



## Economics of Intellectual Property Rights

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### ABSTRACT

"Intellectual property" economics, a branch of economics, looks at how laws protecting rights in intellectual property or IP rights affect the economy. Some examples of rights to intellectual property that provide their holders a temporary monopoly on the use of their particular works include trade secrets, trademarks, copyrights, and patents.

A major issue in IP economics is the balance that must be struck between promoting creativity and innovation and limiting access to knowledge and ideas. Those who advocate for robust IP protection point to the fact that it safeguards the results of innovation and R&D spending. This, in turn, can boost productivity and improve people's quality of life. Strong intellectual property protection, however, has been criticised on the grounds that it might prevent people in low-income nations from gaining access to life-saving healthcare and educational resources.<sup>1</sup>

The impact of technological developments on the creation, protection, and exploitation of intellectual property is another critical topic in IP economics. The proliferation of digital technology and the internet have lowered the barriers to entry for making and sharing digital material, but this has created new difficulties for protecting intellectual property.

Economics of intellectual property also takes into account the effects of international trade agreements like the "World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)" on the delicate balancing act between IP protection as well as fiscal progress.<sup>2</sup>

The economics of IP as a whole is an intricate and developing area with far-reaching effects on creative activity, economic development, and social well-being.

**Keywords :** Intellectual Property Rights, Protection, Economics, Agreements, laws, legal Framework

### IMPORTANCE OF ECONOMICS OF INTELLECTUAL PROPERTY

In today's knowledge-based economy, the study of the economics of IP is of paramount importance. IP rights foster creativity and innovation by offering creators and inventors with legal protection and privileged rights over his/her ideas or innovations for a certain duration. A thorough grasp of legal, economic, and technical aspects is necessary to address the trade-off between encouraging innovation and creativity and restricting access to information and ideas.<sup>3</sup>

The economics of intellectual property is useful because it explains to politicians, businesses, and consumers the financial effects of various IP laws and enforcement techniques. Policymakers may benefit from knowing the economic effect of patents in a number of ways. This includes knowing how long patent periods should be and what kind of ideas should be patentable. The economics of intellectual property may assist both businesses and consumers make better decisions regarding the purchase and use of products and services that are subject to IP protection.

The economics of intellectual property are also crucial to fostering creativity and expansion. It is widely acknowledged that innovation in the form of new goods, services, and processes is a key driver of economic growth, and that strong IP protection can offer incentives for firms and people to participate in R&D in this area. Access to lifesaving treatments, educational resources, and other public goods must be prioritised over the financial advantages of IP protection. Policymakers and stakeholders may use insights from IP economics to maintain an equilibrium among the competing goals

<sup>1</sup>“Claude Henry and Joseph E. Stiglitz, Intellectual Property, Dissemination of Innovation and Sustainable Development, WILEY ONLINE LIBRARY (Oct 04,2010), <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1758-5899.2010.00048.x>”

<sup>2</sup>“GlanCarloMoschini, Intellectual Property Rights and the World Trade Organization: Retrospect and Prospects, [http://efaidnbmnnnibpcajpcglclefindmkaj/https://www.card.iastate.edu/faculty/profiles/giancarlo\\_moschini/moschini-trips-preprint-oct-04.pdf](http://efaidnbmnnnibpcajpcglclefindmkaj/https://www.card.iastate.edu/faculty/profiles/giancarlo_moschini/moschini-trips-preprint-oct-04.pdf)”

<sup>3</sup>“Ayush Tiwari, All you need to know about the TRIPS Agreement, IPLEADER(Feb 5, 2022),<https://blog.ipleaders.in/all-you-need-to-know-about-the-trips-agreement/>”

of encouraging economic growth and innovation and expanding access to basic necessities.<sup>4</sup> International trade and development are both aided by an understanding of the economics of intellectual property. To encourage international trade and growth, global trade accords like the TRIPS<sup>5</sup> emphasise IP safety and enforcement. However, there is continuous discussion regarding whether or not these agreements effectively promote access to important medications and other public goods while still preserving intellectual property. The economics of intellectual property may enrich these discussions and provide policymakers with direction as they craft measures to boost the economy and improve people's lives.

