores:



Key Findings:

The GIPC Index highlights both momentum toward and impediments to creating robust IP environments.

IP Momentum

In order to promote an environment that fosters growth, creates jobs, rewards innovators and creators, and attracts investment, all countries must continue to modernize their IP rules and dedicate the resources needed to prevent IP theft. Over the past year, a number of countries have taken steps toward improving their IP systems by securing effective and transparent IP rules. For example:

- Canada passed amendments to its Copyright Act that reflect important steps toward modernizing its copyright system.
- China is currently considering amendments to its Copyright Law and judiciary guidance that—if passed and implemented—may have a positive impact on the copyright environment in China.
- Malaysia introduced legislative and regulatory changes to improve copyright and pharmaceutical-related IP protections.
- Mexico introduced regulatory data protection for pharmaceutical products.
- The negotiation of the Trans-Pacific Partnership (TPP) Agreement provides an opportunity to promote additional IP improvements that advance innovation and development for all participating countries.

IP Setbacks

However, it is not enough to just secure the right rules on IP. These rules must be implemented and enforced. Over the past year, we also saw some setbacks in protecting, implementing, and enforcing IP rights. For example:

- Recent actions in India, including the issuance of its first compulsory license on an anti-cancer drug, raise concerns about India's commitment to promoting innovation and continuing its path toward creating a knowledge-based economy.
- The passage of plain packaging legislation in Australia significantly creates uncertainty with regard to the protection of trademarks and could dampen investment in the country.
- Russia's IP environment is characterized by a distinct contrast between its level of participation in international treaties and its *de facto* implementation of IP rules and regulations.

All countries share the challenge of securing the resources needed to prevent IP theft:

- The sheer size of China's market and scope of IP theft highlight the need to promote greater improvements in China that will benefit both foreign and Chinese rights holders.
- The United States ranks behind the United Kingdom on Enforcement. The United States, like many others, will need to continue to show improvement in combating IP theft. Opportunities exist in areas such as increased dedicated funding and resources for IP enforcement programs.
- Upper middle income countries such as Chile, Malaysia, and Mexico all fall in the middle of the Overall Category. Notably, each of these three countries have significant deficiencies in their IP enforcement systems with each country

receiving less than 50 percent of the total score in that category.

Overall, the GIPC Index suggests that while there have been a number of positive developments made by the sampled countries to advance their IP environments—both overall and across each category—every country should continue to pursue improvements to its IP protection and enforcement systems.

Conclusion

Maintaining a standard for measuring momentum is a critical component of fostering robust IP rights and allowing for informed policy making and investment decisions.

For the inaugural GIPC Index, the goal is to create a transparent, objective tool and evidence-based source of knowledge focused on the broad factors and sectors that influence the IP environment in key markets around the world. The intent is to establish benchmarks which can be carried year-over-year. In future editions, GIPC plans to increase the number of sampled countries and review the methodology and data contained in this report.

List of Abbreviations

ANVISA	Brazilian National Health Surveillance Agency
BRIC	Brazil, Russia, India, and China
CII	Computer-implemented invention
DEA	Digital Economy Act
DRM	Digital rights management
EEA	Economic Espionage Act
EU	European Union
FDI	Foreign direct investment
FTA	Free trade agreement
GIPC	U.S. Chamber of Commerce's Global Intellectual Property Center
ICT	Information and communication technology
INPI	Brazilian Patent Office
IP	Intellectual property
ISP	Internet service provider
IT	Information technology
JCCT	Joint Commission on Commerce and Trade
NCE	New chemical entity
OECD	Organisation for Economic Cooperation and Development
RDP	Regulatory data protection
R&D	Research and development
TGA	Therapeutic Goods Administration
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
WHO	World Health Organization
WIPO	World Intellectual Property Rights Organization
WTO	World Trade Organization

Measuring IP Environments

Intellectual Property in the Context of Economic Growth and Development

Over the past decade, a number of empirical studies have been published on the positive and cumulative economic effects of IP rights. In particular, a growing body of evidence suggests a positive link between the strengthening of IP rights and economic development, job creation, technology transfer, and increased investment and innovation.

For example, in an Organisation for Economic Cooperation and Development (OECD) study, Park and Lippoldt compared World Trade Organization (WTO) members that is, signatories to the Agreement on Trade-Related Aspects of Intellectual Property Rights Agreement (TRIPS) and non-members, and found that overall IP rights tend to have a positive impact on foreign direct investment (FDI).[1] With the exception of least developed countries, which may not yet have implemented the TRIPS Agreement due to transition period allowances, WTO members have higher levels of FDI than non-members. The OECD's Cavazos et al. looked at research and development (R&D) expenditure and technology transfer as well as FDI and found that a 1% change in the strength of a national IP environment (based on a statistical index) is associated with a 2.8% increase in FDI inflows, a 2% increase in service imports, and a 0.7% increase in domestic R&D.[2] In 2006, Léger used regression analysis to determine that IP protection is one of the most influential factors on innovation in both developing and industrialized countries.[3] Moreover, Pham in 2011 examined the economic contribution of IP-intensive industries to the U.S. economy and found that these industries generated one-third of total U.S. economic output.[4]

These findings are particularly strong in certain high-tech sectors, such as biopharmaceuticals, information and communication technology, and clean energy.[5]

> A growing body of evidence suggests a positive link between the strengthening of IP rights and economic development, job creation, technology transfer, and increased investment and innovation.

Nevertheless, gaps remain in our knowledge concerning the economic benefits of IP rights as well as what constitutes a robust system of IP protection. These gaps include the lack of sufficient information about the specific

1 Park, W. G. and Lippoldt, D. (2003), *The Impact of Trade-Related Intellectual Property Rights on Trade and Foreign Direct Investment in Developing Countries*, OECD publishing.

2 Cavazos, R. et al. (2010), *Policy Complements to the Strengthening of IPRs in Developing Countries*, OECD Trade Policy Working Papers, No. 104, OECD Publishing.

3 Léger, A. (2006), "Intellectual Property Rights and Innovation in Developing Countries: Evidence from Panel Data," Proceedings of the German Development Economics Conference, Berlin.

4 Pham, N. D. (2011), *Employment and Gross Output of Intellectual Property Companies in the United States* (Washington, DC: GIPC).

5 For instance, see Economics and Statistics Administration & United States Patent and Trademark Office (2012), *Intellectual Property and the U.S. Economy: Industries in Focus*, U.S. Department of Commerce 2012; Pugatch, M. P. and Chu, R. (2011), "The strength of pharmaceutical IPRs vis- à -vis foreign direct investment in clinical research: Preliminary findings," *Journal of Commercial Biotechnology*, Vol. 14, No. 4, pp. 308–318; European Patent Office and International Centre for Trade and Sustainable Development (2010), *Patents and Clean Energy: Bridging the Gap between Evidence and Policy*, Geneva.

composition and importance of the various factors comprising a "national IP environment," and how different countries measure up both against a robust international standard and vis-à-vis each other.

Existing Indices and Measures in the Field of IP Rights

Over the years a number of IP rights indices and measures have been developed and used within both the academic and international policymaking communities. Economists, statisticians, and social scientists have all measured the relative or total strength of a country's or region's system of IP protection.

This section outlines the major characteristics of a sample of these indices and measures, their respective strengths and weaknesses, and how the GIPC Index builds upon them.

Statistical and Legal Analysis

In the late 1980s, Gadbaw and Richards surveyed the national IP environments in seven economies (Argentina, Brazil, India, Mexico, South Korea, Singapore, and Taiwan), examining the protection of copyrights, patents, trademarks, semiconductors, chip design, and trade secrets.[6] In addition to analyzing the legislative and enforcement activities of the economies, the study also examined a wide set of policy factors, such as the approach of governments to IP protection, external pressures from major trading partners, political pressures from lobbying groups, and the scale of infringement.[7] This cross-national comparison of IP protection was provided by constructing a matrix where the X-axis included the above-mentioned IP components, and the Y-axis included the seven developing countries.

The Gadbaw and Richards study was predominantly descriptive in nature. It did not rely on its matrix model to assess the IP systems of developing countries, nor did it attach particular importance to how the matrix was constructed. Rather, the matrix model aids the narrative description of the IP differences between the countries studied. Furthermore, it was only a one-time study; it has not been updated since its publication.

In 1990, Rapp and Rozek (RR) constructed the first statistical cross-country analysis of IP systems, based on the patent laws of 157 countries.[8] The perceived strength of national patent protection was based on the recommendations of the U.S. Chamber of Commerce's Intellectual Property Task Force concerning the minimum standards of patent protection, which included coverage of inventions, examination procedures, term of protection and transferability of rights, compulsory licensing, and effective enforcement against infringement.[9]

The RR index was based on a scale of 0 to 5.[10] Generally speaking, the RR index assigned a value of 5 when national laws conformed to the proposed standards of the U.S. Chamber of Commerce and a value of 0 when there were no national laws to protect IP rights.

Despite its innovative approach, the RR index

6 Gadbaw, R. M. and Richards, T. (Eds.) (1988), *Intellectual Property Rights: Global Consensus, Global Conflict?* (Boulder, CO: Westview Press, 1988).

7 Ibid., pp. 1–40, Table 1.6.

8 Rapp, R. and Rozek, R. (1990), "Benefits and Costs of Intellectual Property Protection in Developing Countries," *Journal of World Trade*, Vol. 24, pp.75–102.

9 United States Chamber of Commerce (1987), *Guidelines for Standards for the Protection and Enforcement of Intellectual Property Rights* (Washington, DC: U.S. Chamber of Commerce).

10 Rapp and Rozek (1990), pp. 79–84.

faced some limitations. First, it focused solely on patents and essentially equated patent protection with IP protection as a whole.[11] Second, since by definition the ordinal measures of the index tended to be subjective, it was difficult to comprehend the actual differences in the level of patent protection between, for example, countries with "inadequate protection laws" and "seriously flawed laws." Third, the RR index did not take into account *de facto* enforcement and implementation of IP rights. In other words, the index measured the strength of IP rights by focusing on the level of legislation *de jure*, without attempting to capture the day-to-day reality of IP protection in individual countries. Finally, like the Gadbaw and Richards study, the RR index was a one-time attempt and has not been updated.

The Ginarte and Park (GP) index of 1997 is probably the most widely used and accepted standard for measuring the cross-national strength of IP rights.[12] Building on the approach of Rapp and Rozek but making it more comprehensive and statistically sophisticated, the GP index focuses solely on the measurement of IP rights.

The GP index originally measured the cross-national strength of patent rights in 110 countries from 1960 to 1990 but has since been extended. The latest update stretches to 2005.[13]

The index was coded on the basis of five categories of patent law:

(1) Extent of coverage
(2) Membership in international patent agreements
(3) Provisions for loss of protection
(4) Enforcement provisions
(5) Duration of protection

Although the GP index also ranges from 0 (weakest level of patent protection) to 5 (highest level of patent protection), its statistical construction is more sophisticated than the RR index, and therefore more robust.[14]

Aside from the fact that the GP index is based on an interval scale, thereby allowing more accurate comparisons of the differences in the level of patent protection across countries, the GP index also enables one to track changes in countries' patent systems across time. When originally published, the GP index measured patent systems in seven different years: 1960, 1965, 1970, 1975, 1980, 1985, and 1990.

Ginarte and Park also addressed the issue of the index's sensitivity to weighting by attaching the same weight to all categories and to all subcategories.[15]

11 For an analysis of the strengths and weaknesses of the RR index, see Primo Braga., C. and Fink, C. (1997), "The Relationship Between Intellectual Property Rights and Foreign Direct Investment," prepared for the conference on *Public-Private Initiatives After TRIPS: Designing a Global Agenda*, organized by the Duke University School of Law (Brussels: July 16–19, 1997), Appendix - Different Measures of IP rights Protection, http://www.law.duke.edu/journals/djcil/articles/DJCIL9P163.HTM#H1N6; Ostergard, R (2000), "The Measurement of Intellectual Property Protection," *Journal of International Business Studies*, Vol. 31, No. 2, pp. 349–360; Maskus, E. (2000), *Intellectual Property Rights in the Global Economy* (Washington DC: Institute for International Economics), pp. 94–95.

12 Ginarte, C. and Park, W. G. (1997), "Determinants of Patent Rights: A Cross-National Study," *Research Policy*, Vol. 26, pp. 283–-301.

13 Park, W. G. (2008), "International patent protection: 1960–2005," *Research Policy.*

14 Ibid., pp. 286–288. Each of the main categories of the GP patent index consists of subcategories that describe conditions that either exist or are absent in a country's patent environment. Each subcategory is therefore treated as a dummy variable (i.e., it is assigned either the value of 0 or a positive value). It could be 0, 1/3, or 1/7, but never 1. The subcategories sum up to 1. All subcategories are equally weighted. For example, the category "Enforcement" has three subcategories: (1) Preliminary injunctions, (2) Contributory infringement, and (3) Burden of proof reversal. Each category is assigned the value 1 if it exists in the patent environment of a given country, or the value 0 if it is absent in the patent environment of a given country. Since all subcategories have an equal weight, it follows that the numeric translation of the above is either 1/3 or 0. This, in turn, means that the category "Enforcement" can receive the values 0, 1/3, 2/3, or 1.

15 The authors conducted statistical sensitivity tests (Spearman Rand correlations) to observe the extent to which results would change if different weights were attached to different categories. They found that the levels of patent protection were not sensitive to the application of equal weighting of categories (maximum

In many respects the GP index has become the common standard in studies that focus on or relate to the measurement of IP rights. Numerous studies have also used the GP index to analyze patent changes in the post-TRIPS era. For example, three separate studies by Mahadevanvijaya and Park,[16] Park and Wagh,[17] and Park and Lippoldt[18] updated the GP index to cover the years 1995, 2000, and 2005.

However, although often used as a measure and indication of a country's total IP environment, the GP index focuses only on patents, and is thus limited to one form of IP rights. Moreover, the GP index does not attempt to measure the level of effective patent protection as applied on a daily basis.

Surveys and Professional Assessments

One of the major weaknesses of all the measurements and indices discussed above is that they are based on a "textbook" approach (i.e., they essentially measure the strength of IP protection by analyzing only the legislative level). While useful, this approach cannot measure the level of *de facto* IP protection.[19]

An alternative approach is to measure the cross-national strength of IP protection based on survey findings. This assumes that a survey-based index would provide a more accurate and "on-the-ground" description of the linkage between the actual level of IP protection and its effect on companies' investment and technology transfer decisions. It is also likely that a survey-based approach would capture aspects of IP protection that are not recorded "in the books,"[20] the most important factor being the difference between *de jure* and *de facto* IP protection.

Lee and Mansfield developed the most notable study of this type in 1996.[21] Based on an earlier study by Mansfield,[22] the authors surveyed 100 U.S.-based companies in six manufacturing industries: chemicals, transportation equipment, electrical equipment, food, metals, and machinery.

The companies surveyed were asked to report on the perceived level of IP protection in 12 developing countries (Argentina, Brazil, Chile, India, Indonesia, Mexico, Nigeria, Philippines, Singapore, South Korea, Thailand, and Morocco), as well as the economies of Hong Kong and Taiwan.

The study suggested that companies attach varying importance to the impact of IP protection on their decision to invest in a given country, depending on their industry sector. For example, investment decisions in the chemical field were found to be the most sensitive to the level of IP protection.

One of the major strengths of the study by Lee and Mansfield is that it provided a realistic description of the impact of IP protection on the investment decisions of multinational companies. Its major weakness is that it is subjective in terms of the perceived level

Spearman correlation >0.85), or in other words, there would be no significant difference in the index should categories be weighted differently. (Ibid., pp. 288–289.)

16 Mahadevanvijaya and Park, W. (1999), "Patent Rights Index: Update," The Fraser Institute, http://oldfraser.lexi.net/publications/forum/1999/03/patent_protection.html.

17 Park, W. and Wagh, S. (2002), "Index of Patent Rights," in *Economic Freedom of the World: 2002 Annual Report* (The Fraser Institute), pp. 33–41.

18 Park, W. and Lippoldt, D. (2008), "Technology Transfer and the Economic Implications of the Strengthening of Intellectual Property Rights in Developing Countries," OECD Trade Policy Working Papers, No. 62.

19 Braga and Fink (1997), Appendix.

20 Ibid.

21 Lee, J. Y. and Mansfield, E. (1996), "Intellectual Property Protection and U.S. Foreign Direct Investment," *Review of Economics and Statistics*, Vol. 87, No. 2, pp. 181–186.

22 Mansfield E. (1991), "Intellectual Property Protection, Foreign Direct Investment, and Technology Transfer," IFC Discussion Paper No.19, World Bank.

of IP protection. It is also unclear which IP components are surveyed in the study.

A 1997 study by Sherwood combined the survey-based method with the author's consultancy experience on the subject.[23] Sherwood's index is based on scores of protection, descending from a maximum of 100 to zero.[24]

Based mostly on his professional assessment, Sherwood assigned weights to different protection categories (enforcement=25; administration=10; substantive law: copyright=12, patents=17, trademarks=9, trade secrets=15, and patents on life-forms=6; treaties=6; and public commitment=3). Each category, such as enforcement, was then further divided into subcategories.

The model was based on subtracting points from each category for any IP weakness in that category. Sherwood surveyed 18 developing countries. Though Sherwood's model was probably the most insightful and comprehensive in terms of the actual measurement of cross-national IP environments, it was still subjective and based only on the author's views. This also means that the model cannot be consistently expanded to other countries, since we lack the author's knowledge and criteria for applying the model.

Sector-Specific Indices: the Pharmaceutical IP Index and ICT Index

In 2003, Pugatch developed an IP index that focuses on the sector-specific strength of the IP environment in different countries. Thus far, it has been customized for the pharmaceutical and information and communication technology (ICT) sectors.

