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**International Law Research on the Protection of
Intellectual Property Rights under the Framework of
WTO**

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Abstract

With the economic globalization and the development of science and technology, the protection of intellectual property rights plays an increasingly important role in the international economic order and international trade. As an important body of global trade governance, the rules and practices of intellectual property protection under the framework of the World Trade Organization (WTO) have a profound impact on the intellectual property policies of various countries and international trade relations. This article takes the protection of intellectual property rights under the WTO framework as the research object, and analyzes the relevant principles, rules and practices of international law, with a view to providing useful ideas and suggestions for strengthening the protection of global intellectual property rights.

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01 Introduction

With the rapid development of economic globalization and technological advancements, the importance of intellectual property (IP) protection in the international economic order and global trade has become increasingly prominent. As a key institution in global trade governance, the intellectual property protection rules under the World Trade Organization (WTO) framework have profoundly influenced national IP policies and international trade relations. Authored by Weifeng Jiang, this study, titled *International Legal Research on Intellectual Property Protection under the WTO Framework*, aims to provide insightful perspectives and recommendations for strengthening global IP protection through an in-depth analysis of the principles, rules, and practices governing IP protection under the WTO framework.

This research begins by examining the current status and challenges of IP protection under the WTO framework. Despite the establishment of a series of trade-related IP agreements by the WTO and its member states, discrepancies in the implementation of specific laws and regulations persist, resulting in fragmented international IP protection standards. Furthermore, emerging technologies such as artificial intelligence and blockchain have introduced new complexities, necessitating continuous updates to international protection standards and technical approaches.

The study further analyzes the core content, enforcement mechanisms, and monitoring frameworks of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), as well as the origins, international legal foundations, and implications of TRIPS-plus agreements for developing countries. While the TRIPS Agreement serves as the cornerstone of IP protection under the WTO framework by setting minimum standards for member states, challenges remain in balancing interests, protecting traditional knowledge, and addressing enforcement gaps. Meanwhile, TRIPS-plus agreements, often embedded in bilateral or regional arrangements, impose higher IP protection standards, creating additional pressures on developing nations.

This paper also highlights the role of international cooperation and dispute resolution in advancing IP protection. In the context of globalization, collaboration through international organizations such as the World Intellectual Property Organization (WIPO) is critical for unifying and elevating global IP standards. Additionally, bilateral

partnerships to enhance information sharing and joint law enforcement are vital for combating cross-border IP infringements. The study draws lessons from WIPO's dispute resolution mechanisms to offer valuable insights for resolving international IP conflicts.

In conclusion, through a multidimensional exploration of IP protection under the WTO framework, this research not only identifies current challenges and opportunities but also provides actionable recommendations for nations to strengthen IP protection within international legal frameworks, foster technological innovation, and promote sustainable economic development.

02 Literature Review

2.1 Background and Context

With the economic globalization and the development of science and technology, the protection of intellectual property rights plays an increasingly important role in the international economic order and international trade. As an important body of global trade governance, the rules and practices of intellectual property protection under the framework of the World Trade Organization (WTO) have a profound impact on the intellectual property policies of various countries and international trade relations. This article takes the protection of intellectual property rights under the WTO framework as the research object, and analyzes the relevant principles, rules and practices of international law, with a view to providing useful ideas and suggestions for strengthening the protection of global intellectual property rights.

2.2 Research Problems

Under the framework of WTO, intellectual property protection has made remarkable progress, but there are still some shortcomings. Although the WTO and its member states have formulated a number of trade-related intellectual property agreements, there are still differences in the specific implementation of laws and regulations among Member States, resulting in different standards of international intellectual property protection. The laws and regulations of some countries are not perfect, and there are gaps or vague areas in the definition of intellectual property rights, the scope of protection and the punishment of infringement. Secondly, the crackdown on intellectual property infringement varies among different countries and regions. Due to limited law enforcement resources or cumbersome law enforcement procedures in some countries, the infringement can not be effectively curbed in time. The settlement process of transnational intellectual property disputes is complex and time-consuming, which increases the cost of rights protection for the obligee. Third, with the rapid development of science and technology, the application of new technologies such as artificial intelligence and blockchain has brought new challenges to intellectual property protection. However, the existing laws and regulations and technical means are often difficult to effectively deal with these new challenges. The international protection standards and technical means of intellectual property need to be constantly updated and improved to meet the needs of scientific and technological

development. At the same time, in cross-border trade, due to regional, language, cultural and other differences, there are obstacles in the acquisition and dissemination of intellectual property information, resulting in serious information asymmetry. The transparency of the WTO and its member states in the protection of intellectual property rights needs to be improved so that the obligees and the public can better understand the laws, regulations and law enforcement of various countries. The lack of effective anti-monopoly and comprehensive laws and regulations restricting the abuse of rights by intellectual property owners makes it difficult to effectively curb the abuse of rights.

2.3 Research Objectives

Through the research, first of all, how to strengthen the law enforcement in the field of intellectual property protection in various countries and improve the efficiency of law enforcement. Including strengthening the training of law enforcement personnel, optimizing law enforcement procedures, improving law enforcement technical means, etc., to ensure that intellectual property infringement is dealt with in a timely and effective manner. Second, study how to stimulate technological innovation and industrial upgrading through intellectual property protection. By providing strong legal protection and economic incentives for innovators, more enterprises and individuals are encouraged to participate in innovation activities to promote scientific and technological progress and economic development. Third, how to safeguard the interests of the public while protecting the legitimate rights and interests of intellectual property rights holders. By formulating reasonable legal systems and policy measures, we should ensure the balance between the protection of intellectual property rights and public interests, and avoid the abuse of rights and monopoly. Fourth, with the rapid development of science and technology, the application of emerging technologies such as artificial intelligence and blockchain has brought new challenges to intellectual property protection. Study how to adapt to the characteristics and development trends of these emerging technologies, and formulate corresponding intellectual property protection strategies and measures, so as to maintain the order of technological innovation and the market environment of fair competition.

Enhance international cooperation and coordination. Strengthen international cooperation and coordination to jointly address the challenges faced by intellectual

property protection. By strengthening information exchange, experience sharing, joint law enforcement and other means, we will enhance the level of cooperation among countries in the protection of intellectual property rights, and form a global protection force.

2.4 Significance of the Study

After an in-depth research of the protection of intellectual property rights under the WTO framework, the following conclusions can be drawn: First, as the core rules for the protection and expansion of intellectual property rights under the WTO framework, the TRIPS agreement has played an important role in promoting the protection of global intellectual property rights, but there are still some problems and challenges, such as the balance between intellectual property rights and public interests, the protection of traditional knowledge and cultural resources, etc; Second, there are differences in the protection of intellectual property rights among countries, mainly in legal systems, policy measures and judicial practices, which also pose challenges to international cooperation and coordination; Thirdly, strengthening the protection of global intellectual property rights requires the joint efforts of all countries through improving domestic legal systems, strengthening international cooperation and promoting innovation driven approaches.

This paper studies the protection of intellectual property rights under the WTO framework from the perspective of international law, and draws a conclusion that strengthening the protection of global intellectual property rights requires the joint efforts of all countries by analyzing relevant legal principles, rules and practices. Specifically, on the one hand, it is necessary to improve the domestic legal system and strengthen the protection of intellectual property rights, on the other hand, it is also necessary to strengthen international cooperation to promote the development and improvement of global intellectual property protection rules. In addition, attention needs to be paid to the protection of traditional knowledge and cultural resources in order to promote cultural diversity. Finally, through various efforts, the goal of global intellectual property protection will be achieved.

2.5 Limitations of the Research

In the research of international protection of intellectual property rights under the framework of WTO, there is often a certain disconnection between theoretical

research and practical operation. Theoretical research may be too idealistic or lack of operability, while practical operation may be restricted and affected by many practical factors. This disconnection makes it difficult for the research results to be directly applied to the solution of practical problems.

Although the TRIPS agreement of WTO aims to unify international intellectual property protection standards, there are still significant differences in legislation, law enforcement and justice among countries. The gap between developing countries and developed countries in the level of intellectual property protection is particularly obvious. This regional difference restricts the full implementation of international protection standards. In addition, different countries have different understandings and protection priorities for intellectual property rights, which makes it difficult to reach a complete agreement in international cooperation. The second is the challenge of emerging technologies. With the rapid development of science and technology, emerging technologies such as artificial intelligence and blockchain have brought new challenges to intellectual property protection. These technologies are highly complex and innovative, making it difficult for the traditional means of intellectual property protection to fully adapt. How to formulate intellectual property protection strategies to adapt to emerging technologies under the framework of WTO has become an important topic of current research. However, due to the rapid change and uncertainty of technology, the research in this field is often difficult to keep up with the pace of technological development. The third is the difficulty of balancing interests. The protection of intellectual property rights involves the balance of interests among obligees, public interests, national interests and so on. Under the WTO framework, it is a complex and arduous task to ensure that the protection of intellectual property rights can not only stimulate innovation, but also safeguard public and national interests. The game and conflict between different stakeholders make it more difficult to balance interests.

WTO provides a multilateral cooperation platform for Member States, but in practice, international cooperation is often restricted by many factors. For example, the political, economic and cultural differences between different countries may lead to differences on the protection of intellectual property rights; At the same time, international cooperation requires a lot of time, energy and resources, and the effect is often

difficult to achieve immediate results. Although the TRIPS Agreement requires Member States to strengthen the enforcement and efficiency of intellectual property rights, in practice, some countries may find it difficult to effectively combat intellectual property infringement due to imperfect legal system and limited enforcement resources. In addition, the complexity and concealment of transnational intellectual property infringement also increase the difficulty and cost of law enforcement.

03 Data and Methodology

3.1 Data Sources and Processing

This study constructs a tripartite database encompassing legal texts, judicial precedents, and economic indicators:

Legal Text Corpus: Scraped 1,387 TRIPS Council meeting records (1994–2022) from the WTO Documents Online repository. Natural language processing (NLP) techniques (NLTK toolkit) were applied to analyze term frequency and semantic networks for 23 keywords (e.g., "compulsory licensing," "technology transfer"), identifying diachronic shifts in treaty interpretation.

Judicial Case Repository: Integrated WTO dispute settlement cases (e.g., DS114), national Supreme Court rulings (62 post-Chinese Civil Code IP cases), and WIPO Arbitration and Mediation Center cases. A knowledge graph with 1,205 legal holdings was built, and LegalBERT models extracted judicial sentiment scores for contentious issues like "patent utility standards" and "fair use."

Economic Statistics Database: Collected 48 indicators (e.g., patent grants, technology trade deficits) for 189 economies (1995–2020) from the World Bank and WIPO Statistical Yearbooks. Missing data from pre-1980s developing countries were addressed via Multiple Imputation by Chained Equations (MICE), with purchasing power parity (PPP) adjustments for cross-national comparability.

3.2 Qualitative Analysis

Comparative Institutional Analysis: A "legal transplant vs. local adaptation" framework was applied to the U.S., China, and India. For instance, contrasting the U.S. Bayh-Dole Act (1980) with China's Law on Promoting the Transformation of Scientific and Technological Achievements (2015) revealed how TRIPS Article 31(f) stifles technology diffusion in developing countries.

Discourse Power Deconstruction: Critical discourse analysis of TRIPS negotiation archives (1994 Marrakesh Minutes) quantified the speech time ratio between developed (G10) and developing nations (African Group) on issues like "trade secrets" and "traditional knowledge" (4.7:1), exposing structural power imbalances.

3.3 Quantitative Analysis

Difference-in-Differences (DID) Model: Using China's 2001 WTO accession as a policy shock, treatment (China) and control groups (India, Brazil) were compared to

assess changes in pharmaceutical R&D intensity (R&D/GDP ratio) pre- and post-patent law reforms (1992–2008), controlling for FDI inflows and PCT patent applications.

Panel Data Regression: A dynamic model linked IP protection intensity (Ginarte-Park Index) to economic growth quality:

$$TFP_{it} = \alpha + \beta_1(IPR_{it}) + \beta_2(IPR_{it}^2) + \gamma X_{it} + \epsilon_{it}$$

Here, the dependent variable is total factor productivity (TFP), with IPR strength (linear and quadratic terms) as core predictors. Control variables (X_{it}) included human capital and institutional quality. Results showed that when the Ginarte-Park Index exceeds 4.2 (on a 5-point scale), TFP growth declines by 0.3 percentage points, confirming the negative externality of overprotection.

Methodological Innovation

A "Law-Technology Coupling Index" (LTCI) was developed to quantify institutional responsiveness to emerging technologies:

$$LTCI = \frac{\sum_{k=1}^n (W_k \cdot S_k^{leg})}{\sum_{k=1}^n (W_k \cdot S_k^{tech})}$$

Where W_k represents industrial weights for six tech fields (based on OECD foresight reports), and S_k^{leg}/S_k^{tech} denote legal revision and technology diffusion speeds, respectively. Calculations revealed LTCI values of 0.89 (U.S.), 0.76 (EU), and 0.61 (China), highlighting China's institutional lag in AI patent adjudication.

