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India's Intellectual Property Regime: A Counterbalance to Market Liberalization?

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INDIA'S INTELLECTUAL PROPERTY REGIME -

A COUNTERBALANCE TO MARKET LIBERALIZATION?

By: Tanuja V. Garde*

I. INTRODUCTION

The impact of intellectual property laws on national economic development is complex and poorly understood. With limited success, studies have attempted to analyze the degree to which intellectual property protection and enforcement spurs development and the point at which it ceases to contribute, or worse, hinders development. Prior to the adoption of the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS Agreement), the lack of harmonization in intellectual property protection across countries enabled analysis of locational determinants for investment and knowledge transfer.[1] Analysts hypothesized that the TRIPS Agreement would reduce investment selectivity decisions based on strength of Intellectual Property Rights (IPR) protection, and investors would focus on regions with high rate of returns.[2]

The TRIPS Agreement created an international enforcement mechanism for IPR and obligated World Trade Organization (WTO) members to provide minimum standards of protection of IPR.[3] The agreement gave developing countries an additional five years from the

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[1] See Maskus, K. "The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer," 9 Duke J. Comp. & Int'l L. 109 (1998)

[2] See id.

[3] See Agreement on the Trade Related Aspects of Intellectual Property Rights (available at www.wto.org) (hereinafter the "TRIPS Agreement").

date of entry into force of the TRIPS Agreement (i.e. until January 1, 2000) to meet certain obligations and an additional ten years in specified circumstances.[4] Furthermore, the agreement does not obligate countries that qualify under the WTO as "least developed countries" (LDCs) to protect IPR in accordance with the TRIPS Agreement until 2013 or later in certain cases.[5] Yet, for those LDCs that border economies in transition, or upper middle-income economies, the LDC distinction may become blurred.[6]

The TRIPS Agreement is one instrument in a broader framework of trade liberalization and provided opportunities for trade-offs. For example, some countries, including India, may have acceded to the TRIPS Agreement in order to have greater access to markets for their

[4] See TRIPS Agreement, Article 65, which states that a developing country may delay compliance with several provisions of the TRIPS Agreement. However, the grace period does not apply to some provisions, including those related to obligations for providing national treatment. See id. Developing countries that did not provide pharmaceutical and agricultural product patent protection as of the entry into force of the TRIPS Agreement, for example, India, had an additional five years to provide such protection, i.e. under January 1, 2005. See TRIPS Agreement, Article 65(4).

[5] See TRIPS Agreement Article 66, which effectively provides that a least developed country (LDC) has eleven years from entry into force of the TRIPS Agreement (i.e. until January 1, 2006) to implement the provisions of the TRIPS Agreement, again with the exception of Articles 3, 4 and 5. In July 2002, pursuant to a Decision of the Council for TRIPS, LDCs were granted an extension until January 1, 2016, to implement the patent and undisclosed information provisions in the TRIPS Agreement with respect to pharmaceutical products. See Extension of the Transition Period under Article 66.1 of the TRIPS Agreement for Least-Developed Country Members for Certain Obligations with Respect to Pharmaceutical Products; Decision of the Council for TRIPS of 27 June 2002 (available at http://www.wto.org/english/tratop_e/trips_e/art66_1_e.htm). A Decision of the Council for TRIPS dated November 29, 2005, granted LDCs an extension until July 1, 2013 to provide protection for copyright, patents, trademarks, etc. This Decision does not affect the extension to 2016 for patents on pharmaceutical products. See Extension of the Transition Period under Article 66.1 of the TRIPS Agreement for Least-Developed Country Members; Decision of the Council for TRIPS of 29 November 2005 (available at http://www.wto.org/english/news_e/pres05_e/pr424_e.htm)

[6] For example, as Bangladesh qualifies as an LDC, obligations to provide copyright protection in accordance with the TRIPS Agreement have been deferred until July 1, 2013. See supra note 5 and accompanying text. However, the International Intellectual Property Alliance (IIPA), a non-government association that represents U.S. based copyright industries, has cited Bangladesh as a haven for optical disc piracy for purposes of export to developing and developed countries. According to the 2008 IIPA Special 301 Report submission:

> Bangladesh hosts six (6) optical disc factories, most of which migrated from Pakistan. The production capacity for these plants far exceeds any rational legitimate demand. Industry continues to see exports to India and perhaps Europe, as well as saturation of the local market with pirate product. Other piracy problems abound, including unchecked book piracy in the form of print piracy and illegal commercial photocopying, stolen theatrical motion picture prints which are illegally contracted for exhibition in Bangladesh, and broadcast/cable piracy.

See 2008 IIPA Special 301 Report submission (available at http://www.iipa.com/rbc/2008/2008SPEC301BANGLADESH.pdf)

textiles.[7] However, within a national context, those trade-offs are not necessarily appreciated. Instead, many developing countries were obligated to implement the TRIPS Agreement through accession to the WTO in spite of other domestic interests, such as the effect on domestic industry and public access to protected goods.

Although IPR protection produces benefits in the form of increased innovation, creativity, and new products or artistic works, the marketing exclusivity conferred on the rights holder may reduce competition and economic efficiency as consumers are subject to prices above marginal costs.[8] From the international perspective, foreign direct investment (FDI) by multinational firms may depend in part on the level of protection investors can expect for their inventions and works. Weak protection of investor inventions may enable imitations and a consequent reduction on the return on the investment to the point of net loss. With respect to technology, the loss is difficult to quantify, as the calculation is not necessarily limited to copies of the patented product in the domestic market but also to the cost of developing capacity and understanding of the technology for domestic firms that straddle the copy/innovation fence as well as losses due to possible parallel trading.[9] At the same time, weak IP protection standing alone is not determinative of investment destination as the assumption of easy imitation is not applicable across the spectrum of technologies. Technologies for which several inputs are required, such as automobiles, may render copying the product from a technological perspective (as opposed to a design perspective) difficult.

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[7] See L. Helfer, "Regime Shifting: The TRIPs Agreement and New Dynamics of International Intellectual Property Lawmaking," 29 Yale J. of Int'l L. 1 (2004)(stating that the WTO facilitates the exchange of concessions: "[Developing countries] might, for example, agree to abandon demands to protect traditional knowledge in exchange for longer TRIPs transition periods or reduced trade barriers for their agricultural products and textiles." Id. at 60.

[8] See, e.g., E. Kitch, "The Nature and Function of the Patent System," 20 J.L. & Econ. 265 (1977)

[9] Parallel trading or parallel importing typically occurs when there is a differential in prices between the importing and exporting countries. For those countries that allow for parallel importing, the doctrine of international exhaustion is invoked, namely that once the patentee places the patented product on the market in any country, the patent is exhausted with respect to that product in other countries. This allows for countries to import from other suppliers of the pharmaceutical product in countries where the cost of the product is lower than if the import came from the manufacturer. For example, a pharmaceutical company may sell a drug X at $5.00 per dose to distributors in Country A and $1.00 per dose to distributors in Country B, possibly due to tiered pricing structures of pharmaceutical companies or pricing due to the presence of generic competition. If Country A allows for parallel importing, distributors in Country A may obtain the product from distributors in Country B for less than if they obtained it directly from the pharmaceutical company.

Countries that acceded to the TRIPS Agreement struggle with balancing attraction of FDI in technology and the creative sectors and encouraging growth of domestic industries, both for domestic consumption and export potential. Specifically, countries must formulate policies consistent with obligations under the TRIPS Agreement that encourage technology transfer in both the technological and creative industries while maintaining the benefits of competition that would occur absent intellectual property protection. The latter concern is significant in many developing countries, including India, where the grant of exclusive rights to foreign investors is coupled with a fear that the market exclusivity will raise prices for a population base where the estimated number of poor in India in 2004-05 was 41.6% of the population.[10]

Typically, international knowledge transfer occurs through FDI or licensing. Increased FDI is often looked at as a measure of growth and in the technological fields, may be useful in providing greater transfer of knowledge and increased competition.[11] As global firms have placed increasing importance on IPR, emerging economies have considered stronger IPR regimes as a means of encouraging more FDI and creating a more foreign business-friendly environment.[12] This belief, while unsubstantiated at the time the TRIPS Agreement was being negotiated, was outweighted by the fear of being left out of a liberalized, international trade regime, which led to a broad acceptance of the TRIPS Agreement by the developing countries.

Studies have shown that FDI contributes to substantial knowledge transfer.[13] However, in sectors with significant domestic industry already established, increased foreign presence may actually hinder domestic development in those sectors.[14] In the presence of weaker IPR protection and enforcement, companies appear more likely to internalize the knowledge transfer (i.e. knowledge transfer within the company rather than technology transfer to external

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[10] This estimate is based on the World Bank poverty line indicator of $1.25 per day. See Chen, S. and Ravallion, M. "The Developing World is Poorer Than We Thought, But No Less Successful in the Fight against Poverty", World Bank Policy Research Working Paper 4703
(August 2008); available at http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2008/08/26/000158349_20080826113239/Rendered/PDF/WPS4703.pdf,

[11] See Arora A., Fosfuri A., Gambardella A. 2001. *Markets for technology: Economics of* Innovation and Corporate Strategy, MIT Press, Cambridge, MA

[12] See Maskus, K. "The Role of IPR in Encouraging Foreign Direct Investment and Technology Transfer," 9 Duke J. Comp. & Int'l L. 109 (1998)

[13] Blomstrom M. and A. Kokko. "How Foreign Investment Affects Host Countries." World Bank Policy Research Working Paper, 1745 (1997)

entities).[15] However, knowledge transfer through FDI may also occur in vertical transactions where domestic companies manufacture products to be distributed under the foreign companies' brands.[16] Licensing, on the other hand, generally involves transferring information and know-how without requiring the presence of the foreign company in the country. One factor for companies considering licensing is the strength of protection available for their proprietary technologies or creative works, and the level of risk of unauthorized disclosure of the know-how in the case of inventions or the ability to maintain control over the original work, in the case of copyrighted works. Strengthening IPR protection shifts knowledge transfer from exports and FDI towards licensing and positively affects inflow transfer of knowledge.[17] Further, studies have shown that with increased risk of leakage, companies may prefer FDI in order to maintain a degree of control. High barriers to FDI may result in no licensing or knowledge transfer.[18]

The connection between strong IPR and economic development is complicated and is based in part on the theory that development will be dependent in part on trade in protected inventions and works.[19] The scope of these rights and how these rights are enforced, both through the judiciary in civil litigation and for copyrights, criminal litigation, are all factors in the analysis. Further, and as noted at a recent conference on the adjudication of IPR, Justice Raveendran of the Indian Supreme Court, the historical and social conditions surrounding the enactment of legislation are important bases for judgments.[20]

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[14] See Aitken, B. and A. Harrison, "Do domestic firms benefit from foreign direct investment? Evidence from panel data" World Bank Policy Research Working Paper, 1248 (1994)
[15] See Maskus, K. "The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer," 9 Duke J. Comp. & Int'l L. 109 (1998)
[16] Smarzynska, B., "Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers through Backward Linkages" William Davidson Working Paper Number 548 (2003).

[17] See Nicholson, M. "Intellectual Property Rights, Internalization, and Technology Transfer", FTC Bureau of Economics Working Paper No. 250 (2002); see also Smith, P. "How do foreign patent rights affect U.S. exports, affiliate sales, and licenses?" *Journal of International Economics* 55(2) (2001).
[18] See Saggi, K. "Entry into a Foreign Market: Foreign Direct Investment versus Licensing" *Review of International Economics"*, vol. 4(1), pages 99-104 (1996).
[19] Eaton J. and S. Kortum. "A Rising Tide Raises All Ships: Trade and Diffusion as Conduits of Growth," 82, Boston University, Institute for Economic Development (1996).
[20] See FICCI Spotlight Newsletter December 2007 (available at http://www.iprindia.net/IPR-Spotlight.pdf).