The music and entertainment industries are another crucial sector where IP economics is vital. Music and other forms of entertainment have been profoundly affected by the proliferation of digital technology and the widespread availability of the internet. Digital content may be reproduced and disseminated without authorization, which presents significant issues for the enforcement of IP rights. Understanding these difficulties and devising plans to safeguard intellectual property in the digital era is made easier by the economics of IP for those involved in the music and entertainment industries.

Finally, the economics of IP are crucial for expanding availability of life-saving drugs and other public goods. In low-income nations, where the price of patented medications and other vital items may be unaffordable, IP protection may impede access to these commodities. Policymakers and stakeholders may use the economics of IP to craft measures that strike a balance between stout IP protection and increased access to the goods and services that are the subject of IP.

In conclusion, the economics of IP right is an important area of research in the contemporary information economy. It aids in the formulation of policies that encourage innovation, economic growth, and social welfare by illuminating the monetary outcome of various IP laws and enforcement systems. The economics of intellectual property are expected to increase in significance as the world becomes more linked and reliant on knowledge and ideas.

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## HISTORICAL DEVELOPMENT OF ECONOMICS OF INTELLECTUAL PROPERTY

The field of IP economics may be traced back to the turn of the twentieth century. Economists like Arthur Pigou and Ronald Coase began looking at the effects of externalities on markets in the early 20th century. Third parties who are not directly involved in an economic transaction may be negatively impacted by a transaction in what are known as "externalities," such as pollution or traffic congestion. IP rights, such as patents and copyrights, were seen by these economists as a tool for internalising externalities and encouraging innovation and creativity.<sup>6</sup>

In the 1960s and 1970s, scholarly interest in the economics of intellectual property expanded quickly due to the development of global commerce and the introduction of new technology. To ensure that intellectual property is safeguarded on a global scale, the International Union for the Protection of Industrial Property now known as the WIPO<sup>7</sup> was founded in 1967. The formation of this group reflected the expanding understanding that intellectual property is critical to sustaining and expanding the economy.

The economics of intellectual property (IP) emerged as a separate academic discipline in the 1970s. Fritz Machlup, an economist, contributed much to the growth of this discipline by publishing a landmark research on the economics of knowledge in 1962. Machlup contended that, unlike material things, knowledge was a distinct economic good. He also understood the significance of intellectual property rights in encouraging creative thinking.<sup>8</sup>

As technological development and internationalisation enhanced the need for IP protection in the 1980s and 1990s, the field of IP economics became increasingly significant. The Uruguay Round of international trade talks produced the TRIPS agreement, which was a significant achievement at the time. For the preservation and implementation of IP rights in WTO member countries, the TRIPS<sup>9</sup> Agreement established minimum standards. The value of IP protection in stimulating economic growth and development was widely acknowledged, and the TRIPS agreement reflected that. Strong intellectual property protection has been a source of controversy and discussion, especially in poor nations where citizens worry that it may limit their access to life-saving medications and other public goods. Economists analysed the costs and advantages of alternative IP regimes and the impact of IP protection on innovation, competitiveness, and access to information, playing a significant part in these discussions.<sup>10</sup>

In the early 2000s, digital technology and the internet presented new issues for the preservation and implementation of IP rights, prompting further development in the study of IP economics. The emergence of open-source software was a major trend at this time because it undermined established IP protection paradigms by removing barriers to code access and modification. Understanding the effect of open-source software on competitiveness and innovation required an appreciation of the economics of intellectual property.

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<sup>4</sup>“Southern Utah University, The Impact of Technology on the Music Industry, SUU(Feb 2, 2021), <https://online.suu.edu/degrees/business/master-music-technology/tech-impact-music-industry/>”

<sup>5</sup>World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights

<sup>6</sup>Suma Athreye, Lucia Piscitello and Kenneth C. Shadlen, Twenty-five years since TRIPS: Patent policy and international business (Oct 12,2020), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7549422/>”

<sup>7</sup>World Intellectual Property Organisation

<sup>8</sup> Ibid.

