



The Role of Intellectual Property Rights in Fostering Innovation, Foreign Direct Investment, And Economic Growth: Evidence from India

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ABSTRACT

In the contemporary knowledge-based global economy, Intellectual Property Rights (IPRs) have emerged as critical instruments for fostering innovation, attracting foreign direct investment (FDI), and accelerating economic growth. This paper examines the intricate relationship between IPR protection, innovation, and economic development in India through a doctrinal and analytical methodology. Drawing on statutes, judicial decisions, international treaties, and empirical data, the study evaluates India's evolving IPR framework particularly post-TRIPS amendments and its bearing on pharmaceuticals, information technology, creative industries, and the start-up ecosystem. The paper finds that while stronger IPR protection has broadly stimulated innovation and investor confidence, persistent challenges such as patent backlogs, weak commercialisation of research, and inadequate enforcement continue to limit the full developmental dividend of intellectual property. The study concludes with policy recommendations aimed at achieving a balanced IPR regime that incentivises innovation without compromising public interest.

Keywords: *Intellectual Property Rights; Innovation; Economic Development; Foreign Direct Investment; TRIPS Agreement.*

Introduction

The growth of knowledge-driven economies has reshaped the basis of wealth for nations. Tangible resources like: land, labor and capital have been superseded by intangible means, which include: inventions, creativity, brand identity and trade secrets. This new paradigm has made issues surrounding intellectual property law economically significant in some cases above and beyond traditional legal considerations.¹

It is difficult to determine how IP laws affect economics in both developing and developed countries because there are many conflicting factors. For example, one of the positive aspects of having a system that provides IPRs is that when innovators create something new, they typically get exclusive

¹ WIPO, World Intellectual Property Report 2011: The Changing Face of Innovation (WIPO 2011) 3.



rights to produce that innovation for a limited time. Conversely, when a new product is patented, it often cannot be replicated, and therefore access is limited, raising many equity issues especially in developing economies.²

There is a wide variety of intellectual property protection rights. In the case of patents, as long as you create a novel, non-obvious, and industrially-useful invention, you will have exclusive rights to your invention for the statutory period. Copyrights protect original literary, dramatic, musical, artistic and other works. Trademarks protect distinct marks identifying the source (commercial nature) of products; industrial designs protect the aesthetic aspect of an object; geographical indications protect the quality/reputation of goods (e.g., Parmigiano Reggiano cheese from Italy); and trade secrets protect various forms of confidential information that have commercial value.³

The membership of India in the WTO made India subject to TRIPS (Agreement on Trade Related Issues Related to Intellectual Property) thereby establishing a minimum standard for all members' IP protection.⁴ This required a fundamental re-evaluation of India's IP laws and its development strategy. One of the basic questions of this article is how has that re-evaluation benefitted/or hinders India's innovation ecosystem and economic goals.⁵

To establish answers to the basic question this study employed a doctrinal method of study whereby legislation that provides for the patent, copyright, and trademark protection (i.e., Patents Act 1970; Copyright Act 1957; and Trademark Act 1999), strategic subject-matter related to the legislation and judicial opinions from the courts were analyzed in relation to the TRIPS agreement, the National IPR policy (2016), other state-related laws and other scholarly literature. In addition, various statistics regarding patent applications, FDI, and R&D investments were examined with the aim of providing an economic foundation to the practitioner's analysis of the IPR laws as contained in the study.

Theoretical Foundations of Intellectual Property and Economic Development

Three competing theories provide the basis for economic justification of the exclusive intellectual property rights system: First, the incentive theory of the general incentive and creative destruction view of innovation, as influenced by Arrow's analysis of the failure of knowledge markets⁶; second, the reward theory that sees the grant of intellectual property rights as providing just reward for the socially desirable act of creating⁷; and third, the utilitarian theory, which finds justification in the extent to which protection maximizes total welfare based on Bentham's principle of maximizing the aggregate in a utilitarian sense.⁸

² Joseph E. Stiglitz, *Making Globalisation Work* (Penguin 2007) 103.