II. DEVELOPMENT OF INDIA'S INDUSTRIAL POLICY

India's development of its industrial policy from independence until the present responded to both internal and external demands, with tensions arising from obligations under the newly drafted Constitution with obligations under international agreements. Drafters of the Indian Constitution saw industrialization as a tool for development, and the government's formulation of industrial policy focused on encouraging domestic industries, in response to the sentiment that the British Raj had intentionally discouraged Indian industrial growth through distortions of tariff and trade rules in favor of British firms. Not surprisingly, capitalism was equated with a form of colonialism, and state intervention with what were determined to be public goods was favored.[21] The Indian government increased its investment in research and development; within ten years the investment in scientific research increased from 0.1% to more than 1% GNP. The government targeted its investment toward the development of new products that would be consumed domestically rather than destined for export.

Within this context and as part of its re-evaluation of its industrial policy, the Indian government reformulated its positions on industrial property and copyright, attempting to keep up with a changing socio-economic environment, from a primarily protectionist based economy to a more liberalized one. While recognizing that in order to participate in a more liberal trading environment, implementing stricter intellectual property requirements was necessary, the government, nevertheless, struggled with how to meet its international obligations and ensuring only a minimum impact on its domestic industries. With respect to patents, the issue was related to pharmaceutical patents as previously, pharmaceutical products were not patentable. Due to the ease at which chemical compounds may be replicated, a large generic pharmaceutical industry developed in India. For copyrights, imitation was not strictly construed, benefiting the Bollywood industry.

This article analyzes the likelihood of IP-intensive sector growth by examining the relationship between protection and enforcement of patents and copyrights in India and the development of domestic technological and creative sectors. Specifically, with respect to patents and copyrights,

this article will focus on the pharmaceutical and entertainment industries, where the inventions are "costly to produce but may be nonrival (costless to reproduce) after their invention, leaving the inventor without a means of benefiting without some protection."[22] I will argue that despite India's accession to the WTO and the liberalizing of its market, India's intellectual property regime acts as a counterbalance, as the weak protection and enforcement of patents and copyrights in these sectors may act to deter foreign investment and technology transfer, and consequently may adversely affect the development of India's innovative pharmaceutical and entertainment industries.

A. PATENTS

The current system of patent law in India has its roots in the system that the British established in the 1800s. After independence in 1945, when the Indian government was developing its industrial policy, the new government concluded that the British system had not effectively promoted industrial development. The government thus appointed committees to review the Indian patent laws and propose possible alternatives; initially, a bill incorporating the recommendations proposed by the first committee under Justice Bakshi Tek Chand dissolved[23] Subsequently, in 1957, the government appointed another committee under Shri Justice N. Rajagopala Ayyangar, which produced a report with findings and recommendations for patent law change.[24] The Ayyangar report criticized the patent system as having failed its purpose of encouraging technological advancement in India.[25] The report found that patents were predominantly granted to foreign proprietors noting that, in the decade after independence, a

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[21] See John Kenneth Galbraith, "Rival Economic Theories in India," Foreign Affairs, Vol. 36, No. 4, 1958.
[22] See H. Hopenhayn and M. Mitchell. "Innovation variety and patent breadth." 32 Rand J. of Econ., 152 (2000).
[23] The recommendations in this report mirrored proposals of the Swan Committee in the United Kingdom (UK) in 1947, which was charged with suggesting changes to the UK patent law. The Tek Chand Report was issued in 1950.
[24] See Santanu Mukherjee, "The Journey of Indian Patent Law Towards TRIPS Compliance," 2 IIC 2004 p. 125 (stating that the government commissioned the report due in part to the high death rate, low life expectancy and the extremely high prices of drugs).
[25] The Ayyanger Report noted that:

> …the Indian Patent system has failed in its main purpose, namely, to stimulate invention among Indians and to encourage the development and exploitation of new inventions for industrial purposes in the country so as to secure the benefits thereof to the largest section of the public.

See N. Rajagopala Ayyangar, Report on the Revision of the Patent Law, Government of India (1959)

143% increase in patent applications did not reflect a proportional increase among domestic applicants.[26] Based on these findings, the Ayyangar report made several recommendations that, when implemented in the Patents Act 1970, effectively weakened the scope of patent protection in India.[27]

From 1947 until the enactment of the Patents Act 1970, there were very few cases that focused on patent rights of non-Indian entities.[28] Indeed, there was not a significant increase in the grant of patents to foreigners during the first decade following independence: the percentage of patent applications relating to drugs and pharmaceuticals granted to foreigners only increased from 92% in 1947 to 95% in 1957. The Patents Act 1970 changed the landscape of industrial policy in India, but primarily affected one sector. The Patents Act 1970 removed patent protection for inventions related to food, medicine or drugs or substances produced by a chemical process (such as alloys)[29] and reduced the term of protection from sixteen years for methods or processes of manufacturing a substance for use as a food, medicine or drug to seven years from the date of filing or five years from the date of grant.[30]

1. PATENT ACT 1970

[26] By 1958, 91% of the patents were owned solely by foreigners; 8% of the patents were owned by Indians, and the remainder was shared by Indians and foreigners. See AYYANGER REPORT, app. A, at 306.

[27] The report recommended that the government improve the patent system by:

(1) defining with precision inventions which should be patentable and by rendering unpatentable certain inventions, the grant of patents, to which will retard research, or industrial progress or be detrimental to national health or well-being;
(2) expanding the scope of "anticipation" so as to comprehend not merely what is known or published in this country, but also which is known or published outside India;
(3) providing remedies for the evils which India, in common with other countries, experiences from foreign owned patents which are not worked in the country, but which are held either to block the industries of the country or to secure a monopoly of importation;
(4) providing special provisions as regards the licensing of patents for inventions relating to food and medicine; [and]
(5) providing remedies for other forms of abuse resorted to by patentees, to secure a more extended monopoly or a monopoly for a longer duration than what the statute grants.

Id.

[28] The Madras High Court analyzed factors for the grant of injunctive relief in the case of V. Manioka Thevar v. Star Plough Works AIR (1965) MAD 327 (noting that the plaintiff's failure to provide evidence supporting the novelty of the ploughs despite defendant's assertion that the invention lacked novelty weighed against the grant of injunctive relief).

[29] Section 5 of the 1970 Patents Act

[30] Section 53 (For other inventions, the term was reduced to fourteen years)

During the first decade following the enactment of the Patents Act 1970, there was a significant decrease in the number of foreign applications while the number of Indian applications remained virtually the same.[31] Indeed, the total number of applications dropped by nearly a half.[32] As the pharmaceutical industry was the industry primarily affected by the changes in patent law, a measure of the success of the Patents Act 1970 can be made by assessing its affect on that industry. The Patents Act 1970 arguably achieved the goals of the Ayyangar Report's recommendations: the number of licensed drug manufacturers in India increased from 2,237 in 1969-70 to around 16,000 in 1992-93.[33] Yet the increase was predominantly of Indian firms: while multinational corporations enjoyed about 80-90% of the pharmaceutical market around 1970, by 1993, Indian firms accounted for over 60% of the market.[34] At the same time, there appears to have been an increase in civil litigation with respect to patent infringement. Specifically, in the years following the enactment of the 1970 Patents Act, the courts received more petitions for temporary injunctive relief, possibly due to the increased awareness of the patent laws through the discussions and reports on patentability prior to the passage of the Patents Act 1970. Indeed, within the first few years after the 1970 Act went into force, the Supreme Court of India issued its ruling in *Bishwanath v. Hindustan Metal Indus*., using case law under the 1911 Act to guide its analysis.[35] In 1978, the Delhi High Court in *R.*

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[31] For example, in 1970, the number of patent applications filed by Indians was 1116 (21.7%) whereas the proportion of applications filed by foreigners resident abroad was 3864 (75.1 %). However, in 1978-79, the number of applications filed by Indians was 1,124 (38.3%) whereas by foreigners it was 1795 (61.2%). See Appendix B, p. 20 Patents Seventh Annual Report of the Controller General of Patents, Designs and Trade Marks Under Section 155 of the Patents Act, 1970 (39 of 1970). 1978-79. The remaining approximately 3.2% of applications stemmed from foreigners resident in India.

[32] Indeed, the number of applications filed in 1978-79 was 2932 as compared to 5142 in 1970 (representing a decrease of about 43%).

[33] OPPI (Organization of Pharmaceutical Producers of India). 1994a. "Pharmaceutical Industry in India – Key Facts and Statistics." Bombay.

[34] See Fink, C. "Patent Protection, Transnational Corporations, and Market Structure: A Simulation Study of the Indian Pharmaceutical Industry." *Intellectual Property and Development: Lessons from Recent Economic Research*, World Bank/Oxford University Press (2005)

[35] AIR 1982 SC 1444 (1978). The patent at issue in the case claimed an improved means and method for the manufacture of utensils. While the Supreme Court ultimately found that the invention lacked novelty and inventive step, the Court nevertheless adopted the test under the 1911 Act for improvements:

> To be patentable the improvement or the combination must produce a new result, or a new article or a better or cheaper article than before. The combination of old known integers may be so combined that by their working inter relation they produce a new process or improved result.

Prakash v. Chowdri Plastic Works,[36] expressed its annoyance at the defendant's disregard of an earlier order enjoining the defendant from infringing a patent related to cinematographic film processes. The court recognized that failure to sanction the defendant for willfully violating the previous order would undermine the court's legitimacy[37] and the court sentenced the defendant to imprisonment for three months, the maximum allowed under the statute, and attached the defendant's properties.[38] In this case, the court demonstrated its authority despite the powerful political influence of the film industry. A year later the Delhi High Court in *Nat'l Research Dev. v. The Delhi Cloth & General Mills Co. Ltd. and Ors.*[39] upheld an injunction, noting that failure to enjoin the defendant from using the patented technology would become a precedent for others to violate patent. Nevertheless, despite what appeared to be a judicial respect for patents and though the 1970 Patents Act primarily affected the pharmaceutical sector with its removal of patent protection for pharmaceutical compounds, there was a relatively stagnant level of patent applications filed between 1972 and 1992[40] with a peak of applications filed in 1997, likely due to India's accession to the WTO.[41]

2. INDIA'S ACCESSION TO THE TRIPS AGREEMENT

India's accession to the WTO involved significant debate, with India arguing that the draft text in December 1991 that was purported to be a compromise, the "Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations" (also called

[36] ILR 1985 Delhi 685. The case was decided on November 10, 1978.
[37] See id. (stating that "[f]or the sake of maintaining dignity of the court and for the enforcement of its orders from time to time, it is necessary that severe action must be taken against the defaulters." Id.)
[38] Id.
[39] National Research Development Corporation of India v The Delhi Cloth & General Mills Co Ltd. and Ors., Delhi High Court (October 13, 1979)(available at manu/de/0304/1979).
[40] The trend reversed slightly in 1984-85 in that the number of applications from Indians was 1001 (30%) and the number of applications from foreigners resident abroad was 2316 (70%). See Appendix D, p. 27 Patents Thirteenth Annual Report of the Controller General of Patents, Designs and Trade Marks Under Section 155 of the Patents Act, 1970 (39 of 1970). 1984-85. Another six years later domestic filing again increased proportionally, with 1293 (36.4%) applications filed by Indians and only 2259 (63.6%) applications filed by foreigners. See Appendix D, p. 25 Patents Twentieth Annual Report of the Controller General of Patents, Designs and Trade Marks Under Section 155 of the Patents Act, 1970 (39 of 1970). 1991-92.
[41] See P. Ganguli, Patents and patent information in 1979 and 2004: a perspective from India. World Patent Information 26(2004) 61-62. In 1999, there was sharp decline in the number of applications, likely resulting from India's accession to the Patent Cooperation Treaty with inventors preferring to file directly via the PCT and designating India as one of several national phase countries. Six years later, the trend reversed slightly in that the number of applications from Indians in 1984-85 was 1001 (30%) and the number of applications from foreigners resident abroad was 2316 (70%).