Pugatch's indices utilize an interval scale and measure between four to five major categories, including the term of exclusivity, scope of exclusivity, strength of exclusivity, barriers to full IP utilization, and enforcement.
In the Pharmaceutical IP Index, the categories are further divided into a total of 22 indicators. The index includes components such as data exclusivity and protection for orphan and pediatric drugs. The IP-Information Technology (IT) Index consists of 14 indicators, including software copyright protection, the patentability of software, and digital piracy rates.

Similar to other indices that seek to measure the strength of IP rights (such as the GP index), Pugatch's IP indices use equal weighting of categories, which sum up to 1. The total score ranges from 0 (weakest level of protection) to 4 or 5 (highest level), depending on the sector to which the index is tailored. However, within each category various weights are applied to the subcategories, based on logical assumptions on the relative importance of different IP components. For example, in the Pharmaceutical IP Index, under the category "term of exclusivity," the term of patent protection represents 40% of the score, while other indicators such as patent term extension and data exclusivity periods represent 5 to 20% of the score.

Pugatch's indices measure all major IP-related components relevant to particular sectors, giving a detailed and sophisticated overview of a country's IP environment in the measured fields of pharmaceuticals and ICT. However, they do not combine the needs of different sectors into a single measurement.

23 Sherwood R. (1997), "Intellectual Property Systems and Investment Simulation: The Rating of Systems in Eighteen Developing Countries", *IDEA* Vol. 37, No. 2, pp. 261–270.

24 This score can actually be extended to 103, as Sherwood assigns additional points in some cases.

Methodology

Building upon the insights and experience of the outlined indices previously, the GIPC Index seeks to go a step further and provide a new approach to the measurement of IP environments.

First, the GIPC Index in many ways is the first-of-its-kind in that it is a cross-sectoral index measuring the major IP needs of creative and knowledge-intensive sectors of the economy.

Second, the GIPC Index does not focus on a single form of IP protection, but rather analyzes the level of IP protection across the board and across major IP rights.

Third, a substantial part of the GIPC Index measures how IP rights are actually enforced and applied on the ground in individual jurisdictions.

Finally, in contrast to past indices and surveys, the GIPC Index's methodology and construction mean that it can be regularly updated and the number of sampled countries easily increased.

Consequently, the GIPC Index provides a sophisticated and detailed assessment of a country's total national IP environment.

The GIPC Index consists of 25 indicators, each of equal weight. Table 1 lists the 25 indicators according to five categories:

1) Patents, Related Rights, and Limitations[25]
2) Copyrights, Related Rights, and Limitations
3) Trademarks, Related Rights, and Limitations
4) Enforcement
5) Membership and Ratification of International Treaties

These categories are for ease of organizing the Index and have no statistical impact on weightings or a country's overall score. (Each indicator is explained in more detail in Indicators, pgs. 19-22.)

It is important to note that the indicators themselves are intended to cover a wide range of both general and sector-specific elements of the IP environment in a given country. Naturally, the GIPC Index is limited in the number of indicators it can measure; at this time the GIPC Index focuses on certain elements and sectors and has excluded others. This is the inherent nature of an index; it can always be improved, and criteria may be expanded or subtracted depending on the objectives and limitations of the index.

25 The category of Patents, Related Rights, and Limitations relates to the protection of technologies, inventions, innovations, and related know-how. As such, in addition to indicators pertaining directly to patents, this category also includes indicators relating to the protection of confidential data, related to a) trade secrets generally and b) regulatory data protection for pharmaceutical products.

Table 1: GIPC Index: Categories and Indicators

Category 1 – Patents, Related Rights, and Limitations
1. Patent term of protection
2. Patentability of computer-implemented inventions[26]
3. Pharmaceutical-related patent enforcement and resolution mechanism
4. Fairness and transparency in the use of compulsory licensing of patented products and technologies
5. Patent term extensions for pharmaceutical products
6. Regulatory data protection term[27]
7. Protection of trade secrets
Category 2 – Copyrights, Related Rights, and Limitations
8. Copyright (and related rights) term of protection
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)
10. Availability of frameworks that promote cooperative action against online piracy
11. Scope of limitations and exceptions to copyrights and related rights
12. Digital rights management legislation
13. Clear implementation of policies and guidelines requiring that any proprietary software used on government ICT systems should be licensed software
Category 3 – Trademarks, Related Rights, and Limitations
14. Trademarks term of protection (renewal periods)
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products
Category 4 – Enforcement
16. Counterfeiting and piracy rates both physical and digital/online
17. Civil and procedural remedies
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement
19. Criminal standards including minimum imprisonment and minimum fines
20. Effective border measures
Category 5 – Membership and Ratification of International Treaties
21. WIPO Internet Treaties
22. Singapore Treaty on the Law of Trademarks
23. Patent Law Treaty
24. Convention Relating to the Distribution of Program-Carrying Signals Transmitted by Satellites (Brussels Convention)
25. At least one FTA with substantive and/or specific IP provisions such as chapters on IP and separate provisions on IP rights signed post-TRIPS membership

26 A computer-implemented invention (CII) is an invention that works by using a computer, a computer network, or other programmable apparatus. The invention should also have one or more features that are realized wholly or partly by means of a computer program. (European Patent Office, "Patents for software," http://www.epo.org/news-issues/issues/computers/software.html.)

27 Regulatory data protection (RDP) is the protection by regulatory authorities of undisclosed test or other data submitted in the process of marketing approval against unfair commercial use and disclosure. In the GIPC Index, this indicator is focused on the protection of pharmaceutical test data as they relate to products and technologies for human use, although RDP also exists for agricultural and chemical products.

Scoring Methodology

Each indicator can score values between 0 and 1, and the cumulative score of the GIPC Index ranges from 0 to 25. Indicators can be scored using three distinct methods: binary, numerical, and mixed.

Similar to the GP index, some indicators are of a binary nature (i.e., each indicator is assigned either the value 0 if the particular IP component does not exist in a given country or 1 if the particular IP component does exist in that country. In a few instances, such as countries that do not provide a mechanism for pharmaceutical-related patent enforcement and resolution in legislation, it is possible to receive either a 0 or a 0.5 (rather than a 1) for achieving a similar result in practice.

Indicators that measure terms of exclusivity are calculated numerically. This is done by dividing the actual term of exclusivity of each relevant indicator by a standard baseline. For example, the standard baseline used for the copyright term is that of 95 years provided in the United States.[28] Thus, the numerical formula for this subcategory is *n years of basic copyright term*/95. If a country has a copyright term of 95 years, the value it scores in this indicator is 1. If it has a copyright term of less than 95 years, then the value is less than 1. Table 2 provides details of the individual baselines used.

Where there are no adequate baselines and the legislative or regulatory existence of an indicator is not sufficient to determine its actual use or application, the final score for that indicator will be mixed. The score will be based on an even split between (1) primary and/or secondary legislation (regulation) in place, and (2) the application of that legislation in terms of enforcement by judicial and/or administrative authorities. The score will thus be 0.5 for having relevant legislation and 0.5 for application of the legislation. In some cases, such as the protection of trade secrets, if the legislation is not in place but its desired outcome is achieved in practice, it is still possible to score 0.5 for application.

There are also a few instances in which rather than the *de jure* and *de facto* existence of a single element, a mixed indicator is split between two separate elements. For example, in Category 5: Membership and Ratification of International Treaties, the indicators are measured by signature and ratification or accession to a given treaty. Thus, 0.5 is given for being a signatory of a treaty and 0.5 for ratifying or acceding to that treaty. In addition, the indicator examining effective border protection (under Category 4: Enforcement) is equally split between the extent to which a country provides (1) *ex officio* power to border guards and (2) for detention of potentially infringing goods in transit, both through legislation and in practice.

Baselines Used

When possible, the GIPC Index uses baseline values, measures, and models. These values are based on terms of protection, enforcement mechanisms (*de jure* and *de facto*), and/or model pieces of primary or secondary legislation that can be found at the national, supra-national, and international level. Where no adequate baselines are found in international law or treaties, the baselines and values used are based on what rights holders view as an appropriate environment and level of protection.

28 Many countries have a copyright term that is measured by the life of an author plus an additional number of years. Given the difficulties in measuring and estimating an average life of an author, and thus an average term of protection, this indicator only uses minimum terms that are applied in lieu of the life of author plus an additional number of years (i.e., in cases where the rights holder is unknown or has already died). Accordingly, 95 years is the minimum term applied in U.S. law.

Table 2: IP Rights Baselines

Baselines	Baseline in Years	Legislation Model
Basic patent protection	20	TRIPS
Copyrights	95	U.S.
Trademarks	10	WIPO
Regulatory data protection	10	EU
Patent term extension	5	EU/U.S.

Measuring Piracy and Counterfeiting

Indicator 16 of the GIPC Index measures rates of piracy and counterfeiting. There are a number of challenges when attempting to measure these two elements.

First, illegal activities are inherently difficult to measure and quantify accurately. Estimates will necessarily be based on variables such as physical seizures and surveys. This is particularly the case for online piracy.

Second, studies of rates of piracy and counterfeiting are often either country-specific (focusing on one or a relatively small sample of countries), or global but not country-specific. The result is a relative paucity of studies that measure and compare levels of piracy and counterfeiting with a sample size sufficient to make large-scale comparisons empirically robust.

Finally, because measures of piracy and counterfeiting are inexact, estimates of their economic impact can vary widely depending on the methodology and data samples used.[29] To surmount these challenges and achieve the broadest and most empirically comparable measure of both physical and digital piracy and counterfeiting levels, the GIPC Index uses three main sources:

- Software piracy rates compiled by the Business Software Alliance (BSA) (2011 being the latest survey);[30]
- Rates of domestic music piracy estimated by the International Federation of the Phonographic Industry (IFPI) and published in the 2008 OECD report, *The Economic Impact of Counterfeiting and Piracy* (data are available for 2006);[31] and
- The OECD's General Trade-Related Index of Counterfeiting of Economies (GTRIC-e), which measures the relative rates of physical counterfeiting for 134 economies (the latest year for which data are available is 2009).[32]

These sources are all robust and internationally recognized measures. Furthermore, they cover a large sample of countries, providing a sound basis for cross-country comparisons.

29 These difficulties of measuring piracy are particularly pronounced for online piracy. No comprehensive studies exist which measure and compare rates of online piracy for a large sample of countries. Because of this, the indicators measuring piracy in the GIPC Index are primarily based on physical piracy, with the data from BSA being based on both physical and digital software piracy. Nevertheless, there are a number of academic and industry-supported studies that measure rates of online piracy and its economic impact either on a global basis or for a few large economies. For example, a 2011 study produced by Envisional found that 23% of global internet traffic was estimated to be infringing in nature. Similarly, a 2011 report by Frontier Economics estimated the total value of counterfeit and pirated products in 2008 and 2015 to be $455-$650 billion and $1,220-$1,770 billion respectively. Out of this total, digitally pirated products were estimated at $30-75 billion in 2008 and $80-240 billion in 2015. Furthermore, this report found that online piracy in the U.S. made up a large share of this digital piracy figure. For 2008 the report estimated that $7-$20 billion worth of digitally pirated recorded music was consumed in the U.S., with an additional $1.4-$2 billion of digitally pirated movies also consumed. Finally, the vast majority of academic papers and economic analyses have found that online piracy and file sharing have had a negative impact on media sales, including music. For details see: Envisional (2011), *Technical report: An Estimate of Infringing Use of the Internet* (Cambridge 2011), p. 2; Frontier Economics (2011), *Estimating the global economic and social impacts of counterfeiting and piracy* (London 2011), pp. 56-8; and Smith, M.D. & Telang, R. (2012), *Assessing the Academic Literature Regarding the Impact of Media Piracy on Sales* (Social Science Research Network 2012).

30 Business Software Alliance (2012), *Shadow Market: 2011 BSA Global Software Piracy Study*, pp. 8–9.

31 OECD (2008), *The Economic Impact of Counterfeiting and Piracy*, pp. 276–279. This data measures the prevalence of pirated optical discs, that is, physical music piracy, not online piracy.

32 OECD (2009), *Magnitude of Counterfeiting and Piracy of Tangible Products: An Update*, pp.5–6.

In terms of how these sources were incorporated into one score for the GIPC Index, each measurement represents a third of the total score. For each measure a country can achieve a subsidiary score of: 0, 0.11, 0.22, or 0.33. Each measurement is translated into subscores using the model outlined in Table 3.

Table 4 shows the software piracy, music piracy, and physical counterfeiting rates and rankings for the countries mapped in the GIPC Index. It also explains how these rates and rankings translate into the final score used in the GIPC Index.

Table 3: Computational Model for Measuring Piracy and Counterfeiting

GIPC Index score	BSA Software piracy rate	OECD/IFPI Music piracy rate[33]	GTRIC-e Country ranking
0	75–100%	More than 50%	1–33.5
0.11	50–74%	25–50%	33.5–67
0.22	25–49%	10–24%	67–100.5
0.33	0–24%	Less than 10%	100.5–134

Table 4: Piracy and Counterfeiting: Country Scores

Country	BSA		OECD/IFPI		GTRIC-e		Total score
	Software piracy rate	GIPC Index score	Music piracy rate	GIPC Index score	Country ranking	GIPC Index score	
Australia	23%	0.33	Less than 10%	0.33	104/134	0.33	1
Brazil	53%	0.11	25–50%	0.11	98/134	0.22	0.44
Canada	27%	0.22	Less than 10%	0.33	113/134	0.33	0.88
Chile	61%	0.11	More than 50%	0	124/134	0.33	0.44
China	77%	0	More than 50%	0	1/134	0	0
India	63%	0.11	More than 50%	0	48/134	0.11	0.22
Malaysia	55%	0.11	25–50%	0.11	17/134	0	0.22
Mexico	57%	0.11	More than 50%	0	107/134	0.33	0.44
Russia	63%	0.11	More than 50%	0	77/134	0.22	0.33
UK	26%	0.22	Less than 10%	0.33	97/134	0.22	0.77
U.S.	19%	0.33	Less than 10%	0.33	95/134	0.22	0.88

33 The IFPI/OECD have divided their estimates of each country's rate of music piracy into four ranges:
i) More than 50%
ii) Between 25–50%
iii) Between 10–24%
iv) Less than 10%

Sources

Scoring in the GIPC Index is based on both qualitative and quantitative evidence. In order to provide as complete a picture of a country's IP environment as possible, this evidence is drawn from a wide range of sources. The following is an outline of the different types of sources used.

Government
Sources from government branches and agencies include:

- Primary legislation;
- Secondary legislation (regulation) from executive, legislative, and administrative bodies;
- Reports from parliamentary committees and government agencies, including patent or intellectual property offices as well as enforcement agencies; and
- Internal departmental guidelines, policies, assessments, and audits.

Legal
Sources from judicial authorities and legal practitioners include:

- Court cases and decisions;
- Legal opinions written by judges; and
- Legal analysis and opinions written by legal practitioners.

International Institutions and Third Parties
These sources include:

- Data, studies, and analysis from international organizations such as the OECD, WTO, and WIPO;
- Publicly available reports, studies, and government submissions by industry organizations; and
- Reports from non-governmental organizations and consumer organizations.

Academic
Academic sources include:

- Academic journals; and
- Legal journals.

News
News sources include:

- Newspapers;
- News websites; and
- Trade press.

Indicators

As Table 1 outlined, the GIPC Index consists of 25 indicators. This section explains how each indicator is measured and scored.

Category 1: Patents, Related Rights, and Limitations

The indicators in this category relate to patent protection and related rights and limitations.

1. **Patent term of protection** – Measured by the basic patent term offered in the TRIPS Agreement. This is a numerical indicator.
2. **Patentability of computer-implemented inventions (CIIs)** – Measured by the extent to which primary and/or secondary legislation explicitly allows for the patentability of CIIs. This is a binary indicator.
3. **Pharmaceutical-related patent enforcement and resolution mechanism** – Measured by the existence of primary and/or secondary legislation (such as a regulatory mechanism) that provides a transparent pathway for adjudication of patent validity and infringing issues before the marketing of a generic or biosimilar product. If no legislation is in place, the maximum score that can be achieved is 0.5 and is based on the extent to which *de facto* practices are in place that achieve a similar result. This is a binary indicator.
4. **Fairness and transparency in the use of compulsory licensing of patented products and technologies –** Measured by the extent

to which the use of compulsory licenses (on the basis of the essential facilities doctrine[34]) is fair and transparent. It includes the following elements: the use of compulsory licensing under the framework of TRIPS provisions on public health (1) should not be for commercial purposes, such as for price negotiations or in support of domestic industries; (2) should exclude any requirement for domestic manufacturing; and (3) should not apply to patented innovations that have not yet reached the market. This is a binary indicator.

5. **Patent term extensions for pharmaceutical products** – Measured by the current baseline rate of five years used in the U.S. and European Union (EU). This protection is aimed at extending the patent term granted to innovative pharmaceutical products, due to the prolonged research, development and regulatory approval periods of such products. This category does not include other forms of patent term extension that are granted on the basis of prolonged examination periods. This is a numerical indicator.
6. **Regulatory data protection (RDP) term** – Measured by the optimal desired term, which is the term of exclusivity used by the EU.[35] This is a numerical indicator.
7. **Protection of trade secrets** – Measured by the existence of (1) legislation that offers protection for trade secrets or confidential business information and (2) the application of this legislation in the court or law enforcement system. Countries that do not have legislation in place but in which trade secrets and confidential information are effectively protected through other mechanisms can receive a maximum score of 0.5. Model legislation is TRIPS (Article 39(1)) & (2)). This is a mixed indicator.

Category 2: Copyrights, Related Rights, and Limitations

The indicators in this category relate to copyright protection and related rights and limitations.