³ The Patents Act 1970 (India), s 2(1)(m); Copyright Act 1957 (India), s 2(y); Trade Marks Act 1999 (India), s 2(1)(zb).

⁴ Agreement on Trade-Related Aspects of Intellectual Property Rights 1994 (TRIPS), arts 27–34.

⁵ Intellectual Property India, Annual Report 2022–23 (Office of the Controller General of Patents, Designs & Trade Marks 2023) 5.

⁶ Kenneth Arrow, 'Economic Welfare and the Allocation of Resources for Invention' in Richard Nelson (ed), *The Rate and Direction of Inventive Activity* (Princeton UP 1962) 609.

⁷ Fritz Machlup, *An Economic Review of the Patent System* (US Government Printing Office 1958) 79.

⁸ Jeremy Bentham, *Introduction to the Principles of Morals and Legislation* (Clarendon Press 1789) 34.

The theory of creative destruction espoused by Schumpeter supports the argument for protection from a dynamic standpoint, as creative destruction, which is the continuous elimination of existing products, processes and markets for new ones, is a major driver of capitalist growth.⁹ In addition to providing monopolistic rents (e.g., those derived from patents), temporary monopolistic rents serve as the entrepreneurial incentive for continued creation. Furthermore, the endogenous growth theory of Romer et al. suggests that investments in research and development generate technological change and knowledge spillovers are critical drivers of long-term economic growth.¹⁰

In addition to demonstrating that intellectual property is a means for promoting development, the theories articulated above suggest that intellectual property promotes the commercialization of knowledge, that is, turning creative effort into commercially viable products and/or processes, and ultimately results in the establishment of competitive advantages that underlie sustainable export-driven growth. Studies have demonstrated that strong intellectual property right regimes stimulate the attraction of technology-driven FDI and facilitate licensing and technology transfer, resulting in domestic innovation.¹¹ Therefore, the challenge for developing countries is to strike the right balance between maximizing the benefits of protection in order to facilitate technology sharing and infectious innovation (i.e., widely reproduce technologies from producers), while at the same time protecting access to knowledge for the purpose of learning and imitation (which is widely recognized as being equally important to creating technology, particularly as developing nations try to catch up technologically to developed nations).

Intellectual Property Rights and Innovation: The Legal Nexus

According to the TRIPS Agreement, IP protection should promote innovations through new research and technologies by favoring both producers and consumers.¹² Adding to that, the TRIPS Agreement confirms that IP Law should help to develop new prospects through the sharing of IP as well as infringing others. There are several ways in which IP Laws link and/or create innovation including:

The Granting of a Patent allows those who are inventing new products to conduct research & development based on their invention as they will get a monopoly (for a set number of years after the patent is granted) in exchange for providing public access to the disclosure of that product.¹³ With public access to the disclosure of the patent (i.e: the details of how the invention works and how it was created), this allows others to avoid conducting the same research and enables new innovators to continue to build off of the original inventions and patents to create new innovations. In India, there has been a great increase in patents registered with the Indian Patent Office over the past several years likely due to the increase in domestic innovative activity as a result of the introduction of TRIPS.¹⁴

⁹ Joseph A Schumpeter, *Capitalism, Socialism and Democracy* (Harper & Bros 1942) 81.

¹⁰ Paul M Romer, 'Endogenous Technological Change' (1990) 98(5) *Journal of Political Economy* S71, S96.

¹¹ Carsten Fink and Carlos Primo Braga, 'How Stronger Patent Protection in India Might Affect the Behaviour of Transnational Corporations' (World Bank Policy Research Working Paper No 1891, 1999) 12.

¹² TRIPS (n 4) art 7.

¹³ The Patents Act 1970 (India), s 10(4) (disclosure requirement).

¹⁴ Department for Promotion of Industry and Internal Trade, *Annual Report 2022–23* (Ministry of Commerce and Industry 2023) 47.



