TRIPS AGREEMENT AND ITS SIGNIFICANCE TO INDIA'S ECONOMY

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ABSTRACT

The TRIPS Agreement primarily came into effect to promote the global harmonisation of intellectual property protection, and its origin can be traced to the call for a viable response to the increasing concerns about intellectual property privacy, cultural homogenisation, and the actualisation of a more impactful economic development through a robust copyright framework. The Agreement was signed by WTO members, and India is one of these countries. India's compliance with TRIPS resulted in the review of its Patent Act 1970, with several provisions being removed to ensure that inventors disclose the full details of their inventions in relation to the production and importation of affordable generic medicines.

This study aims to explore the significance of the TRIPS Agreement to India's economic development, and this is particularly in view of the recent developments hovering around public health/medical waivers and the need to modernise the intellectual property framework, considering the systemic loopholes in patent harmonisation. The study adopted a review of literature, while also conducting the analysis of relevant secondary data drawn from the databases of the World Bank, Indian Intellectual Property Office, Reserve Bank of India, and India's Department of Pharmaceuticals. The findings revealed some indications of the TRIPS Agreement's economic impact on India, especially with respect to the contribution made through the export of pharmaceutical products.

Introduction

Globalisation is informing the development, implementation, and review of policy instruments or measures/strategies, indicating modifications or adjustments to certain national and global processes. This has even become more sacrosanct in light of the criticality of the digital economy in driving or repositioning the economies of countries across the world. Lahoti (2004) noted that, coupled with privatisation and liberalisation, globalisation has brought a multi-layered perspective to the discourse on intellectual property rights, particularly with regard to the accompanying commercial interests.

One notable policy document with some degree of significance in this respect is the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement that was developed by the World Trade Organisation (WTO), which represents one of the international bodies whose actions and policies broadly influence the social and economic fabric of countries across the world (Cherunilam, 2024). The TRIPS Agreement primarily came into effect in 1994 to promote the global harmonisation of intellectual property protection (Cela, 2014). Qizi (2025) relayed that the origin of the TRIPS Agreement can be traced to the call for a viable response to the increasing concerns about intellectual property privacy, cultural homogenisation, and the actualisation of a more impactful economic development through a robust copyright framework.

TRIPS makes it incumbent for all WTO members to adhere to the minimal standards of protection for a host of intellectual property, including copyrights, patents, trademarks, trade secrets, geographical indicators, and industrial designs (Malik, 2025). The Agreement brings to bear the structure required for the protection of technologies and pharmaceutical products, and it contributes to the development of innovation and increases in research and development investments (Taubman and Wager, 2020). Again, the Agreement duly captures the importance of intellectual property rights in the ambit of the digital economy, thus reflecting its integration in international commerce (Malik, 2025). In light of this, the countries that signed and ratified this Agreement agree to allow WTO and its associate member countries to control their compliance with TRIPS, even as the Dispute Settlement Body (DSB) is saddled with the responsibility of imposing sanctions where non-compliance is found (Vogel, 2006).

The introduction of the TRIPS Agreement has been grossly accompanied by negative consequences based on the evidence from global intellectual property rights regimes (Stiglitz,

2014; Peukert, 2017). This may be linked to how it fosters the monopolisation and appropriation of public knowledge and practices from actors who are commercially inclined (Rigi and Prey, 2015). That said, the TRIPS Agreement has often been considered controversial due to the perceived profound dichotomy it fuels between developed and developing countries (Fink, 2004). A prominent example of this dichotomy emerged as countries attempted to curtail and manage the spread of COVID-19, with developed countries having the ability to develop potent vaccines, while several developing countries struggled to even have access to these vaccines for their massive populations (Matthews, 2022). Additionally, developed countries, with the largest intellectual property-producing industries, appear to have the upper hand when it comes to setting comprehensive minimum standards for the protection and enforcement of intellectual property rights (IPRs), thus weakening the influence of developing countries, like India, which are mostly consumers of intellectual property (Cela, 2014).

According to Ranjan (n.d), the bolstering of intellectual property administration occasioned by the TRIPS Agreement has a potential adverse impact on the technological activities in developing countries, as it notably contributes to freezing up the transfer of knowledge from developed countries to developing countries. Furthermore, beyond the differing cultural perspectives on creativity, copying, and ownership of intellectual property that exist between developing and developed countries, Malik (2025) pointed out that developing countries lack the technical know-how, legal framework, and institutional capability to effectively enforce intellectual property rules. Countries are, however, allowed to engage in parallel imports under the TRIPS Agreement; this means they import lower-priced generic patented medicines from other countries (Pai, 2023). Also, the Agreement permits countries to take steps towards preventing anti-competitive praxes like the implementation of anti-competitive licensing agreements and abuse of patent rights that may hinder access to affordable medications (Pai, 2023).