8. **Copyright (and related rights) term of protection** – Measured by the baseline term of protection, which is the minimum term afforded in the U.S. of 95 years. Terms of protection are measured as the minimum term allowed by copyright law (see explanation in Scoring Methodology, pg. 16). Where there are different minimum terms of protection for different forms of copyright, all terms are added together and divided by 95. This is a numerical indicator.
9. **Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)** – Measured by the extent to which countries (1) have in place laws and procedures that provide necessary exclusive rights and (2) apply these laws to prevent, deter, and remedy online infringement of copyright and related rights. This is a mixed indicator.
10. **Availability of frameworks that promote cooperative action against online piracy** – Measured by the existence of clear standards for the limitation of liability for copyright and related rights infringement by Internet service providers (ISPs) that expeditiously remove infringing material

34 The essential facilities doctrine is a limitation on the ability of a monopolist, who controls a product or service, to exclude actual or potential rivals from accessing a market in order to compete with the monopolist. The essential facilities doctrine has its roots in U.S. antitrust law, but has been adopted by legal systems in several other countries. (Pitofsky, R., Patterson, D. and Hooks, J. (2002), "The Essential Facilities Doctrine Under U.S. Antitrust Law," *Antitrust Law Journal*, Vol. 70.)

35 Unless specified otherwise, the RDP term is that for new chemical entities (NCEs); in the case of the U.S., where biologics are provided with a different term than NCEs, the score is the average of the two terms, divided by the baseline.

upon obtaining knowledge of it, in the context of an overall system that does not unduly burden ISPs, promotes cooperation between them and rights holders to address online piracy, and respects and protects users' rights. This is a binary indicator.

11. **Scope of limitations and exceptions to copyrights and related rights** – Measured by the extent to which exceptions and limitations are consistent in text and in application with the three-step test originating in the Berne Convention (Berne three-step test).[36] The score for this indicator is evenly divided between legislation and application in the court system. This is a mixed indicator.
12. **Digital rights management (DRM) legislation** – Measured by the extent to which countries have passed primary and/or secondary legislation relating to DRM and technological protection measures. This is a binary indicator.
13. **Clear implementation of policies and guidelines requiring that any proprietary software used on government ICT systems should be licensed software** – Measured by the extent to which (1) policies and guidelines are in place stipulating the use of only licensed proprietary software and (2) these policies and guidelines are applied. This is a mixed indicator.

Category 3: Trademarks, Related Rights, and Limitations

Although there are a number of indicators throughout the GIPC Index that measure the strength and availability of protection of trademarks and related rights, this category is limited to two indicators. While there are still some important challenges related to trademark protection, the right itself is generally not as contested or controversial as in other areas (with some key exceptions).[37] Rather, it is the enforcement of that right, and IP theft more generally, that is of top concern to brand owners. These elements are captured in Indicators 16, 17, 19, and 20, which are discussed and defined below.

In terms of the specific protection and use of trademarks, the GIPC Index includes the following two indicators:

14. **Trademarks term of protection (renewal periods)** – Measured by the renewal term of protection being offered, with the baseline term being 10 years as provided by the Singapore Treaty on the Law of Trademarks. This is a numerical indicator.
15. **Non-discrimination/non-restrictions on the use of brands in packaging of different products** – Measured by the extent to which different national laws and regulations do not unreasonably limit the rights holder from using/putting his brand on the package of his products, thereby curtailing his rights under trademark protection. This is a binary indicator.

36 The Berne three-step test generally requires that limitations and exceptions to copyrights should be: Confined to special cases; Which do not conflict with a normal exploitation of the work; and Do not unreasonably prejudice the legitimate interests of the rights holder. (TRIPS Agreement, Article 13.)

37 Although they are not captured generally in the Index, other important elements and challenges relating to the protection of trademarks occur in certain countries, such as discrimination by Chinese authorities against trademarks without a "well-known mark" designation. They are outlined in detail under each country overview in Country-Specific Analysis.

Category 4: Enforcement

The indicators in this category measure the prevalence of IP rights infringement, the criminal and civil legal procedures available to rights holders, punishment rates, and the authority of customs officials to carry out border controls and inspections.

16. **Counterfeiting and piracy rates both physical and digital/online** – Measured by the counterfeiting of goods as well as digital piracy (see explanation in Measuring Piracy and Counterfeiting, pg. 17). This is a numerical indicator.
17. **Civil and procedural remedies** – Measured by (1) the existence of civil and procedural remedies, including injunctions, damages for injuries, and destruction of infringing and counterfeited goods, as well as (2) their effective application. This indicator also reflects administrative enforcement measures where applicable. This is a mixed indicator.
18. **Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement –** This is a binary indicator.
19. **Criminal standards including minimum imprisonment and minimum fines** – Measured by the extent to which (1) actual legislation is in place and (2) it is applied (i.e., where reliable source material is available, the actual level of prosecution and penalties applied). Model legislation includes TRIPS, Article 61. This is a mixed indicator.
20. **Effective border measures** – Measured by the extent to which goods in transit suspected of infringement may be detained or suspended**.** This indicator also measures the extent to which border guards have the *ex officio* authority to seize suspected counterfeit and pirated goods without complaint from the rights holder. This is a mixed indicator.

Category 5: Membership and Ratification of International Treaties

The indicators in this category measure whether a country is (1) a signatory of and (2) has ratified or acceded to international treaties on the protection of IP. Indicators 21–24 are measured using WIPO as a source. The following five treaties each make up one indicator:

21. **WIPO Internet Treaties –** These consist of the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty.[38] Respectively, they cover and clarify the use of copyright in a digital environment and the moral and economic rights of performers and producers of phonograms. This is a mixed indicator.
22. **Singapore Treaty on the Law of Trademarks –** This is a mixed indicator.
23. **Patent Law Treaty –** This is a mixed indicator.
24. **Convention Relating to the Distribution of Program-Carrying Signals Transmitted by Satellites (Brussels Convention) –** This is a mixed indicator.
25. **At least one free trade agreement (FTA) with substantive and/or specific IP provisions such as chapters on IP and separate provisions on IP rights provided it was signed after WTO/TRIPS membership –** This is a mixed indicator.

38 The 2012 Beijing Treaty on Audiovisual Performance, which covers the rights of performers in audiovisual works, is also a relevant treaty. Given that it was only signed by WIPO member states in June 2012, however, it is too early to include it as a useful element of this indicator.

Overall Findings

Overall Country Scores

Figure I: Overall Country Scores

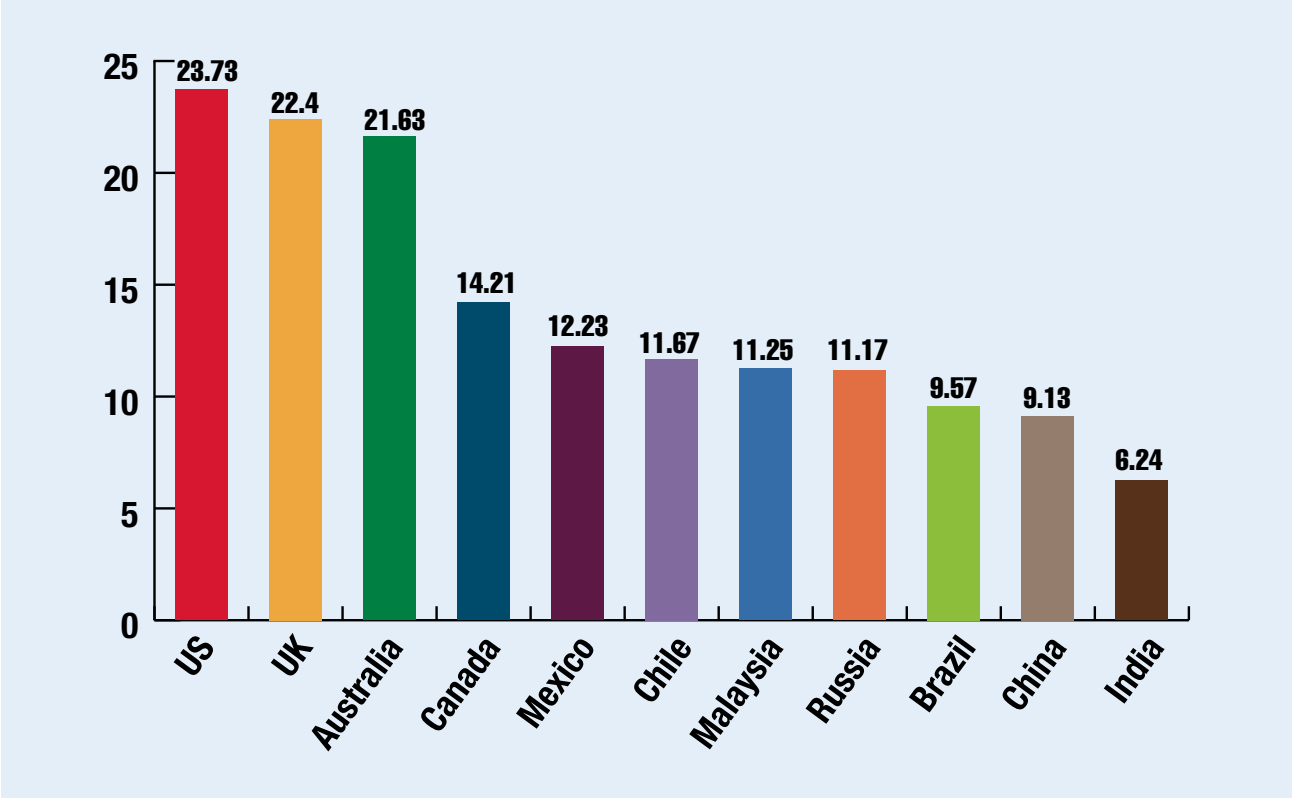


Figure I summarizes the total scores for all 11 countries benchmarked and ranks them in order of their total scores.

The four high-income countries sampled achieve the highest scores. The top three are bunched quite closely together, with the United States, the UK, and Australia separated by just over two points. Canada is more than nine points behind the United States. Compared with the baselines used and the other high-income economies sampled, Canada has notable weaknesses in its IP rights framework. Australia is also an outlier among high-income countries with regard to its newly introduced plain packaging legislation. As a result, in indicators relating to trademark protection, Australia receives the lowest score of all countries sampled.

The upper middle-income economies of Malaysia, Mexico, and Chile have taken important steps toward strengthening their respective IP environments. For example, Malaysia has made significant reforms to its copyright law; Mexico has introduced regulatory data protection for pharmaceuticals; and Chile

is considering a measure that would promote enforcement of pharmaceutical-related patents. Nevertheless, significant gaps remain, and all countries suffer from serious weaknesses in their respective IP environments. Thus, these countries achieve a score of close to 50% of the available Index score.

The four BRIC economies— Brazil, Russia, India, and China—face the most challenges among the group of countries examined in this edition.

Brazil has made progress in some areas of IP protection; for example, it introduced a basic IP framework in the mid-1990s and has stepped up enforcement efforts against physical piracy in cities such as São Paulo. However, Brazil still faces challenges in a number of categories, most notably Category 1, which measures patents and related rights, and Category 5, which measures membership in international treaties.

Russia's overall score and ranking receives a significant boost from a high score in Category 5, which measures membership and accession to international IP treaties. This is the primary reason it ranks higher than other BRIC economies. For most other categories, Russia ranks at or near the bottom. Overall, Russia's environment is characterized by a distinct contrast between its level of participation in international treaties (as indicated in Category 5) and its *de facto* implementation of rules and regulations.

India consistently has the weakest environment, scoring poorly in all five categories. India has a particularly low score in categories relating to patents, copyrights, and international treaties. Recent actions, including the issuing of a compulsory license for the cancer drug Nexavar as well as many of the 2012 amendments to its Copyright Act, raise concerns about India's commitment to promoting innovation and continuing its path toward creating a knowledge-based economy.

Overall, China has one of the weaker scores, although in certain categories China scores relatively well and has important legislation in place in several areas. For example, in Category 1: Patents and Related Rights, China ranks squarely in the middle and ahead of the three other BRIC economies. However, as the copyright and enforcement categories illustrate, very significant challenges remain. Amendments to the Copyright Law and judiciary guidance, currently under consideration, could have a significant impact on the copyright environment in China, if passed and implemented.

The Big Picture: Progress Made and Remaining Challenges

The overall findings of the GIPC Index can be viewed as both a "glass half full" and a "glass half empty." Clearly, a large number of countries in the sample (particularly the middle-income economies) have a significant way to go to reach the same levels of IP protection that are available in high-income economies, let alone achieve a high overall score. Yet there are also many positive developments across all categories and in most of the sampled countries.

Many countries have recently taken, and are taking, significant steps to improve their respective IP environments.

- In China, 2010 SIPO Guidelines provided a framework for granting software patents, and 2012 amendments to its patent law brought Chinese law on compulsory licensing fully into line with the TRIPS Agreement. Moreover, as mentioned above, China has made some attempts, through judiciary guidance, at creating a new legal framework to improve enforcement in the field of online copyrights, which, when issued, may have positive effects. With regard

to government use of licensed software, China has also made a considerable effort in 2012 to ensure that all software used in government agencies is licensed.

- In Mexico, regulatory data protection for chemical-based entities was introduced through regulatory guidance from health regulator COFEPRIS in 2012.

- Malaysia introduced an RDP term of up to five years for chemical entities in 2012. Furthermore, Malaysia amended its Copyright Act significantly in 2012, introducing a system of notice and takedown, legislation relating to digital rights management, and clearer language on the scope of limitations and exceptions to copyrights and related rights. These reform efforts culminated in Malaysia acceding to the WIPO Internet Treaties in September 2012.

- After many years of deliberation, Canada too amended its Copyright Act in 2012, introducing robust DRM legislation.

- Russia is obligated to implement its RDP commitments made in 2010 as part of its 2012 accession to the WTO. Indicators relating to enforcement also suggest that there has been some positive movement in that area. For example, Russian software piracy rates, while still high, have come down from levels seen only a few years ago.

- Naturally, there are still some sizeable challenges. In Mexico, for example, laws relating to trade secrets are not being enforced, amid low rates of prosecution and sentencing. Likewise, the Chinese authorities have not been able to enforce and apply existing trade secret law to its fullest extent, with high levels of industrial espionage and long delays in prosecution. In Russia, there still has been no action on RDP even though the relevant legislation was passed in 2010.

Significant gaps also remain in many countries' copyright legislation and overall enforcement environment. Russia's copyright environment remains challenging, with high levels of piracy and inadequate legislation, particularly with regard to the online space. Furthermore, while Canada introduced robust DRM legislation, it failed to pass adequate notice and takedown legislation.

Overall, the GIPC Index suggests that many of the countries sampled have made significant advances in their IP environments, both aimed at specific sectors and across the board in various forms of IP rights. Nevertheless, it also highlights concrete remaining challenges and areas for improvement.

The overview of each category below and subsequent detailed discussion of each country's score further highlight areas of concern and deficiencies, as well as positive developments.

Category 1: Patents, Related Rights, and Limitations

Figure II: Scores, Category 1: Patents, Related Rights, and Limitations

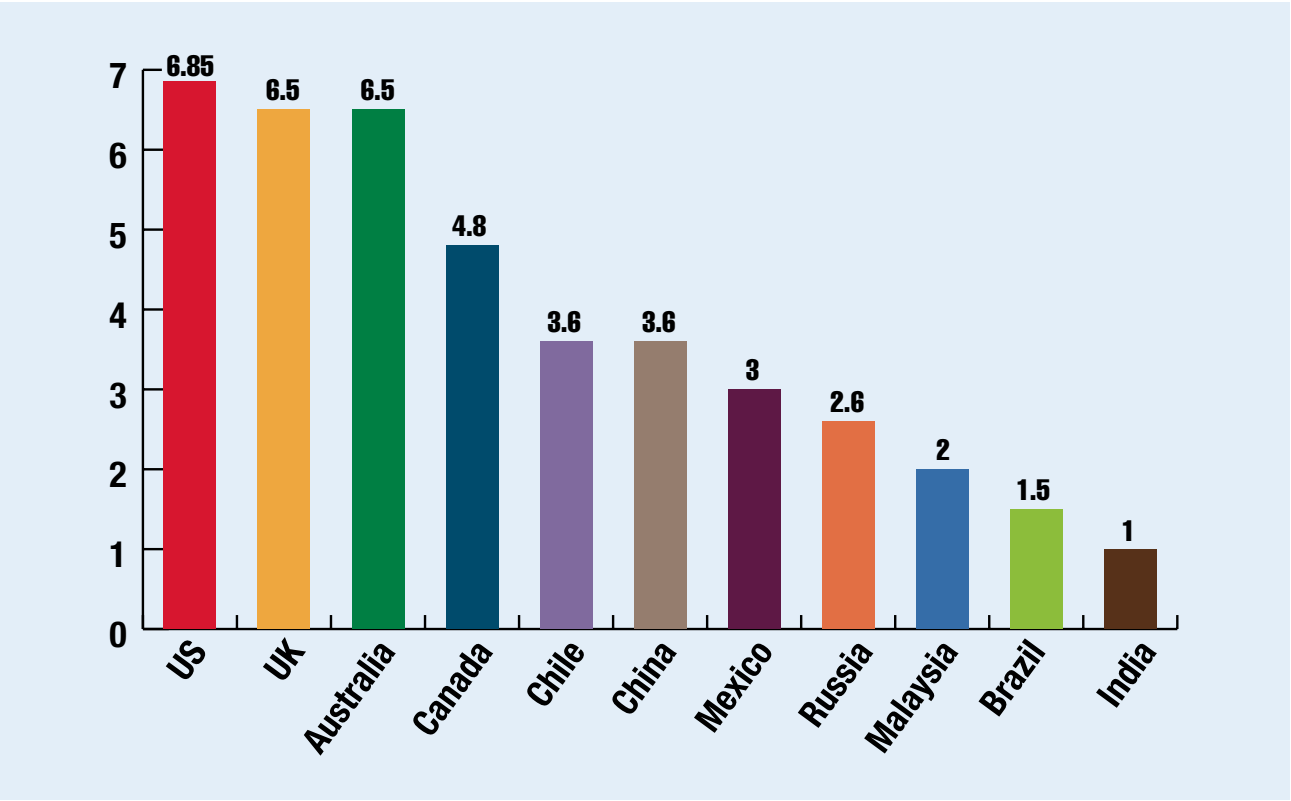


Figure II summarizes the total scores for Category 1. This category measures the strength of a country's environment for patents, related rights, and limitations. The category consists of seven indicators with a maximum possible score of 7.