<sup>9</sup>Trade Related Intellectual Property Rights

<sup>10</sup>“EveryCRSReport, Intellectual Property Rights and Access to Medicines: International Trade Issues, EVERYCRSREPORT (Jun 14, 2010), <https://www.everycrsreport.com/reports/R40607.html>”

During this time, there was also an uptick in the pharmaceutical industry's awareness of patents' value. Drug development is expensive, thus discussions regarding how to strike a fair balance between IP protection and access to necessary medications have arisen as a result. Understanding how different patent regimes affected medication innovation, cost, and availability required a deep dive into the economics of IP.

As new technology and business models have emerged over the past several years, so has the field of economics devoted to the study of intellectual property (IP). The emergence of major digital marketplaces like Amazon, Google, and Facebook has complicated the task of protecting intellectual property (IP) in recent years. Understanding how digital platforms affect innovation, competition, and the equilibrium between IP protection and access to information is greatly aided by the economics of IP.<sup>11</sup>

To sum up, intellectual property's central role in the expansion and diversification of the global economy has resulted in the development of a substantial body of literature dedicated to the economics of IP. Technology, globalisation, and shifting business models have all presented new difficulties and possibilities that have shaped the economics of intellectual property throughout time. Particularly in fields like medicines, software, and digital platforms, the discipline has played a significant role in driving legislative discussions surrounding the optimal balance between IP protection and access to information.

Economic analysis of intellectual property (IP) is expected to be an important factor in guiding policy discussions and decisions in the future. It will be necessary for the field to change and develop in response to emerging technology and business strategies. The fundamental ideas that form the basis of IP economics, such as the significance of incentives for innovation and creativity, are, nevertheless, likely to remain on point for quite some time.

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## TYPES OF IP PROTECTION AND ECONOMIC IMPLICATIONS

The protection of IP is crucial to encouraging innovation and creativity since it allows producers to earn money from their work and discourages others from stealing their ideas. Trade secrets, Patents, trademarks and copyrights are just a few types of IP protection that can have a significant financial impact. The economic effects of various IP protection schemes will be discussed below.

### *Patents*

Patents are a type of intellectual property protection that allow creators to profit exclusively from their creations for a set time period (often 20 years). The objective of patents is to encourage novation by giving creators a limited-time monopoly on their creations so they may recoup their costs and make a profit. Notwithstanding, patents restrict the capability of competitors to enter the market and raise prices for consumers.<sup>12</sup>

Complex elements, such as the type of the innovation, the industry in which it is employed, and the duration of the patent period, all influence the patent's economic impact. Some research has shown that patents encourage innovation by rewarding creators for spending time and money on pursuing new ideas. It has been proven in earlier research that patents may be restrictive to innovation since they stop people from expanding upon the work of others.

### *Copyrights*

Intellectual property (IP) copyrights ensure that authors, composers, and artists are compensated fairly for their creative efforts. The goal of copyrights is to foster innovation by allowing authors to reap financial rewards from their work while discouraging unauthorised duplication. However, copyrights may stifle innovation and creativity by preventing others from using and building upon previous works.

Factors like copyright term duration, type of work, and intended market all affect the financial impact of intellectual property. Copyrights have been shown to increase innovation by giving artists a financial stake in their creations. Copyrights have been proved to be restrictive to innovation since they prevent people from building upon the work of others.<sup>13</sup>

### *Trademarks*

Trademarks are a type of IP protection which allows the owner to exercise exclusive control over the use of the trademarked name or emblem. Consumers may easily recognise goods and services that have met minimum quality requirements thanks to trademarks. Companies may get an edge over rivals and strengthen customer loyalty with the aid of distinctive trademarks. However, trademarks can make it difficult for new businesses to enter the market and reduce competition in some sectors.