Copyright enforcement is critical to the success of the IT and digital economy in India. The IT sector accounted for nearly 9% of the total Indian GDP in 2022-2023 and uses Copyright to protect software from unauthorized reproduction.¹⁵ Trademarks provide the same type of protection to invest in quality and provide consumer confidence in products and services, which is a strong driver for innovation.¹⁶

In India, universities and public funded research institutions are becoming increasingly important to developing new innovations. The National IPR Policy of 2016 promotes the commercialization of publicly funded research through technology transfer offices and research and licensing agreements.¹⁷ However, India still has a poor record in commercializing academic research into commercial products, which will be discussed further in Section 7.

Critics of strong IP protection caution against adopting a strong IP system. For example, an excessive number of patents, may prevent new innovations from being developed by blocking access to the necessary tools or, in addition, cost so much to acquire that new innovators cannot afford to pay the associated costs. Additionally, high Copyright protections may hinder the expansion of the publicly available knowledge commons.¹⁸ Accordingly, to establish a balanced IPR distribution of the provider to the customer, the system should allow for the use of pro-competitive behavior or practices such as compulsory licenses, research exemptions, etc.

Intellectual Property Rights and Foreign Direct Investment in India

When multinational corporations invest outside of their home country, they usually will transfer technology and management skills, as well as an established brand name as their assets. These three forms of property are only valuable if they have effective legal protection from being misappropriated. Empirical data from around the world shows that the degree of strength of a host country's intellectual property rights (IPR) regime is an important factor in determining how much foreign direct investment (FDI) will come into that country and the composition of such investment, especially in industries that require a lot of technology such as the pharma, biotech and information & communication technology (ICT).¹⁹

TRIPS made it possible for WTO member countries to have common standards of intellectual property, thus creating a level playing field and reducing the level of uncertainty that multi-national (MNC) investors would face.²⁰ For India, TRIPS compliance has required several amendments to the Patents Act. The Patents (Amendment) Act of 1999 created a mailbox mechanism wherein MNCs could submit applications for pharmaceutical and agrochemical product patents.²¹ The Patents

¹⁵ NASSCOM, Indian Technology Industry: Annual Strategic Review 2023 (NASSCOM 2023) 6.

¹⁶ Trade Marks Act 1999 (India), s 29.

¹⁷ National Intellectual Property Rights Policy 2016 (Department of Industrial Policy and Promotion, Ministry of Commerce and Industry) para 1.5.

¹⁸ Carlos M Correa, Intellectual Property Rights, the WTO and Developing Countries (Zed Books 2000) 55.

¹⁹ Keith E Maskus, Intellectual Property Rights in the Global Economy (Institute for International Economics 2000) 117.

²⁰ TRIPS (n 4) arts 1–8 (general obligations).

²¹ The Patents (Amendment) Act 1999 (India) (introducing product patents for pharmaceuticals and agrochemicals on a mailbox basis).



(Amendment) Act of 2002 increased the patent term to 20 years, aligned India's compulsory licensing procedures (which allow a company to make and sell a patented product without the patent holder's permission) with the provisions of Article 31 of TRIPS, and introduced the 'Bolar exception' to allow for experimentation regarding new pharmaceutical products prior to obtaining a patent.²² Finally, the Patents (Amendment) Act of 2005 provided full product patent protection for pharmaceuticals and food products, thereby completing India's compliance with TRIPS.²³

These amendments to the Patents Act led to an increase in FDI in technology-based industries. Specifically, following the amendments in 2005, FDI into the pharma and biotech industries increased because MNCs were confident that their new product innovations would have statutory protection in India.²⁴ In the IT sector, increased FDI can also be attributed to a high degree of enforcement of copyright law and a workforce that has high levels of technical competence.