Moreover, compliance with the provisions of TRIPS bequeaths certain benefits, including the ability to have exemptions from patent rights in order to enable countries to drive domestic scientific advancement by leveraging patented tools (Borges, 2023). This could explain why Haskel and Westlake (2017) emphasised that competitive advantage and innovation are progressively being defined by intangible capital, which requires intellectual property rights protection. This is not oblivious to the commercial/industrial sector, based on the data from the World Intellectual Property Organisation (WIPO), which revealed that there was about 106%

(from 1.6 million to 3.3 million) and 210% (from 4.6 million to 14.3 million) increase in global patent filings and trademark applications, respectively, between 2004 and 2018 (WIPO, 2020). The extent to which this Agreement influence economic development has, however, been scarcely addressed on a country-specific basis. The prevailing situation thus presents a gap that this study explores, focusing on the Indian context.

Aim and Objectives

This study aims to explore the significance of the TRIPS Agreement to India's economic development, and this is particularly in view of the recent developments hovering around public health/medical waivers and the need to modernise the intellectual property framework, considering the systemic loopholes in patent harmonisation. Specifically, the objectives are directed at evaluating the relationships between economic variables such as FDI, GDP, and import/export values of pharmaceuticals and the trends in intellectual property instruments such as patents, trademarks, and industrial designs. Exploring the potential impact of compliance with the TRIPS Agreement on India's economy becomes considerable in view of the new business opportunities that the Agreement opened up, especially in the pharmaceutical industry (Surraj and Mallady, 2023). Surraj and Mallady (2023) further pointed out that India is now a preferred outsourcing destination for global pharmaceutical companies, as the risks of business and knowledge misappropriation are reduced.

The Legal Premise of the TRIPS Agreement

The TRIPS Agreement represents some sort of advancement on the General Agreement on Tariffs and Trade (GATT) put forward to address economic recovery after the Second World War (GATT, 1947), but it falls short in the area of intellectual property integration. Additionally, the relevance of GATT seemed to have reduced with the rise of globalisation (WTO, 2024a). The discourse leading to the development of the TRIPS Agreement can be particularly traced to the Uruguay Round, which took place between 1986 and 1994, which had trading systems extending into the intellectual property framework to increase the economic significance of global trade (Martirosyan, 2024). Ultimately, the TRIPS Agreement now registers as Annex 1C of the Marrakesh Agreement (WTO, 2024b).

The TRIPS Agreement is divided into seven (7) parts, with 73 Articles spread across all these parts – these encompass the general provisions and foundational principles (Part I), standards

on the availability, scope and use of intellectual property rights (Part II), comprehensive provisions on general obligations, administrative procedures and remedies, provisional measures, special requirements on border strategies and criminal procedures (Part III), acquisition and maintenance of intellectual property rights and other procedures between concerned parties (Part IV), dispute prevention and settlement (Part V), provisional engagements (Part VI), and institutional arrangements and final provisions (Part VII) (Japan Patent Office, 2008).

Kassor (2018) described Articles 7 (Objectives) and 8 (Principles) as the most critical components of the agreement since they hinged on its legitimacy, and are often referred to when implementing and interpreting the agreement (that is, TRIPS). Peter (2013) further explained that Articles 7 and 8 of the TRIPS Agreement can serve in various capacities, including as a legal instrument, political instrument, global instrument, economic instrument, or as a structure bridging the gaps between the TRIPS Agreement and other international agreements.

The TRIPS Agreement has seen some modifications based on reviews over the years. For instance, the Doha Declaration made at the fourth session of the WTO's Ministerial Conference in Doha, Qatar, categorically stated that "the TRIPS Agreement does not and should not prevent members from taking measures to allow national governments to apply various legal measures such as 'compulsory licenses' in situations of public health crises." (Mellino, 2009). The Agreement also serves as an appendage to treaties such as the Berne Convention for the Protection of Literacy and Artistic Works, the Paris Convention for the Protection of Industrial Property, the Treaty on Intellectual Property in Respect of Integrated Circuits, and the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations, all of which signatories to the TRIPS Agreement are expected to complied with (Japan Patent Office, 2008).