The trademark's strength, the industry in which it is used, and the amount of time it has been in use are all important considerations when assessing the financial impact of a trademark. Trademarks have been shown to increase competitiveness by prompting businesses to increase spending on product

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<sup>11</sup>GianCarloMoschini, Intellectual Property Rights and the World Trade Organization: Retrospect and Prospects, [http://efaidnbmnnnibpcajpcglclefindmkaj/https://www.card.iastate.edu/faculty/profiles/giancarlo\\_moschini/moschini-trips-preprint-oct-04.pdf](http://efaidnbmnnnibpcajpcglclefindmkaj/https://www.card.iastate.edu/faculty/profiles/giancarlo_moschini/moschini-trips-preprint-oct-04.pdf)

<sup>12</sup>Robert P. Merges and Richard R. Nelson, On the Complex Economics of Patent Scope, JSTOR( May 1990), <https://www.jstor.org/stable/1122920>

<sup>13</sup>Robert P. Merges and Richard R. Nelson, On the Complex Economics of Patent Scope, JSTOR( May 1990), <https://www.jstor.org/stable/1122920>

quality and development. Trademarks have been proven to reduce competition in other research by making it harder for new companies to enter marketplaces.

### *Trade Secrets*

Under the intellectual property laws, proprietary company data that offers a firm an edge over others may be shielded as a trade secret. Trade secrets are meant to prevent rival businesses from gaining an unfair market advantage through the disclosure of proprietary information. However, trade secrets can also serve as barriers to entry for new businesses, reducing the amount of competition in a given market.

The economic value of trade secrets can fall or the rise rest on a number of variables, containing the type of knowledge at stake, the industry in which it is employed, and the length of time that it has been kept hidden. Some study suggests that by giving companies an incentive to spend in R&D, trade secrets might help to spur innovation. Other research has demonstrated that keeping some information under wraps can stifle creativity by preventing others from building upon the work of the original creator.

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## **ANALYSIS OF ECONOMICS OF IPR**

Understanding how IP may foster innovation, creativity, and overall economic growth is a central goal of the economics of IP. grasp the incentives that lead to the growth and commercialization of novel ideas and products, as well as developing regulations that maintains a fair equilibrium position between the advantages and costs of IP safety, are both tasks that need a grasp of economics.<sup>14</sup>

“The idea of market failure is a major addition from the field of economics to the study of intellectual property. When resource allocation occurs inefficiently due to market forces, we say that the market has failed. When discussing intellectual property, the issue of externalities is a frequent manifestation of market failure. Unintended effects on other parties who are not directly involved in a transaction are called "externalities." For instance, if one company spends money developing a new technology, that investment may assist other companies that didn't have to pay for research and development. Without IP protection, businesses may be hesitant to engage in the creation of innovative technology since they would be unable to reap the full rewards of their efforts.<sup>15</sup>

Numerous economic theories and models have been created to analyse the effects of externalities on intellectual property. According to the notion of public goods, for instance, it is impossible to prevent others from making use of information after it has been generated, and the use of knowledge by one person does not reduce the amount available to other people. Since it is difficult for individuals or businesses to reap the advantages of producing public goods, they may be motivated to underinvest in their creation. Since intellectual property rights grant their holders the privileged right to create, use, and trade off their products, they are a useful tool for internalising externalities.

The effects of IP protection on innovation and competition are also a major focus of IP economics. Economists have voiced concerns that excessive IP protection might hinder competition and innovation by establishing it harder for rising businesses to make foothold in the market and providing less access to crucial information and resources. This is especially pertinent in the context of the pharmaceutical and software sectors, where patent protection may lead to monopolies and thus high costs for necessities. Other economists have argued that weakening IP protection might lead to underinvestment and lower levels of innovation because of the disincentive it provides for investing in new ideas. Policymakers have a difficult balancing act in designing intellectual property (IP) regulations that do not stifle innovation and competition while simultaneously safeguarding the rights of innovators and creators.<sup>16</sup>

To fully grasp how IP contributes to economic development and progress, an understanding of economics is also crucial. Stronger IP protection is associated with better rates of innovation and economic growth, according to empirical studies. However, there are a lot of moving parts in the intricate web that connects IP protection to a flourishing economy. Some economists worry that increased pricing for necessities caused by robust IP protection may diminish consumer welfare and make it harder for people to gain access to vital technology. Others worry that if intellectual property isn't adequately protected, companies won't be as motivated to engage in research and development. Policymakers have a difficult balancing act when trying to develop IP rules that meet the needs of consumers, inventors/creators, and the economy as a whole.<sup>17</sup>