As expected from the overall scores, high-income economies do very well, with the United States, UK, and Australia achieving the highest scores. Of note is that Canada is significantly behind this trio, with weaknesses in its patenting environment relating to pharmaceutical patents.

In the next batch of countries, Malaysia is behind Mexico and Chile with which it is much more closely grouped in the overall scores.

China does markedly better in this category than in other categories and in its overall score. In contrast, Brazil has a relatively weak environment; it is significantly behind both China and Russia and does only slightly better than India.

Category 2: Copyrights, Related Rights, and Limitations

Figure III: Scores, Category 2: Copyrights, Related Rights, and Limitations

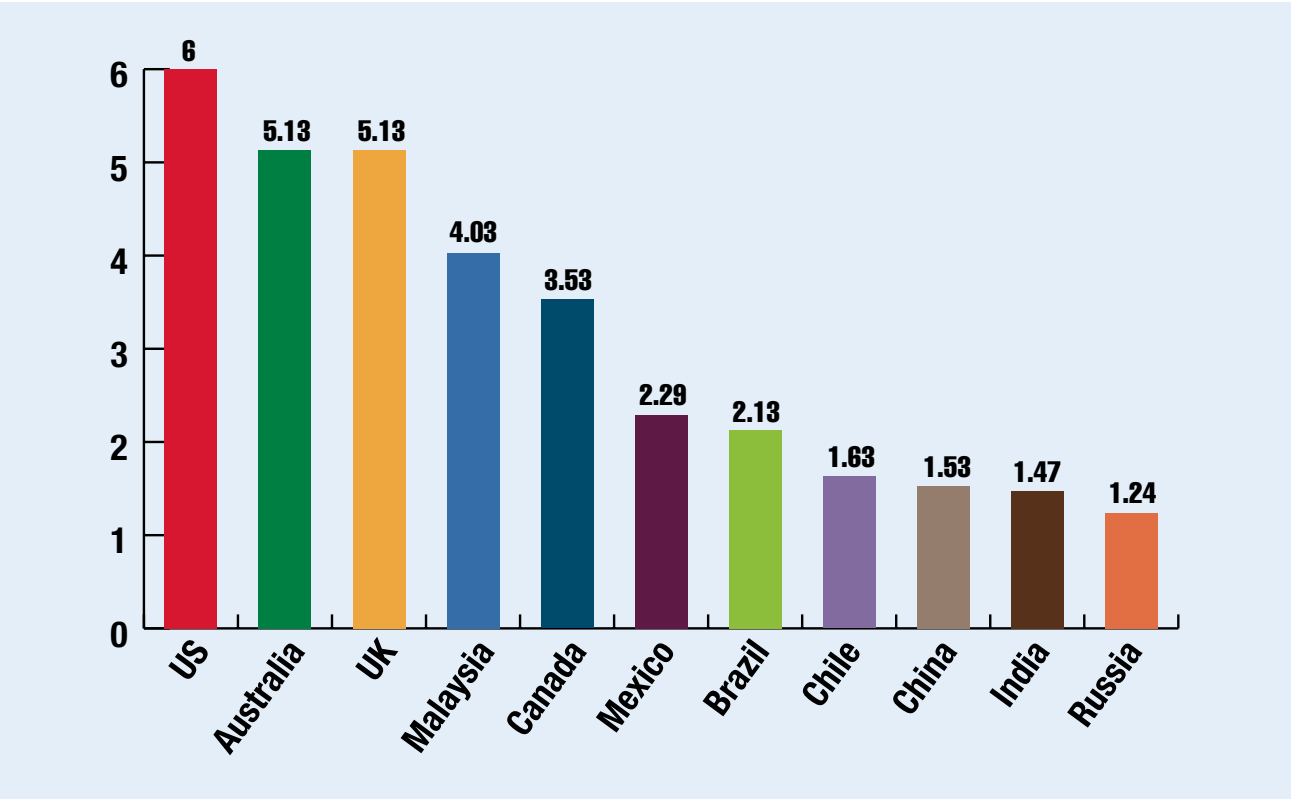


Figure III summarizes the total scores for Category 2. This category measures the strength of the environment for copyrights, related rights, and limitations. The category consists of six indicators with a maximum possible score of 6.

As in Category 1, the United States, Australia, and UK achieve the highest scores. What is surprising is that Canada's score is below Malaysia's and more than two points below that of the United States. As is detailed in Canada's country-specific analysis, with the exception of introducing DRM legislation, changes to the Canadian Copyright Act in 2012 were mixed and, combined with some unhelpful court decisions, have not substantively improved the overall environment for protection of copyright and related rights as measured by the GIPC Index.

Malaysia achieves a score of 4.03, which is significantly higher than Chile, Brazil, and Mexico. This high score is primarily due to changes to its copyright laws introduced in 2012, which improved the legal framework relating to cooperative action against online piracy, DRM, and statutory civil damages.

Of note is that more than one-third of the sampled countries—four out of 11—achieve a score lower than two (30% of the maximum possible score) and show considerable weaknesses in their copyright environments.

Category 3: Trademarks, Related Rights, and Limitations

The GIPC Index includes several elements that are important to the protection, utilization, and enforcement of trademarks and related rights.

For Indicators 14 and 15, Australia scores one point and all other countries score two points. Australia is an outlier with regard to these two indicators as it does not achieve any points on Indicator 15, which measures non-discrimination on the use of brands in packaging of different products. Australia's score is reduced as a result of the introduction in 2012 of plain packaging requirements for tobacco products. This requirement restricts the use of trademarks on retail packaging of tobacco products and severely limits the ability of trademark owners to exploit their brands.

In addition to the above two indicators, there are a number of indicators throughout the GIPC Index that measure the strength and availability of protection of trademarks and related rights.

Table 5 provides an overview of where the 11 sampled countries rank out of the 134 included in the OECD's GTRIC-e measure of the relative rates of physical counterfeiting. The ranking is from top to bottom, starting with the country that has the highest relative rate of physical counterfeiting.

Table 5: GTRIC-e Ranking of Relative Rates of Physical Counterfeiting out of 134 Economies[39]

Countries	GTRIC-e ranking out of 134 economies: From highest to lowest levels of physical counterfeiting
China	1
Malaysia	17
India	48
Russia	77
United States	95
UK	97
Brazil	98
Australia	104
Mexico	107
Canada	113
Chile	124

Finally, Table 6 provides an overview of which sampled countries have signed and ratified/acceded to the Singapore Treaty on the Law of Trademarks.

Table 6: Membership and Ratification/Accession to the Singapore Treaty on the Law of Trademarks

Countries	Total Score	Status
Australia	1	Signed and ratified/acceded
Russia	1	Signed and ratified/acceded
UK	1	Signed and ratified/acceded
United States	1	Signed and ratified/acceded
China	0.5	Signed but not ratified/acceded
Mexico	0.5	Signed but not ratified/acceded
Brazil	0	Not a contracting party
Canada	0	Not a contracting party
Chile	0	Not a contracting party
India	0	Not a contracting party
Malaysia	0	Not a contracting party

39 OECD (2009).

Category 4: Enforcement

Figure IV: Scores, Category 4: Enforcement

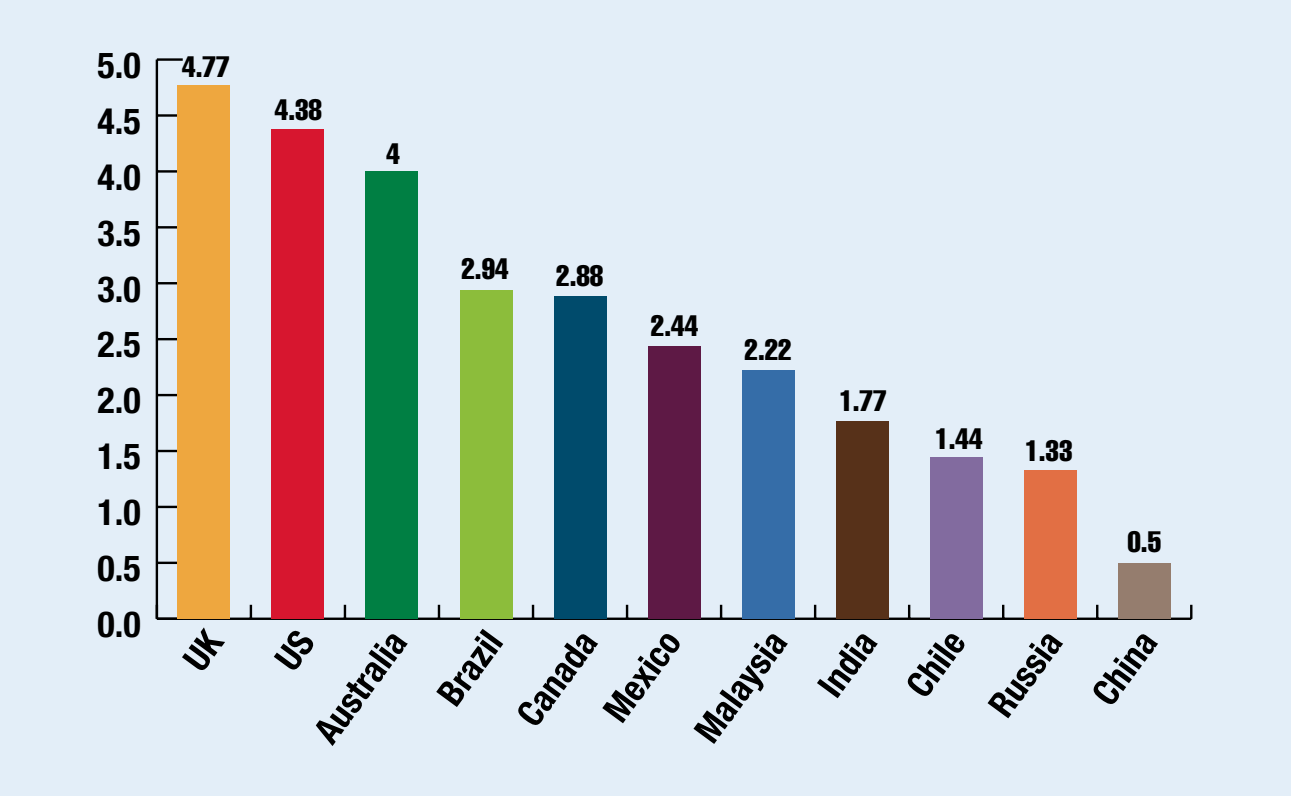


Figure IV summarizes the total scores for Category 4. This category measures the prevalence of IP rights infringement, the criminal and civil legal procedures available to rights holders, punishment rates, and the authority of customs officials to carry out border controls and inspections. The category consists of five indicators, with a maximum possible score of five.

As in the other categories, the United States, UK, and Australia round out the top three performers, with scores ranging from 4 to 4.77.

As in Category 2, Canada places outside the top four. In comparison with the three other high-income countries, Canada displays significant weaknesses, in particular the lack of *ex officio* powers for customs officials.

Chile, Russia, and China display considerable weaknesses, with China's enforcement environment being the weakest, despite notable efforts by the Chinese government to improve it.

Category 5: Membership and Ratification of International Treaties

Figure V: Scores, Category 5: Membership and Ratification of International Treaties

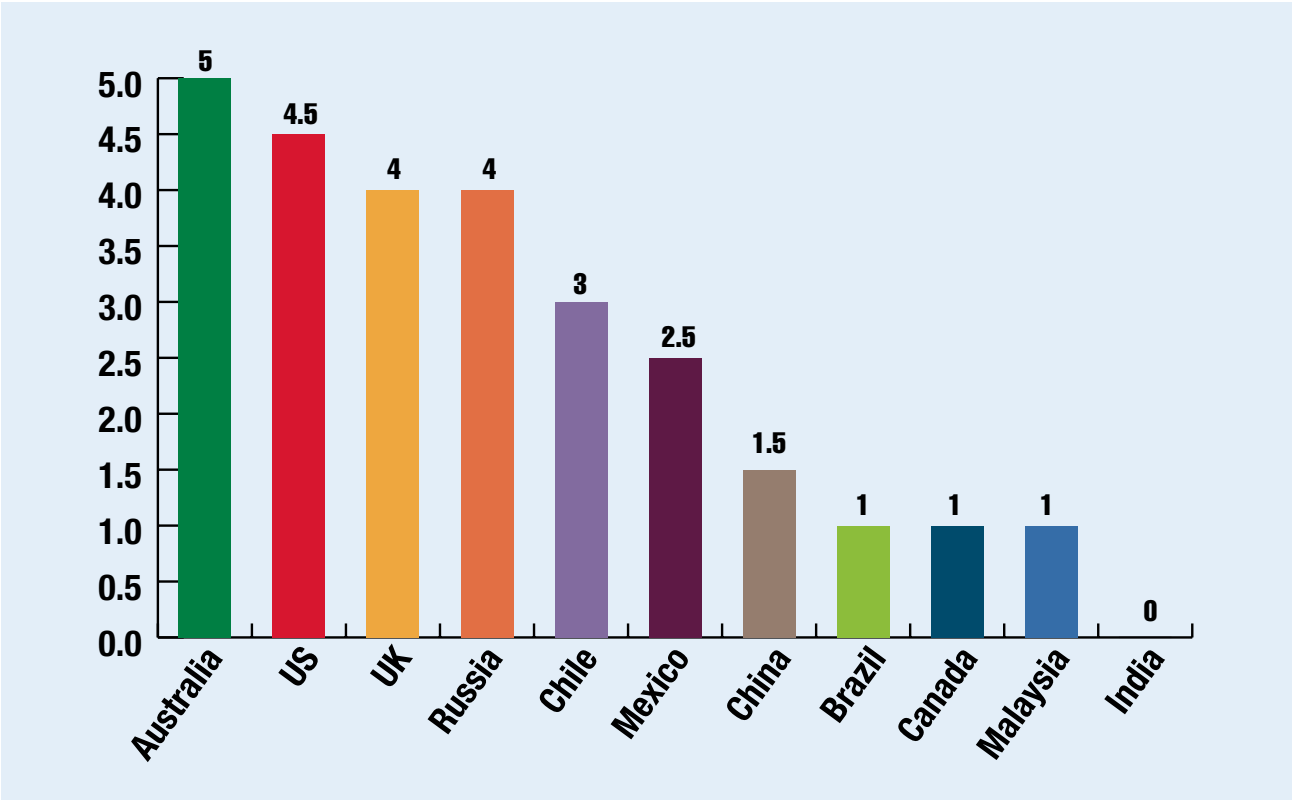


Figure V summarizes the total scores for Category 5. This category measures whether a country is (1) a signatory of and (2) has ratified/acceded to international treaties on the protection of IP. The category consists of five indicators with a maximum possible score of 5.

As with Categories 2 and 4, all high-income countries, bar Canada, make up the top four. Canada's score is noticeable for its absolute and relative weakness vis-à-vis other high-income countries. Canada is a full 4 points behind Australia and ahead of only Malaysia and India.

Somewhat surprisingly, Russia achieves a very high score. As mentioned above, Russia's high score in this category significantly affects its overall score in the GIPC Index.

Other countries do noticeably worse in this category than their overall score would suggest. Both Brazil and Malaysia, in particular, have weak scores, which bring down their total overall scores.

Country-Specific Analysis

This section provides an overview and analysis of each country's score in all 25 indicators.

In addition to the scores, each country overview includes a summary of key areas of strengths and weaknesses in the national IP environment. Specific challenges, debates, and issues relating to each category are discussed in more detail in the subsection "Spotlight on the National IP Environment."

Where relevant, a separate discussion, titled "Other Areas of Concern," is included to zero in on areas of IP law and/or enforcement that are not directly covered in the 25 indicators. However, these factors have a significant impact on a country's IP environment and are relevant to wider issues of innovation, economic development, and job creation.

Australia

Australia

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	1
3. Pharmaceutical-related patent enforcement and resolution mechanism	1
4. Fairness and transparency in the use of compulsory licensing of patented products	1
5. Patent term extensions for pharmaceutical products	1
6. Regulatory data protection term	0.5
7. Protection of trade secrets	1
Total score (out of 7)	**6.5**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	0.63[40]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	0.5
10. Availability of frameworks that promote cooperative action against online piracy	1
11. Scope of limitations and exceptions to copyrights and related rights	1
12. Digital rights management legislation	1
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	1
Total score (out of 6)	**5.13**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	0
Total score – Trademarks (out of 2)	**1**

40 Calculated as the average of the term for literary, dramatic, musical, and artistic works (70 years) and the term for broadcasts (50 years), divided by the baseline term of 95 years.

Enforcement	
16. Counterfeiting and piracy rates	1[41]
17. Civil and procedural remedies	1
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	1
19. Criminal standards	0.5
20. Effective border measures	0.5
Total score – Enforcement (out of 5)	**4**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	1
22. Singapore Treaty on the Law of Trademarks	1
23. Patent Law Treaty	1
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	1
25. FTA with substantive IP provisions signed post-TRIPS membership	1
Total score – Treaties (out of 5)	**5**
Total overall score (out of 25)	**21.63**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Patent term extensions for pharmaceutical products • Scope of limitations and exceptions to copyrights and related rights • Digital rights management legislation • Relatively low counterfeiting and piracy rates	• Restrictions on the use of brands in packaging • Inadequate legal measures preventing online copyright infringement • Insufficient criminal penalties • Lack of *ex officio* authority for customs officials

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

2. **Patentability of computer-implemented inventions:** Guidelines from IP Australia (the national IP office) enable a diverse range of software to be patented as long as it has a commercially useful application. Recent case law has affirmed and further refined this principle through the introduction of a direct, substantial physical effect to result from a claimed process or method (see, for example, *Invention Pathways Pty Ltd*, 2010).
3. **Pharmaceutical-related patent enforcement and resolution mechanism:** The Therapeutic Goods Act sets out a relatively transparent mechanism for adjudicating infringement issues as part of the market authorization process for

41 Calculated as the sum of the OECD GTRIC-e index, where Australia ranked 104 out of 134; annual software piracy rates calculated by the BSA, where Australia's rate is 23%; and the IFPI's measurement of music piracy, where Australia's rate is estimated at less than 10%.

generic or biosimilar medicines. Under the mechanism, the onus is on the applicants to notify patent holders of the application for registration or listing of the product, although the health regulator, the Therapeutic Goods Administration (TGA), also makes information about registrations publicly available. Based on this system, Australia receives a full score for the indicator. However, the mechanism may be deficient in cases where the applicant is not aware of relevant patents and hence does not notify the patent holder, particularly because there are known delays in the publishing of registration information by the TGA. As a result, patent holders may not discover infringing issues until after market authorization has taken place in these cases.