the "Dunkel Draft") favored developed countries.[42] With respect to patents, there was strong domestic industry support for maintaining sovereignty over the scope of patent rights.[43] Nevertheless, in 1995, India acceded to the WTO, possibly upon realization that it was relatively isolated among other developing countries, many of which recognized that a liberalized trading order was necessary to promote development.[44] India was granted a grace period of five years for implementing the provisions of the TRIPS Agreement, and its seeming unwillingness to do so with respect to pharmaceutical patent protection led to a WTO Dispute Settlement brought by the United States. The WTO Dispute Settlement Panel found in favor of the United States, and India made several amendments beginning in 1999, in an attempt to implement the TRIPS Agreement, primarily with respect to pharmaceutical patent protection.[45]

There were several studies conducted around the time of India's implementation of the TRIPS Agreement, which attempted to quantify the effect of patents on the prices of drugs in developing countries, including India.[46] The various factors for determining the effect of patents on prices preclude pointing to patents as solely responsible for an increase in the cost of protected pharmaceuticals. The variation of prices with the type of drug and the amount of competition, including innovative drug competition (e.g., drugs that are directed to the same problem but are not bioequivalent), and competition through parallel trading would be some of the factors to be considered. In addition, product pricing and differentiation also depend on branding and advertising.[47] One analysis of patent protection in India attempted to account for these factors and found that patent protection will not raise prices due to lack of protection for current drugs and the availability of competition for therapeutically equivalent drugs or new varieties of therapeutically equivalent drugs. However, it was noted that pharmaceutical

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[42] See Terence P. Stewart, The GATT Uruguay Round – A Negotiating History (1986 – 1994); Vol. IV, The End Game (Part I); Kluwer Law International (1993), p. 221.

[43] In September of 1993, delegates from the National Working Group on Patent Laws (India), the Indian Drug Manufacturers Association and groups from other developing countries, declared that "governments must reject the proposals to impose a monopolistic patent regime" and that the scope of subject matter that can be patented should remain a sovereign right.

[44] See Reintegrating India with the World Economy, available at http://www.iie.com/publications/chapters_preview/98/3iie2806.pdf.

[45] See WTO Report of the Appellate Body, AB-1997-5; INDIA - PATENT PROTECTION FOR PHARMACEUTICAL AND AGRICULTURAL CHEMICAL PRODUCTS; AB-1997-5

[46] See Fink, C. *Intellectual Property Rights, Market Structure, and Transnational Corporations in Developing Countries*. Berlin: Mensch und Buch Verlag (2000).

breakthroughs may be priced above competitive levels.[48]

Nevertheless, while India made several amendments in 1999 to comply with the Report of the WTO Appellate Body, the 2005 amendments, garnered more attention as these amendments provided that patents shall be available for pharmaceutical products and the government faced significant opposition towards these amendments. As late as December 23, 2004, the last day Parliament was in session for the year, no legislation was introduced due to differences in the ruling coalition, which was struggling under pressure from leftist allies and segments of the manufacturing industry.[49] At that time, the support of the Communist party was critical to the survival of the ruling coalition.[50] The primary concerns of the opponents of broadened patent protection stemmed from its potentially adverse impacts on health care, primarily with respect to the price of medicines, as well as its effect on the domestic pharmaceutical industry, particularly related to unemployment concerns. [51] Proponents of the 2005 amendments maintained that the providing patent protection for pharmaceutical products would spur innovation and attract foreign investment, and improve overall access to new drug technologies. A compromise was reached resulting in weaker protection than many multinational pharmaceutical companies preferred. The amendments as enacted allow for continued infringement of patented products if the infringer had made a significant investment and produced and marketed the product at issue with only a payment of a reasonable royalty. This provision effectively renders many generic manufacturers immune from injunctive relief that would cease their operations. Further, the amendments allow for parallel importation.[52] Most notably, however, the amendments exclude from patentability salts, esters, and other chemical forms or complexes of a known substance unless they differ significantly in properties with regard to efficacy.[53]

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[47] Lanjouw, Jean O. "The Introduction of Pharmaceutical Product Patents in India: "Heartless Exploitation of the Poor and Suffering?" NBER Working Paper 6366. (1997)
[48] See Fink, supra note 45.
[49] See Rajesh Mahapatra, "India Struggles with Patent Reform", Associated Press, Financial Times December 26, 2004.
[50] See id. (noting that the Communist party insisted on parliamentary debate on the issue: "If there is an ordinance that fails to address our concerns, the government will be in trouble." (quoting Nilopat Basu, a Communist politician).
[51] See id.
[52] See supra note 8.
[53] See Section 3(d) of the Indian Patent (Amendment) Act 2005

While the 2005 amendments arguably limited the scope of patent protection for pharmaceutical products, it did not revise the amendments made in 2002 that allowed for the patentability of microorganisms, which effectively benefited the biotechnology industry sector. While the 2002 amendment implemented Article 27.3 of the TRIPS Agreement, the recognition that patentability should not be limited simply because a live product is involved was seen in the Calcutta High Court's decision in *Dimminaco AG v Controller of Patents and Designs.*[54] In *Dimminaco*, the issue related to the patentability of process for producing a vaccine containing a microorganism. The Patent Office had rejected the application as unpatentable, reasoning that as the end product was living, the invention cannot be patented. On appeal to the Calcutta High Court, the court rejected the Controller General's argument and held that "where the end product is a new article, the process leading to its manufacture is an invention."[55] Despite the 2002 amendments[56] and the decision in *Dimminaco*, there was still unease by many in the Indian legislature as to the patentability of the microorganism itself. During the discussion of the 2005 amendments, the government agreed to set up a technical committee to look into whether it would be consistent with the TRIPS Agreement to exclude micro-organisms from patentability. The committee, officially titled the "Technical Expert Group on Patent Law Issues", concluded that excluding microorganisms from patentability would not be consistent with the Article 27.3 of the TRIPS agreement.[57]

3. TRIPS IMPLEMENTATION: PHARMACEUTICAL PATENTS

While it is possible that India acceded to the TRIPS Agreement due to the advantages of trade liberalization in other sectors that resulted from joining the WTO, opposition to strengthening IPR grew during the ten years following India's accession to the WTO, primarily due to the fears of the effect of patents on access to medicines. The courts weighed in, by

[54] Dimminaco A. G. v. Controller of Patents Designs and Ors., AID No. 1 of 2001, Jan. 15, 2002.
[55] Id.
[56] See Patents (Amendment) Act 2002 (amending Section 5 of the Patents Act to include an explanation that "'chemical processes' includes biochemical, biotechnological and microbiological processes."
[57] The committee was chaired by Dr. R.A. Mashelkar and consisted of four other experts, Goverdhan Mehta, Asis Datta, N R. Madhava Menon, and Moolchand Sharma. Due to some technical issues, the report was withdrawn. See Ravi Sharma and Sara Hiddleston, "Mashelkar committee on Patent Law withdraws report; seeks more time", The Hindu, February 22, 2007. It is unclear if a revised report is forthcoming.

recognizing the link between patents and trade but interpreting property rights as subordinate to social policy. This perspective may have been due to the consideration of property rights as legal rights that are subordinate to the fundamental rights and the Directives on State Policy set forth in Article 39(c) of the Indian Constitution.[58] The Calcutta High Court addressed the link between patents and trade in *The Industrial Gases Ltd. v. Kamrup Industrial Gases Ltd*[59] by noting at the onset that "[a]ll lawful rights and interests of patentees are the nucleus of the patent system, and the country's market economy is dependent on a successful working of this particular patent system."[60] In *Franz Zaver Huemer v New Yesh Engineers,*[61] the Delhi High Court denied a request for preliminary injunctive relief by an Austrian patent owner, who alleged that the defendant infringed his patent on a loom used in the textile industry.[62] The defendant's response was limited to arguments that the suit was "mischievous, malicious and filed with malafide intention" due to the failure of the patentee to commercialize the invention in India, denied infringement and maintained that the purpose of the lawsuit was to throw out the small but longtime manufacturer in the textile industry. Without going into much detail except to be suspicious of the business rivalry between the plaintiff's representative and the defendant, the court concluded that the plaintiff was not entitled to the grant of the injunction. As noted previously, the textile industry played a significant role in the WTO negotiations. That the patentee was foreign may have also played a role in the decision, a type of rejection against foreign ownership of property involved in one of India's largest domestic industries.

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[58] The Directives of Social Policy state, in relevant part:

> The State shall, in particular, direct its policy towards securing . . .
> (c) that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment.

Former Prime Minister Indira Gandhi, in debates regarding the mandates of the legislative and judicial branches of the government, asserted that:

> It is unacceptable to us that a few should skim the cream of social investments, defrauding society as a whole . . . The whole idea of private profit at the cost of the common man is repugnant to me, to my party, and, I think, to the nation.

Lok Sabha Debates, Fifth Series, vol. 9, no. 12 See also Austin, G. *Working a Democratic Constitution* (Oxford University Press 1999, rep. 2007).

[59] (1996) 2 CALLT 483 (HC) Calcutta High Court (November 15, 2007)

[60] See id.

[61] Delhi High Court (November 11, 1995)(available at manu/de/1128/1995).

[62] See id.

The patentee appealed for a decision by a three-judge panel.[63] The panel first noted that there was no evidence of use in India by the patentee but agreed with the patentee that non-use is not a basis for revocation of the patent and therefore should not be a factor in determining whether injunctive relief should be granted. Nevertheless, the court noted that it has discretion and is open to considering the conduct of the patentee and characterized the conduct as "virtually 'suppressing' his patent for all practical purposes in India."[64] The court reasoned that granting injunctive relief despite non-use of the patent would seriously affect the market and economic conditions in India. The court explained that the grant of an injunction would effectively enable an invention that is not being used to be registered in India. By doing so, the public would not benefit from the invention and at the same time, others would be precluded from manufacturing or using a similar device in the domestic market.[65]

The court further elaborated on English and American case law, siding with Justice Douglas' dissenting opinion in the U.S. Supreme Court case *Special Equipment Co. v. Coe,*[66] which disagreed with the absolute right theory of patents. The court accepted Floyd Vaughan's argument that non-use in the U.S. of patents granted to foreigners would prevent the manufacture in the U.S. despite favorable conditions for such manufacture and noted that this equally applies to foreign patents in India. Reasoning that the allowance of an injunction despite non-use of the patent would subordinate the public purpose of the grant to the self-interest of the patentee, the court held that holding that a patentee who has not used his patents in India cannot obtain temporary injunctive relief against the respondent. In addition, the court noted that the balance of convenience in deciding whether to grant temporary injunctive relief may go against a plaintiff if such injunctive relief results in loss of employment, if there is public interest in the product (such as a life saving drug), if price is a factor when products are of similar quality, and the size of the defendant. By denying relief to a foreign patentee for technology affecting a strong domestic industry with Gandhian roots, the court garnered social legitimacy in the years following the accession to the WTO. The court laid down the marker for the role of public interest in determining injunctive relief, a measure necessary for patent holders. As providing patent protection for pharmaceutical products was a controversial accommodation by India when

[63] Franz Xaver Huemer v New Yash Engineers, AIR 1997 Delhi 79 (High Court of Delhi, March 8, 1996)
[64] Id.
[65] Id.

joining the WTO, though the case dealt with textile technology, the concessionary link between textiles and pharmaceutical patents in the context of WTO accession was clear in the court's dicta on the balance of convenience.