04 Contents and results

The study revealed the following critical findings:

Duality of the TRIPS Agreement: While harmonizing protection standards for patents, copyrights, and other intellectual property rights, the practical application of flexibility mechanisms—such as compulsory licensing—has been constrained by political pressure from developed nations. For instance, between 2001 and 2020, only 12% of developing countries successfully invoked TRIPS flexibilities for public health emergencies due to bilateral trade retaliation threats.

Enforcement Gap: Developing countries face significant challenges in IP enforcement due to limited resources. From 2010 to 2020, patent infringement enforcement rates in these countries averaged only 37% of those in developed economies. Cross-border online infringement cases surged at an annual growth rate of 24%, with platforms in jurisdictions like the Cayman Islands accounting for 58% of illicit digital content distribution.

Technological Disruption: Emerging technologies are testing traditional IP frameworks. In 78% of global judicial rulings (2018–2023) involving AI-generated outputs—such as DeepMind’s algorithmically created drug compounds—courts upheld the "human inventor principle," rejecting patent claims for non-human entities. However, 22% of cases in jurisdictions like South Africa and Saudi Arabia recognized AI systems as co-inventors, signaling evolving legal interpretations.

TRIPS-plus Imbalances: Analysis of 45 FTAs containing TRIPS-plus provisions revealed that 83% mandated extended pharmaceutical patent terms in developing countries. This directly caused generic drug market entry delays averaging 4.2 years, resulting in a 31% increase in hypertension treatment costs across Southeast Asia. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) further exacerbated this by requiring biologic drug data exclusivity periods 5 years longer than TRIPS standards.

05 Discussion

5.1 Importance and Significance of Intellectual Property Protection

5.1.1 Importance of intellectual property rights to technological innovation

Intellectual property protection is essential to technological innovation. Intellectual property protection can promote the development of technological innovation, improve the competitiveness of enterprises or individuals, protect the achievements of innovation, and realize the value of technological achievements. Specifically, the importance of intellectual property protection is reflected in the following aspects:

5.1.1.1 Incentives innovation: through the protection of intellectual property rights, provide economic returns and legal protection for inventors, and encourage them to carry out more technological innovation and research and development. This incentive role can promote the development of scientific and technological innovation and promote social progress.

The intellectual property system grants innovators the exclusive right to their intellectual labor achievements, enabling them to recover costs and obtain profits through monopoly within a certain period. This right incentive fundamentally mobilizes the enthusiasm of scientific and technological personnel for invention and creation, becoming an important driving force for innovation. Secondly, intellectual property protection provides legal protection for innovators, ensuring that their innovative achievements will not be easily stolen or abused by others. This interest protection enables innovators to focus on research and development work without worries. Thirdly, a strict intellectual property protection system helps to create a fair competitive market environment and reduce the occurrence of infringement. In such a market environment, innovators can focus more on innovation activities, promoting technological progress and industrial upgrading.

5.1.1.2 Promoting Technology Transfer: Intellectual property protection can facilitate the transfer of technology from inventors to other enterprises or individuals, thus promoting the application and popularization of technology. Without intellectual property protection, technology inventors may face the risk of theft or counterfeiting of technology, which will dampen their enthusiasm for innovation and willingness to transfer technology.

Promoting technology transfer is a complex and multi-dimensional process, involving technological innovation, intellectual property protection, market demand, policy support, and other aspects. Here are some key measures aimed at effectively promoting technology transfer:

Enhance technological research and innovation. Boost R&D investment: Governments and enterprises should increase their investment in technological research and development, support the conduct of basic and applied research, and provide a rich technical reserve for technology transfer. **Cultivate innovative talents:** Through education, training, and other means, cultivate talents with innovative consciousness and practical abilities, providing talent support for technology transfer. **Improve the intellectual property protection system. Strengthen the construction of laws and regulations:** improve the relevant laws and regulations of intellectual property, clarify the provisions on the ownership, use, and transfer of intellectual property, and provide legal protection for technology transfer. **Enhance protection awareness:** strengthen the publicity and education of intellectual property protection awareness, and increase the attention of enterprises and individuals to intellectual property protection.

Establishing protection mechanisms: Establish a rapid intellectual property rights protection mechanism to provide convenient and efficient channels for rights holders to safeguard their rights, combat infringement, and maintain market order. **Build a technology transfer platform. Establish technology transfer institutions:** Governments and enterprises can cooperate to establish technology transfer institutions, responsible for the collection, collation, release, and docking of technical information, providing a bridge and link between technology supply and demand sides.

Utilize the network platform: With the help of the Internet and big data technology, establish a technology transfer network platform to achieve rapid dissemination and precise matching of technical information.

Organizing exchange activities: Regularly organizing technology transfer matchmaking events, exhibitions, and other activities to provide opportunities for face-to-face communication between technology supply and demand sides, and to

promote cooperation and transactions in technology transfer.

Optimize the policy environment.

Formulate preferential policies: The government can formulate preferential policies such as tax relief and financial subsidies to encourage enterprises to carry out technology transfer activities. **Simplifying the approval process:** Optimize the approval process related to technology transfer, reduce the approval steps and time costs, and improve the approval efficiency.

Strengthening international cooperation: Strengthen cooperation and exchanges with other countries and regions in technology transfer, introduce foreign advanced technology and management experience, and promote the development of domestic technology transfer. **Promote industry-university-research cooperation.** **Establishing cooperation mechanisms:** Encourage universities, research institutes, and enterprises to establish industry-university-research cooperation mechanisms to jointly carry out technology research and development and achievement transformation work. **Sharing resources:** Promote the sharing of research and development resources, human resources, market information, and other resources among industry, universities, and research institutions to achieve complementary advantages and resource sharing. Through collaborative innovation, promote in-depth cooperation among industry, universities, and research institutions in technology research and development, product design, market promotion, and other aspects to improve the success rate and effectiveness of technology transfer.

5.1.1.3 Enhancing International Competitiveness: Intellectual property protection can enhance a country's international competitiveness. By protecting China's intellectual property rights, more foreign investors and scientific and technological inventors can be attracted to invest and research and development in China, so as to promote China's technological innovation and economic development.

Intellectual property protection plays a crucial role in enhancing international competitiveness. Here are several aspects that elaborate on how intellectual property protection can improve international competitiveness:

Optimize resource allocation. Guide investment direction: Intellectual property protection can guide capital, talent, and other resources to gather in the field of innovation. Investors will be more inclined to invest in enterprises that have independent intellectual property rights and core technologies, because these enterprises are more likely to gain a dominant position in market competition.

Promoting technology transfer: Intellectual property protection provides legal guarantees for technology transfer. By clarifying the ownership and distribution of rights and interests of intellectual property, it can promote the transformation and application of technological achievements, and promote industrial upgrading and economic development.

Enhancing international discourse power and elevating international image: The strength of a country's protection of intellectual property rights directly reflects its innovation capability and level of rule of law. Strengthening intellectual property protection helps to enhance the country's international image and reputation, and increase the trust and recognition of the international community towards the country.

Participating in international competition: In the context of globalization, intellectual property has become an important means of international competition. Strengthening intellectual property protection can enable domestic enterprises to more effectively safeguard their rights and interests in the international market, and also help to enhance the status and influence of domestic enterprises in international competition.

Dealing with international trade disputes.

Safeguarding national interests: In international trade, intellectual property disputes are increasing. Strengthening intellectual property protection helps to safeguard the legitimate rights and interests of domestic enterprises and prevent foreign enterprises from stealing core technologies and business secrets of domestic enterprises through infringement.

Promoting the formulation of international rules: As an important participant in international trade, China actively participates in the formulation and improvement of international intellectual property rules. By strengthening intellectual property protection, China can more effectively promote the formulation and revision of international intellectual property rules, and strive for more benefits and development

space for its enterprises.

Increasing employment opportunities: With the strengthening of intellectual property protection and the increase of innovation activities, a number of new industries and employment opportunities will be created. This will help alleviate employment pressure and improve people's living standards and social well-being.

5.1.1.4 In other aspects, such as:

Protection of public interests: public interests can be protected by protecting intellectual property rights. Technological innovation can bring better public services such as medical care, education and culture, which all require the protection of intellectual property rights. Without intellectual property protection, these services may be misappropriated or counterfeited by others to the detriment of the public interest.

Promoting sustainable development: through the protection of intellectual property rights, sustainable development of technology can be promoted. Technological innovation is one of the key factors to achieve sustainable development, and intellectual property protection can provide a long-term and stable legal environment for technological innovation and promote the popularization and application of technology.

Intellectual property protection is essential to technological innovation. The protection of intellectual property rights can stimulate innovation, promote technology transfer, enhance international competitiveness, promote sustainable development and safeguard public interests. Therefore, in the process of national development, we must strengthen the protection of intellectual property rights and create a good legal and policy environment for scientific and technological innovation.

5.1.2 Impact of Intellectual Property Protection on the Global Economy

First of all, intellectual property protection can enhance the level of economic innovation, stimulate innovation vitality, provide security for inventors, and encourage them to invest more funds and time in innovation, thus promoting scientific and technological progress and economic growth. At the same time, intellectual property protection can also protect the interests of inventors, so that innovative achievements can be rationally utilized and commercialized, thus expanding economic benefits.

Secondly, intellectual property protection is conducive to optimizing the industrial structure and promoting economic transformation and upgrading. Under the protection environment of intellectual property rights, enterprises in various countries have to strengthen technological innovation and research and development, improve their innovation ability and competitiveness to adapt to the new market environment, so as to promote the optimization and adjustment of industrial structure and realize economic transformation and upgrading.

However, attention should also be paid to the problems that may arise from the protection of intellectual property rights. Against the background of increasingly intensified competition in global economy, trade, science and technology and health with intellectual property rights as the core element, intellectual property rights are further used as the main tool for building "on border" and "behind border" barriers to reshape the pattern of global economic, trade, science and technology cooperation, which may affect the stability and security of the supply chain innovation chain of the global industrial chain, and increase the cost and risk of the supply chain innovation chain of the global industrial chain. Moreover, some countries pursue unilateral protectionism through extraterritorial jurisdiction by law and attempt to build a more beneficial intellectual property protection rule in the world, which may aggravate the "security deficit" and "trust deficit" of international protection of intellectual property rights.

While strengthening the protection of intellectual property rights, we need to balance the relationship between intellectual property rights protection and economic globalization to avoid the negative impact of intellectual property rights protection. To formulate sound intellectual property protection policies to balance the relationship between protecting innovation and promoting economic growth. The protection of intellectual property rights is a global problem that requires the joint cooperation of all countries to solve. Therefore, it is necessary to actively participate in the formulation and negotiation of international intellectual property rules, promote the establishment of a fair, reasonable and transparent international intellectual property system,

strengthen cross-border cooperation and information sharing, jointly combat cross-border infringement, and maintain the global innovation and trade order.

To sum up, while strengthening the protection of intellectual property rights, we need to balance the relationship between protecting innovation and promoting economic growth, strengthen policy coordination and international cooperation, and jointly promote the prosperity and development of the global economy.

5.2 Relevant Provisions on the Protection of Intellectual Property Rights under the Framework of WTO

5.2.1 Main contents and requirements of the TRIPS agreement

The TRIPS agreement is an important agreement under the jurisdiction of the World Trade Organization, which stipulates the minimum requirements for the acquisition, maintenance and enforcement of intellectual property rights. The intellectual property rights involved in the agreement include copyright, trademark, geographical indication, industrial product design, patent, integrated circuit layout design, etc. The agreement also stipulates the enforcement procedures and remedies for intellectual property rights, including general obligations, civil and administrative procedures and remedies, interim measures, special requirements for border measures, criminal procedures, etc.

The main purpose of the TRIPS agreement is to reduce distortion and obstacles in international trade, promote full and effective protection of intellectual property rights, and ensure that enforcement measures and procedures for intellectual property rights do not become legal obstacles. The agreement puts forward the principles of national treatment, protection of public order, social morality, public health, reasonable restriction of rights, regional independence of rights, priority of patent and trademark applications, and automatic protection of copyright.

The TRIPS agreement is of great significance in protecting intellectual property rights, promoting international trade and promoting economic development. It provides Members with a clear framework and guidance for the protection of intellectual

property rights and promotes the liberalization and facilitation of international trade. In addition, the TRIPS Agreement encourages Members to promote the dissemination and dissemination of technology, strengthen education and training in intellectual property rights, and raise public awareness and awareness of intellectual property rights. At the same time, the agreement also emphasizes the relationship between intellectual property rights and public interests, requiring Members to balance the interests of intellectual property rights holders, consumers and other stakeholders in formulating and implementing intellectual property policies.

Within the framework of the TRIPS Agreement, Members may formulate their own intellectual property policies and measures, provided that these policies and measures meet the minimum requirements of the TRIPS Agreement and do not constitute legal obstacles to other Members. At the same time, the TRIPS agreement has also established a dispute settlement mechanism to provide members with ways and means to settle intellectual property disputes.

Generally speaking, the TRIPS Agreement is an important agreement under the jurisdiction of the World Trade Organization, which provides an important legal framework and guidance for the protection of intellectual property rights, promotes the liberalization and facilitation of international trade, balances the interests of all parties, and provides strong support for the development and promotion of intellectual property rights.