In 2016, the National IPR Policy was introduced to take advantage of the positive impact of these reforms by articulating a vision of India as an innovative country and a global leader in IP-based industries.²⁵ The National IPR Policy has seven goals including, creating awareness about IP, generating value or quantities of IP, establishing a strong enforcement framework, etc., to give foreign investors greater assurance of their commitment to providing and enforcing IPR as a part of a positive environment for investment.

Despite the progress that has been made in India's IPR regime, there are still a number of challenges to be addressed. Enforcing IPR through the court system is expensive, time-consuming and uncertain; typical litigation of an IP case lasts several years. In addition to the judicial process, counterfeiting and piracy are still very major deterrents for outside investment in India, particularly in the pharmaceuticals and the software industries.²⁶ Furthermore, the controversial Section 3(d) of the Patents Act (which restricts patenting of known products unless they meet the standard of having a significant increase in their effectiveness or functionality) is viewed as being contrary to India's obligations under TRIPS by most foreign pharmaceutical manufacturers; however, the Supreme Court of India has held that the section is consistent with international law.²⁷

Intellectual Property Rights and Economic Growth: The Indian Experience

The evolution of India into a knowledge-based economy has been reflected through government initiatives and policy plans. The industries that use intellectual property (IP) the most see a substantial portion of their output generated through IP protected products or services.²⁸

²² The Patents (Amendment) Act 2002 (India) (aligning with TRIPS on patent term and exceptions).

²³ The Patents (Amendment) Act 2005 (India) (full product patent protection for pharmaceuticals).

²⁴ UNCTAD, World Investment Report 2023: Investing in Sustainable Energy for All (UN 2023) 78.

²⁵ National IPR Policy 2016 (n 17) para 2.3.

²⁶ World Bank, Intellectual Property and Development (World Bank 2005) 93.

²⁷ Shamnad Basheer, 'India's Tryst with TRIPS: The Patents (Amendment) Act 2005' (2005) 1 Indian Journal of Law and Technology 15, 28.

²⁸ Planning Commission of India, Twelfth Five Year Plan (2012–2017): Economic Sectors vol II (Sage Publications 2013) 124.



The IT and IT-enabled industries are prime examples of this type of economic contribution. The sector employs over five million people and generates more than USD 200 billion in revenue in 2022/2023. The global competitiveness of the industry in large part stems from the ability to obtain copyright protection for the software and data, trade secret protection for the proprietary algorithms they produce, and trademark protection for the internationally known brands in the IT space in India.²⁹

The pharmaceutical industry has similar ties to IPR. The pharmaceutical industry is the third largest in the world in volume and a substantial supplier of generic medications to developing countries. Like IT companies, pharmaceutical companies rely on a combination of patent protection for new molecules, regulatory data protection for analytical data, and trademark protection for licensed products.³⁰

India's start-up ecosystem has grown at a phenomenal rate with India now ranked as one of the top countries for new business start-ups by number of unicorns. Increasingly, start-up founders, venture capitalists, and acquirers utilize IP assets like patents and trademarks as indications of the potential for innovation and protection from competition in the market.³¹ India's ranking in the Global Innovation Index has improved to the 41st position as of 2023 due to increases in the number of patents filed, research published, and high-tech exports.³²

Indian government initiatives have supported these trends. The Make in India initiative has made an effort to establish India as a major world manufacturing centre, with an emphasis on design property protection and process patent incentives to encourage manufacturing in the country.³³ The Startup India initiative provides a variety of IP-related incentives for registered start-ups, such as expedited examination of patent applications, reduced fees, and access to legal professionals. The Digital India initiative promotes the development of the digital economy by utilising a strong copyright infrastructure for the development and distribution of digital products. The Atal Innovation Mission has created a comprehensive network of Technology Business Incubators (TBIs) to help inventors with IP acquisition and commercialisation.³⁴

The association between creating IPR and building an economically sustainable country exists in terms of; creating jobs and diversifying industries. Patent-intensive manufacturing jobs pay higher wages than their competitors who don't have the benefit of patents; copyright-intensive creative jobs create value-added products for export and develop soft power; trademark-intensive consumer goods create growth in the retail sectors of Tier II and Tier III cities. Thus, strengthening the IPR system benefits the entire spectrum of the economy and provides economic growth.