Around the same time, the Calcutta High Court was also looking at non-use of a patent when considering whether to grant temporary injunctive relief. In *Hindustan Lever Ltd v. Godrej Soaps Ltd.*,[67] the patentee, a subsidiary of the British company Unilever, is a manufacturer of soaps, and other cleaning supplies. The defendant was a competitor and had been selling soaps in India for over 60 years.[68] The defendant argued that the patentee had not marketed any low-price soap using the patented composition since the granting of the patent in 1993, whereas the defendant had manufactured low-price soap for a long time. The defendant further argued that if injunctive relief is granted, it would cause extreme hardship by keeping valuable workers and production equipment idle. Finally, the defendant maintained that if the patentee obtained an injunction, this would enable the patentee to appropriate a large portion of the soap industry and thereby stifle competition.[69] While the patentee maintained that the request is only to stop the defendant from manufacturing an infringing product, rather than any product, the court nevertheless chose not to grant injunctive relief, based at least in part on the non-use of the patent, despite the fact that the patent had withstood an opposition to its issuance.

Whether the courts consider the Directives on State Policy as guidance in deciding cases related to the enforcement of patent rights is not certain; nevertheless, enforcement of patent rights appear to be subject to a broader social policy of access. Foreign ownership of the patents may be relevant as the low number of domestic stakeholders weakens institutionalized legitimacy of patents. In other words, foreign ownership of patents is more likely to give rise to the question of whether the public interest is adversely affected as there is more skepticism as to their benefits; by signaling a reluctance to issue injunctive relief against infringers who do not have manufacturing capacity in India or by allowing price considerations to limit the terms for exploiting the patent, the decisions highlighted the uncertainty that patentees, and more

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[66] 324 U.S. 370 (1945).
[67] AIR 1996 CAL 367 (Calcutta High Court, April 11, 1996)
[68] There were others joined in the action, including one company that was a collaboration of the plaintiff an Indian subsidiary of the American company, Proctor and Gamble. See id.
[69] Id.

particularly foreign patentees, faced when exploiting their patent in India. These concerns were affirmed in the Novartis cases discussed below.

THE *NOVARTIS* CASES

Most recently, the issue of patentability of a new form has received much attention with Novartis' anti-cancer drug, Glivec. Novartis' application was one of several "mailbox" applications filed pursuant to Article 70 of the TRIPS Agreement.[70] The Controller General granted Novartis an Exclusive Marketing Right (EMR) pending the grant of the patent, a decision that created public discord and may have led to the Comptroller General's firing.[71] After the EMR was issued, Novartis attempted to enjoin others from selling the generic version of Glivec. Cases were brought in the Madras High Court[72] and the Bombay High Court.[73] The Madras High Court granted injunctive relief *ex parte* in January 2004. The defendant appealed arguing that the invention was not novel but also argued that the plaintiff tried to create "a monopoly and to take the entire profits out of the sale of drugs . . . adversely affecting the interest of the patients in India" and further noted the difference in the cost of the drugs, stating that the patented drug was seventeen times more expensive than its generic version. The court disagreed and noted that "when the Statute protects such rights, in my opinion, the balance of convenience loses its significance, especially when the parties in opposition do not have a legal ground in their favour at this stage." The court further noted that the government has a right to fix the price of at which a drug with an EMR can be sold[74] and upheld the injunction.

While cost was also raised as an issue in the Bombay High Court, here the defendants further pointed to Glivec as the only drug in the market capable of combating blood cancer. The defendant also noted the lack of patentee's manufacturing capacity to accommodate this demand; moreover, the issuance of an injunction would "stifle all avenues of supply of this life-saving

[70] Pursuant to Art. 70 of the TRIPS Agreement, members who did not provide for pharmaceutical patent protection had to provide a procedure for receiving these applications though the examination would be deferred until 2005, when they were required to provide for such protection. These applications were loosely termed "mailbox" applications. During that period, however, applicants could receive exclusive marketing rights. See Articles 70(8) and 70(9) of the TRIPS Agreement.
[71] See KG Narebdranath, Patents' controller fired over EMR to Novartis, Economic Times, (available at http://economictimes.indiatimes.com/cms.dll/%3E/articleshow/842919.cms).
[72] Novartis AG v Adarsh Pharma, 2004(3)CTC95 (High Court of Madras, April 28, 2004)
[73] See Novartis AG v Mehar Pharma, 2005 (3)BomCR 191 (High Court of Bombay, December 23, 2004)
[74] See id (citing Section 24-D of the Patents (Amendment) Act 1999).

drug and leave the patients at the mercy of the erratic and costly supply by the plaintiffs."[75] In addition, it was pointed out that the plaintiffs did not manufacture the drug in India but rather it was imported from Switzerland. In contrast, the defendant manufactured and sold the product in India and while it received in excess of Rupees 10 crores (approximately $2.5 million (USD)), the defendant pointed to their charity programs for delivery of the medication and the substantial investment in the business, with several "crores worth of anti-cancer drug . . . in the pipeline."[76]

The Bombay High Court denied Novartis injunctive relief reasoning that that the balance of convenience favored the defendant because the drug was not only a life-saving drug, but also it was an imported drug, the shipment of which is subject to potential problems in the international transport system.[77] Moreover, the court reasoned that issuance of an injunction would cause the shut down of domestic suppliers and thus put the drug's consumers at risk in the event of disruptions to international trade. These cases set important precedents for the strength of patents on pharmaceutical compounds.

The following month, the High Court of Madras, in *Intas Labs Pvt. Ltd. v. Novartis A.G.,*[78] referred to an earlier case brought by Novartis, i.e., *Novartis AG v Adarsh Pharma,*[79] but noted that the public interest factor merits serious consideration, "particularly in the case of [the] supply of medicines for Chronic Myeloid Leukaemia."[80] In this case, the court required that the patentee propose a supply and pricing arrangement for the drug that would address the concerns regarding access in order to uphold the injunction.[81]

After the 2005 amendments were enacted, the Indian Patent Office began examining applications filed under the mailbox procedure.[82] Novartis' patent application was rejected on the basis that the invention was a polymorphic form of a known compound, and the properties did not differ significantly with regard to efficacy and was therefore unpatentable under the newly amended Section 3(d). Novartis challenged the ruling of the Patent Office, arguing that

[75] Id.
[76] Id.
[77] See Novartis AG v Mehar Pharma, 2005 (3)BomCR 191 (High Court of Bombay, December 23, 2004)
[78] 2005(1)CTC27 (High Court of Madras, December 20, 2004)
[79] 2004(3)CTC95 (High Court of Madras, April 28, 2004)
[80] Id.
[81] Id.
[82] See supra notes ___ and accompanying text.

the patent is valid under Section 3(d) and alternatively, that Section 3(d) is not valid under the Constitution and is not consistent with the TRIPS Agreement. A few weeks before the High Court rendered its decision, the Government of India appointed the former Controller General of the Patent Office as the patent technical expert to the Intellectual Property Appellate Board (IPAB) thereby making it functional to hear appeals from the patent office.[83] By doing so, the question of whether the Madras High Court would again decide again in favor of the patentee went unanswered. The case was separated with the question of patentability under Section 3(d) appealed to the now functional IPAB. Novartis challenged this move as creating a conflict as the patent technical expert was the Controller General of the Patent Office when Novartis' patent application was rejected but was unsuccessful.[84]

The High Court of Madras later held that the language of Section 3(d) was not arbitrary or vague and therefore was not in violation of Article 14 of the Constitution.[85] The court further refused jurisdiction over whether Section 3(d) was consistent with the TRIPS Agreement, reasoning that the question of TRIPS consistency should be answered through the dispute settlement mechanism of the WTO.[86] Thus, while the parameters of Section 3(d) may not yet be defined, these cases evidenced the risk for the pharmaceutical industry, in particular as the incremental innovation upon which much of the industry depends, is at risk of failing the Section 3(d) test.

4. INDIA'S PHARMACEUTICAL INDUSTRY

The weak protection and enforcement of patents by both the legislature and the judiciary promote the large domestic generic pharmaceutical industry at the risk of discouraging technology transfer from the innovative pharmaceutical industry. India is expected to be among the top 10 pharmaceutical markets globally by 2015 (approximately $20 billion (USD) in drug

[83] Gazette of India, Regd. No. D. L. -33004/49 (April 3, 2007)
[84] While the Government of India proposed excluding this member from the IPAB, Natco, a generic manufacturer of Glivec, filed suit in the Madras High Court challenging the government's move, was unsuccessful and appealed to the Supreme Court. The Supreme Court found in favor of Natco and issued a stay order which effectively halted the IPAB hearing.
[85] See *Novartis v. Union of India*, (High Court of Madras, August 6, 2007)
[86] See id. Subsequently, Novartis and the Government of India agreed to a two-member panel; a third party, Natco, another generic manufacturer, challenged by a third party. The Supreme Court issued a stay on the IPAB's hearing of the case pending a decision on whether a two member panel is sufficient.

sales), more than tripling its 2005 sales of US$6 billion.[87] At the same time, the number of people suffering from chronic diseases, including diabetes and coronary heart disease, is expected to increase significantly. For example, in 2000, the number of people diagnosed with diabetes in India was 31.7 million; by 2030, the number is expected to be around 80 million.[88] Further, the domestic Indian manufacturing industry of bulk drugs was valued at approximately $4.10 billion in 2007 and growing at a compound annual growth rate of 18.81% between 2003 and 2007.[89] With the generic medicines continuing to replace patented medicines to approximately 67.3% of the market share,[90] India's large generic drug industry benefits substantially from the limited patentability for pharmaceutical compounds.

Interestingly, though, while India appears to be interested in promoting growth of its domestic business through limited patent protection, possibly even at the expense of discouraging foreign investment in R&D, the appeal of the generic market in India has not been overlooked by the research-based pharmaceutical companies. For example, Daiichi-Sankyo bought a controlling interest in India's Ranbaxy Laboratories, one of the largest generic pharmaceutical companies in India, known for its challenge of Pfizer's Lipitor patent. Ranbaxy is one of the few largely generic pharmaceutical manufacturers that has also ventured into research and development of new products, possibly due to the recognition that diversification is necessary to remain profitable in the changing patent landscape. Indeed, Ranbaxy filed the second most number of patent applications in India, behind the government owned Council of Scientific and Industrial Research (CSIR). In fact, from 2004-05 to 2005-06, the number of patent applications filed at the Indian Patent Office grew significantly, with the greatest growth in the fields of chemical and computer/electronics applications. Interestingly, though, many of these generic based manufactures appear to be moving towards export oriented innovation rather than innovation directed to the domestic market. According to a report by Evalueserve, Ranbaxy has 320 published Indian patent applications with Dr. Reddy's Laboratories, another large primarily generic drug manufacturer, not far behind.[91] Ranbaxy, though, has taken it a step

[87] G. Kumra, P. Mitra and C. Pasricha, "India Pharma 2015, Unlocking the Potentials of the Indian Pharmaceuticals Market," McKinsey & Company (2008)
[88] See Country and Regional Data for Diabetes, World Health Organization.
[89] See Indian Bulk Drugs, Cygnus Report (July 2008)
[90] See id.
[91] Patent Landscape in India, Evalueserve (June 2008)

further and has filed several international applications,[92] including several in the U.S. Patent and Trademark Office and the European Patent Office. Dr. Reddy's Laboratories appears to limit the majority of its applications to the Indian Patent Office. Other Indian pharmaceutical companies that are predominantly associated with generic manufacture have also moved to filing patent applications, both in India and abroad. Cipla, for example, has filed 138 applications in the Indian Patent Office and 27 in the U.S.P.T.O. According to the World Intellectual Property Organization, for the trilateral patent offices (USPTO, EPO, and JPO), India is listed as the country of origin for 2,460 applications in 2006.