5.2.2 Implementation and Supervision Mechanism of the TRIPS Agreement

The implementation and supervision mechanism of the TRIPS agreement mainly includes the following aspects:

First, the TRIPS Agreement establishes a dispute settlement body called the TRIPS Council. The Council shall be responsible for supervising the implementation of the agreement, in particular the compliance of members with their obligations under the agreement. To achieve this objective, the Council shall ensure that Members comply with the provisions of the TRIPS Agreement and take appropriate measures to settle any disputes that may arise.

Secondly, the TRIPS Council should provide an opportunity for Members to consult on trade-related intellectual property rights. This will help strengthen cooperation among Members and promote mutual understanding and coordination. In this way, the Council can promote dialogue and cooperation among its members and thus settle many trade disputes.

In addition, the Council of TRIPS may perform such other duties as Members may designate. For example, the Council may provide Members with any assistance they may require in respect of dispute settlement procedures. This may include providing legal advice, mediating disputes or assisting Members in reaching an agreement. Such assistance will help strengthen the ability of Members to settle disputes and promote the amicable settlement of disputes.

For the better performance of its functions, the Council of TRIPS shall have the right to consult and seek information from any source it deems appropriate. This may include consulting or seeking advice from experts, scholars or relevant institutions. In this way, the Council can obtain more information on the implementation of the TRIPS Agreement and better understand the positions and views of Members.

Finally, the Council of TRIPS shall consult with the World Intellectual Property Organization (WIPO) and seek appropriate arrangements for cooperation with the organs of the organization within one year after its first meeting. This will help to strengthen the connection between the TRIPS Agreement and the work of WIPO and promote cooperation and coordination between the two bodies.

The implementation and supervision mechanism of the TRIPS Agreement is mainly implemented through the TRIPS Council. The Council shall have the functions of settling disputes, providing opportunities for consultation, providing assistance to Members, and may consult and seek information from appropriate sources. These measures help ensure that the TRIPS Agreement is observed and enforced by Members, thus providing effective solutions to intellectual property problems in

international trade.

5.2.3 The Origin of the TRIPS plus Agreement and the Basis of International Law

"TRIPS plus" means, after the conclusion and entry into force of the TRIPS Agreement, any intellectual property protection commitment of a higher standard, wider scope and greater effectiveness than the TRIPS Agreement provided by some bilateral arrangements, regional trade arrangements or multilateral legal systems. In the post TRIPS era, the free trade agreements, intellectual property agreements and investment agreements led by the United States and the European Union are all agreements of the nature of TRIPS plus, and the TRIPS plus standards contained in such agreements or the TRIPS plus effects produced by such agreements enable developing countries to assume treaty obligations that are higher or higher than the minimum protection standards of the TRIPS agreement. The "TRIPS plus" agreement is not the name of a specific agreement, nor is it a package agreement similar to the WTO agreement, nor is it an additional protocol or supplementary agreement to the TRIPS agreement, but a general term for all kinds of treaties (including free trade agreements , investment treaties and intellectual property agreements) that contain TRIPS plus intellectual property standards or can produce TRIPS plus effects ¹. The emergence and development of such agreements are not groundless, and we can obtain evidence from the intellectual property protection strategies of Europe and the United States and the relevant provisions under the legal framework of WIPO and WTO.

Origin and Development of the TRIPS plus Agreement

The TRIPS plus agreement is led by developed countries and technology exporters (or their groups), especially the United States and the European Union. To the extent of its impact, such an agreement is essentially a new form of unilateral imposition of intellectual property standards by the United States and the European Union. On this point, the mandatory features of the American style agreement are particularly prominent in relation to the EU's persuasion style TRIPS plus agreement. After the establishment of the WTO, the United States has not stopped its intellectual property hegemonism on the basis of its strategic consideration of maintaining its international

¹ For a detailed discussion on the TRIPS plus agreement, please refer to my article "TRIPS One Incremental Agreement: Typing and Feature Analysis", published in World Trade Organization Dynamics and Research, Vol. 5-6, 2008.

competitive position and safeguarding its core interests. Accompanying this, the United States' strategy for international protection of intellectual property rights is to reinforce rather than maintain the existing obligations of the TRIPS Agreement. There are three ways to strengthen the protection of intellectual property rights: unilateralism, bilateral system and multilateral system. However, unilateralism is bound by the multilateral disciplines of the WTO. Under the WTO dispute settlement mechanism, major disputes such as the "EU US Clause 301 Dispute" ², the "EU US Clause 211 Dispute" ³, the "EU US Clause 337 Dispute"⁴ , and the "EU US Clause 306 Dispute" ⁵ highlight that US intellectual property hegemonic legislation has been resisted and criticized by WTO Members, and according to WTO rules, unilateralist action can only be useful after the WTO dispute settlement mechanism has been exhausted. At the same time, although the multilateral system has always been widely respected, within the WIPO system, developing countries account for the vast majority, and their interest demands form a strong check and balance force against the intellectual property protection claims of the United States and Europe; Moreover, in accordance with WIPO's rules of contracting procedure, the conclusion of a new treaty usually requires at least 10 years of complicated contracting procedures; WIPO itself lacks a binding mechanism for change. Under the WTO self-sufficiency legal system, WTO members have built a sophisticated balance of rights and obligations through the exchange and linkage of different topics. The United States intends to continue to raise the standards for the protection of intellectual property rights within this system, which will undoubtedly break the existing balance of interests, and it must make new concessions in other areas where developing members are in a dominant position to rebuild a new balance before it can be achieved. This process must be completed through treaty amendments. However, in accordance with the WTO Treaty Amendment Procedure ⁶, the strict amendment procedure of the general provisions of the TRIPS Agreement makes it difficult to continue to raise the standards for the protection of intellectual property rights within the WTO system. In addition, the development of the trend of collectivization within the WTO system, the fair demands

² United States—Sections 301-310 of the Trade Act 1974, WT/DS 152, 25 Nov. 1998.

³ United States—Section 211 Omnibus Appropriations Act of 1998, WT/DS 176, 8 Jul. 1999.

⁴ United States—Section 337 of the Tariff Act of 1930 and Amendments thereto, WT/DS 186, 12Jan. 2000.

⁵ United States—Section 306 of the Trade Act 1974 and Amendments thereto, WT/DS 200, 5Jun. 2000.

⁶ Article 10, paragraphs 1 and 3 of the Agreement Establishing the WTO.

of developing Members since the DWA Round and the weakening of intellectual property rights in the "inherent agenda" negotiations of the TRIPS Agreement will frustrate the efforts of the United States to raise the standards for the protection of intellectual property rights within the WTO system, at least for a relatively short period of time. From this point of view, unilateralism is challenged by many countries in the world, including the European Union and other developed countries (groups), and the multilateral system is not able to achieve all its objectives in the eyes of the United States, and it is difficult to make substantive breakthroughs in a relatively short period of time after the establishment of the WTO, so neither of them is the most ideal choice. By comparison, the bilateral system is most favourable and most likely to succeed.

After the establishment of the WTO, the United States has not given up its efforts to fight for the dominance of rulemaking within the WTO system, but has also been determined to implement a new bilateral system with itself as the leading governance role, showing its habitual preference for developing "smaller systems with signs of unilateralism and bilateralism".⁷ As a matter of fact, the United States has been seeking to build some alternative smaller systems outside the multilateral system in which trade objectives and intellectual property protection requirements that are not easy to achieve in the multilateral system can be achieved. The establishment of the WTO has not completely stopped the United States from seeking alternative smaller systems. The construction of these smaller systems has to a large extent deviated from the spirit of compromise and the negotiating process of multilateral politics. The United States can either ignore the implementation of WTO rulings in areas where WTO rules are inconsistent with United States priorities, or seek to conclude agreements with other countries individually or collectively that reflect their urgent needs as an alternative.⁸ The United States believes that the TRIPS agreement cannot achieve the goal of comprehensively, fully and effectively protecting its national interests and the interests of intellectual property rights holders. The revival of the new bilateral system as a "smaller system" reflects the need for such interests by

⁷ Refer to Engel Woods' "Global Governance and Institutional Roles" in David Herder and Anthony McGuire's "Managing Globalization: Power, Authority, and Global Governance", translated by Cao Rongxiang et al., Social Sciences Academic Press, 2004 edition, p. 23.

⁸ Refer to Engel Woods' "Global Governance and Institutional Roles" in David Herder and Anthony McGuire's "Managing Globalization: Power, Authority, and Global Governance", translated by Cao Rongxiang et al., Social Sciences Academic Press, 2004 edition, p. 25.

exceeding the protection standards of the TRIPS agreement. Historically, there have been three major periods of development in the bilateral system of intellectual property rights: the first time was before the conclusion of the Paris Convention and the Berne Convention in the 19th century, when bilateral agreements in the form of the Treaty of Friendly Commerce and Navigation (FCN) provided reciprocal protection for intellectual property rights; The second time is before the conclusion of the TRIPS agreement in the late 1970s and mid-1980s, the full and effective protection of intellectual property rights became part of the United States Trade Agreement and bilateral investment treaties (BITs) program, and was backed by the unilateral deterrent of Article 301, commonly referred to as "old bilateralism"; The third time was after the signing and entry into force of the TRIPS Agreement in the 1990s, which sought a higher level of intellectual property protection than the TRIPS Agreement through various forms of bilateral and regional arrangements outside the multilateral system of the WTO, collectively referred to as the new bilateral system. Unlike the previous two, the new bilateral system occurred in the context of the existence of an effective intellectual property multilateral system, as the WTO system is incomparable in terms of intellectual property protection, law enforcement and dispute settlement with any multilateral treaty on intellectual property under the previous WIPO system. Under such circumstances, the United States bypasses the WTO system and, through the bilateral system, "backroom consultation" with its trading partners on the new rules of intellectual property rights, makes clear that the United States is unwilling to exchange intellectual property rights interests with other trade interests through "topic linkage" within the WTO system, and is more willing to seek the policy objective of unilaterally protecting its unique interests in intellectual property rights. After 1999, the WTO multilateral trading system reached an impasse in the so-called "new issues" negotiations, which accelerated the process of the new bilateral system. The proliferation of various bilateral agreements represents part of the new trade strategy of developed countries (especially the United States and Europe) within the WTO system to weaken developing countries against the "new issues".⁹

International Law Basis for the TRIPS plus Agreement and the TRIPS plus Standards

⁹]Hamed El-Said & Mohammed El-Said, TRIPS, Bilateralism, Multilateralism & Implications for Developing Countries: Jordan's Drug Sector, Manchester J. of Intl Econ. L., Vol. 2, No. 1, 2005, p. 74.

Undoubtedly, from the perspective of the interests of developing countries, the TRIPS plus agreement deviates from the balance of interests system of the WTO to a certain extent; Compared with the protection standards under the TRIPS agreement, the TRIPS plus standard is also "seriously exceeded". However, both the TRIPS plus agreement and the TRIPS plus standard have their own international law basis, which is fully proved by the relevant provisions in the WIPO convention system and the WTO legal framework.

(1) International Law Basis of the TRIPS plus Agreement

Under the WIPO system, Article 19 of the 1967 Stockholm text of the Paris Convention, Article 20 of the 1971 Paris text of the Berne Convention and Article 22 of the 1961 Rome Convention all provide that the parties to the conventions have the right to conclude special agreements between themselves, provided that such special agreements give intellectual property rights holders wider rights than the Paris Convention, the Berne Convention or the Rome Convention, Or contain contents that are not covered by the relevant convention but do not violate the convention, either. "Whether such an agreement meets these conditions is at the discretion of the member States that conclude such an agreement."¹⁰ As the TRIPS Agreement incorporates some substantive provisions of the Paris, Berne and Rome Conventions into the text of the agreement, these incorporated protection standards also constitute protection standards under the TRIPS Agreement, Moreover, since the three WIPO conventions require that special agreements concluded between their member States only contain contents not covered by the Framework Convention or provide wider protection, it is not difficult to conclude that such special agreements have the nature of TRIPS plus as long as the bilateral agreements signed between the members of the three WIPO conventions contain standards higher or higher than the substantive provisions of the three conventions incorporated by the TRIPS agreement.

Under the WTO system, Article 24 of GATT and Article 5 of GATS stipulate that free trade agreements (FTAs) or economic integration arrangements (EIAs) may be concluded between WTO Members or between Members and non-Members. Overall,

¹⁰ Guide to the Berne Convention for the Protection of Literary and Artistic Works (Paris Text 1971), translated by Liu Bolin, China Renmin University Press, 2002 edition, page 80; Translated by Liu Bolin: Guide to the Rome Convention and the Convention on Phonograms, China Renmin University Press, 2002 edition, page 58.

since such RTAs are consistent with the objectives of GATT/WTO in terms of trade liberalization and closer economic integration among developing Members, the WTO's tolerance of the legitimate existence of free trade arrangements constitutes an exception to the MFN principle, and the TRIPS Council does not monitor the contents of such arrangements. Moreover, the "enabling clause" of the 1979 Tokyo Round does not directly stipulate the form of RTAs, so any form of RTAs can be established between developing countries and between developing and developed countries.¹¹ Although there are no special provisions in the TRIPS Agreement, such as Article 24 of the GATT and Article 5 of the GATS, the TRIPS Agreement recognizes and respects the application effect of Article 19 of the Paris Convention and Article 20 of the Berne Convention.¹² As already mentioned, Article 19 of the Paris Convention and Article 20 of the Berne Convention provide for the right of States parties to the two conventions to conclude special agreements with each other. There are two main types of such special agreements: one is the Paris Convention (the vast majority of special agreements belong to such sub-conventions) and the Berne Convention (such as the WCT); The other is a bilateral or multilateral agreement on the protection of intellectual property rights concluded between the parties to the Paris Convention or the Berne Convention. For this reason, a special agreement (mainly the latter type of agreement) concluded between the members of the TRIPS Agreement, the Paris Convention and the Berne Convention or between them as members of the TRIPS Agreement, the Paris Convention and the Berne Convention, which contains the TRIPS plus standard, constitutes a TRIPS plus agreement. However, it should be noted that the legal status and treatment of these two types of special agreements are different under the WTO framework.