²⁹ NASSCOM (n 15) 3.

³⁰ Department of Pharmaceuticals, Annual Report 2022–23 (Ministry of Chemicals and Fertilizers 2023) 12.

³¹ DPIIT, Start-up India: Annual Report 2023 (Ministry of Commerce and Industry 2023) 9.

³² WIPO, The Global Innovation Index 2023: Innovation in the Face of Uncertainty (WIPO 2023) 22.

³³ Ministry of Commerce and Industry, Make in India — Five Years of Manufacturing Resurgence (Government of India 2019) 35.

³⁴ Atal Innovation Mission, Annual Report 2022–23 (NITI Aayog 2023) 7.



Judicial and Policy Developments Shaping India's IPR Landscape

India's judiciary has made very significant contributions toward interpreting and determining the extent of intellectual property rights in India and highlighting the country's developmental context and public interest commitments.

The Supreme Court of India held that Section 3(d) of the Patents Act was constitutionally valid in its ruling in *Novartis AG v. Union of India*³⁵, which limits the ability to obtain patent protection on new forms of existing substances unless there is a demonstrable increase in the efficacy of such new forms of existing substances.³⁶ This ruling confirmed that India is entitled to establish its own patentability standards in accordance with the TRIPS Agreement while still being able to ensure access to affordable medicines, and is a guiding decision that will have far-reaching implications for pharmaceutical innovation policy globally.

The Supreme Court of India confirmed India's first compulsory licensing decision in *Bayer Corporation v. Union of India*³⁷ that allows the domestic producer of a generic version of the patented anti-cancer drug sorafenib tosylate to supply the drug to patients in India in a way that is affordable for them. The Supreme Court confirmed that compulsory licensing pursuant to Section 84 of the Patents Act is a legitimate use of the TRIPS flexibilities afforded to countries for the enhancement of public health.³⁸

The Delhi High Court in *Yahoo! Inc. v. Akash Arora*³⁹ determined that domain names serve the same function of identifying the source of goods and services as do trademarks under the Indian Trade Marks Act and thus are entitled to trade mark protection.⁴⁰ This most significant ruling also established key precedent that will provide increased protection of well-known marks on the Internet and enhance the confidence of investors in India's digital economy.

Over the next ten years, the patentability of AI-generated inventions; the expansion of copyright protection to works created by AI; and regulating the data that is the raw material underlying the platform economy are expected to be significant emerging issues affecting India's IPR landscape.⁴¹ There is currently no comprehensive legal regime in India to protect data that takes into account the IP implications of data-driven innovation. Developing a legal regime to protect data must be a legislative priority.⁴²

³⁵ *Novartis AG v Union of India* (2013) 6 SCC 1 (SC).

³⁶ *ibid* [190]–[197] (interpreting Patents Act 1970, s 3(d)).

³⁷ *Bayer Corporation v Union of India* (2014) 6 SCC 755 (SC).

³⁸ *ibid* [45]–[52] (upholding compulsory licence under Patents Act 1970, s 84).

³⁹ *Yahoo! Inc v Akash Arora* AIR 1999 Del 78.

⁴⁰ *ibid* [12] (domain names held protectable as trademarks).

⁴¹ NITI Aayog, Discussion Paper on Artificial Intelligence for India's Economic Transformation (NITI Aayog 2018) 41.

⁴² Standing Committee on Commerce, 161st Report on the Intellectual Property Rights Regime in India (Rajya Sabha Secretariat 2016) para 8.3.



Challenges and Way Forward

There are continuing structural barriers that prevent further use of IPR to help stimulate India's economy, even after there has been significant progress. The severe backlog at the Indian Patent Office is one of the main barriers, with patent application pendency averaging more than 5 years over time. This uncertainty causes potential R&D-related investors to avoid making investments in India; and types of innovations must wait an average of longer than 5 years after being created before being marketed because of patent application backlog.⁴³ There is an urgent need for administrative reform including hiring more patent examiners, using artificial intelligence-assisted prior art searches, and providing expedited patent avenues.