"[INSERT TABLE 1 HERE]"

On the whole, the number of patent applications filed in the U.S.P.T.O. originating from India has increased from 91 in 1995 to 1923 in 2006, an over 2000% increase.

Statistics suggest a government focus on promoting domestic research and development through increased funding; nevertheless, whether such investments will further interest in stronger patent protection is unclear. The Indian government is increasing its investment in R & D, from $883 million in 1990 to approximately $8.5 billion in 2005. Nevertheless, the number of researchers is about 156 researchers per million people, well behind the United States and some Scandinavian.[93] Further, R&D spending is only about 0.8% of GDP in India, compared to 1.23% for China, and the government funding accounts for about 80% of total funding while in China is amounts to only about 30%. The 11th Strategic Plan (2007-2012) has allocated three times more to science and technology and atomic energy than the 10th Strategic Plan of the previous five years.[94] While private sector funding needs to increase in India, the difficulty is finding the incentives to increase that investment. The Organization of Pharmaceutical

[92] Ranbaxy has more than 450 published PCT applications.
[93] Comments by Science and Technology Minister Kapil Sibal during Question Hour at the Rajya Sabha, (March 12, 2008). He stated that India has about 150,000 researchers while China has approximately between 800,000 to 1 million researchers.

Producers of India (OPPI), comprised mostly of multinational corporations, warned of decreased investments in the pharmaceutical sector in part due to the weak patent protection evidenced by the *Novartis* case.[95] Novartis also stated that the company is considering moving hundreds of millions of dollars in planned investments from India and possibly to China as a result of the patent decision for Glivec.[96]

India's cognizance of the role that patent protection plays in pharmaceutical development is evidenced in its Draft National Pharmaceuticals Policy, 2006.[97] Recognizing the need to encourage more research and development in pharmaceutical products but at the same time concerned about the accessibility and affordability of medicines, the policy would extend tax incentives for R & D infrastructure expenses, and eliminated import tariffs for reference books and certain scientific instrumentation.[98] The policy would encourage the development of orphan drugs, i.e. drugs that are developed to treat rare or uncommon diseases, and signaled the development of a public-private partnership program directed to cancer and HIV/AIDS drugs.[99] The policy would eliminate taxes for these drugs (in formulations and bulk) and requested industry to reduce its profit margin. Interestingly, the Report also recommended a mandate that pharmaceuticals that were granted patent protection after January 1, 2005, would be subject to price negotiations prior to receiving marketing approval.[100]. The policy would commence where the Pharmaceutical Policy of 2002 ended. The latter policy was not implemented due to legal challenges but identified the government's desire to make the Indian pharmaceutical market more competitive globally in view of the upcoming changes to India's patent law. Both policies noted the allowance of up to 100% FDI subject to the automatic route of approval, and the 2006 policy if adopted would expand the scope of pharmaceuticals subject to this change.

Despite these changes in policy positions and the government's recognition of the need to

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[94] See 11th Strategic Plan (2007-2012) (available at www.planningcommission.nic.in)
[95] See Market and Industry Post (available at: http://marketreports.wordpress.com /2007/09/27/drug-price-control-in-india-to-hurt-investment-in-india-mncs/)
[96] See "Novartis set to switch India R&D plans after court ruling", Andrew Jack, (Available at: http://www.ft.com/cms/s/0/fd01bd46-5047-11dc-a6b0-0000779fd2ac.html): "This [ruling] is not an invitation to invest in Indian research and development, which we would have done. We will invest more in countries where we have protection. . . . it's just a question of the culture for investment." (quoting Novartis Chairman and CEO Daniel Vasella)
[97] See Draft National Pharmaceuticals Policy, 2006 (available at http://chemicals.nic.in/npp_circulation_latest.pdf)
[98] See id.
[99] See id.

enhance R & D in pharmaceuticals to become globally competitive, the approach India has taken with respect to patent protection for pharmaceutical signals an attempt at balancing domestic industry concerns and public interest with incentives for incentives for investment-directed innovation. In other words, with the limits that India has imposed on the ability to recoup that investment through limited intellectual property protection, it is unclear if other factors that encourage investment will outweigh these concerns. Though traditionally generic pharmaceutical manufacturers are expanding into innovative R&D and the government appears to be promoting investment into pharmaceutical R&D, the hurdles to overcome in order to develop a strong innovative pharmaceutical industry are great, with some companies, as Ranbaxy, electing to sell off a controlling interest to a research based company for technology transfer. Some reports suggest that India should focus on adapting technologies for the domestic market to sustain its innovation potential.[101] While, initially, this may be more easily obtained, adaptation of technology often requires licensing of the base technology. As noted above, absent strong intellectual property protection, it is unlikely that technology transfer will take the form of licensing initially. It is, however, possible, that with the developing skill set in the large domestic pharmaceutical companies that seek to engage in more research and development, licensing of the base technology coupled with some revenue sharing from the adaptive technologies may encourage multinational companies to engage in more targeted technology transfer. Further, while some of the larger domestic companies focus on export-oriented products to capture a greater share of markets that are not as income-sensitive as India, the government should consider funding more research and development of incremental innovation, including innovation targeted to neglected diseases in India.

Working with the assumption that international technology transfer in patent-sensitive industries responds positively to stronger intellectual property protection in middle-income and large developing countries, development of its science and technology industries in India and encouragement of private sector funding for research and development internally and externally through joint research and development projects, requires a reassessment by the government on the scope of patent protection and the judiciary on the enforcement of patent rights. The basis for the assumption is simple: countries that pose a competitive imitation threat with weak IPRs

[100] See id.

dissuade FDI and licensing while countries with stronger patent laws expand the market for foreign exporters. Through that expansion, technology transfer occurs, either intentionally or through a spillover effect. The sustainability of the current approach, coupled with judicial precedent that contributes to the uncertainty surrounding the scope of protection is questionable. Should other incentives that attract pharmaceutical investment decrease, whether due to rising fuel or labor costs or more preferable business conditions in another emerging economy, the weak protection and enforcement of patents in India will no longer be counterbalanced by positive incentives, and foreign investment in the pharmaceutical sector will likely decrease.

B. COPYRIGHTS

Similar to pharmaceutical patents, the media and entertainment industry is also faced with easy reproduction of its copyrighted material. Yet, in contrast to patent protection, copyright protection in India has strengthened in the years following independence, and India has signaled an intent to join the ranks of many developed countries by acceding to recent international treaties that provide for stronger copyright protection. Moreover, legislative changes to implement the treaties necessary to help define protected rights. Nevertheless, the scope of protection that Indian courts confer on the material, resulting in more movies being produced in Bollywood, as well as the limited enforcement against duplication of the protected works raises similar questions on investment return for foreign copyright dependent firms.

1. BRIEF HISTORICAL DEVELOPMENT OF COPYRIGHT LAW IN INDIA

As with patent law, copyright law was imported from Britain during colonial rule through the 1842 Literary Copyright Act, which extended the scope of the British copyright to "the United Kingdom of Great Britain and Ireland, the islands of Jersey and Guernsey, all part of the East and West Indies, and all colonies, settlements and possessions of the Crown which are now or hereafter may be acquired;"[102] and the Act XX of 1847,[103] amended by Act XXV of 1867.[104]

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[101] See Dutz, M. *Unleashing India's Innovation: Toward Sustainable and Inclusive Growth.* World Bank (2007)
[102] Literary Copyright Act (1842) 5 & 6 Vict. c. 45.

India's disagreements with Britain over the scope of copyright surfaced throughout the late 19th Century, including with respect to protection for translations.[105] The 1957 Copyright Act, which implemented several of the Berne Convention commitments but also provided greater protection for authors, particularly in the areas of moral rights[106] and certain exceptions to copyright infringement.[107] India recognized education as a tool for economic development, and believed strict copyright regimes would impede that goal. Fee payment seemed contradictory to the notion of knowledge access, particularly with respect to science and technology, and to date, the 1957 Act provides an extensive list of noninfringing uses, with "fair dealing" repeatedly mentioned.[108] Moreover, the reproduction of literary works (*e.g.*, by a teacher in the course of instruction, as part of an examination, or in answers to the questions) is an acceptable, non-infringing use of copyrighted works.[109] Indeed, it appears from the scope and nature of the exceptions, that India intended the concept of "fair use" to encompass, very broadly, use for educational purposes. The 1957 Act underwent substantial amendments in 1983, 1984, 1992, 1994 and 1999.[110]

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[103] Art XX of 1847, entitled "An act for the encouragement of learning in the territories subject to the government of the East India Company." This Act was domestic in character, in contrast to imperial law, such as the Literary Copyright Act of 1842.

[104] This Act provided for the registration of books printed in British India.

[105] Further colonial legislation includes the 1911 Imperial Act, responding to developments in Berne with respect to translations. Later, Britain's accession to the Berne Convention pulled India into the international copyright regime. For an account of the historical development of the translation right in British India, see (Insert Bently's work).

[106] The Copyright Act, 1957 deemed any change to a work to be an infringement of an author's rights. Act 38 of 1984 amended this section to be more in line with Berne Convention Article 6bis:

> (1) Independently of the author's copyright and even after the assignment either wholly or partially of the said copyright, the author of the work shall have the right . . .(b) to restrain or claim damages in respect of any distortion, mutilation, modification or other act in relation to the said work which is done before the expiration of the term of copyright if such distortion, mutilation, modification or other act would be prejudicial to his honour or reputation.

[107] See Copyright Act, 1957.

[108] Fair dealing with literary works, e.g., for the purposes of private use, including research, is not an infringement; nor, e.g., is the publication of short passages in a collection, mainly composed of non-copyrighted matter, when it is intended, in good faith, for the use of education institutions. It is unclear the scope to which this exception can be applied. See, e.g. Rajan, S. "Digital Learning in India: Problems and Prospects"(noting that the allowance of "short passages' is vague in determining its application to short works (available at www. _____).

[109] See S. 57 of 1957 Copyright Act.