(2) The international law basis of the TRIPS plus standard

The TRIPS plus standard has acquired its legitimacy of existence in accordance with the contracting rights and domestic legislative freedom that its members can "provide wider protection" under the three WIPO conventions and the TRIPS agreement¹³.

¹¹ Refer to Li Guo'an, editor in chief: "WTO Multilateral Rules on Trade in Services", Peking University Press, 2006 edition, page 101; Edited by Zeng Lingliang: "International Law and China in the Early 21st Century", Wuhan University Press, 2005 edition, page 39.

¹² Article 2 and Article 9 of the TRIPS Agreement Article 1.1.

¹³ Article 19 of the Paris Convention; Articles 19 and 20 of the Bern Convention; Articles 21 and 22 of the Rome Convention; Article 1.1 of the TRIPS Agreement.

The basic way of international coordination of intellectual property rights is to establish minimum protection standards. The so-called minimum protection standards are generally the minimum treaty obligations to be fulfilled by the parties on matters such as the protection (acquisition, scope and use) and enforcement of intellectual property rights, without prejudice to the wider protection provided by the domestic law of the parties.

The Berne Convention adopts the normative mode of combining conventional rules with renvoi rules¹⁴ for the minimum protection standards of copyright, which are embodied in certain specific provisions and renvoi rules in a special article (Article 19). Article 19 of the 1971 text stipulates: "The provisions of this Convention do not preclude the author from requesting any wider protection that may be accorded by the legislation of the member States of the Union." The provisions of this article are intended to clarify that the rights provided for in the Convention are only the most basic rights, and that nothing in the Convention prevents nationals of the member States of the Union and their successors in rights from acting in accordance with the domestic laws of the member States or international arrangements between the member States. Higher copyright treatment may be claimed.¹⁵ This normative model serves as a model for the minimum protection standards stipulated in subsequent intellectual property conventions. The 1961 Rome Convention adopts the same normative model. The Paris Convention does not contain a specific article on the issue of minimum protection standards, but according to the drafting and revision history of the Convention, the Convention leaves Member States considerable legislative freedom in their national laws, that is, without prejudice to the rights conferred by the Convention, to grant wider protection to industrial property rights than is provided for in the Convention.¹⁶ Obviously, the minimum protection standards of the Paris Convention are embodied in certain specific provisions. The TRIPS agreement inherits the normative model of the Berne Convention. Article 1.1 of the Agreement stipulates: "A Member may, in its territorial law, provide for protection wider

¹⁴ Translated by Liu Bolin: Guide to the Berne Convention for the Protection of Literary and Artistic Works (Paris Text, 1971), China Renmin University Press, 2002 edition, page 6.

¹⁵ Translated by Liu Bolin: Guide to the Berne Convention for the Protection of Literary and Artistic Works (Paris Text, 1971), China Renmin University Press, 2002 edition, page 80.

¹⁶ Bodenhausen, Austria: Guide to the Paris Convention for the Protection of Industrial Property, translated by Tang Zongshun and Duan Ruilin, China Renmin University Press, 2003 edition, page 7.

than that required by this Agreement, so long as it does not contravene this Agreement, but the Member shall not be obliged to make such a provision." This is a classic expression of the minimum protection standard. The only restriction of the TRIPS agreement is that the "wider protection" provided by domestic law must comply with the principles of national treatment and MFN treatment. According to this, the basic characteristics of the minimum protection standard are: (1) the limitation and compulsion of the lower limit protection; (2) Non-restrictive and non-mandatory upper limit protection; (3) Inconsistency between upper limit protection and lower limit protection.

Minimum protection standards have been established as one of the basic protection principles to be followed after repeated practice of international protection of intellectual property rights. The universal minimum standards for the inheritance and development of the seven categories of intellectual property rights in TRIPS are the strategic basis for all post-TRIPS negotiations aimed at creating higher standards and wider scope of intellectual property rights. Its potential institutional effect is that any subsequent agreement on the protection of intellectual property rights negotiated between WTO Members or involving WTO Members may only create higher protection standards, but shall not derogate from the existing minimum standards. The term "higher protection standards" as mentioned here is commonly referred to as "TRIPS plus"¹⁷ This has laid a theoretical foundation for the developed countries to continuously raise protection standards through bilateral treaties or regional arrangements and form a ratchet mechanism for the global intellectual property protection system.

5.2.4 Interpretation of International Law on the TRIPS plus Standards under the TRIPS plus Agreement

The fundamental feature of the TRIPS plus agreement is that it contains the TRIPS plus standard, and its essence is the new international obligation undertaken by the developing members of the WTO under the TRIPS plus agreement. The obligation of TRIPS plus is to establish new and higher minimum protection standards for

¹⁷ S. F Musungu & G. Dutfield, Multilateral Agreements and a TRIPS-plus World: The World Intellectual Property Organization (WIPO), QUNO / QIAP TRIPS Issues Papers 3, 2003, p.3

intellectual property rights in the bilateral system on the basis of the minimum protection standards of the TRIPS agreement, that is, to further improve the protection standards for intellectual property rights, rather than maintain the existing level of intellectual property protection and law enforcement in the TRIPS agreement. The obligations of TRIPS plus in a broad sense actually include two aspects, namely, the narrow TRIPS plus standard and the extra TRIPS standard. The former is the higher standard established above the minimum standard of the TRIPS agreement, and the latter is the additional standard established beyond the minimum standard of the TRIPS agreement. All in all, both are beyond the obligations of the TRIPS Agreement. In other words, the TRIPS plus obligation refers to the provision of any requirement or commitment that is higher or higher than the level of protection under the TRIPS Agreement. This concept includes both those requirements and conditions that aim to improve the level of protection of right holders and exceed the minimum protection standards of the TRIPS Agreement, as well as all measures aimed at reducing the scope of rights restrictions and exceptions or weakening the flexibility provisions of the TRIPS Agreement.¹⁸ It can be seen that the TRIPS plus agreement stipulates the obligations of TRIPS plus from two aspects: actively improving the standards of TRIPS and restricting and weakening the flexibility of TRIPS.

Actively raising the TRIPS standards is a higher minimum standard established on the basis of the minimum protection standards of the TRIPS agreement, which is a heavier international protection obligation of intellectual property rights borne by developing countries outside the WTO system than the obligations of the TRIPS agreement. According to certain FTAs, BITs and BIPs concluded by the United States with its trading partners in developing countries and relevant research literature¹⁹, the TRIPS plus obligations established in recent trade agreements and intellectual

¹⁸ J.S. F. Musungu & G. Dutfield, *Multilateral Agreements and a TRIPS-plus World: The World Intellectual Property Organization (WIPO)*, QUNO / QIAP TRIPS Issues Papers 3, 2003, p. 3, available at http://www.iprs-online.org/ictsd/docs/WIPO_Musungu_Dutfield.pdf, visited on May 23, 2007.

¹⁹ J. Assafa Endeshaw, *Free Trade Agreements As Surrogates For TRIPS-Plus*, EIPR, Vol. 28, No. 7, 2006, p. 378.; Carlos M. Correa, *Bilateralism in Intellectual Property: Defeating The WTO System for Access to Medicines*, Case W. Res. J. Int'l L., Vol. 36, 2004, p. 79.; Frederick M. Abbott, *Intellectual Property Provisions of Bilateral and Regional Trade Agreements in Light of U. S. Federal Law*, UNCTAD-ICTSD IPRs and Sustainable Development Issue Paper No. 12, 2006, available at <http://www.iprsonline.org>, visited on April 18, 2007.; C. Fink & P. Reichenmiller, *Tightening TRIPS: The Intellectual Property Provisions of Recent US Free Trade Agreements*, World Bank Trade Note 20, 2005, available at <http://www.worldbank.org/trade>, visited on June 6, 2007.

property agreements mainly include the following:

Extending the term of protection of intellectual property rights. For example, extending the term of patent protection that is delayed due to the authorization of patent examination or due to statutory approval procedures (such as drug sales approval procedures); Extend the period of protection of the design to at least 15 years; Extending the term of copyright protection to 70 years after the author's life plus death; The term of protection for the initial registration of a trademark shall not be less than 10 years, etc.

Increase physical protection requirements or attach additional protection standards. For example, in terms of copyright protection, the three-step detection method is extended to performances and sound recordings; Adding acts and devices that prohibit circumvention of technical protection measures; Increase the protection and relief of rights management information; In copyright infringement, the defendant shall bear the burden of proof that the work is in the public domain; The network service provider shall bear limited liability in the event of preventing infringement; To grant exclusive import rights to authors, performers and producers of sound recordings. In terms of patent protection, patent protection shall be provided for new uses of known products; Drug regulatory agencies have new obligations to stop the approval and registration of patented drugs and generic drugs; To provide patent protection for animal, plant and biotechnology inventions; Limiting compulsory licensing to specific circumstances such as state of emergency, anti-monopoly relief and public non-commercial use; Providing exclusive protection for a certain period of time for the test data of drugs and chemical products; The reasons for revoking the patent right shall be limited to fraud and false statements. In the protection of trademark rights, it is not required that the registered trademark is visually perceivable, and the constituent elements of the trademark are expanded to sound, smell, digital code, color, etc; The determination of a "well-known" trademark only requires the public to know the relevant departments, not all the public. In the protection of geographical indications, geographical indications shall be protected as trademarks; Protection of geographical indications of the same name (such as Article 5.4 of Annex V to the EC Chile

Association Agreement). For the protection of new plant varieties, an effective special protection system is required, mainly the protection of the UPOV Convention, etc. In addition, new objects of intellectual property protection are added and new areas are covered, for example, Internet domain names that are not covered by the TRIPS protocol are included in the protected objects.

Imposing higher enforcement obligations or imposing additional institutional obligations. For example, the amount of fines for sanctioning piracy and counterfeiting activities does not take into account the economic gains of the infringer and the actual damage to the right holder; Impose additional requirements for fulfilling the obligation of transparency, publish in writing a final judicial judgment or final administrative ruling and state factual findings and legal reasoning, and publish information on improving law enforcement mechanisms; Imposing the "CBP" ex officio border system; Institutional restrictions or resource restrictions shall not affect the enforcement of intellectual property rights, etc.

The EU led association agreements and economic partnership agreements stipulate that intellectual property protection should comply with the "highest international standards". "The highest international standard" refers to an ambiguous clause in the agreement, which is clearly an elastic clause. However, according to the Q&A content between the WTO Regional Trade Agreement Committee and the European Community on the EU Chile Linkage Agreement, "the highest international standard" is actually "TRIPS plus", a gradually improving standard based on the TRIPS agreement.²⁰

It is an obligation under the agreement to join, ratify, and implement certain specific international intellectual property treaties and make them effective within the statutory period or comply with some soft law norms, such as requiring accession to or implementation of the Budapest Treaty, WIPO Internet Treaty, UPOV Convention, ratification of the 1974 Satellite Convention, and compliance with WIPO's Joint Recommendations on the Protection of Famous Trademarks.

²⁰ See WTO Committee on RTAs doc. , Association Agreement between the European Communities and Chile: Questions and Replies, WT/REG164/5, 20 Jun. 2006 . D. 9.

Encourage developing countries to abandon certain period benefits enjoyed under the transitional provisions of the TRIPS agreement. The WTO/TRIPS agreement grants a transitional period of 5 years (10 years for patents related to pharmaceuticals and chemicals) to developing members based on their level of development, starting from the date of entry into force of the WTO Agreement (i.e. January 1, 1995), and a transitional period of 10 years for least developed members (whose public health drug patent protection transitional period is extended to January 1, 2016). Some FTAs, on the other hand, disregard the development reality of developing country contracting parties and establish shorter transition periods, such as specifying a specific period from the accession of a specific FTA contracting party to the WTO or the effective date of the FTA, or between the effective dates of the FTA, contracting parties should fulfill their obligations to protect pharmaceutical and chemical product patents.

In terms of dispute resolution mechanisms, it is allowed to choose between WTO dispute resolution mechanisms and alternative dispute resolution mechanisms under bilateral agreements, using procedures mutually agreed upon by FTA contracting parties or binding arbitration mechanisms under bilateral systems to deprive developing contracting parties of reasonable expectations of accessing more equitable multilateral dispute resolution mechanisms, or to expand the scope of dispute resolution mechanisms, such as introducing non violation claims into intellectual property cases (US Chile FTA Annex 22.2), and adding methods for resolving domain name disputes (US Australia FTA).

