



In the present knowledge driven economy, the activities relating to the innovations and patenting are increasing rapidly. The increase in patents has a direct relation with the patent regime nationally and internationally. The sharp rise in patented products may be attributed to the increase in the competition, investments, infrastructure, technology and R&D activities in various disciplines of science such as biotechnology, nanotechnology, pharmaceuticals, software etc. Application of knowledge and skills is an integral part of factor in any process of innovation. Innovation promotes the development of new products and their production to capture the market and get a lion share at global level. Trade agreements and technology transfers are also beneficial to least developed countries in various ways by the patented products. Patent system binds the growing diversity of innovation by focusing on the uniformity of patent standards and cost effective measures. Granting of patents is an incentive to the innovations and is a positive factor whereas it is a negative on the competition and the technological diffusion. Standardization and effective enforcement of the patent law by various nations across the world would promote research and developmental activities.

This book consists of outstanding articles that explain the critical aspects related to the innovations, patents, investments, technology, trade and economic development.

Ideas, Innovations and Patents

Ideas, Innovations and Patents



www.iupindia.org



**EDITED BY
C SRI KRISHNA**

Contents

<i>Overview</i>	I
1. Patents and Diversity in Innovation <i>Brian Kahin</i>	1
2. Patents and Incentives to Innovate: Some Theoretical and Empirical Economic Evidence <i>Paul Belleflamme</i>	14
3. Patents and Innovation: Trends and Policy Challenges <i>Organisation for Economic Co-operation and Development (OECD)</i>	35
4. Benefiting from Technological Innovation through Patent Strategy: A Case Study of a Textile Company in China <i>Liu Ju, Xiao Yan-gao and Liu Jing</i>	77
5. Rediscovering the Value of Intellectual Property Rights: How Brazil's Recognition and Protection of Foreign IPRs, I Can Stimulate Domestic Innovation and Generate Economic Growth Lawrence A. Kogan, Esq.	103
6. Need to Inculcate the Culture of Intellectual Property Protection in Research and Development <i>Dipak B. Shukla</i>	134
7. Patent Reform for Innovation and Risk Management: A Separation of Powers Approach <i>Peter Drahos</i>	157
8. Blackberries and Barnyards: Patent Trolls and the Perils of Innovation <i>Gerard N. Magliocca</i>	173
• List of Cases	209
• Index	210

The article “Rediscovering the Value of Intellectual Property Rights: How Brazil’s Recognition and Protection of Foreign IPRs Can Stimulate Domestic Innovation and Generate Economic Growth” by *Lawrence A. Kogan, Esq.*, explains the role and importance of the Government in the framing and implementation of intellectual property rights regime for the development of indigenous technology, foreign investments, innovations, technology transfers etc. Enforcement of the IPRs would result in the constant increase in the economic value of the patents. The nation can develop indigenously by attracting huge investments from both domestic and international business houses, especially in the areas of pharmaceutical and biotech sector. Poor legal framework of IP laws in Brazil had a negative impact on the domestic companies and on the innovation system typically in the areas of agriculture, environment, food and drugs. Potential human capital, education, know-how, commercialization and enforcement of IP laws are some of the key elements that aid in the growth of the national innovation system and in the promotion of R&D activities and FDI in the newly emerging industrial areas.

The article “Need to Inculcate the Culture of Intellectual Property Protection in Research and Development” by *Dipak B. Shukla*, focuses the importance of IPR and their role in the protection of intellectual capital. Of the various forms of intellectual property, patents occupy key position in the protection of IP especially in the areas where extensive research and development activities are being carried out. Author is of the view that the protection of IP is not effective in the developing countries especially in India, due to lesser number of patent activities when compared to developed countries like the US, the UK etc. Author throws light by referring to some basic concepts of patentability criteria such as novelty, non-obviousness and industrial utility and their role in determining the validity of patents at global level. Efficient patent protection mechanism, technological and

Rediscovering the Value of Intellectual Property Rights: How Brazil's Recognition and Protection of Foreign IPRs Can Stimulate Domestic Innovation and Generate Economic Growth

Lawrence A. Kogan, Esq.*

The potential value of IP assets encourages many business houses to venture into new projects. Strong recognition and enforcement of intellectual property rights provide an amicable environment for the growth of new institutions and research activities. Author discusses about the operation of the open source methods, which is in the form of gifts rather than market economy. Brazilian Government has also shown inclination towards open source method. Author opines that multilateral treaties, politically active international institutions and industrial standards were the main factors which attracted the developed countries like the US to invest in Brazil and there was a considerable rise in the establishment of new firms by other

* President Institute for Trade, Standards and Sustainable Development. Adjunct Faculty, International Trade Law & Policy John C. Whitehead School of Diplomacy and International Relations Seton Hall University South Orange NJ USA. E-mail: lkoganlaw@msn.com

© 2006 The Institute for Trade, Standards and Sustainable Development, Inc. This article was originally published in International Journal of Economic Development Vol. 8 No. 1-2 (2006). Reprinted with permission.