TRIPS Public Health Waiver

The TRIPS public health waiver basically speaks to the WTO approving the motion to temporarily put aside intellectual property protection for COVID-19 vaccine patents (WTO, 2021). This was upon the proposition initially presented by India and South Africa, and eventually supported by more than 100 low-income economies (Borges, 2023). Paliwal and Puttanna (2025) considered India to counter intellectual property-maximalist regimes due to its

commitment to defend public health flexibilities under the TRIPS Agreement, while leading the coalition of developing countries in intellectual property debates facilitated by the WTO. For the record, the waiver was approved on June 22, 2022, thus highlighting the global approach taken towards tackling the COVID-19 pandemic (Kochhar, 2018).

It is not out of place to emphasise that this waiver became necessary in light of the shortfall to the WHO's proposition to have 70% of the world's population vaccinated by mid-2022, the point at which 60% of the population in developed countries were already vaccinated compared to the slightly over 3% of the population in developing countries (United Nations, 2022). Additionally, the waiver was adopted to grant countries attempting to produce and export COVID-19 vaccines the right to do so without worrying about any patent infringements, as access to medical tools is promoted (Medina et al., 2024). WTO members who are proponents of this waiver further argued that concentrating the production of such medical interventions [like the COVID-19 vaccines] encouraged the inequitable distribution of COVID-19 therapeutics and diagnostics, thereby presenting a potential threat that may nullify the gains realised during the pandemic (WTO, 2023). Besides, Amin and Kesselheim (2022) contended that a broad and extensive intellectual property waiver may be vital in enabling other countries to invest in and augment their production capability for vaccines or generic medicines to combat future pandemics.

The waiver was, however, not without opposition, as some critics pointed out that its extension to the pharmaceutical domain could disincentivise the development of new therapeutic interventions, thus undermining the incentives and motivations for innovation therewith (Borges, 2023). According to Kogan (2010), this group [of critics] felt waivers may have a detrimental impact on the incentivisation of research and development since private capital investors are usually particular about having exclusive rights when investing in risky technologies. Another argument is that other factors, such as hindrances to supply chains, fair distribution, and production capacity, should be given attention rather than waiving off intellectual property rights (Addor, 2023).

It is worth noting that this sort of waiver has not been limited to the COVID-19 incident alone, as the WTO has, in time past, effected several policies to allow least developed countries to have access to pharmaceutical products in the past, and the waiver, in this respect, also covered exclusive marketing rights (United Nations, 2023). With this waiver in operation, least-

developed countries are not obligated to protect test data and pharmaceutical patents until January 1, 2033, even as they produce and import generic drugs (WTO, 2016).

TRIPS Agreement within India's Context

The fact that India ranks among the countries with the largest number of technical and scientific human resources means it cannot afford to neglect the standards set by the international convention on intellectual property rights (Myneni, 2020). More so, the economic rationality behind this Agreement has caused India to amend its intellectual property laws, thus highlighting the country's commitment to the WTO (Malik, 2013).

India's compliance with TRIPS resulted in the review of its Patent Act 1970, with several provisions being removed to ensure that inventors disclose the full details of their inventions in relation to the production and importation of affordable generic medicines (Pai, 2023). This meant that India transitioned from a process-based patent system to a product-based one. Abinaya (2023) pointed out that the adherence to the provisions of the TRIPS Agreement ultimately had positive and negative impacts on the availability and affordability of generic drugs in India. Pai (2023) further noted that TRIPS Agreement implementation has led to the reduced access to affordable medications in developing countries, as increased costs of patented products and delays in the generic drugs entering the market due to exclusive marketing rights and patent litigation leading to higher prices for these drugs have become evident.

More notably, the alignment with the TRIPS Agreement has resulted in India's pharmaceutical companies joining the global value chain for pharmaceuticals, even as the modernisation of the sector's operations has taken sway (Dutta, 2021). The country's pharmaceutical sector now ranks among the world's top exporters of generic drugs, with low-cost and high-quality product offerings (Dutta, 2021). More notably, as a way of ensuring or preserving the integrity and sustenance of its patent to consolidate its position in the pharmaceutical global value chain, India has consistently invested in research and development to boost the creation of new medications and technology (Dutta, 2021).

Methodology

The study employs a review of extant literature, while also conducting quantitative analyses of

specific data sourced from the databases of the World Bank, the Indian Intellectual Property Office, the Reserve Bank of India, and India's Department of Pharmaceuticals. The data collected include FDI (BoP, current US$), GDP (current US$), patents, trademarks, and industrial design filings, number of patents transferred, import and export values for pharmaceutical products, and percentage of GDP spent on R&D. Regression analysis was used in evaluating the relationships between different variables.