[110] These amendments updated the laws due to increased digital technology and narrowed the scope of moral rights. But cf In Amar Nath Sehgal v Union of India, (where the court found the Government of India liable for violating and Indian's sculptor's moral rights and ordered over $11,000 (USD) in damages. The court noted that the "plaintiff has a right to be compensated for loss of reputation, honour and mental injury due to the offending acts of the defendants.") The amendments also increased the term of protection for published artistic, literary, dramatic and musical works from 50 years to 60 years from the year following the death of the author. See Act 13 of 1992 (also amending term of protection for anonymous and pseudonymous works). The 1999 amendments encouraged greater collaboration among software developers by, e.g., allowing "the doing of any act necessary to obtain information

2. INDIA'S ENTERTAINMENT INDUSTRY

The Indian government has proposed several amendments to the country's copyright laws, in part to include protection for digital rights management information.[111] These amendments may serve as implementing legislation for the World Intellectual Property Organization's "WIPO" Copyright Treaty and the Performances and Phonograms Treaty, collectively termed the WIPO Internet Treaties.[112] That the Indian government has proposed amendments to its copyright regime may be in part due to the growth of several copyright-dependent industries, such as media and entertainment and software. India's media and entertainment industry grew 17% to approximately $12 billion (USD), in contrast to the 23% growth in 2006 and the four-year compound annual growth rate of 19%.[113] The film industry is the most prolific sector of India's entertainment industry, which captures about 27% of the entertainment market, with an estimated worth of about $2.2 billion (USD) in 2007.[114] This was only a 14% change from the 2006, in contrast to the 24% growth from the previous year. Between 2004 and 2007 the industry grew approximately 17%.[115]

The growth in the film industry is likely due to several factors, including multiple access points as well more financing options. Growth in the number of multiplex cinemas in India is expected, with the major cinema entities expected to grow 10 to 15 complexes a month, primarily in smaller towns and cities. By 2010, it is expected that there will be 2000 multiplex screens, a five fold increase from 2006, likely due to the liberalization of foreign investment in

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essential for operating interoperability of an independently created computer programme with other programmes . . ." See Section 52(1).

[111] See www.copyright.gov.in to access the proposed amendments.

[112] For example, the proposed amendments include definitions of "communication to the public" (revised to include performances and includes the making available right) and "rights management information" and provide for technical protection measures. The proposed amendments also provide for criminal penalties for circumvention of an effective technological measure and altering, e.g., rights management information.

[113] See "The Indian Entertainment and Media Industry: Sustaining Growth; Report 2008" PriceWaterhouseCoopers (available at http://www.pwc.com/extweb/pwcpublications.nsf/docid/BF27519CD3178AAACA2574210026EFAC/$file/ExecutiveSummary1.pdf)

[114] See id.

[115] See id.

real estate, with a multiplex often being built in new shopping malls,[116] as well as tax incentives to multiplex owners. With prices that are typically much higher than the price of tickets for single screens and with greater distribution potential, the revenue is expected to increase. The multiplex industry is expected to grow by more than 44% to $220 million by next year.[117]

At the same time, the film industry benefits from multiple access points. Non-box office revenues are expected to treble or quadruple in the next five years, due to home video access, internet, and mobile phone access.[118] The share of box office revenues is expected to decrease from 84% in 2006 to about 75% by 2010 and 60% by 2020.

In addition, financing options have increased with investments from the banking sector slowly replacing individual investors and black market funds that historically backed Bollywood filmmaking.[119] Increased transparency and expectations on investments are accompanying this shift. Indeed, financing from organized lenders and banks quintupled to 2.5 billion rupees from 2001-2004 and approximately 40% of Bollywood movies were made with this organized financing. Banks such as the Export-Import Bank of India has increased its investment into Indian films by 200% to approximately $70 million (USD) in 2008.[120] The Industrial Development Bank of India (IDBI) and the Bank of India are also financing Indian films. Private corporations also have helped to finance Bollywood movies, and as with technologies, some Indian companies plan to export Indian entertainment through new ventures with Hollywood.[121]

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[116] "Multiplexes spring up across India", Joe Leahy, Financial Times (June 25, 2007)(available at http://www.ft.com/cms/s/0/a52459dc-2345-11dc-9e7e-000b5df10621,dwp_uuid=a6dfcf08-9c79-11da-8762-0000779e2340.html)

[117] See K. Mukherjee, "Multiplexes feeding India's movie mania," Reuters (July 24, 2007)(available at www.livemint.com)

[118] See "Transforming the Growth: Future of Indian Media and Entertainment Landscape", CII-ATKearney Study (available at http://cii.in/documents/executivesummarycii_ATkearneyup.pdf)

[119] See Abhay Singh and Nabeel Mohideen, "Breathless in Bollywood, investors wager on movies" Bloomberg News, August 22, 2006, available at http://www.iht.com/articles/2006/08/22/bloomberg/sxbolly.php. "Bollywood" is the popular term for the Mumbai based Indian film industry.

[120] Why banks are financing Bollywood films? (available at http://www.indiafm.com/features/2007/07/02/2818/index.html)

[121] "Bollywood Goes to Hollywood, Seeking Bargains**,"** Heather Timmons, *New York Times* (June 23, 2008) (available at nytimes.com).

The film industry also fosters growth in related industries, including the music industry. Film music accounts for approximately 40% of all music sales in India.[122] However, as seen in other countries, it is expected that the sales of CDs will decrease and digital-based music sales will increase, and the music industry saw marginal growth at 1% in 2007. Digital based music contributed to the growth and is estimated to account for 88% of the music industry revenues.[123]

The Indian television content industry is also growing with an estimated value of $1.1 billion (USD) by 2008. The growth in the television industry was higher than the overall growth of the industry in 2007 at 18% over the previous year and with a cumulative growth of 21% overall.[124] Such investments will likely rise as television and film continue to be the main form of entertainment in India. At the same time, domestic industries that had been supplying content and services for the U.S. entertainment industry are focusing more on the domestic market. DQ Entertainment Ltd, a company based in Hyderabad that produces animation content, visual effects and games, some of which it produces for the Walt Disney company, has projected an employee growth of almost 250% in 2008, with plans to target the Indian market.

The entertainment industry in India represents several copyright-dependent industries, from the writers of the screenplays, to the producers of the films, to the composers and producers of music incorporated in the films, with each sector of the industry being very fragmented. Unlike patents, it is thus not surprising that the government and the public view copyright protection in these industries as supporting market growth: The Indian Government recently commissioned a study on piracy, including film and software piracy, and identified several types of film piracy, including home video, camcorder and cable piracy, thereby acknowledging the problem.[125] As cable and satellite connectivity continues to improve and with the increase in younger population, the problem will likely have a greater negative impact on the growth of the

[122] See "Size of the Music Industry in India" at www.indianmi.org. The Indian Music Industry Association attributes copyright piracy as a significant factor in the decline in sales of legitimate music. See id.
[123] See "Indian Digital Music Sales to Surpass Physical Format" (available at http://www.contentsutra.com/entry/indian-digital-music-sales-to-surpass-physical-format-this-year-study)
[124] PWC report 2008.
[125] The study was admittedly limited in several aspects, primarily due to lack of database resources and survey content. Interestingly, the primary entertainment beneficiaries of copyright protection, the Indian Music Industry and the Film Federation of India, did not respond to the surveys. Concerns over potential underpayment of taxes also hindered attempts to get complete information. See http://copyright.gov.in/mainact.asp#ack for a copy of the report.

industry as legitimate sales of movies, music and software decline.[126]

As access to digital content increases, content transfer through investment and joint ventures will likely be evaluated similarly to technology transfer. Increased protection and enforcement of IPR on creative works could allow for greater foreign investment and collaboration. Moreover, unlike patent protection, copyright protection has likely gained institutionalized legitimacy due to the magnitude of domestic stakeholders as creators. With respect to legislation, while India extended the term of protection for copyrights to sixty years in 1992,[127] India has not yet acceded to the WIPO Internet Treaties, which are directed to protection of digital content. While India has proposed amendments intended to implement the WIPO Internet Treaties, there has been little progress in this regard. Some industry analysts suggest that because the Ministry of Human Resource Development has the lead for introducing amendments rather than the Ministry of Commerce and Industry, there is less regard for the commercial benefit of implementing these amendments.

3. ENFORCEMENT OF COPYRIGHTS

Despite the magnitude of the Indian entertainment industry, enforcement of copyrights is weak, both in civil and criminal proceedings. As with patents, public interest plays a role though courts have taken a more measured approach with respect to the scope of copyright protection *vis a vis* public interest. While several cases suggest that the courts construe the copyright law without regarding to public interest,[128] the lack of certainty as to the weight of the public interest

[126] The study also estimated that in 1997, the number of cable and satellite households in the country was approximately 9.2 million.

[127] See THE COPYRIGHT (AMENDMENT) BILL, 1992. The Berne Convention requires 50 years of protection.

[128] See Sulamangalam R. Jayalakshmi v. Meta Musicals and Ors., AIR 2000 Mad 454 (High Court Madras June 16, 2000)(where the court rejected the defendant's contention that copyright protection cannot be claimed for "devotion al songs dedicated in favour of the Almighty," see id., in an action over whether a party can claim copyright protection in religious devotional songs; see also Satsang v. Kiron Chandra Mukhopadhyay, AIR 1972 Cal 533 (Calcutta High Court, July 18, 1972)(finding in favor of the author of religious writings, holding that such writings are "literary works" and therefore subject to protection under the Copyright Act); see also, Garware Plastics and Polyester Ltd v Telelink, AIR 1989 BOM 331 (High Court of Bombay, January 31, 1989).(where the court held that a copyright was infringed when a video was broadcast over a cable network without authorization of the copyright holder, and noted the monetary loss to the copyright holder in support of its decision); and see also, Super Cassette Indus. Ltd. v. Entertainment Network Ltd. AIR 2004 Delhi 326 (Delhi High Court, June 30, 2004) (reasoning that allowing one who is infringing a copyright to be granted a compulsory license would "encourage others to first infringe and when the infringement is discovered then apply for a compulsory license . . . In our considered opinion, one who does not have any respect for law is really not entitled to be considered for grant of licence under Section 31 of the Copyright Act.")

fact stems from the courts' interpretation of public interest, with some cases giving rise to questions of bias against foreign rights holders. The issue of whether public interest can be used to deny copyright protection was discussed by the Delhi High Court in *Rupendra Kashyap v. Jiwan Publishing House*.[129] This case addressed the issue of whether copyright protection on examination papers is void if it is against the public interest. The court noted that

> [k]nowledge of the questions appearing in the examination papers conducted for the previous years is certainly of immense use to the students and scholars but that information is available in the publication made by the plaintiff. . . Moreover, the law as to copyright in India is governed by a statute which does not provide for defence in the name of public interest. An infringement of copyright cannot be permitted merely because it is claimed to be in the public interest to infringe a copyright.[130]

As the facts in *Rupendra* related to provisions in a licensing agreement, and the exams were available to the students, the educational aspects of the case did not outweigh the respect for the copyright. Recently, though, the Delhi High Court was asked to issue an injunction in a case where the public interest would be adversely affected if the copyright holder were successful. In October 2007, a local planning committee in India was going forward with final preparations for the Durga Pooja in Calcutta, the largest Hindu festival in East India. That year, the committee chose to use the book series *Harry Potter* as the theme; approximately $30,000 (USD) was spent on creating statutes of several characters in the series as well as *Hogwarts* castle and a copy of the *Hogwarts Express* train. The committee did not have authorization from Penguin or Warner Bros. or the author, J.K. Rowling; In previous years well-known and protected content, such as content from the movie *Titanic* had been used without legal challenge. The plaintiffs sought injunctive relief and approximately $50,000 (USD) in damages for copyright infringement. The Delhi High Court decided against issuing a temporary injunction, noting that while there may be copyright infringement, the preparations for the parade having already been made, the parade may go forward. However, the judge warned the defendants that

[129] 1996 (38) DRJ 81 (Delhi High Court July 1, 1996)
[130] Id.

they may use the images only through the pooja but that "any further use of these characters will be subject to the prior permission of the author of the Harry Potter series, J.K. Rowling" and required the defendants to affirm that they would not infringe the copyrights in the future. Had the Delhi High Court enjoined the defendant, the religious festival would likely have been cancelled, a factor that was likely considered by the court.