The importance of IP in encouraging the transfer and development of technology is another fundamental topic in the economics of IP. Transferring knowledge and expertise from one institution to another is an example of technology transfer, as is the dissemination of knowledge and expertise from more developed nations to less developed ones. By giving companies an incentive to licence their technology to others, IP rights may display a significant act in easing the process of technology transfer. However, IP protection can hinder the spread of new technologies by restricting access to

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<sup>14</sup>“OECD, Intellectual property (IP) statistics and analysis, OECD,<https://www.oecd.org/sti/intellectual-property-statistics-and-analysis.htm>”

<sup>15</sup>“Ayush Tiwari, All you need to know about the TRIPS Agreement, IPLEADER(Feb 5, 2022),<https://blog.ipleaders.in/all-you-need-to-know-about-the-trips-agreement/>”

<sup>16</sup>“Suma Athreya, Lucia Piscitello and Kenneth C. Shadlen, Twenty-five years since TRIPS: Patent policy and international business (Oct 12,2020), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7549422/>”

<sup>17</sup>“Ayush Tiwari, All you need to know about the TRIPS Agreement, IPLEADER(Feb 5, 2022),<https://blog.ipleaders.in/all-you-need-to-know-about-the-trips-agreement/>”

vital resources. Policymakers face a difficult balancing act when considering the advantages of technology transfer vs the need to preserve the legitimate rights of inventors and artists when formulating intellectual property (IP) rules.

In sum, intellectual property (IP) is a key driver of innovation, creativity, and economic progress, and hence a grasp of economics is crucial. Economics may aid policymakers in crafting IP laws that strike a fair balance between the needs of creators, customers, and society as a whole by offering a framework for analysing the incentives that drive creativity and the consequence of IP safety on competition, innovation, and fiscal progress. As the value of innovation and creativity increases in the global economy, the study of the economics of IP will remain an essential focus of academic inquiry and policymaking.

### ***Policy Implications and Future Directions***

Important policy implications for governments, corporations, and individuals can be drawn from the economics of intellectual property. Here, we'll go through some of the major policy ramifications of IP protection and point out where this area of study is headed.

### ***Balancing IP protection with innovation and competition***

One of the most significant policy ramifications of safeguarding intellectual property is the need to find a balance between the benefits of IP guarantee and the need to encourage innovation and competition. Incentives for R&D spending by artists and inventors are one way in which IP protection may spur innovation, but it can also stifle competition by making it more difficult for new businesses to enter the market and by stopping people from expanding on the work of others. In order to guarantee that IP protection does not stifle economic progress, policymakers must find a balance between the two goals.

### ***The role of international treaties and agreements***

WTO<sup>18</sup>, the WIPO<sup>19</sup>, and the TRIPS<sup>20</sup> are just a few of the many international treaties and accords that oversee intellectual property protection. These treaties establish baseline protections for intellectual property and lay out a process for resolving disputes between nations. The efficiency of such agreements in fostering IP protection and whether or not they achieve a satisfactory equilibrium between IP protection and innovation and competition might be the subject of future study.<sup>21</sup>

### ***The role of technology and digital piracy***

New problems have arisen for IP protection in the digital age due to the proliferation of digital piracy. Copying and distributing copyrighted content without the proper authorization is easier than ever thanks to technological advancements. Protecting intellectual property in the digital era while encouraging innovation and healthy competition is a challenge for policymakers. Future studies might examine the efficacy of digital rights management technology and other anti-piracy techniques.

### ***The role of IP protection in promoting economic development***

The protection of intellectual property has the ability to boost economic growth by inspiring new forms of production. However, developing nations may have difficulties in gaining access to innovative technology due to IP protections. Whether there are alternative models for IP protection that better suit the interests of developing nations, and what role IP protection plays in fostering economic growth, might be the subject of future study in this field.<sup>22</sup>

To sum up, the economics of intellectual property has significant policy consequences for public institutions, private organisations, and private citizens. In order to guarantee that IP protection does not stifle economic progress, policymakers must find a balance between the two goals. The success of international treaties and agreements, the impact of technology and digital piracy, and the function of IP protection in fostering economic growth are all potential areas for further study in this field. Solving these problems is essential if we want IP protection to serve its intended purpose of fostering innovation, creativity, and economic progress.