Patent, trademark, and industrial design and FDI

The rates of patent, trademark, and industrial design applications can provide some insights into how the intellectual property rights regime encourages economic development. For one, Weinhold and Nair-Reichert (2009) highlighted that the patent rate serves as an output measurement for economic growth, going by the potential or opportunities attached to it, even though it is impossible to use it in assessing how institutions enforce regulations associated with intellectual property rights. The latest report on World Intellectual Property Indicators published in 2024 showed that Indian residents, for the first time, filed over 50% of the entire patent applications – compared to non-resident applicants (WIPO, 2024). More so, India saw a double-digit growth in patent applications for five consecutive years, running from 2019 to 2023, and more than 80% of the total filings in 2023 were granted (WIPO, 2024).

That said, understanding the complex chemistry between local institutions and globalisation is critical in exploring how market indices influence intellectual property rights protection and economic transitions (Wang, Zhang, and Han, 2015; Yi et al., 2015). Intellectual property can influence economic growth in two major ways: firstly, by encouraging outsiders who have obtained the rights to trade high-innovation products into the domestic economy, and secondly, by providing incentives for economic improvement on the domestic front (Kanwar and Evenson, 2003; Banerjee, 2008; Dagne, 2015).

The TRIPS Agreement imparts appreciable universality to the global intellectual property protection architecture, allowing investors and multinational corporations to obtain the same degree of intellectual property protection while doing business in different countries (Huang and Wu, 2024). Sharma and Raman (n.d) referred to the gradual rise in patent applications in India, following the implementation of the TRIPS Agreement, as more companies and industries now file for patents on a large scale, even as colleges and universities direct more attention to research and development to augment or encourage the filing of more innovation-driven patents.

Summary of Resident and Non-resident Patent Filing and Grant

Year	Total filing	Resident Patent Filing (% total filing)	Non-resident Patent Filing (% total filing)	Total Patent Granted (% total filing)	Resident Patent Granted (% total granted)	% Total filing for Resident Patent Granted	Non-resident Patent Granted (% total granted)	% Total filing for Non-resident Patent Granted
2006	24505	4521 (18.4%)	19984 (81.6%)	4320 (17.6%)	1396 (32.3%)	30.9%	2924 (67.7%)	14.6%
2007	28940	5314 (18%)	23626 (81.6%)	7539 (26.1%)	1907 (25.3%)	35.9%	5632 (74.7%)	23.8%
2008	35218	6040 (17%)	29178 (82.9%)	15261 (43.3%)	3173 (20.8%)	52.5%	12088 (79.2%)	41.4%
2009	36812	6161 (16.7%)	30651 (83.3%)	16061 (43.6%)	2541 (15.8%)	41.2%	13520 (84.2%)	44.1%
2010	34287	7044 (20.5%)	27243 (79.5%)	6168 (18%)	1725 (28%)	24.5%	4443 (72.03%)	16.3%
2011	39400	8312 (20.5%)	31088 (78.9%)	7509 (19.1%)	1273 (17%)	15.3%	6236 (83.1%)	20.1%
2012	43197	8921 (20.7%)	34276 (79.4%)	4381 (10.1%)	699 (16%)	7.8%	3682 (84.04%)	10.7%)
2013	43674	9911 (22.7%)	33763 (77.3%)	4126 (9.5%)	716 (17.4%)	7.2%	3410 (82.7%)	10.1%
2014	42951	10941 (25.5%)	32010 (74.5%)	4226 (9.8%)	634 (15%)	5.8%	3592 (85%)	11.2%)
2015	42763	12071 (28.2%)	30692 (71.8%)	5978 (14%)	684 (11.4%)	5.7%	5294 (88.6%)	17.3%
2016	46904	13066 (28%)	33838 (72.1%)	6326 (13.5%)	918 (14.5%)	7.03%	5408 (85.5%)	16%)
2017	45444	13219 (29.2%)	32225 (70.9%)	9847 (21.7%)	1315 (13.4%)	10%	8532 (86.7%)	26.5%
2018	47854	15550 (23.5%)	32304 (67.5%)	13045 (27.3%)	1937 (14.9%)	12.5%	11108 (85.2%)	34.4%
2019	50659	17005 (33.6%)	33654 (66.4%)	15283 (30.2%)	2511 (16.4%)	14.8%	12772 (83.6%)	38%
2020	56267	20843 (37.1%)	35424 (62.9%)	24936 (44.3%)	4003 (16.1%)	19.2%	20933 (84%)	60%
2021	58503	24326 (41.6%)	34177 (58.4%)	28385 (48.5%)	5629 (19.8%)	23.1%	22756 (80.2%)	66.6%
2022	66440	29508 (44.4%)	36932 (55.6%)	30073 (45.3%)	6395 (21.3%)	21.7%	23678 (78.7%)	64.1%
2023	82811	43301 (52.3%)	39510 (47.7%)	34134 (41.2%)	9239 (27.1%)	21.3%	24895 (73%)	63.01%