5. **Patent term extensions for pharmaceutical products:** A patent term extension of five years is allowed under Australian patent law; hence, Australia receives a full score of 1. An expert panel is currently reviewing this provision and could recommend that it be reduced; its recommendation is expected in early 2013. If the term of extension were to be reduced as a result, this would lower Australia's score for this indicator in future editions of the GIPC Index.
7. **Protection of trade secrets:** The protection of trade secrets is primarily provided through common law, although the Corporations Act (2001) also prevents the improper use of information gained by employees. Recent cases have confirmed principles established in common law, including the protection of confidential information from inappropriate use by third parties, commercial partners, and employees or ex-employees (see, for example, *CA Technologies v. Independent Systems Integrators*, 2012).

Copyrights, Related Rights, and Limitations

9. **Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking):** Under the Copyright Act, rights holders have the exclusive right to reproduce, perform, trade, and distribute protected goods; however, the actual protection of these rights and the responsibility for deterring or preventing their infringement online is lacking. In particular, although the Copyright Act and Copyright Regulation establish a system that seeks to eliminate infringing materials from the online environment as well as penalize users who access infringing material, the entities responsible for carrying out such actions and the manner for doing so are not well defined.
10. **Availability of frameworks that promote cooperative action against online piracy:** The Copyright Law provides for a fairly substantive framework for notice and takedown, although only certain types of ISPs are required to act upon becoming aware of infringing material. On this basis, Australia receives a score of 1 for this indicator. Nevertheless, recent case law (most notably, *Roadshow Films Pty Ltd v. iiNet Ltd*, 2012) raises the threshold for ISP liability further than before. ISPs also lack an industry code or enforced standard related to notice and takedown.
11. **Scope of limitations and exceptions to copyrights and related rights:** The Copyright Act establishes a relatively categorical system of fair dealing and exceptions to copyright, which is applied consistently by the courts. Most recently, in *National Rugby League Investments v. Singtel Optus* (2012), the court upheld the requirement of non-commercial use for the time-shifting exception in Section 111 when it ruled against the recording

of television broadcasts by commercial parties for watching at a later time in a domestic context. The Australian Law Reform Commission is currently conducting a review of exceptions to copyright in the digital environment, which is expected in 2013.

Trademarks, Related rights, and Limitations

15. **Non-discrimination/non-restrictions on the use of brands in packaging:** The Tobacco Plain Packaging Bill, due to take effect in December 2012, restricts the use of trademarks on retail packaging of tobacco products, requiring them to be sold in non-descript packages. Despite challenges by tobacco companies that the new law results in an unconstitutional government acquisition of their trademarks (and despite finding that plain packaging deprives tobacco companies of their property), in August 2012 the High Court of Australia upheld the law as being constitutional. The new measure severely limits the ability of trademark owners to exploit their rights sufficiently and has ignited a global debate on the use of plain packaging that threatens to affect trademark owners across different sectors and countries.

Enforcement

19. **Criminal standards:** The Copyright and Trade Marks Acts provide fairly standard fines and terms of imprisonment for criminal infringement. Nevertheless, magistrates and federal courts in practice often do not apply sufficiently deterrent penalties, particularly in cases of digital piracy and illegal camcording.
20. **Effective border measures:** Under the Copyright and Trade Marks Acts, customs officials are not given *ex officio* authority to act against goods they suspect of infringement; a rights holder must first submit a notice objecting to the importation of infringing goods before an official may detain or suspend the goods. With a notice from the rights holder, officials are authorized to seize a certain type of good in transit, "transshipped goods"; other types of in-transit goods are not officially subject to seizure. This is because transshipped goods remain under customs control while being shipped through Australia to other destinations, and are therefore subject to seizure if a notice of objection is in place and the rights holder can demonstrate that the goods are infringing.

Membership and Ratification of International Treaties

Australia receives a full score in this category, having signed and ratified all major international IP treaties as well as having concluded, post-TRIPS, FTAs with substantial IP provisions. Australia is also a negotiating party to the TPP Agreement.

Brazil

Brazil

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	0
3. Pharmaceutical-related patent enforcement and resolution mechanism	0
4. Fairness and transparency in the use of compulsory licensing of patented products	0
5. Patent term extensions for pharmaceutical products	0
6. Regulatory data protection term	0
7. Protection of trade secrets	0.5
Total score – Patents (out of 7)	**1.5**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	0.63[42]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	0.5
10. Availability of frameworks that promote cooperative action against online piracy	0
11. Scope of limitations and exceptions to copyrights and related rights	0.5
12. Digital rights management legislation	0
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	0.5
Total score – Copyrights (out of 6)	**2.13**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	1
Total score – Trademarks (out of 2)	**2**

42 Calculated as the average of the term for software (50 years) and the term for all other works (75 years), divided by the baseline term of 95 years.

Enforcement	
16. Counterfeiting and piracy rates	0.44[43]
17. Civil and procedural remedies	0.5
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	1
19. Criminal standards	0.5
20. Effective border measures	0.5
Total score – Enforcement (out of 5)	**2.94**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	0
22. Singapore Treaty on the Law of Trademarks	0
23. Patent Law Treaty	0.5
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	0.5
25. FTA with substantive IP provisions signed post-TRIPS membership	0
Total score – Treaties (out of 5)	**1**
Total overall score (out of 25)	**9.57**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Introduction of basic IP framework in mid-1990s, including 20-year patent protection • *Ex officio* powers granted to customs officials under Patent and Trademark Act • Successful criminal enforcement against physical piracy in cities such as São Paulo (the "City Free of Piracy" initiative) • Relatively low score on physical counterfeiting as measured by the GTRIC-e Index	• Pharmaceutical-related patent enforcement and resolution mechanism not available • Regulatory data protection not available for human use products • Patent term extension not available • Lack of sufficient mechanism to promote cooperative action against online piracy • Inadequate DRM legislation • Challenging enforcement environment with regard to civil remedies and criminal penalties • Low rate of membership and/or ratification of major international IP treaties referenced in the GIPC index

43 Calculated as the sum of the OECD GTRIC-e Index, where Brazil ranked 98 out of 134; annual software piracy rates calculated by the BSA, where Brazil's rate is 53%; and the IFPI's measurement of music piracy, where Brazil's rate is estimated at 25–50%.

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

2. **Patentability of computer-implemented inventions:** Section 10 of the Patent and Trademark Act does not allow for the patenting of "computer models per se," as they are not considered inventions. The Brazilian Patent Office (INPI) refers to the 1998 Software Law (which provides copyright protection) as the primary basis for the protection of CIIs. However, patents have been granted in the past for CIIs, and there have been reports that INPI will provide more detailed guidelines.
4. **Fairness and transparency in the use of compulsory licensing of patented products:** The Patent and Trademark Act sections on compulsory licensing seem to extend beyond the use of this mechanism for public health emergencies that do not involve commercial consideration. Moreover, this mechanism also includes a domestic manufacturing criterion that can form the basis for issuing a compulsory license. Finally, these sections appear to have been used in the past during price negotiations with foreign pharmaceutical innovators to reduce their prices in light of the threat of approving the manufacturing of local generic version of patented medicines.
6. **Regulatory data protection term:** Regulatory data protection is currently available only for fertilizers, agrochemical products, and pharmaceuticals for veterinary use. Pharmaceuticals for human use are not covered by existing regulations.

Other Areas of Concern: The Brazilian National Health Surveillance Agency (ANVISA) has the right to provide prior consent to pharmaceutical patents that are being examined by INPI. Consequently, decisions on whether to grant a pharmaceutical patent are not solely based on examination by patent specialists and officials at INPI, but also by the health surveillance authority. While these provisions remain, it is currently unclear what ANVISA's *de facto* role is within the pharmaceutical patent examination process. Another area of concern is that INPI has a large backlog of patents (estimated at 8 to 10 years) and processing times are quite long, averaging 5.4 years.

Copyrights, Related Rights, and Limitations

9. **Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including web hosting, streaming, and linking):** The Copyright Act provides for basic exclusive rights and protection. However, deterrence and enforcement are a real concern. Brazil has high rates of software and music piracy as measured by the BSA (53%) and OECD/IFPI (25-50%) respectively.
10. **Availability of frameworks that promote cooperative action against online piracy:** Brazil does not have a notice and takedown system in place. Currently, there is some cooperation between ISPs and rights holders, but this is piecemeal, ad hoc, and not systematic.
11. **Scope of limitations and exceptions to copyrights and related rights:** The Copyright Act provides a framework for exceptions and limitations. However, there are important holes in application. For example, there is widespread unauthorized photocopying and piracy of academic materials and books. New draft copyright laws have been introduced and actively discussed since the beginning of this decade. In 2011, a draft copyright bill was presented in the Brazilian Congress. This draft bill included provisions broadening exceptions to copyright that appear incompatible with the Berne three-step test. In addition to introducing new copyright legislation, there has also

been an active legislative debate about introducing an "Internet Bill of Rights." It is not clear how such a bill would interact with the Copyright Act in its current form or in an amended version. A number of drafts of the Internet Bill of Rights have been published, and congressional voting on the bill has been postponed multiple times. At the time of research and publication of the GIPC Index, the draft copyright amendments had yet to be introduced and the Internet Bill of Rights was still being debated.

12. **Digital rights management legislation:** The Copyright Act provides a limited form of DRM legislation. Most noticeably, the legislation applies only to the use and application of circumvention devices and not to the trafficking or distribution of such devices. This is a major deficiency that has led to the proliferation of circumvention devices and widespread use and distribution of, for example, pirated video games.

Enforcement

17. **Civil and procedural remedies:** With regard to civil cases, the Brazilian justice system suffers from long processing times and high costs of litigation. According to industry sources, it can take up to four years for a case to reach trial and more than a decade to reach a final conclusion due to the long appeal process. Furthermore, there are high costs associated with litigation, particularly due to the requirement for forensic experts in copyright cases, as has been highlighted in a number of software piracy cases.

19. **Criminal standards:** Criminal enforcement as it relates to, for example, copyright infringement suffers from serious deficiencies. As mentioned above, there are long backlogs in the Brazilian justice system. Furthermore, industry reports suggest that the vast majority of those arrested on suspicion of criminal infringement never face criminal charges or prosecution, with charges either dropped or suspended. There have been isolated areas of success—for example, against physical piracy in São Paulo through the City Free of Piracy Project—but overall, criminal enforcement remains a challenge.

Membership and Ratification of International Treaties

Brazil scores low in its participation in and ratification of international treaties. In large measure, this is due to Brazil not being a contracting party to the WIPO Internet Treaties or the Singapore Treaty on the Law of Trademarks, and not having concluded an FTA with substantial IP provisions since it acceded to TRIPS. Also, while Brazil is a signatory, it has not ratified the Patent Law Treaty or the Brussels Convention.

Canada

Canada

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	1
3. Pharmaceutical-related patent enforcement and resolution mechanism	0
4. Fairness and transparency in the use of compulsory licensing of patented products	1
5. Patent term extensions for pharmaceutical products	0
6. Regulatory data protection term	0.8
7. Protection of trade secrets	1
Total score – Patents (out of 7)	**4.8**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	0.53[44]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	0.5
10. Availability of frameworks that promote cooperative action against online piracy	0
11. Scope of limitations and exceptions to copyrights and related rights	0.5
12. Digital rights management legislation	1
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	1
Total score – Copyrights (out of 6)	**3.53**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	1
Total score – Trademarks (out of 2)	**2**

44 Calculated as the minimum term (50 years), divided by the baseline term of 95 years.

Enforcement	
16. Counterfeiting and piracy rates	0.88[45]
17. Civil and procedural remedies	0.5
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	1
19. Criminal standards	0.5
20. Effective border measures	0
Total score – Enforcement (out of 5)	**2.88**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	0.5
22. Singapore Treaty on the Law of Trademarks	0
23. Patent Law Treaty	0.5
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	0
25. FTA with substantive IP provisions signed post-TRIPS membership	0
Total score – Treaties (out of 5)	**1**
Total overall score (out of 25)	**14.21**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Patentability of CIIs • New copyright amendments introduce DRM legislation • Central government ICT procurement guidelines include documentation on licensing as well as evidence of auditing taking place	• Pharmaceutical-related patent enforcement and resolution mechanism under Notice of Compliance procedure deficient • Patent term extension not available • No takedown mechanism in new ISP notification system • Poor application and enforcement of civil remedies and criminal penalties • No *ex officio* powers granted to Canada Border Services Agency officers

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

3. **Pharmaceutical-related patent enforcement and resolution mechanism:** Canada's Patented Medicines Notice of Compliance regulations do not provide patent holders (a "first person") with a right of appeal, and the judicial proceedings determining the merits of the disputed patent(s) is a summary, not full, process. This limits the rights of the patent holder and availability of the full term of protection.

45 Calculated as the sum of the OECD GTRIC-e index, where Canada ranked 113 out of 134; annual software piracy rates calculated by the BSA, where Canada's rate is 27%; and the IFPI's measurement of music piracy, where Canada's rate is estimated at less than 10%.

5. **Patent term extension:** Canada is one of only a few high-income countries that does not offer patent term extensions or alternative mechanisms for patent term restoration for pharmaceuticals.
7. **Protection of trade secrets:** Trade secrets and confidential information are not covered by federal law; however, provincial law (e.g., in Quebec) and Canadian case law provide adequate protection. There is a long tradition of case law defining both trade secrets and confidential information, as well as their application, including *R.I. Crain Ltd. v. Ashton* (1949), *Pharand Ski Corp. v. Alberta* (1991), and *Cadbury Schweppes Inc. et al. v. FBI Foods Ltd* (1999).

   Other Areas of Concern: Since the early to mid-2000s, Canadian federal courts have issued a growing number of decisions on the basis of patent utility in relation to pharmaceutical patents. In a high percentage of these cases, courts have ruled that pharmaceutical patents were invalid. The Canadian standard of utility being established through this growing case law differs from international standards, notably those used by patent offices in the U.S. and EU, as well as TRIPS.

Copyrights, Related Rights, and Limitations

9. **Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking):** In addition to standard measures on exclusive rights, the 2012 amendments to the Copyright Act, Section 27(2.3) contain clear language on how Internet-based or other digital network-based services through which infringement takes place may constitute copyright infringement. However, industry has raised concerns that this section will not be a powerful enough deterrent, as it relates only to services that are used "primarily for the purpose of enabling acts of copyright infringement."
10. **Availability of frameworks that promote cooperative action against online piracy:** The 2012 amendments to the Copyright Act contain a clear system of notification between rights holders and ISPs. However, these new amendments do not provide a takedown mechanism or equivalent obligation on the part of ISPs and providers of "information location tools."
11. **Scope of limitations and exceptions to copyrights and related rights:** The new copyright amendments have considerably broadened Canada's existing framework for exceptions, including the expansion of education and personal use exceptions. Similarly, a number of 2012 Supreme Court decisions have widened the scope of the judicial interpretation of existing exceptions, to the extent that continued compatibility with the Berne three-step test is highly questionable.
12. **Digital rights management legislation:** In a positive step, Section 41 of the new copyright amendments introduced legislation that prohibits the use, distribution, manufacture, and importation of circumvention devices.

Enforcement

17. **Civil and procedural remedies:** The Trade-marks Act, the Patent Act, and the Copyright Act make available combinations of civil remedies including injunctions, seizures, and damages. However, industry sources suggest that enforcement and prosecution against physical and online copyright infringement is lacking. Similarly, with regard to patent infringement cases, Canada has a low rate of court decisions. Between 1997 and 2009, a decision was reached in fewer than 4% of patent infringement cases.

18. **Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement:** The Copyright Act includes provisions on statutory damages for the infringement of copyright. However, the 2012 amendments to the Copyright Act have inserted a distinction between commercial and non-commercial infringement, with significantly smaller statutory damages available for non-commercial infringement. The 2012 amendments also limit to one the number of infringement cases for which a defendant can be subject to statutory damages. This same limit is also placed on the number of rights holders that can seek statutory damages from a defendant. While still technically providing a system of statutory damages, these changes may undermine the overall effectiveness and availability of statutory damages.
20. **Effective border measures:** Canadian border officials do not have *ex officio* powers to search and seize goods suspected of infringing IP rights. Under both the Copyright Act and the Trade-marks Act, a court order is required for seizure and detention of suspected goods by custom officials.

Membership and Ratification of International Treaties

Canada scores low in its participation in and ratification of international treaties. In large measure, this is due to Canada not being a contracting party to either the Singapore Treaty on the Law of Trademarks or the Brussels Convention. Canada is a signatory, but has not yet fully ratified the WIPO Internet Treaties and the Patent Law Treaty. Canada has not concluded a major FTA post-TRIPS membership that includes substantial provisions on IP rights. Current negotiations with the EU on such an FTA are not expected to be concluded in 2012. Canada is also a negotiating party to the TPP Agreement.