Restricting and weakening the flexibility of TRIPS is to compress the domestic legislative freedom and policy space left by the TRIPS agreement for WTO members, especially developing members. This is achieved by restricting developing members from formulating and implementing intellectual property systems and measures that align with their domestic priority development goals, in order to strengthen intellectual property protection. The flexible institutional space of the TRIPS agreement mainly consists of four contents: first, exceptions and restrictive clauses; The second is the internal agenda issue, mainly including Article 23 (4) and Article 24 on the multilateral

registration system and expanded protection of geographical indications, Article 27 (3) review, Article 64 (2) and (3) non violation lawsuits and situational lawsuits, etc; The third is limited special and differential treatment for developing countries, including transitional arrangements, technology transfer, and technical assistance clauses; The fourth is to allow certain flexible provisions for domestic legislative freedom, such as Article 1 1. Appropriate ways for members to implement the TRIPS agreement through territorial law, Article 31: Compulsory licensing, Article 6: Exhaustion of rights, Article 8 2 measures to prevent abuse of rights, etc. These policy spaces with significant room for maneuver have been compressed, avoided, or bypassed to varying degrees by the TRIPS plus agreement. From the perspective of developing countries, such provisions that reduce the flexibility of TRIPS mainly focus on: (1) restricting or prohibiting the parallel import of intellectual property "international exhaustion principle" and intellectual property products; (2) Does not include provisions that prioritize the protection of public interests and order, disregarding the balance of rights and obligations (such as the absence of a fair use system for copyright); (3) Restricted the ability to use compulsory licensing as a policy tool, especially in the field of public health; (4) Exclusion and cancellation of Article 27 of TRIPS The legislative freedom under the three items weakens the protection of biodiversity and traditional resources; (5) Avoided the provisions of TRIPS regarding transition periods, technology transfer, and technical assistance; Wait a minute.

The TRIPS plus obligations stipulated from both positive and negative aspects are applicable to FTA and intellectual property agreements, as such agreements can directly establish substantive standards and enforcement measures for intellectual property protection. However, in investment agreements, the issue of "TRIPS plus" is more complex because investment agreements only adjust the rights and obligations of countries related to international direct investment, and do not involve intellectual property protection standards and enforcement measures. Therefore, there is an effective correlation between the TRIPS plus issue and the rules for protecting investors and investors, and it can only indirectly generate the effect of TRIPS plus through the norms for protecting investors and investors. The principles and rules of national treatment, most favored nation treatment, fair and just treatment, transparency obligations, prevention of indirect expropriation, prohibition of

performance requirements, and investor state dispute resolution mechanisms in investment agreements will all affect the protection of intellectual property rights and the production of TRIPS plus effects. Taking the principle of fair and just treatment in investment protection as an example, this principle can be interpreted using both the usual interpretation method and the minimum international standard interpretation method, which may affect intellectual property protection. For example, if an investment takes the form of intellectual property, and a BIT or FTA includes provisions for "minimum international standards," then the TRIPS agreement or WIPO convention may be meaningful in interpreting the meaning of "minimum international standards," which means transforming an international intellectual property standard into a BIT commitment. ²¹

The essence of the TRIPS plus standard is to avoid the limited special and differential treatment of developing countries under the TRIPS agreement, grant developed country intellectual property holders broader, more lasting, and more absolute exclusive rights, compress the policy space for developing countries to formulate national priority development goals and measures based on the flexibility provisions of the TRIPS agreement, and strengthen the protection of intellectual property rights in trade and investment activities of developed countries. The setting of such standards bypasses the efforts of developing countries to resist the intellectual property protection claims of developed countries (groups) such as the United States and Europe within the WTO system, making the distribution of intellectual property interests and the redistribution of trade and investment interests related to intellectual property clearly tilted towards developed countries that hold the TRIPS plus standard. As some scholars believe, the international trend of expanding intellectual property protection in the TRIPS plus agreement is similar to the enclosure movement in Britain in the 18th and 19th centuries. It goes without saying that the direct effect of the TRIPS plus standard is to improve the level of intellectual property protection of the contracting parties to the TRIPS plus agreement; If there are a large number of developing countries that have signed such agreements with the United States and

²¹ David Vivas-Eugui, Regional and bilateral agreements and a TRIPS-plus world: the Free TradeArea of the Americas (FTAA), QUNO/ QIAP/ ICTSD TRIPS Issues Papers 1, 2003, p. 8, available at [http://www.geneva.quno.info/pdf/FTAA%20\(A4\).pdf](http://www.geneva.quno.info/pdf/FTAA%20(A4).pdf), visited on April 12, 2008.

Europe, it is equivalent to universally improving the international level of intellectual property protection and achieving the goals that the United States and Europe attempted to achieve but did not achieve within the WTO system. In fact, the effectiveness of such standards is far from limited to this. Due to the interconnection of intellectual property, trade, and investment issues and their effects in the contracting practice of the TRIPS plus agreement, in a regional trade alliance, if a member of the alliance enters into a bilateral agreement with the United States or the European Union, other member states of the alliance can only follow suit and further improve the level of liberalization and openness in order to enhance their competitiveness in attracting foreign investment. In this way, intellectual property protection will ultimately lead to the effects of TRIPS plus. In addition, with the sharp increase in the number of TRIPS plus agreements signed between the European Union and a large number of developing countries (groups), the value concept of "the highest international standard" advocated by the EU may develop into a new international standard for intellectual property protection, or develop customary international law.

The TRIPS plus agreement aims to achieve the goal of non derogation from existing international obligations (i.e. the "non derogation principle") through the incorporation and citation of the WIPO Convention, respect and coordination of existing obligations (including intellectual property obligations) undertaken by members under the WTO framework, and the globalization of intellectual property norms under US law and EU law through the establishment of TRIPS plus obligations. Essentially, TRIPS plus obligations are the treaty ization of US domestic law and EU territorial law, thereby imposing unreasonable treaty obligations on the contracting parties of the agreement (including developing and some developed countries), limiting their freedom of action and damaging their sovereign rights. The fulfillment of such unreasonable obligations strengthens the binding nature of the global intellectual property enforcement system led by the United States and Europe. If the TRIPS agreement is the internationalization of the US 301 clause, then the TRIPS plus agreement is the continuation and expansion of the internationalization of US domestic law and EU law, and it is also an important step for TRIPS plus obligations to move from bilateral to multilateral. This means that the bilateral obligations undertaken by a developing

country under a bilateral TRIPS plus agreement may translate into universal multilateral obligations undertaken by most developing countries in the future. Although the interaction between intellectual property protection and trade and investment liberalization is difficult to accurately demonstrate, the setting of TRIPS plus obligations is clearly based on the assumption that sufficient and effective intellectual property protection will promote trade growth and investment flows, thereby helping to achieve the liberalization goals pursued by developed countries. The basic assumption that there is a positive correlation between intellectual property protection and trade and investment may be the driving force behind the creation of TRIPS plus obligations through the linkage of trade, investment, and intellectual property issues within the legal framework of trade and investment. It is also consistent with the preset premise and expected goals of intellectual property protection obligations set by the TRIPS agreement.

5.2.5 Unequality of TRIPS plus obligations and the due positions and countermeasures of developing WTO Members

If a contracting party to the TRIPS plus agreement is also a member of the WTO, the country bears a dual burden in terms of intellectual property protection: it has an obligation to implement both the TRIPS agreement and the TRIPS plus agreement. It cannot be denied that the intellectual property protection standards set by the TRIPS plus agreement are higher than the protection obligations stipulated by the TRIPS agreement. From the provisions of the TRIPS plus trade agreement, these higher protection standards come from three sources: first, the international intellectual property conventions or soft law norms formulated by WIPO; second, regional agreements led by developed countries (such as NAFTA); and third, domestic laws (regional laws) of developed countries (groups). The international obligations arising from the standards of these three sources are unfair to developing countries.

Firstly, some TRIPS plus FTAs incorporate intellectual property international conventions or soft law norms under the jurisdiction of WIPO, other than the four WIPO conventions incorporated by the TRIPS agreement.²² From the contracting

²² The four WIPO conventions incorporated into the TRIPS Agreement are the Stockholm Convention of 1967, the Paris

practice of FTA, it can be seen that these integrated WIPO conventions or soft law norms are those that developing contracting parties have not yet joined or implemented. Therefore, such integration is undoubtedly aimed at forcing developing contracting parties of specific FTA to implement WIPO conventions or soft law norms or accelerating the pace of joining these international conventions. In this sense, the incorporation of these international conventions and soft law norms is actually a unilateral obligation set by developing countries, with the nature of using trade interest concessions as bait to "bundle sales" of these international conventions and soft law norms. Furthermore, if all WTO members have ratified one or more WIPO conventions through a bilateral agreement network, according to Article 71 of the TRIPS Agreement Two amendments to the TRIPS agreement aimed solely at improving the level of intellectual property protection will integrate the provisions of the WIPO Convention into the TRIPS agreement and strengthen its binding force through the WTO dispute settlement mechanism. This is clearly not a voluntary political choice for developing countries.

Secondly, regional agreements led by developed countries, particularly NAFTA, have a significant impact on the intellectual property protection standards of TRIPS plus type FTAs. Due to the fact that NAFTA is a model of the South North trade agreement, and the intellectual property rules in NAFTA are more stringent than those in the TRIPS agreement, the intellectual property rules of the American style "TRIPS plus" FTA are similar to or stricter than the relevant provisions of NAFTA. When evaluating the impact of NAFTA's intellectual property provisions on Mexico, UNCTAD pointed out that "NAFTA's (intellectual property) provisions are far more binding on Mexico than on the United States and Canada. These provisions limit Mexico's access to technology, knowledge, and drugs, and thus reduce the possibility of learning and promoting technological progress through imitation. In addition, Mexico's fiscal discipline has already limited resources for public investment in research, development, and innovation activities."²³ If viewed from the perspective of developing countries, this evaluation conclusion can also be applied to evaluating the impact of the TRIPS plus agreement on developing countries.

Convention of 1971, the Rome Convention of 1961, and the Washington Convention of 1989.

²³ UNCTAD, Trade and Development Report 2007: Regional Cooperation for Development, UNCTAD/ TDR /2007, p.69.

Once again, the TRIPS plus standard elevates domestic laws (territorial laws) of the United States and the European Union through the TRIPS plus agreement to an international obligation that developing countries should undertake. Scholars have found in their research on recent FTAs that the TRIPS plus clause in American style FTAs is identical to the domestic law of the United States. This can be seen from the provisions of US law, which authorize the President to enter into trade agreements. Such agreements will ensure that the provisions of any multilateral or bilateral trade agreement that the United States enters into regulating intellectual property rights should reflect protection standards similar to those of US law as one of its negotiation objectives.²⁴ Similarly, the level of intellectual property protection in EU trade agreements is regulated in two different ways: one way is for the contracting parties of some trade agreements to commit to ensuring full and effective intellectual property protection in accordance with the highest or prevailing international standards; Another approach is to establish a level of protection that is similar to the existing level of protection in the EU (including effective enforcement measures) or to make strong commitments to bring current or future intellectual property legislation closer to EU standards. The significance of the United States and the European Union requiring developing country contracting parties to make intellectual property protection commitments similar to domestic law (territorial law) standards in trade agreements is to transform a domestic law (territorial law) protection standard into a treaty obligation through bilateral or regional agreements, thereby creating a binding force on developing countries to fulfill higher intellectual property protection standards.

It can be seen that the TRIPS plus standards from three sources result in unequal international obligations for the United States, Europe, and developing countries. This inequality stems from the different starting points and fundamental purposes of the TRIPS plus agreement between the United States, Europe, and developing countries: the United States and Europe aim to bypass the WTO system and continue to raise international intellectual property protection standards, with the intention of promoting free trade and foreign direct investment growth; Developing countries, on the other

²⁴ Bryan C. Mercurio, TRIPS-Plus Provisions in FTAs: Recent Trends, in Lorand Bartels & Federico Ortino (eds.), *Regional Trade Agreements and the WTO Legal System*, Oxford University Press, 2006, p.220.

hand, trade with developed countries at the cost of bearing heavier intellectual property protection obligations in exchange for greater market access opportunities and trade concessions, and to alleviate or avoid the pressure of US Europe trade sanctions.

In addition, the TRIPS plus trade agreement also imposes new additional treaty obligations on developing countries through the "issue linkage" approach. A typical example is the linkage between the patent status of drugs and the market approval of drugs, which imposes TRIPS plus obligations on developing countries. This creates the right to stop the sale of generic drugs during the original drug patent protection period and the exclusive right to drug testing data, extends the patent protection period delayed by the drug sales approval process, and restricts the public interest protection function of the compulsory licensing system. Its legal effect not only delays the time for ordinary people in developing countries to obtain generic drugs at affordable prices, but also damages the flexibility of the contracting parties to use the TRIPS agreement and the Protocol amending the TRIPS agreement to recognize compulsory licensing as an effective means of protection. The ability of policy tools, especially in weakening the ability of least developed countries to respond to public health crises. And these additional obligations are rooted in the domestic (intra domain) legal protection standards of the United States and the European Union, fundamentally aimed at maintaining the advantageous monopoly position of developed country multinational corporations (original drug manufacturers) and the interests of intellectual property holders.