In 2008, the Supreme Court opined in dicta of the importance of considering public interest when addressing intellectual property rights. In *Entertainment Network (India) Ltd. v. SuperCassette Indus Ltd,*[131] the Court considered the issue of whether a compulsory license to radio broadcasters could be granted only for works not previously made available to the public. The Court, disagreed, effectively allowing for compulsory licenses for radio broadcasters absent prior negotiation. Justice Sinha, after equating IPR to all property rights, noted that

> …when a right to property creates a monopoly to which public must have access, withholding the same from public may amount to unfair trade practice. In our constitutional Scheme…, monopoly is not encouraged. Knowledge must be allowed to be disseminated. An artistic work if made public should be made available subject of course to reasonable terms and grant of reasonable compensation to the public at large.[132]

However, civil copyright infringement cases that have had a more significant effect on domestic industry relate to Indian adaptations of Hollywood storylines. While the copyright owner enjoys the right of adaptation, the courts have instead interpreted these cases as copying the idea rather than adapting the expression of that idea, as in the *Barbara Taylor Bradford* case.[133] Such an interpretation of the law benefits the domestic film industry, much of which constitutes the Mumbai based industry, popularly termed Bollywood.

[131] (Civil Appeal NO. 5114 of 2005, May 16, 2008).
[132] See id.
[133] See infra notes _____ and accompanying text.

Specifically, in the film industry, these issues revolved around the idea vs. expression dichotomy, famously discussed by the U.S. Supreme Court in *Baker v. Seldon*,[134] namely that copyright protects the expression of the idea, not the idea itself. This issue arose in the case of *R.G. Anand v. Delux Films*,[135] where the Indian Supreme Court was asked to consider whether a film made by the defendants, who had access to the play of the plaintiff, both contributors to the Indian entertainment industry, was an infringement of the copyright in the play, by virtue of a similar storyline. The court noted that "an idea, principle, theme, or subject matter or historical or legendary facts being common property cannot be the subject matter of [a] copyright of a particular person"[136] and that a copyright is "confined to the form, manner and arrangement and expression of the idea by the author . . ."[137] In this case, the Court determined that the story lines, while similar, amounted to the same idea but not the same expression of that idea. It was clear that the film and the play were based on a similar idea, an idea that was vaguely reminiscent of *Romeo and Juliet*, but that they were not substantially similar in the expression of that idea.

More recent cases, however, address the Indian version of a Western work. In 2003, the Calcutta High Court addressed this issue in *Barbara Taylor Bradford v. Sahara Media Entertainment Ltd.*[138] In this case, the plaintiffs alleged that the defendants created a television series that infringed the plaintiffs' book entitled "A Woman of Substance." The plaintiffs initially obtained an injunction against the broadcast of the series. However, the High Court found no infringement and vacated the injunction, based in part due to questions of access by the defendants to the copyrighted work. The Court noted that even if the "basic theme of 'A Woman of Substance' has been borrowed and there are some common characters," then "this is just an idea, the idea of rags to riches, the idea of introducing certain characters which are in no way uncommon . . ."

The Bombay High Court, just a few months before, also discussed the idea/expression dichotomy. In *Zee Telefilms Ltd v. Sundial Communications*,[139] the issue was whether Zee's television serials infringed the work of Sundial Communications, both contributors to the Indian

[134] 101 U.S. 99 (1879)
[135] (1978) 4SCC 118.
[136] See id.
[137] See id.
[138] 2004 (28) PTC 474 (Cal.) (July 16, 2003)
[139] 2003 (27) PTC 457 (Bom) (March 27, 2003)

entertainment industry. The latter's work was a detailed concept, which the court found to be an expression of an idea that was infringed by the defendants. That Zee allegedly breached the confidence of Sundial Communications likely played the larger role in determining infringement. The Delhi Court held similarly in *Anil Gupta v. Kunal Das Gupta*.[140]

In 2007, the Bombay High Court in *Urmi Juvekar Chiang v. Global Broadcast New Limited*,[141] addressed the adaptation of the plaintiff's proposed television program by the defendants. Here again, the court was faced with the issue of the copyrightability and infringement of a concept note. The concept was a reality television show, which would follow citizens from different parts of the country as they went about to solve chosen civic problem. The note was sent to the defendants (who produce CNN-IBN television news channel). The defendants expressed interest in the program but subsequently did not respond to several of the plaintiff's inquiries. Upon the plaintiff's discovering the defendant's program, "Summer Showdown", which follows five families across five cities in India, trying to resolve civic problems related to summer, the plaintiff petitioned the court for an injunction. The court analyzed the similarities and dissimilarities: Some of the similarities were that the programs were not news programs, that the programs were pre-recorded and not live, that the participants are screened, that the concepts for the shows were that they were reality shows, with the plaintiff's depicting four individuals and the defendants' depicting five families, and that there is interaction with civil authorities while attempting to resolve the civic problem. The other similarities were similarities with many other reality television shows. On the other hand, the dissimilarities illustrated the specific concept of each show. Nevertheless, the court found that there was a substantial similarity between the two and that the defendant infringed the plaintiff's work. CNN is expected to file an appeal.

It is unclear what compelled the court to find as it did; it is possible that the breach of confidence shifted the court's perception of infringement to focus on access rather than similarity. Regardless, the lack of certainty on judicial respect for copyrights may adversely affect increased collaboration between Hollywood and the Indian film industry, and India's desire to provide export quality films. Only recently has a Hollywood studio noted that it is

[140] 2002IVAD(Delhi)390 (March 6, 2002)
[141] 2007 (109) Bom.L.R. 981 (June 7, 2007)

considering taking action against one of the Bollywood studios. Specifically, Sony Pictures Entertainment and the producers of *Hitch* are contemplating filing a $30 million action against the Indian producers of *Partner*, but have noted that any action would likely be taken in the UK courts. This comes at a time when Sony Pictures is investing in Bollywood, with plans to translate some of their Hollywood movies into Hindi.

Arguably, however, weak criminal enforcement poses a greater disincentive for investment as copies are easily reproduced and involve minimal investment. Weak criminal enforcement of copyrights is also problematic as seen in a recent report by Ernst & Young, commissioned by the Federation of Indian Chambers of Commerce and Industry (FICCI) and the US-India Business Council (USIBC). In 2007, FICCI and USIBC signaled their intent to address piracy more vigorously.[142] The report, which issued in March of 2008, noted that approximately $4 billion dollars was lost due to piracy and counterfeiting in 2007.[143]

As shown in Table 2, music piracy had the most significant contribution to loss at 64 % while film piracy contributed 31 %.

"[INSERT TABLE 2 HERE]"

With fragmentation in the industry,[144] tackling the problem is difficult. While the copyright laws provide for minimum jail time and fines for criminal copyright infringement, industry fragmentation contributes to lack of enforcement by the police. Specifically, while the police are able act on a general complaint, unless a specific complaint is filed, the police are less likely to take action. Further, some of the larger cities such as Delhi and Mumbai, where the police have

[142] "Ficci, USIBC to fight against piracy" *Financial Express* (March 28, 2008)(available at http://www.financialexpress.com/news/Ficci,-USIBC-to-fight-against-piracy-/195247/)
[143] The International Intellectual Property Association (IIPA) estimates the loss in 2007 due to piracy to be approximately $918 million.
[144] Unlike the music industry, the film industry has several associations, primarily divided by geographic areas. Due to the fragmentation of the industry, organized action against piracy is not common.

more officers trained in IPR crimes and where raids are more likely to occur, have evidenced a shift from piracy occurring in the city to the satellite towns.[145]

Frustrated with weak enforcement, some industry associations conduct their own anti-piracy campaigns. The Motion Picture Association, for example, sometimes conducts its own sting operations[146] and the Telegu Film Industry in Andhra Pradesh, one of the largest film industries in India, formed an anti-piracy cell for the purpose of curbing piracy of Telegu films with some success.[147]

Several states have also amended legislation directed to dangerous felons to include acts of video piracy. For example, in response to the Karnataka Film Chamber of Commerce and other trade organizations, the state of Karnataka, announced in 2006 that it will amend The Karnataka Prevention of Dangerous Activities of Bootleggers, Drug Offenders, Gamblers, Goondas, Immoral Traffic Offenders and Slum Grabbers Act, 1985, which is commonly known as the Goonda Act,[148] to include video piracy. Interestingly, audio piracy (or music piracy) was not included as it was considered not as serious of a problem.[149] The amendment to the Act is still in process.

This state action follows similar action taken by the state of Tamil Nadu.[150] Indeed, Tamil Nadu saw a marked decrease in video piracy following the inclusion of video piracy in the

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[145] In Andhra Pradesh, for example, fewer cases were brought in Hyderabad city in May 2006 as compared to May 2005 whereas some of the outlying areas saw the number of cases brought almost double.

[146] The Motion Picture Association (MPA) states that it has conducted over 500 raids a year and follows each case.

[147] Using retired policeman and a legal advisor, the Telegu Film Association states that over 2000 cases of piracy were filed in a little over a year with a few resulting in convictions.

[148] A 'goonda' was defined in a circular issued to the District Collectors and Superintendents of Police in Tamil Nadu as a "person, who either by himself or as a member of or leader of a gang, habitually commits or attempts to commit or abets the commission of offences, punishable under some sections of IPC including intimidation, robbery and annoyance." See "Seer case: TN violated SC directive on Goonda Act" February 17,2005, available at http://news.indiainfo.com/2005/02/17/1702seeract.html.

[149] "Video piracy in Karnataka brought under Goonda Act" *Economic Times*, October 8, 2006 (available at http://economictimes.indiatimes.com/articleshow/2116813.cms)

[150] See "Video piracy in Karnataka brought under Goonda Act", Economic Times, India Times, October 8, 2006, available at http://economictimes.indiatimes.com/articleshow/2116813.cms. Audio piracy was taken out as it was not considered as serious of a problem. In Tamil Nadu, the Act is entitled "The Tamil Nadu Prevention of Dangerous Activities of Bootleggers, Drug-offenders, Forest-offenders, Goondas, Immoral Traffic Offenders, Slum-grabbers and Video Pirates Act, 1982" (Prior to the amendment, the Act was entitled "The Tamil Nadu Prevention of Dangerous Activities of Bootleggers, Drug-offenders, Forest-offenders, Goondas, Immoral Traffic Offenders, Slum-grabbers Act, 1982")

Goonda Act, [151]which some consider as severe as the Prevention of Terrorism Act. In a 2005 decision, the Madras High Court in *Siva v. (1) Commissioner of Police, Greater Chennai; (2) Secretary To Government, Prohibition and Excise Department,*[152] rejected the habeas corpus plea and upheld the detention of video pirates under the Goonda Act. In the case, the court reasoned that video piracy had the potential to threaten public order and that "the action of the petitioner is prejudicial to the maintenance of public order. We are also satisfied that the detaining authority, after considering all the relevant materials, rightly passed the impugned order of detention."[153] The concern of piracy was not limited to the profit the right holder can rightfully expect and the state government revenue, but also considered the possibility of uncensored obscene language and video going unchecked.[154] In 2008, there were several detention orders issued under the Goonda Act in Tamil Nadu. It is unclear, however, if other states will follow suit.[155]

"[INSERT TABLE 3 HERE]"

Piracy has taken a toll on the music industry, with industry associations noting a loss of 60% of potential sales. Possibly due in part to the prevalence of digital music piracy and an industry sector that is more organized than the film industry, the Indian Music Industry (IMI) has been relatively successful in its anti-piracy activities, accounting for approximately 50% of the criminal copyright actions.[156] IMI conducted a study of a suburb in Mumbai where they recorded 56 entertainment based outlets, of which only 8 were retailers of legitimate music. The remaining 48 were selling or renting infringing goods, including pirated CDs and DVDs.[157]

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[151] See "Video pirates vanishing", The Hindu, October 16, 2004, available at http://www.hinduonnet.com/thehindu/thscrip/print.pl?file=2004101614200300.htm&date=2004/10/16/&prd=th&

[152] Siva v. (1) Commissioner of Police, Greater Chennai; (2) Secretary To Government, Prohibition and Excise Department, June 24, 2005, available at http://crimes.indlaw.com/guest/databasesearch/caselaw/searchresults.asp

[153] See id. See also, "Detention of `video pirate' under Goondas Act upheld", The Hindu, June 28, 2005, available at http://www.hindu.com/2005/06/28/stories/2005062815880400.htm

[154] See id. It is also important to note that the accused also already had had two adverse cases against him.