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<sup>18</sup>The World Trade Organisation

<sup>19</sup>World Intellectual Property Organisation

<sup>20</sup>Agreement on Trade-Related Aspects of Intellectual Property Rights

<sup>21</sup>GianCarloMoschini , Intellectual Property Rights and the World Trade Organization: Retrospect and Prospects, [http://efaidnbmnnnibpcajpcgiclfendmkaj/https://www.card.iastate.edu/faculty/profiles/giancarlo\\_moschini/moschini-trips-preprint-oct-04.pdf](http://efaidnbmnnnibpcajpcgiclfendmkaj/https://www.card.iastate.edu/faculty/profiles/giancarlo_moschini/moschini-trips-preprint-oct-04.pdf)

<sup>22</sup>Suma Athreye, Lucia Piscitello and Kenneth C. Shadlen, Twenty-five years since TRIPS: Patent policy and international business (Oct 12,2020), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7549422/>

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## CONCLUSIONS AND SUGGESTION

Several crucial topics need to be investigated more in the future. Initially, it is important to comprehend the economic effects of various intellectual property protection strategies. This contains proprietary information like trade secrets, formulas, formulas, and patents. The effects of these safeguards on creativity, rivalry, and economic expansion across sectors and industries should be studied.

Second, research on the function of IP guarantee in facilitating technological exchange and economic progress is essential. The role of international treaties and agreements in facilitating IP protection and technology transfer between developed and developing nations is one area to investigate. Alternative strategies for IP protection that better meet the interests of developing nations and foster economic growth should also be explored via research.<sup>23</sup>

Third, problems associated with technology and digital piracy must be addressed. This involves researching the viability of anti-piracy measures like digital rights management systems. The effects of digital piracy on creativity, rivalry, and expansion of the economy should also be studied.

The consequences of intellectual property protection for various sectors and industries should be investigated, which brings us to our fourth point. Examining the financial effects of IP protection in fields like pharmaceuticals, biotechnology, and software development is an important part of this process. The outcome of IP protection on competition, innovation, and fiscal progress in various fields need more study.<sup>24</sup>

Policymakers should think about the following recommendations in light of the policy consequences. To begin, authorities must find a middle ground between safeguarding intellectual property and encouraging new developments and healthy competition. This necessitates giving serious thought to the economic consequences of various IP protections and how they could affect various sectors and companies. Second, governments should think about how international treaties and accords may help with IP protection and the sharing of technologies. Policymakers must make sure that these agreements strike the right balance between IP security and economic development. Third, governments must consider the challenges posed by digital piracy and technology in this digital age. It might be difficult for governments to safeguard intellectual property in the digital age while fostering innovation and a competitive environment. Policymakers have to consider how IP protection will impact different industries and markets. Policymakers must make sure that IP protection does not inhibit creativity and competition across sectors and industries or prevent new businesses from entering the market.

The economics of IP rights is a complex and important field that has a significant impact on innovation, competition, and GDP growth. Future research in this area should concentrate on understanding the economic effects of various forms of IP protection, the function of IP protection in fostering technology transfer and economic development, addressing the difficulties of digital piracy and technology in the digital age, and examining the effects of IP protection for different industries and sectors. Policymakers must strike a balance between protecting IP and fostering innovation and competition in order to ensure that IP protection fosters innovation, economic success and creativity for everyone.

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<sup>23</sup>“Ayush Tiwari, All you need to know about the TRIPS Agreement, IPLEADER(Feb 5, 2022),<https://blog.ipleaders.in/all-you-need-to-know-about-the-trips-agreement/>”

<sup>24</sup>“Ayush Tiwari, All you need to know about the TRIPS Agreement, IPLEADER(Feb 5, 2022),<https://blog.ipleaders.in/all-you-need-to-know-about-the-trips-agreement/>”