Table 1: Patents filed by and granted to Indian residents and non-residents between 2006 and 2023

The filing of patent applications to the Indian intellectual property offices rose by over 200% between 2006 and 2023, and under 50% of these applications were eventually granted, considering the year-on-year trend *(Table 1)*. Additionally, non-resident patent applications have seen a higher proportion of grants compared to those filed by residents.

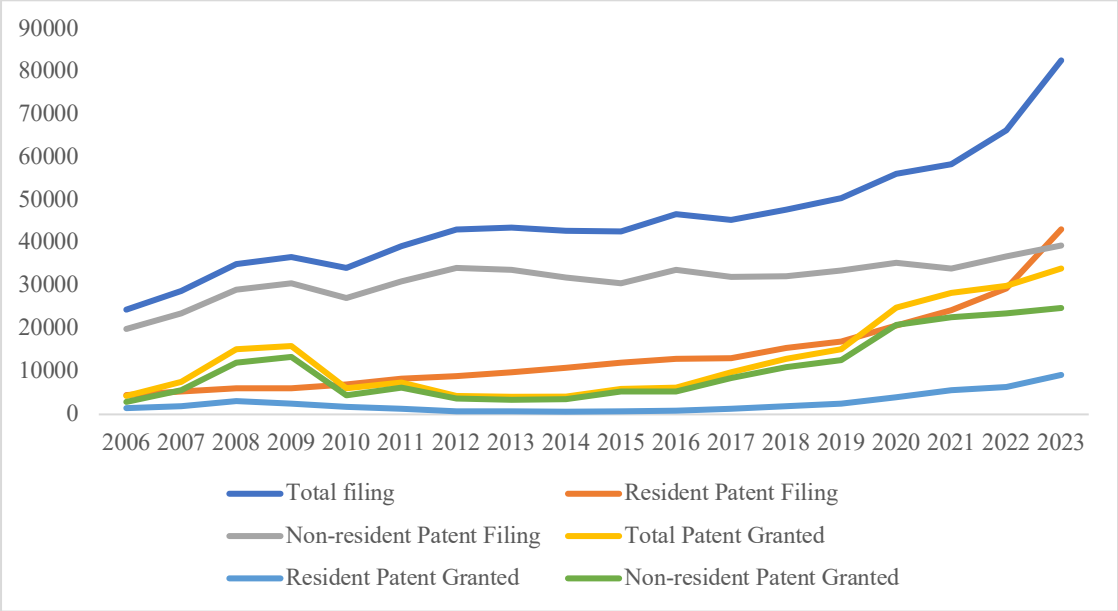

Figure 1: Chart visualisation of the trend on patent filed and granted

FDI and Patent, Industrial Design, and Trademark Application

Year	Patent	Industrial Design	Trademark	FDI (in Million US$)
2006	24505	4213	78996	20030
2007	28940	5640	109361	25230
2008	35218	5100	130172	43410
2009	36812	4816	153938	35580
2010	34287	6738	190326	27400
2011	39400	8279	194796	36500
2012	43197	7032	197877	24000
2013	43674	7006	204987	28150
2014	42951	8921	237250	34580
2015	42763	9257	283491	44010
2016	46904	7882	294375	44460
2017	45444	10374	272832	39970
2018	47854	15211	333441	42120
2019	50659	17224	375634	50610
2020	56267	11849	431213	64360

2021	58503	22646	447805	44730
2022	66440	22698	466580	49940
2023	82811	26971	520862	28090
2024	92168	39094	532900	27140
2025	110375	43005	552190	

Table 2: Patent, industrial design, and trademark applications and India's FDI inflows between 2006 and 2025

The patent, industrial design, and trademark applications in India have consistently increased through the years *(Table 2).* The country's net FDI inflows have, however, fluctuated from time to time, even as a progressive decline in its value can be seen from 2022 to 2024.