Source: www.itssd.org

developed countries. The innovation system in Brazil though progressed to some extent it has not been at satisfactory level due to the lack of scientific and technological developments to carry out the advanced research projects. Country's level of economic development and human capital forms are the basis for the inflow of FDI in both large and modicum sized companies.

I. Introduction – Brazil must Choose the Right Path: Innovation vs. Opportunism

The purpose of this article is to reintroduce the notion of private property rights into the current global debate about the utility of Intellectual Property (IP) in promoting scientific and technological invention and innovation. This article argues that, if the Government of Brazil reexamined the elements of and rationale underlying the international recognition and protection of private property rights, including intellectual property rights (IPRs) (i.e., patents, trade secrets, copyrights, etc.) it would see how it could dramatically improve Brazil's future scientific, technological, and economic prospects. This article also argues that, based on the successes experienced in other countries that have rediscovered the value of intellectual property rights, the Brazilian government would inevitably be able to promote the indigenous innovation, domestic entrepreneurship, foreign direct investment, and R&D-related technology transfers necessary to catapult Brazil to national and international advancement.

The Government of Brazil has opportunistically participated in controversial initiatives within various intergovernmental fora, namely, the World Trade Organization and numerous United Nations agencies, which challenge and undermine the established global IPR framework. There, Brazil has assumed a leading role in helping to promote a new global paradigm that calls for scientific and technology-based knowledge and information, and the commercialized products and processes derived from it, to become 'universally accessible, 'open source', and essentially 'free of charge' to developing countries. This new paradigm, which posits that exclusive private property rights are in conflict with

human rights, threatens the economic interests of all OECD members, especially the US. Brazil has engaged in these activities even though such an anti-IP paradigm is logically inconsistent with and ignores the proven success of the present individual private property-centric legal and economic order.

The Brazilian government is obviously influenced and affected by many internal and external pressures, from developing country diplomatic efforts, to national and international agenda-based civil society and academic movements, to national and regional patent and innovation policy debates. However, these cross-currents have generated more policy conflict than consensus among the various expert groups within the Government of Brazil. One may even speculate that such conflict has emboldened Brazil's ruling party to promote a culture of IP/trade opportunism within Brazil that has now transcended national boundaries. Although there is historical precedent upon which Brazil apparently relies to justify its opportunistic behavior, the previous international order that fostered such conduct no longer exists, and the former protagonist nations themselves continue to politically, legally and economically evolve.

This paper argues that, since patents and trade secrets are economically valuable assets that are important to foreign and domestic investors, namely, knowledge and technology-rich internationally-focused corporations, Brazil should aggressively seek to protect them. In support of this premise, the paper provides analyses of numerous studies that describe how, by establishing the proper institutional enabling environment, which includes strong recognition and enforcement of IPRs, Brazil may attract and shape the type and composition of FDI that will promote its domestic industries and satisfy its national innovation needs.

II. Brazil Challenges the Established Global IPR Framework: Brazil Actively Engages in 'Regime Shifting' to Reform International IP Law

Universal Access to Healthcare and Information

Brazil and other developing countries that have become dissatisfied with the WTO TRIPS Agreement and the neo-liberal economic model of 'risk and reward' which serves as the basis for the current international intellectual property framework, are now employing, with the assistance of well funded global civil

Brazil's Challenge of the Global IPR Framework Aims to 'Take' (Redistribute) Private Property (Economic WEALTH) FOR 'Public use' Without 'Just' Compensation

To better understand why American patent holders respond in a hostile fashion to Brazil's threats of poorly compensated compulsory licensing or other proposed forms of patent or trade secret abrogation, it is helpful to review the applicable provisions of the US Constitution and its accompanying Bill of Rights and their interpretation by the US Supreme Court. In the United States, the basis for innovation resides in these documents, which recognize the primacy of individual rights over societal rights.

More importantly, the concepts underlying these documents have been embraced by the advanced OECD economies. They recognize individuals' private right to invent and create, as well as, their right to enjoy the fruits of their labors (i.e., the private property he or she invents, creates, acquires, earns, and/or commercializes). They also guarantee individuals that their exclusive private property, including personal intellectual property rights such as, patents, trade secrets, copyrights, etc., will be protected against arbitrary, wanton and unjustly compensated government 'takings' ostensibly intended to serve the public good.