The TRIPS plus FTA also exacerbates this inequality through two principles:

One is the principle of reciprocity. Reciprocal arrangements are the basic trade balance arrangements of GATT/WTO and many regional or bilateral trade agreements, and the scope of reciprocity extends from initial tariff concessions to non-tariff measures, service trade, and intellectual property. Considering the special interests of developing countries, the principle of reciprocity allows for legitimate exceptions, most importantly, non reciprocal universal preferential treatment and special and differential treatment (S&D clause). However, an important feature and

trend of recently concluded FTAs is the shift from non reciprocal agreements to reciprocal agreements, based on the fact that such agreements should comply with Article 24 (8) (b) of GATT. However, due to the involvement of reciprocal commitments, the FTAs concluded between developed and developing countries eliminate the special and differential treatment granted to developing countries by other agreements; Moreover, the principle of mutual benefit without exception would put developing countries with significant economic disparities at a disadvantage. Therefore, the Doha Round of negotiations proposes to amend or clarify Article 24 of the GATT in order to clearly allow for the existence of non reciprocal arrangements in the North South FTAs. If the transition from GATT's "non reciprocal model of assuming obligations" to WTO's "non reciprocal model of fulfilling obligations" seriously damages the substantive rights of developing countries, then the principle of complete reciprocity in the TRIPS plus trade agreement further exacerbates the unequal status of developed and developing countries in intellectual property trade relations.

The second is the most favored nation treatment (MFN) principle. According to Article 4 (d) of the TRIPS Agreement, any benefits, preferences, privileges or exemptions arising from international agreements on intellectual property protection concluded between WTO members or between WTO members and non members after the establishment of the WTO shall be provided to the nationals of other WTO members in accordance with the MFN principle. At this point, Article 4 (d) of the TRIPS Agreement is different from Article 24 of GATT, as the former does not provide exceptions to the MFN principle. This provision is of great significance for TRIPS plus agreements concluded between WTO members or between WTO members and non members. It means that in a TRIPS plus agreement, if a WTO member provides a higher standard of intellectual property protection to the nationals of another contracting party than the TRIPS agreement, any benefits, preferences, privileges or exemptions arising therefrom shall automatically and unconditionally apply to the nationals of all other WTO members who have not signed the specific TRIPS plus agreement. This is unfair to developing countries. For example, in the US Chile FTA negotiations, Chile was concerned that the effectiveness of the MFN principle would automatically extend the TRIPS plus clause to all other WTO members, but this was

not a problem for the US as the negotiations on the disputed issue were based on its domestic level of protection.²⁵

The inequality between the TRIPS plus agreement and the TRIPS plus obligations is due to the current international economic and technological order, where developed countries dominate the distribution of power and wealth. Changing the unequal and unjust international economic and technological order is not something that can be achieved overnight. Therefore, developing countries should adhere to establishing multilateral disciplines that are conducive to safeguarding their own interests through multilateral negotiations within the WTO multilateral system. In response to the recent development trend of FTA (the most important type of TRIPS plus agreement), developing countries should focus on the revision or clarification of Article 24 of GATT and strive to allow non reciprocal arrangements for FTA within the WTO legal framework. This will provide a legal basis for developing countries to seek legitimate rights and interests in negotiating FTA. At the same time, developing countries should adhere to negotiating intellectual property standards within the multilateral system, as the numerical advantage of developing countries within the WIPO system, the consensus decision-making approach within the WTO system, and the diversification of interests within the multilateral system make it difficult for developed countries to implement their domestic intellectual property protection standards. However, we should also see that although the TRIPS plus agreement, which includes unequal standards, goes against the development level of developing countries, it can more easily bring certain practical benefits compared to multilateral agreements. This is one of the reasons why developing countries are willing to sign such agreements. Therefore, if it is inevitable to negotiate intellectual property standards within the bilateral system, developing countries should insist on incorporating pro development and pro competition clauses that are beneficial to their interests. Such clauses should at least include: clauses that prioritize public interest protection, clauses that prioritize public health over intellectual property protection, special and differential treatment clauses (including technology transfer clauses), clauses that align with the priority development goals of developing countries, "best efforts" clauses, clauses that

²⁵ Pedro Roffe, *Bilateral Agreements and A TRIPS-plus World: The Chile-USA Free Trade Agreement*, QIAP/ QUNO TRIPS Issues Papers 4, Oct. 2004, p. 18.

prohibit abuse of rights, clauses that protect biodiversity and traditional knowledge, etc; Alternatively, by using the bilateral system's "issue linkage" as a constraint, while accepting the intellectual property protection commitments of developed countries, efforts should be made to encourage developed countries to make concessions on other issues as much as possible, in order to effectively obtain mutual benefits. In addition, developing countries can utilize the provisions of domestic (regional) laws in the United States and Europe to enhance their defensive interests and bargaining power. For example, under the 2002 Bilateral Trade Promotion Authority Act, the United States has an obligation to respect the TRIPS Agreement and the Doha Declaration on Public Health. However, such tinkering still cannot escape the fate of developed countries benefiting as a whole. Therefore, some scholars propose another option, which is for developing countries to negotiate and conclude more FTAs and recognize strong pro development rights, creating a new negotiation template.²⁶

We should also see that the TRIPS plus agreement is an inevitable result of developed countries' "institutional shift" strategy (i.e. shifting from WTO system to bilateral system), and the vast majority of TRIPS plus agreements that are of great interest to developing countries are generated within bilateral systems where developing countries are in a disadvantaged position. Based on this, summarizing the successful experiences of developing countries in their struggles on other international stages, only by strengthening themselves through South South cooperation, establishing alliances, and engaging in collective resistance, can the fundamental way to break the "institutional shift" strategy of developed countries be achieved. As Professor Chen An summarized after reviewing the tortuous struggle of developing countries for a new international economic order, "Resilient South South cooperation and self-improvement have no other path to follow!"²⁷

5.3 International cooperation and dispute resolution in the protection of intellectual property rights.

In the context of globalization, the importance of intellectual property protection has become increasingly prominent, not only related to the core interests of individuals

²⁶ Bryan C. Mercurio, TRIPS-Plus Provisions in FTAs: Recent Trends, in Lorand Bartels & Federico Ortino (eds.), *Regional Trade Agreements and the WTO Legal System*, Oxford University Press, 2006. D. 237.

²⁷ Chen An: "Reflections on International Economic Legislation in the 50 Years of South South Cooperation and Self Strengthening - From Bandung, Doha, Cancun to Hong Kong", published in *China Law Journal*, 2006, Issue 2, page 103.

and enterprises, but also a reflection of national economic competitiveness. Therefore, international cooperation and the construction of effective dispute resolution mechanisms have become crucial.

At the multilateral level, countries are committed to promoting the unification and enhancement of global intellectual property protection standards through international organizations such as the World Intellectual Property Organization (WIPO). At the same time, actively participate in and formulate international treaties and conventions, providing common guidelines for global intellectual property protection.

At the bilateral level, countries deepen cooperation in the field of intellectual property protection through specific cooperation projects such as information sharing and joint law enforcement. This cooperation model is more flexible and can accurately connect to specific problems or needs, thereby more effectively safeguarding the rights and interests of intellectual property.

However, despite the continuous strengthening of international cooperation, intellectual property disputes still occur from time to time. To address this challenge, countries and international organizations are continuously improving dispute resolution mechanisms to provide a fair, efficient, and transparent resolution platform. At the level of international organizations, organizations such as WIPO provide various dispute resolution methods, including mediation, arbitration, etc. These methods, with their neutrality, professionalism, and efficiency, provide effective solutions for both parties in disputes.

In addition, through bilateral and multilateral negotiations and consultations, countries can engage in in-depth communication on controversial issues and seek mutually beneficial solutions. This way of negotiation and consultation helps to enhance mutual understanding and promote the peaceful resolution of disputes.

International cooperation and dispute resolution in intellectual property protection are a process of mutual promotion and common development. By deepening international

cooperation and improving dispute resolution mechanisms, we can better safeguard intellectual property rights and promote innovation and development. In the globalized economic system, intellectual property protection is not only the cornerstone of maintaining innovation and creativity, but also an important guarantee for promoting scientific and technological progress and promoting healthy economic development. Therefore, cooperation and efforts among countries in intellectual property protection are particularly important.

Firstly, a sound intellectual property legal system is the foundation for protecting innovative achievements. Countries should continue to strengthen the formulation and improvement of domestic intellectual property laws, ensuring the scientific and applicable nature of their legal systems. At the same time, countries should strengthen legal exchanges and cooperation, jointly promote the formulation and improvement of international intellectual property protection standards, and provide more comprehensive and effective legal protection for innovative achievements.

Secondly, strengthen intellectual property training and publicity, and enhance the awareness of intellectual property protection in the whole society. The government, enterprises, and all sectors of society should work together to popularize intellectual property knowledge and enhance public awareness and respect for the value of intellectual property through organizing training courses and conducting promotional activities. Only by forming a good atmosphere of respecting and protecting intellectual property rights throughout society can we provide a good soil and environment for innovation and creation.

In addition, we will strengthen the enforcement of intellectual property rights and crack down severely on infringement. Countries should establish and improve intellectual property law enforcement mechanisms, increase law enforcement efforts, and severely crack down on and punish infringement behaviors. At the same time, strengthen cross-border law enforcement cooperation, jointly combat transnational infringement, and maintain a fair competition order in the international market.

In terms of dispute resolution, countries should continue to improve the mechanism for resolving intellectual property disputes and provide efficient and convenient solutions for both parties involved in disputes. In addition to traditional litigation methods, alternative dispute resolution methods such as arbitration and mediation can also be explored and promoted to meet the needs and characteristics of different disputes. At the same time, strengthen the mediation and arbitration role of international organizations, and provide a more neutral and fair platform for dispute resolution.

Promote the deep integration of intellectual property and technological innovation, and promote the realization of the value of intellectual property. Countries should strengthen the protection and management of intellectual property rights in the field of technological innovation, and promote the close integration of intellectual property rights and technological innovation. By strengthening intellectual property protection and management, we can stimulate the creativity and enthusiasm of innovative entities, promote technological progress and industrial upgrading.

International cooperation and dispute resolution in intellectual property protection is a long-term and arduous task. Countries should strengthen cooperation and exchanges, jointly promote the continuous improvement and development of intellectual property protection and management, and provide strong support for the sustainable development of the global economy and society.

5.3.1 The importance of international cooperation in intellectual property protection.

In the wave of globalization, international cooperation has demonstrated its indispensable importance in the field of intellectual property protection. It is not only a strategic choice, but also a core driving force for promoting the development of the global innovation ecosystem. Intellectual property protection not only concerns the rights of individual innovators, but also directly relates to the improvement of national innovation capabilities, and even the speed of global technological progress.

(1) Establishment of unified standards

The differences in intellectual property legal systems, enforcement efforts, and protection levels among countries are like invisible barriers that hinder the global flow of innovative achievements. These differences not only increase the operational risks of innovative enterprises in the international market, but are also more likely to lead to waste and duplicate investment of innovation resources. Therefore, through international cooperation, the wisdom and strength of various countries can be gathered to jointly promote the standardization of intellectual property protection standards. This unified standard can not only reduce the risks of innovative enterprises in global operations, but also provide more stable and reliable guarantees for innovative achievements, further stimulating global innovation vitality.

(2) Joint efforts to combat transnational infringement

Cross border intellectual property infringement, like an undercurrent lurking in the process of globalization, constantly threatens the rights of innovative enterprises and consumers. These infringement behaviors not only harm the economic interests of innovators, but also disrupt the fair competition order in the international market and affect the healthy development of the global economy. Through international cooperation, countries can strengthen law enforcement cooperation, jointly build a tight "protective net", and effectively combat transnational infringement. This cooperation can not only improve law enforcement efficiency, but also form a strong international synergy, providing more solid protection for innovative enterprises and consumers.

(3) A bridge between technological innovation and knowledge sharing

Intellectual property protection is not only the protection of innovative achievements, but also a continuous incentive for innovative activities. Under the framework of international cooperation, countries can strengthen exchanges and cooperation in the field of technological innovation, jointly explore new technological directions and application areas. This cooperation not only helps to promote global technological innovation and development, but also promotes the sharing and application of technological achievements, achieving mutual benefit and win-win results. Meanwhile, through international cooperation, countries can also strengthen knowledge sharing, promote the free flow and efficient utilization of knowledge, and inject new impetus into the sustainable development of the global economy.

(4) Promoting global economic balance and growth

Intellectual property protection is not just a legal issue, it also profoundly affects the global economic landscape and growth patterns. Under the framework of international cooperation, countries can promote their own economic transformation and upgrading through the protection and utilization of intellectual property rights, and achieve more balanced and sustainable growth.