With a national R&D expenditure-to-GDP ratio of less than 1%, compared to 2%-3% spent by top innovation countries like South Korea, Israel and USA⁴⁴, India has a very weak commercialisation rate of the research being performed. Additionally, there is very little evidence of a link between academic researchers and industry researchers, and as such most university technology transfer offices in India do not have the expertise, resources and institutional authority to adequately commercialise the output of their research through licensing to industry.

Furthermore, there are also additional difficulties for enforcing IPR in India, resulting in substantial quantities of counterfeit products, especially in FMCG, pharmaceutical and software goods will be burdensome for both IPR owners and consumers.⁴⁵ To rectify this situation, significant reforms must be made including; strengthening border measures on counterfeit goods; providing expedited methods of enforcement with commercial courts; and giving agencies with enforcement responsibilities adequate capacity to conduct the enforcement tasks as required. Stronger collaboration between the industries and academic institutions and having clearly defined IPR ownership on jointly developed research output will enhance commercialisation efforts in the Indian market.⁴⁶ To meet its plan of becoming a top innovation economy by 2030, India must raise its R&D expenditure to a minimum of 2% of GDP, this is the minimum that WIPO's innovation competitiveness benchmarks require.⁴⁷

Conclusion

The objective of this paper is to provide evidence that intellectual property (IP) is more than just a tool; it is a vital component of economic infrastructure, especially in the face of increased globalization and international competition. This paper is predicated on three major findings: (1) India's post-TRIPS (Trade Related Aspects of Intellectual Property) reforms (including the 1999, 2002, and 2005 patent amendments as well as the National IPR Policy 2016) have materially

⁴³ Office of the Controller General of Patents, Designs & Trade Marks, Annual Report 2022–23 (n 5) 18 (average pendency of patent applications exceeded five years).

⁴⁴ Department of Science and Technology, Research and Development Statistics 2021–22 (Government of India 2022) 4 (India's R&D expenditure stood at approximately 0.64 per cent of GDP).

⁴⁵ Confederation of Indian Industry, Counterfeiting & Piracy in India 2022 (CII 2022) 3.

⁴⁶ Knowledge@Wharton, 'Why India Needs Stronger University-Industry Links' (Wharton School, University of Pennsylvania, 2019) <<https://knowledge.wharton.upenn.edu>> accessed 1 June 2025.

⁴⁷ WIPO, WIPO IP Facts and Figures 2023 (WIPO 2023) 8.



strengthened India's domestic IPR framework, thereby improving investor confidence and stimulating innovation in pharmaceuticals, information technology and creative industries; (2) There is a demonstrative link between IPR protection and Foreign Direct Investment (FDI); however, the full range of benefits associated with IPR protection will depend upon three critical dependencies: (a) effective enforcement, (b) administrative efficiency, and (c) the ability to provide for pro-competitive flexibilities; and (3) The role of judicial institutions is essential to calibrating IP protection to the developmental context of India, as exemplified by two key decisions of the Supreme Court of India (i.e., Novartis and Bayer), which balanced the need for innovation with the needs of society for public health.

Going forward, it will be necessary for the Indian government to develop a balanced and integrated approach toward stimulating innovation and providing for the public good. In practical terms, this will require a significant increase in R&D investment and updating the Indian patent office, improved enforcement mechanisms, deeper industry/academic partnerships, as well as the establishment of a forward-looking legal framework that will govern the evolution of emerging technologies (including but not limited to artificial intelligence (AI) and information-based innovation). India's continuous progression in the Global Innovation Index is indicative of what is possible through continued legal reform, institutional building, and the coherence of relevant governmental policy (i.e., IP will provide a viable means for India to achieve its goal of becoming a high income, knowledge-based economy).

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