In particular, the US Constitution and the Bill of Rights together ensure protection of personal IPRs to US citizen-inventors and -owners, no matter where their property may be located throughout the world. They consider personal property rights such as IP as inalienable natural and civil rights that transcend US borders. If private property, including IP, is 'taken' for a bona fide public use, whether by the US or any foreign government, its individual owner(s) must be paid fair market value/ reasonable compensation. The WTO TRIPS Agreement and the WIPO Agreement are also based largely on these precepts. In addition, the right to private property, including intellectual property, is considered a fundamental human right, guaranteed to all persons by the Universal Declaration of Human Rights, the

American Declaration on the Rights and Duties of Man, the International Covenant on Economic, Social and Cultural Rights, the Universal Declaration on the Human Genome, and the Vienna Declaration and Programme of Action.

And, Brazil has justified this, as had China and India, by reference to the extreme economic hardships it would endure if it were required to pay the higher market prices that patents typically demand.

According to one prominent Brazilian scientist and intellectual property expert, IPRs are dispensable and may be wielded as both a shield and a sword by the Brazilian government if and when it is convenient and in the national interest to do so. Even some within Brazil's pharmaceutical industry agree. They see the protectionist benefits that may be gained from the Brazilian government's emphasis of *the possible health risks* engendered by according unnecessary protection to foreign patents and trade secrets. Based on this and other evidence, one may credibly argue that Brazil has all along intended to opportunistically acquire foreign technologies primarily to advance both its evolving national industrial and innovation agenda and its international economic (trade) interests.

III. The Tools of Innovation: Patents and Trade Secrets are Economically Valuable Assets

This article argues that, since patents and trade secrets are economically valuable assets that are important to both foreign and domestic investors, especially, knowledge and technology-rich internationally-focused companies, the Government of Brazil should aggressively seek to protect them. It supports this conclusion by analyzing a number of recent economic studies.

At least one such study has concluded that the economic value of patents, especially those secured by knowledge-intensive companies operating within the ICT, pharmaceuticals, and biotech sectors, has been rising rapidly over the course of the past decade. This study also recognized that, since the economic value of patents comprises an ever larger share of company market value, successful companies operating within these sectors would need to find the most prudent and economically efficient means to manage their innovation practices (R&D) and related intellectual property portfolios and to then exploit (commercialize) those assets in the marketplace.

This is crucial, the study reasons, because of the new global business environment in which such companies now operate. That environment engenders higher technology development costs, lower profit margins, shorter product

IV. Acquiring the Tools of Innovation: Brazil must Adopt IPR Protections to Attract Foreign Direct Investment

Due to the significant and growing economic value of patents and trade secrets, it is understandable why developing countries have undertaken considerable efforts to acquire such tools of innovation. One way to do so is to through Foreign Direct Investment (FDI). Arguably, FDI flows are even more important than trade flows in today's rapidly expanding technology and information society.

This article analyses numerous studies that describe how, by establishing the proper institutional enabling environment, which includes recognition and strong protection of exclusive patents and trade secrets, Brazil may attract and shape the type and composition of Foreign Direct Investment (FDI) that will promote its domestic industries and satisfy its national innovation needs. For example, several recent studies have concluded that a developing country's membership and participation within international treaty regimes that promote IPR protections through establishment of minimum IPR standards (e.g., TRIPS, WIPO and BITS) was more likely than not to facilitate domestic reforms that contribute to such country's ability to secure FDI from foreign capital investors.

And, several other studies have documented how the level of a developing country's IPR protections substantially affects the investment decisions of high-technology and research-intensive industries with products or processes that are relatively easy to imitate. They reveal that in weaker IP regime countries, the type and composition of FDI is more likely to assume the form of sales and distribution outlets or rudimentary production and assembly facilities, than Research and Development (R&D) facilities and component or finished goods manufacturing plants. And, these studies also reveal that, if any technology transfer is to occur at all in such countries, it is likely to take place with older rather than newer technologies. In fact, companies that have undertaken R&D within developing countries lacking strong IP protections have done so cautiously through intra-firm R&D transfers among affiliates. In such instances, however, firms are usually more covetous of their technologies and know-how, and less willing to share them with local companies (i.e., they internalize rather than externalize IP assets). As a

soon demand for themselves the same strong IP protections for their evolving know-how and technologies that developed OECD country industries, including those based in the US, have long struggled to secure.