Chile

Chile

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	0
3. Pharmaceutical-related patent enforcement and resolution mechanism	0
4. Fairness and transparency in the use of compulsory licensing of patented products	1
5. Patent term extensions for pharmaceutical products	0.6
6. Regulatory data protection term	0.5
7. Protection of trade secrets	0.5
Total score – Patents (out of 7)	**3.6**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	0.63[46]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	0.5
10. Availability of frameworks that promote cooperative action against online piracy	0
11. Scope of limitations and exceptions to copyrights and related rights	0
12. Digital rights management legislation	0
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	0.5
Total score – Copyrights (out of 6)	**1.63**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	1
Total score – Trademarks (out of 2)	**2**

46 Calculated as the average of the term for broadcasts (50 years) and all other copyrighted works (70 years), divided by the baseline term of 95 years.

Enforcement	
16. Counterfeiting and piracy rates	0.44[47]
17. Civil and procedural remedies	0.5
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	0
19. Criminal standards	0.5
20. Effective border measures	0
Total score – Enforcement (out of 5)	**1.44**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	1
22. Singapore Treaty on the Law of Trademarks	0
23. Patent Law Treaty	0
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	1
25. FTA with substantive IP provisions signed post-TRIPS membership	1
Total score – Treaties (out of 5)	**3**
Total overall score (out of 25)	**11.67**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Legislation providing for fair and transparent use of compulsory licensing • Legal measures providing necessary exclusive rights to copyright holders and voluntary notification system • Executive order requiring the use of licensed software in government agencies • Non-discrimination/non-restrictions on the use of brands in packaging • Civil and procedural remedies in legislation	• Lack of pharmaceutical-related patent enforcement and resolution mechanism • Lack of sufficient framework to promote cooperative action against online piracy • Inadequate DRM legislation • Software and music piracy rates of more than 50% • Lack of pre-established damages • Application of civil remedies and criminal penalties insufficient • Ineffective border measures

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

3. **Pharmaceutical-related patent enforcement and resolution mechanism:** Despite committing to do so in its FTA with the U.S., Chile has not yet instituted a patent linkage mechanism. In this context, infringing products are known to be approved and resolution of patent disputes is often severely delayed. Furthermore, injunctions are difficult to obtain. The Chilean Congress is currently considering an amendment to the Industrial Property Law No. 19,039 that would introduce a fairly promising patent linkage system, including

47 Calculated as the sum of the OECD GTRIC-e index, where Chile ranked 124 out of 134; annual software piracy rates calculated by the BSA, where Chile's rate is 61%; and the IFPI's measurement of music piracy, where Chile's rate is estimated at more than 50%.

public listing of known patents relevant to new market approvals and proof in new applications that such patents are not infringed. In order for a satisfactory system to emerge, patent lists would need to be published sufficiently in advance of market approval, allowing patent holders time to respond. Were such a law to be approved and implemented, Chile's score for this indicator in future editions of the GIPC Index would increase to 1.

4. **Fairness and transparency in the use of compulsory licensing of patented products:** Provisions on compulsory licensing laid out in Law No. 19,039 are in line with the TRIPS Agreement, Article 31.
5. **Patent term extensions for pharmaceutical products:** Law No. 20,160 provides for terms of supplementary protection for certain delays in the granting of patents and market authorization for pharmaceutical products. The term can vary depending on the type and nature of the delay, ranging roughly from one to five years. Chile's score is based on the average of the possible terms.
7. **Protection of trade secrets:** Law No. 19,039 provides for the protection of trade secrets (although the due diligence obligation outlined in TRIPS Article 39(2), note 10 is missing). However, there are important holes in its application, particularly in legal proceedings. For example, trade secrets that are part of evidence in court cases are often disclosed to third parties without any penalty.

Copyrights, Related Rights, and Limitations

9. **Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking):** Law No. 17,336 provides the legal foundation for exclusive rights of copyright holders, including in the online environment. However, actual protection of these rights in the online environment is very poor. For example, industry sources suggest that Internet piracy is around 90 percent of all music consumption.
10. **Availability of frameworks that promote cooperative action against online piracy:** Chile's notice and takedown procedure does not meet the requirements of its FTA with the U.S. In particular, ISPs are only required to remove infringing content if they are ordered by a court, not simply by notice from a rights holder. In light of the fact that the rate of prosecution is low, the ability of rights holders to benefit from the takedown system is quite limited. In addition, although Law No. 20,435 introduced a voluntary system under which ISPs are to forward notices from rights holders to suspected infringers, ISPs have thus far shown little responsiveness to rights holders or courts.
11. **Scope of limitations and exceptions to copyrights and related rights:** Although Chilean law provides for many standard exceptions and limitations to copyright protection, certain exceptions go beyond what is permitted in the U.S.-Chile FTA. First, the exception for reverse engineering is not restricted to achieving interoperability, but also includes activities that potentially go beyond the Berne three-step test, such as operating a program, improving other products, and engaging in research and development. Furthermore, the reproduction of library-owned digital works in their entirety is permitted, without ensuring against further use or distribution of copied works.
12. **Digital rights management legislation:** Despite ratification of the WIPO Internet Treaties and the U.S.-Chile FTA, copyright law still only protects against circumvention of, or interference with, DRM by ISPs. Circumvention by other parties is not illegal, nor is the manufacture, distribution, and sale of circumvention devices.

13. **Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software:** *Instructions for the Development of the Electronic Government* (Decree No. 905), an executive order issued in 2001, included guidelines requiring that software products used by government departments be properly licensed. Implementation is mixed, however; certain government units regularly purchase and license software they use, but across public agencies there is generally a low awareness of the need to pay for software licenses, and in some cases, evidence of blatant software piracy exists.

Enforcement

17. **Civil and procedural remedies:** Law No. 20,435 provides standard remedies for civil infringement cases (although entities are able to learn about raids beforehand, which hampers the ability to seize and/or destroy infringing goods). Application of certain remedies is limited due to a general reluctance to prosecute and hand down sentences; in part this is due to a lack of training and familiarity with IP rights within the judiciary. In addition, injunctions are difficult to obtain in key areas, such as when pharmaceutical patents are at issue.
19. **Criminal standards:** Chilean law provides for standard criminal penalties for IP rights infringement. However, for some areas of infringement, minimum criminal penalties are quite low and are typically what is sanctioned by courts. Furthermore, it is common for courts to treat IP infringement, particularly copyright piracy, as a business dispute or misdemeanor rather than a crime, and for sentences to involve community service and/or probationary periods, rather than criminal penalties.
20. **Effective border measures:** Law No. 19,912 gives customs officials *ex officio* authority to detain goods entering Chile, but only for five days, after which a formal seizure order is required to retain the goods; such a short period is inadequate for assessing whether goods are infringing. The law is ambiguous concerning goods in transit and whether they may be suspended or seized; in practice, Chile is a key entry point for the South American market for physical pirated goods coming from Southeast Asia, including blank optical disc media.

Membership and Ratification of International Treaties

Chile scores in the medium range in its participation and implementation of international treaties, mainly due to its FTA with the U.S. (signed and ratified in 2003), in which it also committed to ratifying the Brussels Convention on broadcasting. Chile has also signed and ratified the WIPO Internet Treaties (in 1996 and 2001, respectively). However, its implementation of aspects of both the FTA and WIPO Internet Treaties remains extremely deficient, reflected in its low scores for indicators on pharmaceutical patent enforcement and adjudication, cooperative mechanisms aimed at online piracy, and DRM. Chile is also a negotiating party to the TPP Agreement.

China

China

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	1
3. Pharmaceutical-related patent enforcement and resolution mechanism	0
4. Fairness and transparency in the use of compulsory licensing of patented products	1
5. Patent term extensions for pharmaceutical products	0
6. Regulatory data protection term	0.6
7. Protection of trade secrets	0
Total score – Patents (out of 7)	**3.6**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	0.53[48]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	0.5
10. Availability of frameworks that promote cooperative action against online piracy	0
11. Scope of limitations and exceptions to copyrights and related rights	0
12. Digital rights management legislation	0
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	0.5
Total score – Copyrights (out of 6)	**1.53**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	1
Total score – Trademarks (out of 2)	**2**

48 Calculated by dividing the term of protection for citizens' works and all other types of copyrighted works (50 years) by the baseline term of 95 years.

Enforcement	
16. Counterfeiting and piracy rates	0[49]
17. Civil and procedural remedies	0.5
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	0
19. Criminal standards	0
20. Effective border measures	0
Total score – Enforcement (out of 5)	**0.5**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	1
22. Singapore Treaty on the Law of Trademarks	0.5
23. Patent Law Treaty	0
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	0
25. FTA with substantive IP provisions signed post-TRIPS membership	0
Total score – Treaties (out of 5)	**1.5**
Total overall score (out of 25)	**9.13**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Patentabililty of CIIs • Fairness and transparency in the use of compulsory licensing of patented products • Ongoing implementation of policies requiring proprietary software used on government ICT systems to be licensed • Demonstrated ability to launch nationwide enforcement campaigns against counterfeiting and piracy activities in specific sectors • Government interest in effectiveness and efficiency in handling of IP disputes • Signatory to the Singapore Treaty on the Law of Trademarks	• Very little protection of trade secrets • Insufficient pharmaceutical-related patent enforcement and resolution mechanism • Patent term extensions for pharmaceutical products not available • Legal measures preventing online copyright infringement limited and ineffective • Persistently high rates of physical and digital piracy • Inability to effectively stop persistent ongoing infringement at retail and wholesale markets • Relatively low amounts of civil damages awarded by courts in IP cases • Inconsistent criminal prosecution against counterfeiters in many industry sectors • Not a contracting party to major international treaties referenced in the GIPC index.

49 Calculated as the sum of the OECD GTRIC-e index, where China ranked 1 out of 134; annual software piracy rates calculated by the BSA, where China's rate is 77%; and the IFPI's measurement of music piracy, where China's rate is estimated at more than 50%.

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

2. **Patentability of computer-implemented inventions:** Although the Patent Law excludes rules and methods for intellectual activities, SIPO Examination Guidelines provide a framework for granting patents to software, as long as it is designed to solve a technical problem, adopts technical means, or has a technical effect.
3. **Pharmaceutical-related patent enforcement and resolution mechanism:** The Drug Registration Regulation provides for a basic process of patent linkage. Overall, though, the current system does not represent an effective, timely, or transparent adjudication mechanism. Under the regulation, applicants for market authorization must include patent status information for relevant patents, and the State Food and Drug Administration (SFDA) must publish this information as well as act as liaison between applicants and patent holders in cases of patent disputes. However, there is no time frame within which the SFDA must act. Furthermore, in practice patent information on the SFDA website is often incomplete or inaccurate, and when faced with infringement issues the SFDA tends to take a highly passive approach (based in part on the Bolar exemption introduced in 2009).
4. **Fairness and transparency in the use of compulsory licensing of patented products:** In 2012, China amended its patent law to bring measures on compulsory licensing fully into line with the TRIPS Agreement. To date, the Chinese government has not issued a compulsory license, nor has it publicly threatened to do so in the context of the updated law.
7. **Protection of trade secrets:** Although several different laws provide for some degree of trade secret protection (including the Anti-Unfair Competition, Labor and Criminal Laws), the current legal system in China has not afforded effective protection for trade secrets. In particular, a high burden of proof that a given piece of information is a trade secret is required in order for prosecution to commence; prosecutions are often severely delayed or thrown out without concluding; sentencing occurs infrequently; and penalties tend to be insignificant. For example, on average only 30% of trade secret cases brought in the Shanghai Higher People's Court reach conclusions, and fewer than half result in findings of infringement. Also, lag times of more than a year in recent key lawsuits, such as those involving American Superconductor and Chinese turbine-maker Sinovel, and Corning and Heibei Dongxu Investment Group, reflect some challenges within the judicial system.

Copyrights, Related Rights, and Limitations

9. **Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking):** Chinese law provides much of the necessary legal foundation for the exclusive rights of copyright holders, including in the online environment. There are, however, exceptions for personal use that are somewhat broad and nebulous, and the right to transmit, and particularly to retransmit live programming over the Internet, is weak. Furthermore, unconventional and pervasive file-sharing techniques (such as deep-linking), a poor effort to build cases against suspected infringers, overly lenient assessment of the impact of an infringement, and in some cases a blatant lack of response from administrative and judicial authorities have resulted in inconsistent protection of exclusive rights online. Chinese judges

are often hesitant to hold parties liable for secondary infringement. China has made some attempt at creating a new legal framework through judiciary guidance to improve enforcement in this field, which, when issued, may have positive effects.

10. **Availability of frameworks that promote cooperative action against online piracy:** Although the Network Regulations and the Joint Tort Liability Law outline a basic safe harbor and notice and takedown system, they both involve a great deal of ambiguity. Key issues, such as what constitutes notification, knowledge of infringement, and timely response, are not dealt with consistently in practice. Proposed amendments to the Copyright Law and a draft Judicial Interpretation currently under consideration would considerably strengthen China's notice and takedown provisions. Specifically, the new measures would clarify the accountability of ISPs based on the service provided; introduce a more specific and higher threshold for knowledge of infringement, including "red flag" activities; and importantly, require an expeditious takedown of infringing material/activity.
11. **Scope of limitations and exceptions to copyrights and related rights:** Exceptions to copyright (found in the Copyright Law and Network Regulations) are not well set out and are often misunderstood or abused. In particular, the language on several exceptions could be applied in a way that is beyond the Berne three-step test, including exceptions for personal use, state organs and newspapers or periodicals, and library digital services. In practice, there are many cases of wrongful use, and little or no response from authorities. For instance, document delivery services provided by state-run libraries have been affiliated with websites providing pirated journal articles. There are also cases of television programs or websites running long portions of films or other works without permission. However, in a positive step, proposed amendments to the copyright law would exclude use of the main or substantive part of works by the media.
12. **Digital rights management legislation:** The protection of DRM is currently only partial and ambiguous. Although both the acts of using and dealing with circumvention devices are prohibited in the Network Regulations, they are superseded by the Copyright Law, which only bans the act of circumvention (as long as it is intentional) and not the manufacture, importation, distribution, and sale of circumvention devices. Proposed amendments to the Copyright Law include a special chapter dealing with this area and may generate substantial progress if they are passed.
13. **Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software:** Under the 2011 terms of the U.S.-China Joint Commission on Commerce and Trade (JCCT), China committed to ensure that all types of software used by government agencies are licensed, to conduct audits and inspections of agencies, and to publish the results. The Chinese government also agreed that this would occur in provincial governments by mid-2012 and in municipal and county governments by the end of 2013. In 2012, the China Copyright Protection Center carried out a pilot legalization program, including random audits. It reports that thus far under the program improper use of software has been resolved in 31 national and provincial agencies, and in 30% of county governments and 20% of municipal governments; around $157 million has been spent on close to 159,000 operating system licenses and 506,600

copies of office software; and a centralized system for procuring software has been introduced. A large number of cities and counties remain unaudited and corrected. There is a pressing need for a commitment to include these measures in an ongoing process and not just a one-time effort, as well as to address improper use of software by state-owned enterprises. Fulfilling its remaining commitments under the JCCT would potentially raise China's score for this indictor in future editions of the GIPC Index to a full score of 1.

Trademarks, Related Rights, and Limitations

14. **Trademarks term of protection (renewal periods):** Chinese law provides for the standard 10-year term of protection (with renewal available every 10 years). However, the actual registration of trademarks and associated protection involves challenges, particularly for small and medium-sized foreign companies. These include lengthy delays in examination of trademark applications (one to two years) and difficulty in obtaining registration. Chinese trademark authorities and courts are often reluctant to find bad faith in obvious squatting activities. Furthermore, if a trademark is not well-known in China, it is not afforded the same level of protection as that given to well-known trademarks.

Enforcement

17. **Civil and procedural remedies:** Chinese law contains standard civil remedies through both administrative and judicial channels. Administrative remedies offer expeditious handling of cases but result in minor penalties. Judicial channels are slower but offer a prospect of greater remedies. Very often IP owners are not satisfied with the deterrence of civil remedies and are frustrated at the failure of the courts to grant evidence preservation orders and injunctive relief. Recent cases reflect these elements, including those against search engine Sogou, download manager Xunlei, pirated journal service KJ Med, and two Beijing IT companies accused of installing pirated software packages on client computers.
18. **Pre-established damages:** Currently, the statutory damages provided in the Copyright Law are inadequate and do not reflect the full economic implications for the rights holder. Passing the most recent proposed amendments to the law (July 2012) would, however, improve the score; the amendments would double pre-established damages to RMB 1 million ($150,000), and would allow two to three times that for repeat, willful infringers.
19. **Criminal standards:** Standards for criminal penalties are insufficient, particularly in the Copyright Law. The threshold for determining liability (as set out in Promulgated Opinions of the Supreme People's Court in 2011), which has been lowered compared to previous levels, is still excessive and causing difficulties in the ability to prosecute counterfeiters. In the area of piracy, the threshold and the "for profit" requirement make it very difficult to prosecute online infringement and, importantly, the Chinese police and prosecutors refuse to prosecute enterprises that use pirated software. Government officials have indicated there will be an effort to lower and possibly eliminate the criminal threshold in the amendments to the Criminal Code. If this is carried out, it would raise China's score for this indicator in future editions of the GIPC Index. Furthermore, criminal enforcement is lacking in its ability to prosecute counterfeiters. With regard to pharmaceuticals, Chinese police have begun to prioritize cracking down on counterfeit drug makers, but unregistered

chemical factories that produce illegal active pharmaceutical ingredients for medicinal uses have caused serious threats to patients.

20. **Effective border measures:** Chinese officials have made strides to improve the IP enforcement environment at Chinese borders, including making permanent the 2010 Special IP Rights Campaign, but a number of concerns persist. Under customs law and guidelines, it is unclear whether an IP right must be recorded with the General Administration of Customs in order for customs officials to act against suspected goods. There is also a great deal of inconsistency across different customs bodies. Overall, however, officials rarely detain goods unless they are registered. In relation to rights that are registered, customs may examine and detain imported goods that are bound for other countries, but sufficient evidence exists to indicate that customs enforcement has not reached a level at which it can prevent the transshipment of counterfeited goods.