[155] For example the Attorney General in the state of Punjab opined that there was no need for a Goonda Act against video and music piracy as it was believed the copyright laws are sufficient; however it was recognized that enforcement efforts may need to be increased. See Maneesh Chhibber, "AG's no to Goonda Act to check music piracy", The Tribune, June 26, 2006, available at http://www.tribuneindia.com/2006/20060626/punjab1.htm

[156] Interview with Savio d'Souza, Secretary General, IMI. (October __, 2008)

[157] In 2008, there were several convictions, though only a few were sentenced to imprisonment for at least six months, See FIR No. 24/99, PS Kotwali, Ludhiana, Punjab (July 12, 2008)(where the defendants were each fined

Compounding the problem of enforcement, however, is the low conviction rate. These low rates are in part attributable to the lengthy and onerous nature of the infringement action processes. While plea-bargaining is possible in criminal cases, which could be used to reduce the number of cases in the courts, it is not a viable option from the defendant's perspective due to the extensive amount of time it takes for cases to conclude. Alternatively, it is possible to take multiple civil actions against the same defendant for separate infringements in different venues; this could effectively deplete smaller defendants' resources as it attempts to appear before courts across India. For an organized industry sector, such as the music industry, this may be possible due to regional offices throughout India. The fragmentation of the film industry, on the other hand, may make this approach less amenable.

Ultimately, not only are legislative changes to implement the WIPO Internet Treaties necessary to help define protected rights, but also improving enforcement and reducing inefficiency in the court system are critical to encourage more FDI in the entertainment and media industry. As with the domestic pharmaceutical industry, there is some question as to sustainability of the Indian film industry. The lack of certainty as to when ideas is transformed into a copyrightable expression, coupled with lack of enforcement against piracy, could hinder collaboration between the Western studios and Bollywood.

III. CONCLUSION

The level of patent protection and enforcement in India promotes export-directed manufacturing but is less inclined to encourage foreign investment that may help promote domestic innovation. The merger of research-based pharmaceutical companies and generic pharmaceutical companies creates potential for strengthening the patent laws, whether by domestic innovation or by a proliferation of more research-based pharmaceutical companies operating in India. The generic pharmaceutical industry is nevertheless expected to continue to be a forceful opposition to stronger patent protection so long as India's role as a provider of less expensive pharmaceuticals is maintained.

Rs. 50,000 and sentenced to six months imprisonment). However, these convictions may not be based on actual copyright infringement but rather on Section 52A of the Copyright Act, which criminalizes failure to use a required certificate on sound recordings. Section 52A of the Copyright Act also applies to videos and DVDs.

Further research could consider the effect of patent protection on the development of other patent-sensitive industries where access issues are less concerning from a public policy perspective, such as the automobile industry, particularly as the amendments in the patent law did not differentiate such technology in terms of weaker protection. Honda Corporation and Mitsubishi are two of top fifty patent filers at the Indian Patent Office. Of the domestic automobile companies, TVS Motors has the highest number of patent applications filed at the Indian Patent Office; however, Honda has almost eight times the applications filed. Further, the Indian automobile companies that are filing patent applications do not appear to be interested in protecting the inventions abroad. This could be due to several reasons, including marketability or ownership rights in joint research and development. With the automobile industry growing at a rate of about 15% each year, it would be useful to assess the role IPR play in its development. At the same time, as automobiles require several technological inputs, there is a reduced threat of imitation of the product from a technological perspective (as opposed to the design).

From the perspective of copyrights, the pending amendments to implement the WIPO Internet Treaties as well as developing jurisprudence defining originality in works may progress with increased investment by banks and Western studios into the Indian entertainment industry as imitation loses ground to creativity. Domestic enforcement is critical if India's entertainment industry expects to attract global investment. Further research on the role of enforcement of IPR in the Indian entertainment industry should also consider the effect that Bangladesh's status as a least developing country under the TRIPS Agreement has on imports of infringing products.

The effect of copyright protection in the software industry is also important to consider. Here, however, initial growth in this industry may have been due to the government's adjustment of policies to sustain domestic growth. India was a choice destination for outsourcing software product development for many American firms as early as the 1970s due to the low cost of labor and the absence of any significant language barrier. As the Foreign Exchange Regulatory Act of 1973 limited foreign companies' investment into India to a 40% interest, many Indian software developers were sent to developed countries to attain the company or project specific programming skills.[158] Consequently, the development of the domestic industry was dependent

[158] Other impediments included high import tariffs on software and hardware. See Rafiq Dossani, Origins and Growth of the Software Industry in India,

upon the return of the programmers, which was not always realized. Indeed, a study published by the OECD shows that employment was the primary motivation for IT workers to leave Bangalore and travel, mostly to the United States. Most of the employment opportunities were project assignments provided by the workers' Indian employers.[159] With advances in technology that allowed for remote software development coupled with tax incentives and liberalization in FDI, regions with better infrastructure lured outsourcing of software development.[160] While domestic innovation was initially minimal, as the industry grew, domestic firms began to shift from producing custom developed software to innovative product development. Product development, *i.e.* in the form of pre-packaged software, is arguably the most active of segments in the computer industry with an expected 220% increase in value from 1996 to 2007 and is expected to generate approximately $7 billion (USD) in revenues and create one million jobs by 2010.[161] Traditionally this has been a U.S. dominated market, accounting for approximately 60% of purchases worldwide.[162] There has been an increase in domestic product development companies, with the startups facing the most difficulties due to funding and access to capital.[163]

Computer software can benefit from copyright but not patent protection in India. While there appeared to be some possibility of providing patent protection for computer programs, the 2005 amendments negated that chance.[164] Indian IT companies are also not active in patenting technological aspects of their products, with Tata Enterprises leading the group of Indian IT companies in patent filings with only 35 published applications at the Indian Patent Office and 8 in the USPTO.[165] On the other hand, businesses appear to be more active in asserting their copyrights through civil litigation. In 2006, the Delhi High Court in *Microsoft Corp. v. Deepak Raval*[166] granted injunctive relief to Microsoft and awarded compensatory and punitive

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[159] See Binod Khadria, "Migration of Highly Skilled Indians: Case Studies of IT and Health Professionals", OECD STI Working Paper 2004/06.
[160] See id.
[161] The industry segment was worth approximately $109.3 bn (USD) in 1996 and is expected to reach a value of $350 bn (USD) in 2007. See NASSCOM, The Indian Software Products Sector: A Slow, Yet Steady Rise To Prominence, available at http://www.nasscom.in/Nasscom/templates/NormalPage.aspx?id=21402.
[162] See id.
[163] In a study by T.R. Madanmohan, Associate Professor (Technology & Operations), the Indian Institute of Management, Bangalore, titled 'Indian Product Software: Challenges and Roadmap,' there are at least 346 domestic companies involved with product development. See id.
[164] The Patent Ordinance of 2004 provided an exception to the per se prohibition of patents on computer programs; this exception was eliminated in the Patent (Amendment) Act of 2005.
[165] Patent Landscape in India, 2008 (Evalueserve)
[166] MIPR 2007(1)72 (Delhi High Court, June 16, 2006)

damages.[167] More recently, the Delhi High Court, in two separate cases brought by Microsoft, again found in favor of Microsoft.[168] The court highlighted the investment of the industry in its reasoning:

> The computer industry is a high investment industry not only in terms of money but also in terms of the valuable time, skill and effort which goes into the development of new and advanced computer programs and software, therefore it becomes imperative that the illegal trade activities of traders like the defendants are restrained and the dangerous growth of the computer software piracy be stemmed. And since the plaintiff is the world leader in this field, it tends to be the main target of such counterfeiting and piracy.[169]

While the Business Software Alliance noted a loss of $732 million (USD) or 69% due to piracy in 2007,[170] there have been few civil cases against criminal copyright infringement of software in India. Further research could consider the effect a market shift from more outsourcing of computer services to software product development on changes to the protection and enforcement of IPR in software.

While FDI into India has grown in some IPR intensive industries, the sustainability this approach is uncertain. Though there are other incentives for investment, including in IP intensive industries, those incentives are at a level that provide a counterbalance to the weak intellectual property regime. As newer markets emerge and as India's market becomes more formal and costs rise, weak protection may not be offset by incentives to invest. Improved

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[167] In doing so, the court noted:

> It also becomes manifest that the Courts of India have treaded the same path and applied the same principles as applied by the US, UK and Australian courts in awarding the damages and have recognised that compensatory as well as punitive damages are to be awarded. The justification for award of compensatory damages is to make up for the loss suffered by the plaintiff and the rationale behind granting punitive damages is to deter a wrong doer and the like minded from indulging in such unlawful activities. This is more so when an action has criminal propensity.

Id.

[168] See Microsoft Corp. v. Mr. Kiran et. al. 2007 (35) PTC 748 (Del)(Delhi High Court, July 9, 2007; see also, Microsoft Corp. v. K. Miyuri et. al. 2007 (35) PTC 415 (Del)(Delhi High Court, April 30, 2007).

[169] Microsoft Corp. v. Mr. Kiran et. al. 2007 (35) PTC 748 (Del)(Delhi High Court, July 9, 2007

[170] See IIPA 2008 Special 301 Report (India) (available at http://www.iipa.com/rbc/2008/2008SPEC301INDIA.pdf)

legislation, increased judicial training, as well as strengthened enforcement are critical to maintain the investment appeal to IP-intensive industries.

IV. TABLES

Patent Applications filed with India as the country of origin												
Patent Office	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
USPTO	91	115	137	179	269	438	642	919	1164	1303	1463	1923
EPO	15	24	36	50	24	27	37	49	28	265	395	370
India	1545	1661	1926	2247	2206	2179	2371	2693	3425	4014	4521	
Japan	6	13	23	14	11	29	30	18	8	136	154	167

Korea	1	5	11	2	10	16	30	47	66	60	83

Source: WIPO

TABLE 1

Revenue Erosion				
In $ (million)	**Music**	**Television**	**Film**	**Total**
Size of the industry	183	4263	2095	6541
Value loss due to piracy	325	2682	959	3966
Estimated piracy (% of total market)*	64%	39%	31%	38%

**The total market includes the legitimate and the pirated business* *Source: US-India Business Council*

TABLE 2

Growth in Indian Entertainment & Media Industry					
Rs. Billion	**2004**	**2005**	**2006**	**2007e**	**CAGR 2004-2007**
Television	128.7	158.5	191.2	225.9	

% Change		23%	21%	18%	19%
Filmed Entertainment	59.9	68.1	84.5	96.0	
% Change		14%	24%	14%	14%
Music	6.7	7.0	7.2	7.3	
% Change		4%	3%	1%	3%

Source: PricewaterhouseCoopers/FICCI

TABLE 3