This paper's analysis of Brazil's IP-rich industries focuses primarily on the life sciences (Pharmaceuticals, biotechnology, and chemicals) and computer software and e-commerce sectors. These sectors rely strongly on intellectual property as a valuable economic asset to be commercialized in the marketplace for profit, and thus, they are critically important to the future of the Brazilian knowledge-based information economy.

V. Benefiting from Foreign Direct Investment and IPR Protection Brazil's Increasing Trade Surplus may not Compensate for its Declining FDI

Recent data confirms that – Brazil's ability to lure foreign direct investment has lagged other emerging market giants like China during the last several years". Such data may even suggest that, in the face of increasing FDI competition, Brazil will likely have future difficulties in securing FDI, unless it makes certain structural changes. Brazil's current – surging trade surplus [might] allow [it] to reduce [somewhat] its dependence on foreign institutional financing" and to consider IMF and Paris Club funding less critical to its maintenance of balance of payment and capital account surpluses. But, it would be unwise, and perhaps even foolish, for the Government of Brazil to extend this newfound economic and political confidence, which may only be temporary, into the realm of FDI.

FDI is often facilitated by the participation of other international financial institutions. These include the World Bank, the Inter-American Development Bank, the US Export-Import Bank, the Overseas Private Investment Corporation, and other foreign governmental export promotion vehicles that, like the IMF, may impose their own strict conditionalities on loan facilities. Brazil must remember that FDI – continues to surpass other private capital and Official Development Assistance (ODA) to developing countries. As recently as 2004, it was reported that most resources, including funds earmarked for Research and Development (R&D), continued to flow in the form of FDI. While Brazil may wish to "self-insure' through large reserve holdings and a declining and less volatile stock of debt...[by]...

2003, Brazil's exports to the US were valued at US \$ 21.3 billion, 14 percent of which (approx. \$3 billion) enjoyed duty-free status pursuant to the US Generalized System of Preferences (GSP).

The US GSP program has provided significant benefits to Brazil and other developing countries to the extent they have shown a commitment to recognize and protect US IPRs, among other US trade policies. This program, however, remains authorized only until December 31, 2006. To justify continuation of the GSP program, the USTR recently solicited public comments aimed at determining how to make it more productive and efficient. In particular, the USTR has questioned how to ensure that GSP benefits are no longer focused on trade from only a few countries. Brazil should be aware that, since it was among the top ten recipients of US GSP benefits in 2004, its future GSP status is not assured.

Furthermore, the Brazilian government should not overlook how its continued failure, since at least 2000, to uphold US film, music, and software copyrights had resulted in its being placed on a USTR Special 301 list. Brazil remains on this list today despite its progress in enforcing its copyright laws. Apparently, there is a growing US frustration with Brazilian governmental policies and activities aimed at weakening US private property interests in life sciences and information technology patents and trade secrets. The Government of Brazil should remember that there is nothing to prevent the USTR from undertaking new investigations of alleged IP opportunism, which can not only jeopardize the eligibility of specific Brazilian exports to receive US GSP preferences, but also Brazil's coveted US GSP nation status overall.

VI. Conclusion: Brazil's IP Opportunism Compromises its Ability to Acquire the Tools of Innovation; What Other Countries are Doing to Strengthen IPRs and to Enhance their Ability to Innovate

An increasing number of emerging and developing countries have discovered the important role that patents and trade secrets can serve in establishing the proper enabling environment for promoting indigenous scientific, technological research and development, commercialized innovations, and economic

development, and have stepped forward to increase protection of privately owned patents and trade secrets. This article discusses the progress made in this area by China, India, Jordan, Singapore, Chile, Mexico, Morocco and South Korea.

Brazil Must Evolve

Economists generally recognize that the developing economy practice of industrial and technology IP opportunism should, to some extent, be expected. Developing countries face enormous pressures to maintain an evolutionary track in a world that continually progresses. These pressures are exacerbated in the current information society, which is taking shape much more rapidly than previous globalization eras due to significant and continuous scientific, technology and communication advances. But, such international practices can neither continue nor be justified forever, because they seriously harm domestic innovation and the international order. Indeed, the previous international order that fostered such conduct no longer exists, and the former protagonist nations themselves are continuing to politically, legally and economically evolve. Brazil, an emerging economy with great innovation potential, must, too, evolve!

Arguably, Brazil is now demonstrating a type of intransigence at international institutions, through its efforts to help reform and replace the current paradigm of private property-based international intellectual property law. It also refuses to enter into regional trade agreements that require it to recognize and enforce private intellectual property rights. While Brazil's bravado has garnered the applause and admiration of less fortunate impoverished nations and socialist-minded activists and advocacy groups, it likely threatens the interests of most other countries, the established global system of innovation and economic growth, and the economic prospects for Brazil itself.