Membership and Ratification of International Treaties

China has signed the Singapore Treaty on the Law of Trademarks, although it has not yet ratified the treaty. Generally speaking, however, China scores quite low in terms of its commitment to international treaties. It has not signed an FTA with substantive IP provisions, nor has it signed the Patent Law Treaty or the Brussels Convention.

India

India

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	0
3. Pharmaceutical-related patent enforcement and resolution mechanism	0
4. Fairness and transparency in the use of compulsory licensing of patented products	0
5. Patent term extensions for pharmaceutical products	0
6. Regulatory data protection term	0
7. Protection of trade secrets	0
Total score – Patents (out of 7)	**1**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	0.47[50]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	0.5
10. Availability of frameworks that promote cooperative action against online piracy	0
11. Scope of limitations and exceptions to copyrights and related rights	0
12. Digital rights management legislation	0
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	0.5
Total score – Copyrights (out of 6)	**1.47**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	1
Total score – Trademarks (out of 2)	**2**

50 Calculated as the average of the term for broadcasting rights (25 years); performer's rights (50 years); and literary, artistic and musical works (60 years), divided by the baseline term of 95 years.

Enforcement	
16. Counterfeiting and piracy rates	0.22[51]
17.Civil and procedural remedies	0.5
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	0
19. Criminal standards	0.5
20. Effective border measures	0.5
Total score – Enforcement (out of 5)	**1.77**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	0
22. Singapore Treaty on the Law of Trademarks	0
23. Patent Law Treaty	0
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	0
25. FTA with substantive IP provisions signed post-TRIPS membership	0
Total score – Treaties (out of 5)	**0**
Total overall score (out of 25)	**6.24**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Basic IP framework introduced in mid-2000s, including 20-year patent protection[52] • *Ex officio* powers introduced in 2007 for the deputy and assistant commissioners of customs	• Regulatory data protection not available • Patent term extension not available • Use of compulsory licensing for commercial and non-emergency situations • Limited takedown mechanism in new ISP notification system • Limited DRM legislation • High levels of software piracy, music piracy, and counterfeit goods • Poor application and enforcement of civil remedies and criminal penalties • No civil statutory damages available for copyright infringement • Not a contracting party to any of the major international IP treaties referenced in the GIPC Index

51 Calculated as the sum of the OECD GTRIC-e index, where India ranked 48 out of 134; annual software piracy rates calculated by the BSA, where India's rate is 63%; and the IFPI's measurement of music piracy, where India's rate is estimated at more than 50%.

52 Recent actions by the Indian authorities appear to undermine the introduction of basic patent protection to India in the mid-2000s. Apart from the issuing of compulsory licenses outside the essential facilities doctrine (see discussion below), the Delhi Patent Office has also recently revoked the patent for the drug Sutent. This revocation was in response to a post-grant opposition and based on an alleged lack of inventive step. The Supreme Court has ordered the patent office to re-review the case and at the time of publication of this report a judgement is still pending in the patent office. The drug is currently under patent in the United States Furthermore, the issue of Section 3(D) of the Indian Patent Act, including criteria by which a number of pharmaceutical patents have not been granted based on a lack of inventive step, is a significant challenge and also undermines the 2005 TRIPS-related patent reforms.

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

3. **Pharmaceutical-related patent enforcement and resolution mechanism:** A 2010 Delhi High Court ruling and a subsequent Supreme Court confirmation of that ruling (*Bayer v. UOI & Cipla*) established a clear judicial precedent that Indian marketing authorities are not obliged to consider the patent status of a reference product when a generic is seeking market authorization.
4. **Fairness and transparency in the use of compulsory licensing of patented products:** Indian authorities have recently granted a compulsory license on the basis of the high cost and lack of importation and supply ("non-working") of the cancer drug Nexavar.
7. **Protection of trade secrets:** Indian law does not provide strong or specific protection for trade secrets or confidential information. The current applicable statute is the 1872 Contract Act. Common law does provide a measure of protection, and there is some judicial precedent. However, because legal redress through the Indian justice system is a long and arduous process, it is difficult to secure even this measure of protection. In addition, Indian law does not provide for closed proceedings in relation to the trade secret or confidential information, which can thus be made public during the course of litigation.

Copyrights, Related Rights, and Limitations

10. **Availability of frameworks that promote cooperative action against online piracy:** Indian law is not clear as to the availability and requirements of a notice and takedown system. Specifically, the 2000 Information Technology Act, 2008 amendments, and the 2011 Information Technology (Intermediaries Guidelines) Rules appear to be in conflict with the 2012 Copyright Act amendments. The former put forward relatively clear guidelines and requirements of expeditious removal of infringing material. The latter, conversely, only requires removal for a period of 21 days, with a court order required for any further action.
11. **Scope of limitations and exceptions to copyrights and related rights:** The 2012 Copyright Act amendments have broadened India's exceptions in a manner that seems to be incompatible with the Berne three-step test, specifically the expansion of the private use exception to "private and personal" use.
12. **Digital rights management legislation:** The 2012 copyright amendments included measures relating to DRM; however, these measures allow broad exceptions and do not cover the import and distribution of circumvention equipment.

Enforcement

17. **Civil and procedural remedies:** India provides rudimentary civil and procedural remedies under its Copyright, Trademarks, and Patent Acts. However, their availability and enforcement remain weak.
19. **Criminal standards:** Criminal standards are in place in both the Copyright Act and Trade Marks Act. However, their application and enforcement remain weak.
20. **Effective border measures:** Under the 2007 Notification 47 from India's Department of Revenue, deputy and assistant customs commissioners may suspend the clearance of goods when there are reasonable grounds to believe that the goods in question infringe IP rights. With regard to goods in transit, the Copyright Act amendments (2012) explicitly exclude goods in transit from being treated as prohibited goods.

Membership and Ratification of International Treaties

India is not a contracting party to any of the international treaties included in the GIPC Index, nor has India concluded an FTA with substantial IP provisions since acceding to the TRIPS Agreement. Current negotiations with the EU on an FTA are not likely to be concluded before the end of 2012.

Malaysia

Malaysia

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	0
3. Pharmaceutical-related patent enforcement and resolution mechanism	0
4. Fairness and transparency in the use of compulsory licensing of patented products	0
5. Patent term extensions for pharmaceutical products	0
6. Regulatory data protection term	0.5
7. Protection of trade secrets	0.5
Total score – Patents (out of 7)	**2**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	0.53[53]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	0.5
10. Availability of frameworks that promote cooperative action against online piracy	1
11. Scope of limitations and exceptions to copyrights and related rights	0.5
12. Digital rights management legislation	1
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	0.5
Total score – Copyrights (out of 6)	**4.03**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	1
Total score – Trademarks (out of 2)	**2**

53 Calculated by dividing the minimum term of protection of 50 years by the baseline term of 95 years.

Enforcement	
16. Counterfeiting and piracy rates	0.22[54]
17. Civil and procedural remedies	0.5
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	1
19. Criminal standards	0.5
20. Effective border measures	0
Total score – Enforcement (out of 5)	**2.22**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	1
22. Singapore Treaty on the Law of Trademarks	0
23. Patent Law Treaty	0
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	0
25. FTA with substantive IP provisions signed post-TRIPS membership	0
Total score – Treaties (out of 5)	**1**
Total overall score (out of 25)	**11.25**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Recently introduced five years of regulatory data protection for pharmaceuticals • Notice and takedown legislation passed in 2012 • DRM legislation passed in 2012 • Statutory civil damages introduced in the amendments to the Copyright Act (2012) • Acceded to the WIPO Internet Treaties	• CIIs not viewed as patentable • No pharmaceutical-related patent enforcement and resolution mechanism • Compulsory licensing used as basis for price negotiations in 2004 • Patent term extension not allowed • High rates of counterfeiting and software and music piracy • Enforcement against piracy remains challenging • *Ex officio* powers not used by customs officials

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

4. **Fairness and transparency in the use of compulsory licensing of patented products:** The Patents Act sections on compulsory licensing seem to extend beyond the use of this mechanism for public health emergencies that do not involve commercial consideration. They include a domestic manufacturing criteria as well as criteria based on pricing, which can form the basis for the grant of a compulsory license. Finally, these sections appear to have been used in the past during price negotiations with foreign pharmaceutical innovators to reduce their prices in light of the threat of approving the manufacturing of a local generic version of patented medicines.

54 Calculated as the sum of the OECD GTRIC-e index, where Malaysia ranked 17 out of 134; annual software piracy rates calculated by the BSA, where the Malaysia's rate is 55%; and the IFPI's measurement of music piracy, where Malaysia's rate is estimated at 25–50%.

5. **Patent term extensions for pharmaceutical products:** Malaysia does not currently allow patent term extensions for pharmaceutical products.
7. **Protection of trade secrets:** Malaysian law on trade secrets and the protection of confidential information is not codified. Instead, it is guided by case law, and only civil remedies are available. Recent Malaysian High Court rulings (such as in the 2011 case *Soon Seng Palm Oil Mill et al v. Jang Kim Luang@Yeo Kim Luang et al.*) suggest that confidential information and trade secrets are reasonably protected.

Copyrights, Related Rights, and Limitations

10. **Availability of frameworks that promote cooperative action against online piracy:** The new 2012 Copyright Act amendments introduced a robust and balanced system of notice and takedown.
11. **Scope of limitations and exceptions to copyrights and related rights:** The new 2012 Copyright Act amendments have strengthened and clarified Malaysia's exceptions by introducing four new criteria for determining whether a dealing should be considered fair.
12. **Digital rights management legislation:** The 2012 Copyright Act amendments also included new measures relating to DRM that prohibit the use, sale, distribution, and trafficking of circumvention devices.
13. **Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software:** Software procurement is guided by Treasury Circular BIL 8 2011 issued by the Malaysian Treasury. While these guidelines do not explicitly state that all software procured must be licensed, they do require all software procured to be from agents/suppliers registered with the Treasury or with letters of appointment and authorization from the owner of the software. This circular also requires all purchases to be logged into the Government Procurement Information System by the controlling officer and/or head of the government agency. In addition, these officials are required to ensure that all stated conditions within the circular are met. However, it is not clear whether these requirements are actively being applied or enforced.

Enforcement

17. **Civil and procedural remedies and**
19. **Criminal standards:** The 2012 amendments to the Copyright Act introduced statutory civil damages, thus improving the remedies available to plaintiffs in cases of copyright infringement. Existing law also provides minimum criminal standards of fines and prison sentences for copyright infringement. Enforcement activities have intensified, particularly in the online sphere and against software piracy, where the Enforcement Division of the Ministry of Domestic Trade, Co-operatives and Consumerism has been active with a number of raids in 2012. However, overall enforcement against online and physical piracy remains a challenge.
20. **Effective border measures:** Malaysian customs officials are granted *ex officio* powers through the Trademark Act. However, practice and evidence from the legal community suggest that these powers are not being used to their full effect. Under the Trademark Act, customs officials cannot seize counterfeit goods in transit.

Membership and Ratification of International Treaties

Malaysia recently acceded to the WIPO Internet Treaties. However, Malaysia has neither signed nor ratified nor acceded to any of the other international treaties included in the GIPC Index. It is currently in negotiations for two FTAs that are set to include substantial IP provisions: the TPP Agreement and a Malaysia-EU FTA.

Mexico

Mexico

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	0
3. Pharmaceutical-related patent enforcement and resolution mechanism	0
4. Fairness and transparency in the use of compulsory licensing of patented products	1
5. Patent term extensions for pharmaceutical products	0
6. Regulatory data protection term	0.5
7. Protection of trade secrets	0.5
Total score – Patents (out of 7)	**3**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	0.79[55]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	0.5
10. Availability of frameworks that promote cooperative action against online piracy	0
11. Scope of limitations and exceptions to copyrights and related rights	0.5
12. Digital rights management legislation	0
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	0.5
Total score – Copyrights (out of 6)	**2.29**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	1
Total score – Trademarks (out of 2)	**2**

55 Calculated as the average of the term of an author's economic rights (100 years), the term for sound recordings and performances (75 years), and the term for video recordings and broadcasts (50 years), divided by the baseline term of 95 years.

Enforcement	
16. Counterfeiting and piracy rates	0.44[56]
17.Civil and procedural remedies	0.5
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	1
19. Criminal standards	0.5
20. Effective border measures	0
Total score – Enforcement (out of 5)	**2.44**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	1
22. Singapore Treaty on the Law of Trademarks	0.5
23. Patent Law Treaty	0
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	1
25. FTA with substantive IP provisions signed post-TRIPS membership	0
Total score – Treaties (out of 5)	**2.5**
Total overall score (out of 25)	**12.23**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Fair and transparent use of compulsory licensing • Regulatory data protection for chemical-based pharmaceutical products introduced in 2012 • Use of licensed software in government agencies • Standard civil and criminal remedies • Pre-established damages for copyright infringement • Signatory to WIPO Internet Treaties and Brussels Convention	• Lack of patent term extension for pharmaceutical patents • Insufficient prosecution of trade secret violations • Lack of sufficient framework to promote cooperative action against online piracy • DRM legislation only applies to computer programs • Software and music piracy rates of more than 50% • Poor application of civil remedies and criminal penalties • Ineffective border measures

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

3. **Pharmaceutical-related patent enforcement and resolution mechanism:** While a 2003 presidential decree introduced a basic patent linkage system, it does not represent a transparent pathway because the patent holder receives no notification of infringing issues and is not formally involved in the adjudication process. In addition, the regulatory pathway is

56 Calculated as the sum of the OECD GTRIC-e index, where Mexico ranked 107 out of 134; annual software piracy rates calculated by the BSA, where Mexico's rate is 57%; and the IFPI's measurement of music piracy, where Mexico's rate is estimated at more than 50%.

currently limited to substance patents only; formulation or use patents are not included. In practice, resolution of patent disputes (for substance patents) is delayed and often ineffective.

4. **Fairness and transparency in the use of compulsory licensing of patented products:** Provisions on compulsory licensing laid out in Mexican law are in line with the TRIPS Agreement, Article 31.
6. **Regulatory data protection term:** Health regulator COFEPRIS published guidelines in June 2012 that provide protection against use of undisclosed test data by any person for the purpose of marketing approval for a maximum of five years. This protection is only afforded for new chemical entities. Concerns remain as to implementation generally as well as whether or not the guidelines will be applied to biologics.
7. **Protection of trade secrets:** The protection of trade secrets is provided in the Industrial Property Law and the Federal Criminal Code. However, in practice, the rate of prosecution of trade secret violations is extremely low. Security experts report that although 1 out of 10 companies in Mexico has suffered from industrial espionage, 97% of cases go unpunished. Of the cases that are brought to authorities, only 56% result in damages or fines.

Copyrights, Related Rights, and Limitations

9. **Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking):** The Federal Law on Copyright sets out exclusive right of reproduction, public transmission, use, distribution, and sale. In practice, online piracy is most rampant in the areas of peer-to-peer, linking sites, illicit cyberlockers, and social networks. As long as these platforms are non-commercial, they are not generally prosecuted. Proposed reforms have so far not been successful. These include the Döring Act (2012), which sought to introduce a warning system for users and raise penalties to more deterrent levels.
11. **Scope of limitations and exceptions to copyrights and related rights:** The Federal Law on Copyright provides relatively standard fair use limitations on copyright, including for quotation or illustration (short fragments), scientific research, use by educational institutions, and private or temporary use. However, there are important holes in application. For instance, the publishing industry cites widespread unauthorized photocopying of academic materials, and there is no indication that this practice has been addressed in the courts.
13. **Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software:** Although certain department-specific policies requiring use of licensed software exist, no formal policy is in place across the federal government. Nevertheless, data from the Tax Administration Service show that annual updating of licenses for key software occurs.

Enforcement

17. **Civil and procedural remedies:** The Industrial Property and Copyright Laws provide standard civil remedies for civil infringement, including injunctions, damages, and destruction of goods. However, application of these provisions is lacking. Industry sources suggest that severe delays occur in obtaining relief, such that they are often ineffectiveand that counterfeit goods marked for destruction frequently end up re-entering the market.

19. **Criminal standards:** The Industrial Property and Copyright Laws and the Criminal Code outline standard fines and terms of imprisonment for criminal infringement, the upper ends of which can be considered sufficiently deterrent. In spite of this, in practice actual prosecution and sentencing are rare and in cases where it takes place, the penalties incurred are too low to be deterrent.

Membership and Ratification of International Treaties

Mexico has signed and ratified the WIPO Internet Treaties and the Brussels Convention. However, overall Mexico scores fairly low in its participation in and implementation of international treaties. This is partly because it is not a contracting party to the Patent Law Treaty and has only signed, but not ratified, the Singapore Treaty on the Law of Trademarks. Furthermore, Mexico's free trade agreements with various trading partners, including the United States and Canada (North American Free Trade Agreement), the EU, and Japan, came into force prior to its membership in the TRIPS Agreement or contain only very general and brief IP provisions. Additionally, there is concern over the lack of implementation of commitments made under the WIPO Internet Treaties, including inadequate DRM legislation and absence of a mechanism promoting cooperative action against online piracy. Mexico is also a negotiating party to the TPP Agreement.