Result of Regression Model on Patent, Industrial Design, and Trademark Application and FDI

Summary of Regression Analysis

	Regression coefficients	**t-statistics**	**Level of Significance**
Patent	-1.065	-2.245	.041
Industrial design	-.969	-2.386	.032
Trademark	2.488	4.963	.000

Dependent Variable: FDI

Table 3: Regression analysis summary

Model Summary

Model	**R**	**R Square**	**Adjusted R-Square**	**Std. Error of the Estimate**
1	.834[a]	.696	.631	6881.67043
a. Predictors: (Constant), Trademark, Industrial, Patent				

Table 4: Regression model summary

The model summary shows that 69.6% of the variation in FDI can be traced to the combined effect of patent, industrial design, and trademark applications, and all of these relationships

returned a statistically significant outcome.

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1516038797.335	3	505346265.778	10.671	.001[b]
	Residual	663003430.443	14	47357387.889		
	Total	2179042227.778	17			
a. Dependent Variable: FDI						
b. Predictors: (Constant), Trademark, Industrial, Patent						

Table 5: ANOVA result

TRIPS and India's Pharmaceutical Sector

Indian pharmaceutical companies now have easy access to the EU and US markets, with India supplying around 40% of the entire generic medicines in the US in 2023, a feat that has contributed to export value reaching over US$30 billion annually (Mordor Intelligence, 2025; Global Risk Community, 2025). Additionally, more than 200 countries presently rely on finished medicines and active pharmaceutical ingredients from India (Market and Data, n.d). Another creditable achievement is the rise in partnerships and MandA, with global companies such as GlaxoSmithKline, Novartis, Pfizer, Daiichi Sankyo, etc., entering into valuable business alliances with Indian companies (Mukherjee, 2025; Chaudhuri, 2012).

Summary of Export and Import Values from India's Pharmaceutical Sector

Year	Export Value (in Billion US$)	Import Value (in Billion US$)	GDP (in Billion US$)
2010-2011	10.23	3.77	1680
2011-2012	12.80	4.63	1820
2012-2013	14.15	4.92	1830
2013-2014	14.65	4.69	1860
2014-2015	15.13	4.87	2040
2015-2016	16.61	4.89	2100
2016-2017	16.45	4.85	2290

2017-2018	16.91	4.89	2650
2018-2019	18.75	5.65	2700
2019-2020	23.47	5.30	2840
2020-2021	23.47	6.31	2670
2021-2022	24.17	8.06	3170
2022-2023	24.17	7.02	3350
2023-2024	26.50	7.05	3640
2024-2025	29.05	7.52	3910

Table 6: India's pharmaceutical export and import values and GDP between 2010 and 2024.

The value of India's pharmaceutical exports has consistently grown over the year in view *(Table 6)*, with an increase of over 180% realised between FY2010 and FY2024. The country's GDP has also seen a similar growth, from US$1.68 trillion in 2010 to US$3.91 trillion in 2024, marking a 133% increase. However, the import value of pharmaceutical products has been around 99% within the same period.

Summary of Regression Analysis

	Regression coefficients	**t-statistics**	**Level of Significance**
Export	.832	4.315	.001
Import	.138	.714	.489

Dependent variable: GDP (in Billion US$)

Table 7: Regression analysis summary for pharmaceutical exports/imports and GDP

Model Summary

Model	**R**	**R Square**	**Adjusted R-Square**	**Std. Error of the Estimate**
1	.959[a]	.919	.905	217.54791
a. Predictors: (Constant), Imp, Exp				

Table 8: Model Summary

91.9% of the variation in India's GDP can be traced to the import and export values of pharmaceutical products, although it was only exportation that showed a statistically significant relationship *(t=4.315, p<0.05)*.

ANOVA

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	6433674.904	2	3216837.452	67.970	.000[b]
	Residual	567925.096	12	47327.091		
	Total	7001600.000	14			
a. Dependent Variable: GDP (in Billion US$)						
b. Predictors: (Constant), Imp, Exp						

Table 9: ANOVA result

Technology Transfer

Article 7 of the TRIPS Agreement primarily addresses the issue of how the enforcement and protection of intellectual property rights contribute to technology transfer and the promotion of technological innovation, with considerations to the mutual benefits of the producers and users of technological knowledge, thus balancing rights and obligations (Luxman and Kulshrestha, 2025). Technology transfer basically occurs in two ways, including vertical mode and horizontal mode (Luxman and Kulshrestha, 2025). In the vertical mode, technology is transferred from one stage to another within the same organisation. On the other hand, the horizontal mode involves a parent organisation transferring technology to another organisation through licensing or any other means as may be agreed upon by the parties involved. The horizontal mode is usually adopted by Indian organisations, as patents are transferred by licensing or the assignment and transfer of technical knowledge (Prasad and Kulshrestha,

2025). There have been several patent transfers involving Indian organisations through foreign technical collaborations (FTC), and this has often been recorded by the Reserve Bank of India. The data covering the 8th round to the 15th round of the survey conducted to gather FTC transactions – from 2007 to 2025 – is used in this study.