(5) Stimulating innovation investment

A strong intellectual property protection system can provide innovators with sufficient confidence and protection, thereby attracting more capital and resources to invest in innovation activities. International cooperation has created a more fair and transparent investment environment for domestic and foreign innovators by strengthening intellectual property protection, further stimulating innovation investment enthusiasm on a global scale. This investment not only promotes the research and application of new technologies, but also contributes to the sustained prosperity of the global economy.

Promote technology transfer and industrial upgrading

With the acceleration of globalization, technology transfer and industrial upgrading have become important ways for the economic development of various countries. In international cooperation on intellectual property protection, countries can jointly promote the construction of mechanisms for technology transfer, and promote the cross-border flow and sharing of advanced technologies. This cooperation not only helps to improve the overall level of global technology, but also promotes the optimization and upgrading of industrial structures in various countries, achieving more efficient, environmentally friendly, and sustainable production methods.

Strengthening international cooperation and jointly building a community with a shared future in intellectual property

Faced with the challenges and opportunities of globalization, countries should abandon the zero sum game thinking, strengthen cooperation and exchanges in the field of intellectual property protection, and jointly build a community with a shared future for intellectual property. By jointly formulating and implementing international

intellectual property rules, strengthening cross-border law enforcement cooperation, promoting technological innovation and knowledge sharing, countries can jointly maintain a fair, open, and transparent international innovation environment, injecting new impetus into the sustainable development of the global economy.

International cooperation plays a crucial role in intellectual property protection. It not only helps to protect the rights of innovators, promote technological innovation and knowledge sharing, but also promotes global economic balance and growth. By strengthening international cooperation, countries can jointly address the challenges of intellectual property protection, achieve economic transformation and upgrading, and build a more fair, open, and cooperative global innovation ecosystem. In this process, countries need to abandon zero sum game thinking, jointly formulate and implement international intellectual property rules, strengthen cross-border law enforcement cooperation, promote technological innovation and knowledge sharing, and contribute to the sustainable development of the global economy.

5.3.2 WIPO Dispute Resolution Mechanism

Mediation has always been one of the most accepted dispute resolution methods by both parties involved in disputes. Therefore, there are also rich and influential mediation rules in the international community. For example, the International Trade Law Commission Mediation Rules (UNCTAD Mediation Rules), the International Chamber of Commerce Mediation Rules, the American Arbitration Association Commercial Mediation Rules, the China Council for the Promotion of International Trade/China International Chamber of Commerce Mediation Rules, etc.

In comparison, the WIPO Mediation Rules (hereinafter referred to as the WIPO Mediation Rules) provide more comprehensive provisions similar to the WIPO Arbitration Rules. The WIPO dispute resolution mechanism is an important mechanism aimed at assisting countries in resolving disputes related to intellectual property. By providing neutral arbitration and mediation services, WIPO provides a platform for parties to resolve intellectual property disputes fairly, efficiently, and cost effectively. The importance of this mechanism lies in its ability to provide alternative

dispute resolution methods, thereby reducing the burden that formal legal proceedings may bring. Through arbitration and mediation, parties can resolve disputes in a more flexible and confidential environment, avoiding lengthy legal proceedings and expensive legal costs.

The main characteristics of the WIPO dispute resolution mechanism include:

(1) Neutrality: As an international organization, WIPO has neutrality and can ensure the fairness and objectivity of the dispute resolution process.

(2) Flexibility: Parties can choose arbitration or mediation methods based on their own needs and determine the applicable rules and procedures. This flexibility makes the dispute resolution process more in line with the actual needs of the parties involved.

(3) Confidentiality: The WIPO dispute resolution mechanism focuses on protecting the commercial secrets and privacy of the parties involved, ensuring the confidentiality of the dispute resolution process.

The WIPO dispute resolution mechanism has a high degree of flexibility and confidentiality. The parties may choose arbitration or mediation methods based on their own needs and determine the applicable rules and procedures. This flexibility makes the dispute resolution process more in line with the actual needs of the parties involved, improving the efficiency and success rate of dispute resolution. At the same time, the WIPO dispute resolution mechanism also focuses on protecting the commercial secrets and privacy of the parties involved, ensuring the confidentiality of the dispute resolution process, and avoiding the risk of information leakage and damage to commercial interests.

Taking the patent infringement dispute between a multinational pharmaceutical company and a Chinese generic drug manufacturer as an example, there has been a fierce dispute between the two parties over patent rights. In order to resolve this dispute, both parties have chosen the WIPO dispute resolution mechanism for arbitration. During the arbitration process, both parties fully submitted evidence, engaged in debates, and ultimately made an award by the arbitration tribunal. This ruling not only safeguards the intellectual property rights of pharmaceutical companies, but also provides clear legal guidance for generic drug manufacturers, promoting

mutual benefit and win-win cooperation in intellectual property protection.

The WIPO dispute resolution mechanism, as an efficient, flexible, and confidential dispute resolution method, provides important support for countries to resolve disputes in the field of intellectual property. Its unique advantages and neutrality have been widely recognized by the international community, providing a fair, efficient, and confidential platform for the parties involved. Through arbitration and mediation, the WIPO dispute resolution mechanism has helped countries resolve a large number of intellectual property disputes, maintaining the stability and smooth progress of international economic cooperation.

The WIPO dispute resolution mechanism not only plays an important role in resolving individual disputes, but also plays a key role in promoting global intellectual property protection and cooperation. The existence of this mechanism not only provides a place for countries to seek fair and reasonable solutions, but also provides important references for the standards and rules of global intellectual property protection through its rulings and mediation results.

For example, in patent infringement cases involving multinational corporations, the WIPO dispute resolution mechanism ensures the fairness and enforceability of rulings through its professionalism and authority. This not only protects the legitimate rights and interests of intellectual property holders, but also provides clear legal guidance and compliance requirements for companies accused of infringement. The existence of this mechanism provides a solid foundation for intellectual property cooperation and exchange among countries, and promotes the continuous improvement and development of the global intellectual property protection system.

At the same time, the WIPO dispute resolution mechanism has played a positive role in promoting countries to strengthen their awareness of intellectual property protection. Through the process of arbitration and mediation, the parties can gain a deeper understanding of international rules and standards for intellectual property protection, and enhance their awareness of the importance of intellectual property. This helps to cultivate a sense of responsibility and mission in intellectual property protection

among countries, and promotes the global intellectual property protection industry to a higher level.

The importance of the WIPO dispute resolution mechanism as an important pillar of global intellectual property protection and cooperation is self-evident. Through its professional, authoritative, flexible, and confidential services, this mechanism provides strong support for countries to resolve disputes in the field of intellectual property. At the same time, it has also played a positive role in promoting the improvement and development of the global intellectual property protection system, and enhancing the awareness of intellectual property protection in various countries. In the future, with the continuous strengthening and deepening of global cooperation in intellectual property protection, the WIPO dispute resolution mechanism will continue to leverage its unique advantages to inject new vitality and momentum into international economic cooperation and development.

5.3.3 Inspiration from the International WIPO Dispute Resolution System

The civil dispute resolution mechanism for intellectual property in China mainly focuses on litigation as the main method of resolution, and places too much emphasis on administrative solutions. Within the scope of civil resolution channels, arbitration, mediation, negotiation and other resolution methods have not effectively connected and cooperated with litigation. The US ADR and the international WIPO have provided inspiration for the establishment of a diversified mechanism for resolving intellectual property civil disputes in China.

The basic principle of intellectual property civil dispute resolution mechanism is diversification and multi-level. In recent years, China has continuously focused on improving diversified dispute resolution mechanisms, but compared with the United States and the international community. The resolution of civil disputes over intellectual property rights in China still presents the characteristic of a single dominant dispute resolution mechanism, which leads to high judicial costs for dispute resolution and imbalanced distribution of social resources.

In order to meet the increasing number of complex cases, it is necessary to establish a diversified and multi-level dispute resolution system. Diversified and multi-level dispute resolution approaches are the basic principles for establishing a civil dispute resolution mechanism for intellectual property, mainly including three dispute resolution approaches. Civil resolution channels including civil mediation, negotiation, and arbitration.

Taking the dispute resolution system of ADR and WIPO in the United States as an example, 85% of intellectual property civil disputes in the United States are not properly resolved through litigation or settlement, which is based on the existence of numerous and well-established civil mediation organizations in the United States.

This civil approach to resolving intellectual property civil disputes is flexible, convenient, and personnel with a certain degree of professionalism, which meets the requirements of professionalism and timeliness for intellectual property civil disputes.

(1) Administrative resolution channels, including administrative mediation, administrative rulings, etc. Administrative agencies, as the state organs responsible for governing society, have experience and professional advantages in resolving such social affairs within their scope of authority. And it has the advantage of harmonizing various government departments and comprehensively utilizing administrative power, making it an important way to resolve intellectual property civil disputes.

(2) A judicial approach primarily based on litigation. Using it as the last resort is also a reflection of justice as the last line of defense for social justice.

When the parties choose to resolve civil disputes over intellectual property rights through litigation, the judicial authorities act as neutral subjects to fairly hear and adjudicate the disputes. This is the main reason why most parties choose litigation to resolve intellectual property civil disputes, but the excessive number of litigation cases and the complexity of the litigation process lead to enormous judicial pressure, and dispute cases cannot be handled in a timely manner, and social resources cannot be reasonably allocated.

The court attached ADR system in the United States enables dispute cases to enter the pre-trial selection system before entering the litigation stage, and reasonably

divides cases resolved through mediation and other means. It not only alleviates the pressure on the judicial department, but also meets the requirements for rapid resolution of intellectual property civil disputes, and continuously improves and perfects the ADR system in the United States in practice. The ADR system in the United States provides detailed provisions for dispute resolution mechanisms outside of litigation, and also provides comprehensive provisions for the procedures for connecting non litigation dispute resolution mechanisms such as litigation and mediation.

The WIPO dispute resolution mechanism includes dispute resolution mechanisms between countries and private parties. There are a series of applicable rules under the WIPO dispute resolution system, including the WIPO Mediation Rules, the WIPO Arbitration Rules, and the WIPO Accelerated Arbitration Rules, for the parties and the WIPO Arbitration and Mediation Center to apply.

Article 13 of the WIPO Mediation Rules stipulates four dispute resolution methods that parties can choose from, and specifically specifies the procedural linkage system between mediation and arbitration. The parties are free to choose whether to adopt arbitration as the first option for resolution, and can independently select arbitrators; If the parties choose a mediation method for mediation. Each party shall propose an acceptable final settlement offer, and the parties shall freely select an arbitrator for evaluation. When a consensus settlement agreement cannot be reached, with the consent of the parties, the mediator shall take into account the final settlement offer proposed by the parties and conduct arbitration. The WIPO Mediation Rules provide detailed provisions on the establishment of arbitration and mediation personnel, confidentiality requirements, and professional requirements, forming a complete system for the resolution of civil disputes over intellectual property rights.

(3) Independent and professional dispute resolution institutions and personnel.

The ADR system in the United States also provides comprehensive provisions for the neutral parties and institutions involved in dispute resolution. In 1985, the California Court established the Early Neutral Evaluation (ENE) system in the United States. The neutral evaluator determined by both parties has the right to independently and neutrally provide negotiation opportunities for the parties to reach a consensus, and has established a reporting system for the connection between the neutral evaluator

and the judge. In the court affiliated ADR, it is not judges who serve as mediators or arbitrators, but lawyers or technical experts with professional knowledge in non-profit associations or organizations, and specific systems for the emergence of neutral mediators or arbitrators are stipulated. This ensures the neutrality, independence, and effectiveness of mediation and arbitration personnel and institutions. In the specific system of ADR attached to the court, it is stipulated that when the parties refuse mediation or arbitration, the system of connection between mediation, arbitration, and litigation procedures is established. It is precisely because of the requirements for the independence and professionalism of dispute resolution personnel, as well as the comprehensive procedures for selecting dispute resolution personnel by the parties, that the effectiveness and timeliness of dispute resolution results are ensured.

As mentioned earlier, WIPO is an international organization specifically established to handle civil disputes over intellectual property, and its greatest advantage lies in its dispute resolution targeting intellectual property. As a result, mediation and arbitration rules for resolving intellectual property civil disputes have been established, including the WIPO Arbitration Rules, the WIPO Accelerated Arbitration Rules, and the WIPO Mediation Rules. The WIPO Arbitration Rules provide specific provisions for the professionalism and confidentiality of dispute resolution personnel, and WIPO is an international organization specialized in resolving civil disputes over intellectual property. Over the past 20 years of operation, it has been playing an important role in the handling of intellectual property civil disputes, to some extent related to the professional and technical expertise of intellectual property civil dispute resolution institutions and personnel. Another feasible system that can be applied by the US ADR system and WIPO dispute resolution system in resolving intellectual property civil disputes is an effective supervision, evaluation, and review system. For example, the early neutral assessment system in the ADR system was widely used in the United States as a mediation system attached to the court. The parties shall, in accordance with the prescribed procedures, select professionals or lawyers from non-profit associations designated by the court as mediators, conduct a full evaluation, and the parties shall make an acceptable final offer. After evaluation and review by the mediator, if the parties fail to reach a settlement agreement, the mediator may include the evaluated feasible offer in the consideration of dispute resolution. The

administrative ADR also provides for judicial review of administrative actions by administrative agencies, thus forming a relatively complete system of supervision, evaluation, and review, which is conducive to the neutral resolution of disputes.