The failure of Brazil and other emerging economies to vigorously uphold the exclusive private property rights of foreign and domestic individual and corporate owners in intellectual property, has contributed, furthermore, to OECD nations' subsidization of the cost of global innovations. This occurs through payment of the higher prices charged for technology-rich products invented, commercialized, and sold within the US and other developed nations, coupled with stiffer local

enforcement of IP laws. Higher prices result chiefly from OECD country industries' inability to recover their costs of investment and to earn a reasonable profit. Strict price controls on health care and other products, and allowance of parallel trade in below-cost and illicit generic drugs and open source computer software also contributes to this problem. Arguably, each of these mechanisms should be the exception rather than the rule – and that exception should apply only to *least* developed countries under exigent circumstances. In other words, aggrieved countries must demonstrate that they are experiencing actual health or knowledge emergencies and/or that they lack actual manufacturing or information dissemination capacity.

If the Government of Brazil and anti-private property, anti-free market and anti-WTO activists and academics are successful in changing the current international IPR paradigm, innovative OECD nation industries will need to employ a global *at-or-below-cost, fixed-price, volume-based* business model that would likely be publicly supported, in some way, by national governmental subsidies or through imposition of international, national and/or local taxes. Pursuant to such a model, innovative product/service providers would essentially be 'guaranteed' a minimum national and/or international market share in return for everyday low-priced products and services.

Once OECD nation companies are no longer able to protect their exclusive private intellectual property from exploitation by others, or to earn an adequate market-rate return on investment, *plus* a reasonable profit to boot, they will have *less* of an incentive to invent and innovate. Tax and financial incentives such as R&D credits and subsidies and other academic-style contests and awards are, indeed, helpful mechanisms – but they do *not* compensate for the opportunity (time and effort) and economic costs incurred to convert basic R&D into commercially relevant innovations. Markets are *profit-*, not *cost-*driven. Volume-based business models with tight profit margins are an extremely risky investment in the long term, even if supported by government efforts to artificially 'make markets' by providing 'advanced market commitments'. And lump sum low-margin and royalty-free 'patent buy-outs' based on estimated future profits are also unlikely to motivate prospective inventors, innovators or investors, given future market uncertainties.

*Rediscovering the Value of Intellectual Property Rights:
How Brazil's Recognition and Protection of Foreign IPRs Can Stimulate
Domestic Innovation and Generate Economic Growth*

133

With governments and civil society activists regulating company profit margins internationally and domestically without truly guaranteeing markets for more than the short-term, a company's (and investors') incentive to enter into any such arrangement is likely to quickly disappear. In fact, 'top-down' government 'market-making' mandates, no matter what form they assume, provide even greater incentives to invest and innovate in the longer term, unless, of course, they can be manipulated by a desperate industry as disguised protectionist devices. Rather, what is most needed is a national *bottom-up*, market-first approach towards innovation. This is not rocket science, but simply, human nature.

Unless all countries, including Brazil, work together to protect IPRs globally, invention, innovation, consumer prices, and public access to critical new life science and information technologies will likely suffer. This could conceivably result in a significant cost-of-living increase for, and a measurable diminution in, the quality of life of, OECD as well as developing nation citizens that will be difficult for them to bear.

Brazil, an emerging economy and an aspiring global power, has arrived at the stage in its development where it is expected to exercise prudence and responsibility in its domestic and international affairs. Therefore, the Government of Brazil must choose the 'right' path by pursuing IP-based innovation rather than IP opportunism.

In the present knowledge driven economy, the activities relating to the innovations and patenting are increasing rapidly. The increase in patents has a direct relation with the patent regime nationally and internationally. The sharp rise in patented products may be attributed to the increase in the competition, investments, infrastructure, technology and R&D activities in various disciplines of science such as biotechnology, nanotechnology, pharmaceuticals, software etc. Application of knowledge and skills is an integral part of factor in any process of innovation. Innovation promotes the development of new products and their production to capture the market and get a lion share at global level. Trade agreements and technology transfers are also beneficial to least developed countries in various ways by the patented products. Patent system binds the growing diversity of innovation by focusing on the uniformity of patent standards and cost effective measures. Granting of patents is an incentive to the innovations and is a positive factor whereas it is a negative on the competition and the technological diffusion. Standardization and effective enforcement of the patent law by various nations across the world would promote research and developmental activities.

This book consists of outstanding articles that explain the critical aspects related to the innovations, patents, investments, technology, trade and economic development.



www.iupindia.org

ISBN: 81-314-1377-2



9 788131 413777

US\$ 17