Period Covered	FTCs	No. of Patents Transferred (% of FTCs)
2007-2008 to 2009-2010	160	5 (3.1%)
2010-2011 to 2011-2012	334	5 (1.5%)
2012-2013 to 2013-2014	528	11 (2.1%)
2014-2015 to 2015-2016	590	4 (0.7%)
2016-2017 to 2017-2018	620	14 (2.3%)
2018-2019 to 2019-2021	929	7 (0.8%)
2021-2022 to 2022-2023	674	8 (1.2%)
2023-2024 to 2024-2025	601	27 (4.6%)

Source: RBI

Table 10: Transfer of patents through FTC

From *Table 10* above, it can be observed that the number of foreign technical collaborations progressively increased from 2007-2010 till the period between 2018-2021, which had 929 collaborations – the highest in nearly two decades. After this, it started dropping, with a 35.3% decrease seen between 2018-2021 and 2023-2025. Nonetheless, the period 2023-2025 had the highest number of patents transferred (that is, 27 (4.6%)) in nearly 20 years.

Research and Development

According to Shugurov (2015), organisations from developing countries with weak intellectual property protection regimes have become more committed to investing in research and development in order to put pressure on their governments to align with the international standards or best practices of the intellectual property rights regime. By this, one could regard

R&D to play a mediating role in the relationship between intellectual property rights and economic development. Indian pharmaceutical companies are making a notable impact in various innovations, such as novel drug delivery systems and new chemical entities, both on the domestic and international fronts (Ghosh, 2018). These companies are taking leading roles in the global research and manufacturing supply chain, as they provide essential support in regulatory filings and clinical trials involving multinational companies (Surraj and Mallady, 2023). The CRAMS (Contract Research and Manufacturing Services) framework has been especially instrumental in this regard (Ghosh, 2018). Indian companies such as Zydus Cadila and Biocon have made significant forays into the biosimilars (medicine) subsectors of advanced markets like the EU, US, and Japan, even as Biocon's acquisition of Viatris has now opened it up to market access in more than 120 countries (Biocon Biologics, n.d). IPA India (n.d) also reported that Indian companies are key suppliers of tuberculosis, COVID-19, malaria, and HIV drugs to the World Health Organisation (WHO), the US President's Emergency Plan for AIDS Relief (PEPFAR), and other procurement agencies worldwide.

2006	**0.8**	**7.5**	**940.26**
2007	0.81	9.9	1220
2008	0.86	10.3	1200
2009	0.83	11.1	1340
2010	0.79	13.3	1680
2011	0.76	13.8	1820
2012	0.74	13.5	1830
2013	0.71	13.2	1860
2014	0.7	14.3	2040
2015	0.69	14.5	2100
2016	0.67	15.3	2290
2017	0.67	17.8	2650
2018	0.66	17.8	2700
2019	0.66	18.7	2840
2020	0.65	17.4	2670

Table 11: R&D Expenditure

Table 11 here shows that the value of investment in R&D in India has risen through the years, highlighting an over 180% increase. The highest R&D investment made was in 2019 at

US$2.84 trillion, while the lowest was in 2006 at US$940.26 billion, considering a 15-year span. That said, it is apparent from *Figure 2* below that India spent a high percentage of its GDP on R&D in the previous years (from 2006 to 2014) compared to recent years.