Russia

Russia

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	0
3. Pharmaceutical-related patent enforcement and resolution mechanism	0
4. Fairness and transparency in the use of compulsory licensing of patented products	0
5. Patent term extensions for pharmaceutical products	1
6. Regulatory data protection term	0.6
7. Protection of trade secrets	0
Total score – Patents (out of 7)	**2.6**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	0.74[57]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	0.5
10. Availability of frameworks that promote cooperative action against online piracy	0
11. Scope of limitations and exceptions to copyrights and related rights	0
12. Digital rights management legislation	0
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	0
Total score – Copyrights (out of 6)	**1.24**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	1
Total score – Trademarks (out of 2)	**2**

57 Calculated by dividing the minimum term of protection of 70 years by the baseline term of 95 years.

Enforcement	
16. Counterfeiting and piracy rates	0.33[58]
17. Civil and procedural remedies	0
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	0
19. Criminal standards	0.5
20. Effective border measures	0.5
Total score – Enforcement (out of 5)	**1.33**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	1
22. Singapore Treaty on the Law of Trademarks	1
23. Patent Law Treaty	1
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	1
25. FTA with substantive IP provisions signed post-TRIPS membership	0
Total score – Treaties (out of 5)	**4**
Total overall score (out of 25)	**11.17**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Contracting party to all international treaties included in the GIPC Index • Patent term extension offered for pharmaceutical products • *Ex officio* powers for customs officials	• Regulatory data protection not implemented • Protection of trade secrets and confidential information weak • No framework for promoting cooperative action against online piracy • Limited DRM legislation • High levels of software and music piracy • Poor application and enforcement of civil remedies and criminal penalties

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

2. **Patentability of computer-implemented inventions:** The Civil Code Part IV does not consider computer programs an invention, and they are thus not patentable under the Act. The Administrative Regulations formulated by the Russia Patent Office mirror the Civil Code and do not provide a broader interpretation. There are, however, a number of examples of patents being issued for computer-implemented inventions, such as software-based technologies that, for example, perform image scanning. Overall, the existing legal framework and *de facto* practice are not clear and consistent.

58 Calculated as the sum of the OECD GTRIC-e index, where Russia ranked 77 out of 134; annual software piracy rates calculated by the BSA, where Russia's rate is 63%; and the IFPI's measurement of music piracy, where Russia's rate is estimated at more than 50%.

6. **Regulatory data protection term:** Under its WTO commitments and the 2010 Law of Medicines, Russia has committed to implementing a regulatory data protection term of six years. This would be a very positive step and significantly strengthen the existing framework and protection mechanisms for pharmaceutical innovation. However, there are currently concerns about the lack of progress in implementing this commitment and developing a fully functioning form of RDP.
7. **Protection of trade secrets:** The Civil Code Part IV provides general as well as specific protection of trade secrets and confidential information, including damages. However, given the very high levels of industrial espionage, as estimated by the U.S. government and intelligence agencies around the world, the actual protection afforded appears to be very weak.[59]

Copyrights, Related Rights, and Limitations

10. **Availability of frameworks that promote cooperative action against online piracy:** The Civil Code Part IV does not include a notice and takedown system. There have been ongoing discussions about draft legislation on a notice and takedown system. The Russian Duma is currently debating bill No. 47538-6, "on amendments to parts I, II, III and IV of the Russian Civil Code, and to individual acts of legislation of the Russian Federation." This draft legislation includes definitions of the responsibilities of ISPs as well as other Internet "operators." Under this draft legislation, both ISPs and operators would have a responsibility to remove and take down infringing material. In the absence of legislation and a clear regulatory framework, current legal precedent is mixed on the subject of ISPs' responsibilities. A 2008 ruling by the Supreme Arbitration Court (No. 10962) suggests that ISPs are limited in their responsibilities relating to the posting of infringing material. Conversely, the 2010 *First Music Publishing v. Rambler* ruling found the Internet portal Rambler liable for allowing the uploading of an infringing item as well as not doing enough to prevent the dissemination of the material.
11. **Scope of limitations and exceptions to copyrights and related rights:** The exceptions in place in the Civil Code Part IV are incompatible with the Berne three-step test. Specifically, the exception relating to personal use in Article 1273 is very broad and could potentially be used to justify non-commercial online infringement. In addition, Article 1229 places potential restrictions on a right holder's exclusive rights.
12. **Digital rights management legislation:** The Civil Code Part IV contains specific language and articles relating to technical protection measures. However, there are significant weaknesses in this language. For instance, it is not clear that the potential for the provision of circumvention services is effectively eliminated. Nor is it clear that remedies are available for violations relating to circumvention independent of other offenses.

Enforcement

17. **Civil and procedural remedies:** Russia does provide rudimentary civil and procedural remedies under the Civil Code Part IV, as well as the Code of Administrative Offences. However, the availability and enforcement of these remedies remain weak. For instance,

59 See, for example, Office of the National Counterintelligence Executive (2011), *Foreign Spies Stealing US Economic Secrets in Cyberspace – Report to Congress on Foreign Economic Collection and Industrial Espionage 2011* (U.S. Government Printing Office); and the *New York Times*, "Traveling Light in a Time of Digital Thievery," February 10, 2012.

injunctions are difficult to obtain. Furthermore, with regard to patent infringement cases, patentees have a relatively low rate of success.

18. **Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement:** The Civil Code Part IV Article 1301 provides statutory damages of 10,000 to 5 million rubles (to be determined by a court) in cases of copyright infringement. However, the evidence on the ground suggests that actual damages awarded are relatively small. For example, in two instances in 2012 the social networking site VKontakte was found guilty of copyright infringement. The first verdict was handed down by the 13th Commercial Court of Appeal and the second by the Arbitration Court of St. Petersburg. In the first trial the damages awarded were 210,000 rubles. Although this more than doubled in the subsequent trial to 550,000 rubles, it is still far below the maximum of 5 million.
19. **Criminal standards:** Criminal standards are in place in the Criminal Code. However, their application and enforcement remain weak in relation to both physical piracy and, in particular, online piracy. Moreover, under Russian criminal law, corporations are not criminally liable and cannot be prosecuted for infringement.

Membership and Ratification of International Treaties

Russia is a contracting party and has signed and acceded to all of the international treaties included in the GIPC Index. However, full implementation and enforcement of the obligations enshrined in these treaties is lacking, in particular the WIPO Internet Treaties. Since Russia has only become a member of the WTO (and thus a TRIPS signatory) in 2012, it has not concluded any FTA with substantial IP provisions subsequent to WTO/TRIPS accession.

United Kingdom

United Kingdom

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	1
3. Pharmaceutical-related patent enforcement and resolution mechanism	0.5
4. Fairness and transparency in the use of compulsory licensing of patented products	1
5. Patent term extensions for pharmaceutical products	1
6. Regulatory data protection term	1
7. Protection of trade secrets	1
Total score – Patents (out of 7)	**6.5**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	0.63[60]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	1
10. Availability of frameworks that promote cooperative action against online piracy	1
11. Scope of limitations and exceptions to copyrights and related rights	1
12. Digital rights management legislation	1
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	0.5
Total score – Copyrights (out of 6)	**5.13**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	1
Total score – Trademarks (out of 2)	**2**

60 Calculated as the average of the minimum terms of protection for broadcasts and computer-generated works (50 years) and for literary, dramatic, sound, phonograms, films, and music (70 years), divided by the baseline term of 95 years.

Enforcement	
16. Counterfeiting and piracy rates	0.77[61]
17. Civil and procedural remedies	1
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	1
19. Criminal standards	1
20. Effective border measures	1
Total score – Enforcement (out of 5)	**4.77**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	1
22. Singapore Treaty on the Law of Trademarks	1
23. Patent Law Treaty	1
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	0
25. FTA with substantive IP provisions signed post-TRIPS membership	1
Total score – Treaties (out of 5)	**4**
Total overall score (out of 25)	**22.4**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Regulatory data protection • Protection of trade secrets • Framework in place to promote cooperative action against online piracy • DRM legislation • Non-discrimination/non-restrictions on the use of brands in packaging • Sufficient civil remedies and criminal penalties • Commitment to and implementation of international treaties	• Not a contracting party to the Brussels Convention • New regulations introducing plain packaging are being considered • Relatively high level of software piracy in comparison to other high-income countries

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

2. **Patentability of computer-implemented inventions:** The Patent Act does not view computer programs as inventions, and under the act they are not patentable. However, judicial precedent—specifically, the 2006 Court of Appeal's ruling in *Aerotel Ltd v. Telco Holdings Ltd (and others)*—has established under what circumstances computer-implemented inventions may be patented and is followed by the UK Intellectual Property Office.
3. **Pharmaceutical-related patent enforcement and resolution mechanism:** The European Medicines Agency does not

61 Calculated as the sum of the OECD GTRIC-e index, where the UK ranked 97 out of 134; annual software piracy rates calculated by the BSA, where the UK's rate is 26%; and the IFPI's measurement of music piracy, where the UK's rate is estimated at less than 10%.

consider the patent status of an applicant for marketing approval for a generic drug, and there is no explicit regulatory framework in place. However, major stakeholders generally consider the EU's system of patent enforcement through Member State courts (including the UK) as providing an effective and transparent resolution system.

7. **Protection of trade secrets:** Protection of trade secrets and confidential information is not codified in law. However, effective protection is provided through common law. There is a long tradition of case law defining and safeguarding both trade secrets and confidential information and their application, including *Coco v. Clark* (1969), *Seager v. Copydex* (1967), and *De Maudsley v. Palumbo* (1996).

Copyrights, Related Rights, and Limitations

9. **Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking):** Relevant sections of the Copyright Act provide protection of exclusive rights in relation to the reproduction and broadcasting of a work in any material form, including electronic. The 2010 Digital Economy Act (DEA) provides further such protections in the online sphere, specifically with regard to prevention and deterrence of online infringement. Full implementation of the DEA, however, is stalled, as the act is currently under judicial review. The UK government has announced that it will issue a Communications Green Paper by the end of 2012 that will include language on new anti-piracy measures. At the time of research and publication of the GIPC Index, the paper had not been issued and no new legislation in this area had been passed by Parliament.

10. **Availability of frameworks that promote cooperative action against online piracy:** The DEA and Communications Act (2003) (including amendments introduced by the DEA) outline procedures for both notifying an ISP, as well as an ISP notifying its customer, of suspected infringing activities. The UK Electronic Commerce Regulations 2002 (European Commission Directive) requires the expeditious removal of any infringing material once an ISP has been notified or has received knowledge of any illegal activity.

Trademarks, Related Rights, and Limitations

15. **Non-discrimination/non-restrictions on the use of brands in packaging of different products:** The Department of Health is currently considering the benefits to public health of introducing plain packaging for tobacco. The introduction of such a measure would severely limit the ability of trademark owners to exploit their rights sufficiently. The Department ran a public consultation that ended in the summer of 2012.

Enforcement

18. **Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement:** The UK does not have statutory damages in place in the Copyright Act. Damages are set by courts, with the Copyright Act outlining factors that should influence this decision. There is, however, a substantive body of case law on the matter going back to the 1800s.
20. **Effective border measures:** In 2011, the European Court of Justice ruled that goods in transit can only be viewed as being counterfeit or pirated if they are intended for sale within the EU. The EU has issued a set of guidelines which suggest that goods in transit can be suspended from release

if there is a suspicion that these goods may be diverted onto the common market. Furthermore, the European Commission and European Parliament are developing a new Regulation on Customs Enforcement of Intellectual Property. The latest edition of this proposed regulation includes a presumption that suspected goods may be diverted onto the EU market and that the burden of proving the final destination is on the declarant or holder of the goods.

Membership and Ratification of International Treaties

The UK has signed and acceded to all of the international treaties included in the GIPC Index except the Brussels Convention. Furthermore, the EU has concluded and ratified several FTAs with substantive IP provisions, such as the EU-Korea Trade Agreement of 2010.

United States

United States

Scores

Indicator	Score
Patents, Related Rights, and Limitations	
1. Patent term of protection	1
2. Patentability of computer-implemented inventions	1
3. Pharmaceutical-related patent enforcement and resolution mechanism	1
4. Fairness and transparency in the use of compulsory licensing of patented products	1
5. Patent term extensions for pharmaceutical products	1
6. Regulatory data protection term	0.85[62]
7. Protection of trade secrets	1
Total score – Patents (out of 7)	**6.85**
Copyrights, Related Rights, and Limitations	
8. Copyright (and related rights) term of protection	1[63]
9. Legal measures which provide necessary exclusive rights that prevent infringement of copyrights and related rights (including Web hosting, streaming, and linking)	1
10. Availability of frameworks that promote cooperative action against online piracy	1
11. Scope of limitations and exceptions to copyrights and related rights	1
12. Digital rights management legislation	1
13. Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software	1
Total score – Copyrights (out of 6)	**6**
Trademarks, Related Rights, and Limitations	
14. Trademark term of protection (renewal periods)	1
15. Non-discrimination/non-restrictions on the use of brands in packaging of different products	1
Total score – Trademarks (out of 2)	**2**

62 Calculated as the average of the term of protection for new chemical entities (5 years) and for biologics (12 years), divided by the baseline of 10 years.

63 Calculated as the minimum concrete term of protection (95 years), which is also the baseline term for the indicator.

Enforcement	
16. Counterfeiting and piracy rates	0.88[64]
17. Civil and procedural remedies	1
18. Pre-established damages and/or mechanisms for determining the amount of damages generated by copyright infringement	1
19. Criminal standards	1
20. Effective border measures	0.5
Total score – Enforcement (out of 5)	**4.38**
Membership and Ratification of International Treaties	
21. WIPO Internet Treaties	1
22. Singapore Treaty on the Law of Trademarks	1
23. Patent Law Treaty	0.5
24. Brussels Convention – Distribution of Program-Carrying Signals Transmitted by Satellites	1
25. FTA with substantive IP provisions signed post-TRIPS membership	1
Total score – Treaties (out of 5)	**4.5**
Total overall score (out of 25)	**23.73**

Strengths and Weaknesses

Key areas of strength	Key areas of weakness
• Pharmaceutical-related patent enforcement and resolution mechanism • Protection of trade secrets • Framework to promote cooperative action against online piracy • DRM legislation • Non-discrimination/non-restrictions on the use of brands in packaging • Sufficient civil remedies and criminal penalties • Commitment to and implementation of international treaties	• Application of limitations and exceptions to copyrights and related rights somewhat inconsistent with copyright law • Concerns over border officials' ability to share information with rights holders

Spotlight on the National IP Environment

Patents, Related Rights, and Limitations

3. **Pharmaceutical-related patent enforcement and resolution mechanism:** U.S. law provides a concrete and transparent system for notifying patent owners of relevant applications and initiating dispute resolution prior to the marketing of generic or biosimilar products.

6. **Regulatory data protection term:** The United States is the first country to provide a distinct term of data protection for biologics. The Federal Food, Drug, and Cosmetics Act affords new chemical

64 Calculated as the sum of the OECD GTRIC-e index, where the U.S. ranked 95 out of 134; annual software piracy rates calculated by the BSA, where the U.S. rate is 19%; and the IFPI's measurement of music piracy, where the U.S. rate is estimated at less than 10%.

entities a five-year term, while the Public Health Service Act (amended in 2010) affords a 12-year term to biologics. Nevertheless, both the president's 2012 and 2013 budget proposals would reduce the term for biologics to seven years; hence, there continues to be a degree of ambiguity as to how the data protection term should and would be applied in practice.

7. **Protection of trade secrets:** The Uniform Trade Secrets Act and the Economic Espionage Act (EEA) protect against improper use of trade secrets, in particular targeting both foreign and economic espionage. Congress is working to enhance the criminal penalties available for trade secret violations carried out to benefit foreign governments; the House of Representatives has already passed, and the Senate is considering, a bill that would raise the statutory maximum from 15 to 20 years imprisonment and from $500,000 to $5 million in fines. U.S. court rulings are consistent with existing standards for protection established in legislation. Examples of recent cases include the 2012 judgments against Peregrine Petroleum for breaching a confidentiality agreement in acquiring oil and gas leases and against an ex-Motorola engineer who attempted to travel to China with more than 1,000 proprietary documents. However, a 2012 ruling in *Aleynikov v. U.S.* limits the scope of the EEA in a way that could become problematic if not addressed.

Copyrights, Related Rights, and Limitations

11. **Scope of limitations and exceptions to copyrights and related rights:** U.S. law generally provides for standard fair use exceptions and limitations to copyright. However, certain weaknesses exist; they include Section 110(5) of the U.S. Copyright Act, which provides an exemption for small businesses in relation to public performances of protected works that is not compliant with TRIPS Article 9.1; the discrepancy continues to be unresolved, despite a WTO action brought in 2003 and decided against the United States. In addition, although courts' application of these exceptions is generally consistent with the law, certain recent decisions appear to push the limits of the established scope, including the Georgia State University e-reserves ruling, which does not require copies intended for electronic reserves to be licensed.
13. **Clear implementation of policies requiring proprietary software used on government ICT systems to be licensed software:** Policies requiring the use of licensed software in government entities have existed in the United States since the late 1990s. Executive Order 13103 (1998) requires federal agencies to use only legal copies of software. Evidence indicates that such policies are being applied, for example in recent audits carried out by specific government agencies. The BSA has indicated that operation of unlicensed software by federal contractors is a problem, citing that more than 25% of the BSA's U.S.-targeted actions in recent years have been against registered government contractors. The Intellectual Property Enforcement Coordinator is currently conducting a review of agency-specific policies and procedures, including those dealing with federal contractors, to ensure that they are up-to-date and actively applied.

Enforcement

17. **Civil and procedural remedies:** U.S. patent, copyright, trademark, and trade secret law all contain remedies for infringement, including injunctive relief, damages, and destruction of goods. On the whole, courts apply these remedies consistently; recent examples include the injunction handed down by the International

Trade Commission preventing Motorola from importing infringing products, and substantial damages awarded to Mformation, Monsanto, and Oracle.

20. **Effective border measures:** Under customs law, customs officers have the responsibility and authority to seize goods they suspect violate U.S. laws or regulations; yet, in practice customs officials do not necessarily perform adequate inspection of incoming cargo, which limits their ability to identify and seize infringing goods. Furthermore, some concerns remain as to officials' ability to share information regarding suspected goods with rights holders and thereby verify that infringement has occurred. With regard to in-transit goods, the Pro-IP Act of 2008 prohibits the transshipment of counterfeit goods through the United States, although full implementation of this provision is still needed.

Membership and Ratification of International Treaties

The United States is a contracting party and has signed and ratified all of the international treaties included in the GIPC Index except the Patent Law Treaty, which it has signed but not ratified. Furthermore, the United States has concluded and ratified a number FTAs with substantive IP provisions, such as the U.S.-Korea Free Trade Agreement (2011). The United States is a negotiating party to the TPP Agreement.

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