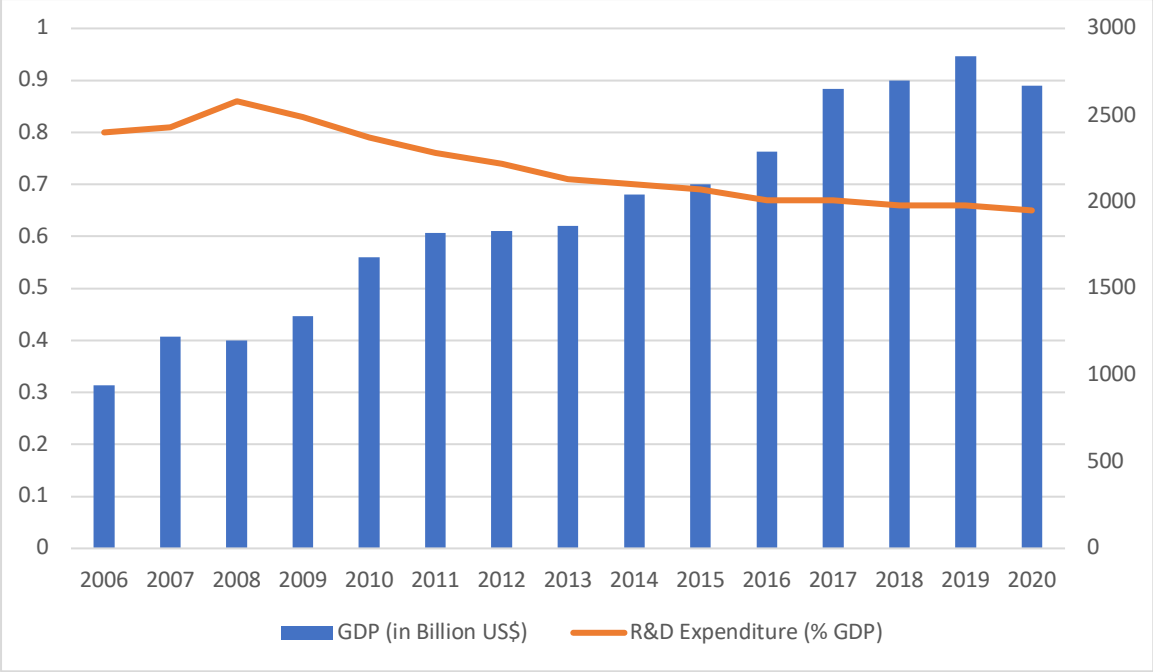

Figure 2: Chart on R&D Expenditure

Discussion

Some indications reflect how the TRIPS Agreement has benefited the Indian economy, especially as it appears to contribute to the growth of the pharmaceutical sector, as companies within the country can carry out international business transactions – product exports, most notably – without hindrances. This could be a pointer to the viability of the intellectual property regime in India, with it being a leading voice among developing countries and even globally in this respect. Scholars such as Rodriguez-Pose and Di Cataldo (2015) and Rodriguez-Pose and Zhang (2020) have drawn attention to how weak intellectual property rights protection can negatively affect economic interests, particularly as it concerns developing and undeveloped countries.

Intellectual property rights have been noted to immensely contribute to India's economic growth, as it was found that various IP elements had a significant impact on the net FDI inflows to India. This aligns with the findings of Sharma and Raman (n.d), who reported how patent applications are directly connected to the GDP. That aside, the Indian intellectual property

office was reported to generate a revenue of US$94.55 million from patent applications alone in 2024/2025 (Intellectual Property India Annual Report, 2025). The fact that the country invested a considerable amount of capital into R&D could have further advanced its cause in the conversation on intellectual property rights, and even helped it earn the trust of the international business community. This is worth considering in light of how the TRIPS Agreement provides an environment that fosters the flow of innovation, as it strengthens intellectual property rights protection, thereby increasing the confidence of foreign investors who wish to invest in developing countries (Suwadi, Manthovani, and Assyifa, 2023; Xue et al., 2023).

Again, the participation of Indian companies in the transfer of patents through FTC may also deliver some economic advantages, even though the degree of impact or outcome cannot be optimally evaluated due to the heavy reliance on survey data, which might not have captured the entire picture. Having said that, caution should be exercised in order not to majorly attribute India's economic growth to the intellectual property regime, since there are other salient variables that are not covered within the scope of this study. Besides, it is somewhat difficult to optimally evaluate the degree to which instruments such as the TRIPS Agreement and other policies on intellectual property rights have impacted India's overall economy amid various copyright and trademark issues conceivable in the country's entertainment industry (Roy and Singhal, 2024).

Conclusion

India's alignment with the TRIPS Agreement has definitely given it valuable opportunities that have been explored to some profitable extent in light of the economic impact/benefits associated with the pharmaceutical sector. Plus, practices such as solid R&D investment and a vibrant intellectual property regime have appeared to be 'lubricants' sustaining this outcome to deliver desirable economic returns. However, trapping the overall prospect that India could exploit within the intellectual property regime becomes somewhat difficult amid the cracks in the protection of copyrights in the entertainment industry. Tracking the inflows from this and other industries [relevant to the intellectual property discourse] can lead to the government recovering more revenues than it presently does.

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