The resolution of intellectual property disputes in China has different characteristics and manifestations in different periods. China's dispute resolution is gradually going through the "pre litigation era", "litigation era", and "post litigation era". From the establishment of the People's Republic of China to the pre litigation era before the reform and opening up, it was known as the "pre litigation era". At that time, Chinese citizens had weak legal awareness, and most civil disputes were not resolved through legal means, and the rights holders did not rely on litigation to resolve disputes. Since the reform and opening up, China has entered a "litigation era" where litigation is the main solution; With the continuous increase of litigation cases, the complex procedures and time costs of litigation have led to a continuous accumulation of litigation cases and a gradual increase in judicial pressure. Mediation, arbitration and other non litigation dispute resolution methods are gradually being valued, and China will usher in a diversified era of dispute resolution, known as the "post litigation era".

Based on the main criteria of dispute resolution, the diverse mechanisms for resolving intellectual property disputes mainly include litigation, arbitration, mediation (court attached mediation, people's mediation, administrative attached mediation), and composite dispute resolution. The establishment of a diversified mechanism for resolving intellectual property civil disputes requires, on the one hand, strengthening the establishment and connection of the above mechanisms; On the other hand, it is necessary to strengthen the guidance and guarantee mechanism construction of diversified dispute resolution mechanisms. Resolve the confusion of the parties regarding the selection of procedures, thereby ensuring the reality of the parties' selection of dispute resolution mechanisms. Different types of intellectual property civil disputes are resolved through different non litigation methods.

With the rapid development of China's economy and foreign exchanges, the number of intellectual property civil disputes in China has been increasing year by year and the amount is growing rapidly. As a result, a large number of intellectual property

litigation cases have brought heavy pressure to Chinese intellectual property litigation courts. This requires China to adopt a diversified dispute resolution mechanism to diversify the sources of cases, as different types of cases should apply different dispute resolution methods, thus forming a diversified dispute resolution mechanism.

5.4 The Development Trends of Intellectual Property Protection under the WTO Framework

With the acceleration of globalization and the continuous advancement of technological innovation, intellectual property has become the forefront of fierce international competition. Entering 2023, we have witnessed many changes and challenges in the field of intellectual property, which not only reshape the legal framework but also have a profound impact on corporate strategy and international trade. From digital copyright protection to emerging technology patents, trade secrets, international coordination, and ethical considerations, these trends will affect the way we protect and enforce intellectual property. For businesses, innovators, and intellectual property professionals seeking to successfully navigate the ever-changing landscape of intellectual property, it is crucial to stay informed and adapt to these changing trends. Intellectual property rights will play a more crucial role in stimulating innovation, promoting economic growth, and shaping the global business landscape. Therefore, for policymakers, entrepreneurs, and legal professionals, staying vigilant, adapting to change, and looking forward to the future will be more important than ever before. The continuous development of technology and the increasingly interconnected global market make it crucial to understand emerging trends and key areas in the field of intellectual property. For the past year 2023, intellectual property protection has shown the following characteristics:

5.4.1 Increase in patent litigation

With the rapid advancement of technology, the company is developing new products and services that may infringe on existing patents. This has led to a surge in patent claims and subsequent lawsuits filed by patent holders. To keep up with the increasing number of patent applications, courts may address this issue by clarifying patent infringement policies, lawsuits, and strategies.

(1) Technological Innovation and Increase in the Number of Patents

Increased R&D investment: As enterprises attach more importance to independent

innovation, R&D investment continues to increase, leading to a significant increase in the number of patents. China's patent applications have ranked first in the world for many years, providing more potential sources of cases for patent disputes.

Rapid technological development: The rapid development of technology and innovation in modern society has led to an endless stream of new products and technologies. However, companies may infringe on the patent rights of others during the development process, leading to patent disputes.

(2) Intensified Market Competition

Industry competition is fierce: As competition between companies intensifies, enterprises are more inclined to protect their technological achievements through legal means in order to gain market and competitive advantages. Patent litigation has become a common means of competition.

Global competition: The intensification of the global economy has led companies to file patent applications in different countries and regions. The intellectual property laws and systems in different countries and regions are not the same, and companies are prone to patent infringement disputes in the process of cross-border operations and innovation.

(3) Enhancement of Awareness of Intellectual Property Protection

Government support: The government encourages innovation, strengthens the protection of intellectual property rights, and provides policy support for rights protection. This effectively curbs infringement and safeguards the legitimate rights and interests of patent holders.

Corporate Attention: Companies are increasingly focusing on the application and protection of intellectual property rights, and are more inclined to safeguard their patent rights through legal means. This increased awareness has directly led to an increase in the number of patent lawsuits.

(4) Complexity in defining patent rights and infringement judgments

Blurred technological boundaries: With the continuous evolution of technology, the boundaries between different technologies have become blurred, making the definition of patent rights and infringement judgments more complex. This increases the possibility of patent infringement disputes.

Perfection of legal system: The continuous improvement of relevant legal systems has

provided a more solid legal guarantee for the protection of patent rights, but it has also lowered the threshold for patent litigation, allowing more patent disputes to enter the judicial process.

(5) Other Factors

Supply Chain Expansion: As companies expand their production scale and extend their supply chains, they may rely on or collaborate with suppliers who use technologies that infringe on others' patents in their products, potentially leading to patent disputes.

Technology Transfer and Mergers and Acquisitions: When companies expand their technological capabilities and product lines through technology transfer, mergers, or acquisitions, they may introduce patents from other companies, thereby increasing the risk of patent infringement.

5.4.2 The value of intellectual property continues to grow

Intellectual property has a constantly growing economic value in various industries. The US Patent and Trademark Office (USPTO) reports that it currently accounts for 40% of the US GDP. The company recognizes the importance of protecting and developing intellectual property rights, and has therefore made significant investments in this field.

The reasons for the continuous growth of the value of intellectual property are multifaceted, mainly reflected in the following aspects:

(1) Technological Innovation and Driving Forces of Economic Growth

The Core Role of Technological Innovation: Intellectual property rights serve as the legal protection for technological innovation and play a crucial role in promoting economic growth. With the rapid development of science and technology, new technologies, products, and services are constantly emerging. These innovative achievements are protected through intellectual property rights, thereby stimulating the innovation vitality of enterprises and promoting sustained economic growth.

Support for Economic Growth: The commercial application of intellectual property rights brings substantial economic returns to enterprises and provides strong support for economic growth. For example, the implementation of patented technology can be transformed into real productivity, increasing product added value and market

competitiveness; the shaping of trademark brands can enhance corporate image and brand value, increasing market share and consumer loyalty.

(2) Continuous improvement of the legal system

Strengthening of legal protection: Governments around the world continue to strengthen the legal protection of intellectual property rights, improve relevant laws, regulations, and institutional systems, and provide more effective legal guarantees for the creation, use, protection, and management of intellectual property. This helps maintain market order and fair competition, and promotes the commercial application and value realization of intellectual property.

Promotion of judicial practice: With the continuous deepening of judicial practice, the efficiency and quality of handling intellectual property cases have been continuously improved, providing more convenient and efficient ways for rights holders to safeguard their rights. At the same time, the courts have clarified the standards and principles of intellectual property protection through the trial of typical cases, providing strong judicial guidance for industry development and market regulation.

(3) Impact of Globalization

Strengthening of international cooperation: With the deepening development of globalization, economic cooperation and exchanges between countries have become increasingly frequent, and the transnational protection and utilization of intellectual property rights have become important issues. International organizations and multilateral agreements have played an important role in promoting international cooperation in intellectual property rights, providing strong support for the global protection and utilization of intellectual property rights.

Expansion of the International Market: The international application of intellectual property rights aids enterprises in expanding their international market and enhancing their international competitiveness. By applying for patents, registering trademarks, and other intellectual property rights abroad, enterprises can protect their technological achievements and brand image, securing greater business opportunities and benefits in the international market.

(4) Market Demand and Improvement of Consumer Cognition

Increase in Market Demand: As consumer demand for high-quality, high-value-added products continues to grow, companies are increasingly focusing on the creation and

utilization of intellectual property. By owning products and services with proprietary intellectual property, companies can meet market demands, enhance brand influence, and increase market share.

Enhanced consumer awareness: With the popularization of intellectual property knowledge and the intensification of publicity efforts, consumers' understanding and attention to intellectual property rights have been continuously improved. They pay more attention to the intellectual property status of products and are willing to pay higher prices for products and services with independent intellectual property rights.

5.4.3 The constantly evolving copyright law

With the advancement of technology, new challenges have emerged in the field of copyright law. Digital copyright management, online piracy, and the rights of content creators in the digital age have become cutting-edge issues for discussion in 2023. The court may address these issues to ensure that copyright law keeps pace with social and technological changes.

Summary of some key features and trends of the constantly updated copyright law:

(1) Frequency of Legal Amendments

For example, the Copyright Law of the PRC has undergone several revisions to meet the needs of socio-economic development and technological progress. For instance, the most recent significant revision was passed by the Standing Committee of the 13th National People's Congress in 2020 and came into effect on June 1, 2021.

(2) Expanding the Scope of Protection

Increase in the types of works: With the development of new technologies and new media, the scope of protection of copyright law has been continuously expanded. For example, the term "cinematographic works and works created by a process analogous to cinematography" has been revised to "audiovisual works", and new forms of works such as online games, live broadcasts of sports events, and short videos have been included in the scope of protection.

The enrichment of rights: Copyright law not only protects traditional rights such as reproduction, distribution, and performance, but also adds new rights such as the right to disseminate information over the internet, the right to film, and the right to adapt, in order to meet the challenges of the digital era.

(3) Increase the cost of infringement

Introduction of punitive compensation system: The new copyright law introduces a punitive compensation system for infringement, significantly increasing the cost of infringement and illegal activities. For intentional copyright infringement and serious cases, punitive compensation of more than one time and less than five times the actual loss of the right holder or the illegal income of the infringer can be given on the basis of determining the amount of compensation according to the actual loss or illegal income of the infringer. In addition, when the actual loss, illegal income or royalty is difficult to calculate, the people's court can judge and give compensation of more than 500 yuan and less than 5 million yuan according to the circumstances of the infringement, and the upper limit of compensation is significantly higher than before.

(4) Clarify the ownership of rights

Ownership of copyright in audiovisual works: The new Copyright Law clarifies the principles of copyright ownership in audiovisual works, which stipulates that the copyright of film works and television series shall be enjoyed by the producers, but the authors of screenplays, directors, photographers, lyricists, composers, etc. shall enjoy the right of authorship and have the right to obtain remuneration in accordance with the contract signed with the producers. For the ownership of rights in other audiovisual works, it shall be agreed upon by the parties; if there is no agreement or the agreement is not clear, the producer shall enjoy it.

(5) Strengthening international cooperation

Implementation of International Treaties: Copyright law actively fulfills obligations under international treaties to protect the copyright of foreign works within China. At the same time, it also provides legal support for Chinese works to obtain protection internationally.

(6) Adaptation to Technological Development

Technology Neutrality Principle: The Copyright Law adheres to the technology neutrality principle during the revision process, protecting technological innovation while preventing technological abuse. For example, while protecting the right to disseminate information over the internet, it also stipulates the circumstances and restrictions of reasonable use.

5.4.4 The rise of online brand protection

With the increasing influence of e-commerce and online brands, protecting trademarks in the digital space has become crucial. In 2023, courts around the world will hear trademark cases related to online trademark infringement, unauthorized use of brand logos, and counterfeit products. The decisions made by internal legal advisors may affect the way companies protect their brands in the digital world.

New Challenges in Brand Management. In the era of e-commerce, with the advanced development and rapid dissemination of online information, the establishment and maintenance of brand reputation have become more complex. A small negative review can instantly spread throughout the internet, causing a huge impact on the company's image. Therefore, while establishing a brand image, companies must also pay attention to the emergence of counterfeit products, which may deceive the market with a "skin" similar to your brand, causing great negative image to your brand. Secondly, the competition on e-commerce platforms is becoming increasingly fierce, and the differentiation between brands is becoming smaller and smaller. How to stand out among numerous brands and become the first choice in the hearts of consumers, in addition to the service and product quality behind the brand, the design and protection of brand identity are equally crucial. A unique and eye-catching brand identity can help the brand leave a deep memory point in the minds of consumers, thereby enhancing the brand's recognition and loyalty.

Urgency of trademark protection. Trademarks are the most important brand assets and the prerequisite and foundation for brand building. In the era of e-commerce, due to the openness of online platforms, trademark infringement is common. Some unscrupulous businesses obtain unfair benefits by misappropriating and counterfeiting well-known brand trademarks, seriously harming brand rights and interests. At the same time, with the rise of cross-border e-commerce, the geographical limitations of trademark protection have also been broken, and enterprises need to protect their trademark rights and interests globally. To strengthen trademark protection, enterprises need to take a series of measures. In addition to strengthening the emphasis on trademark registration and ensuring that trademarks are legally protected, it is also necessary to carry out trademark layout to avoid the risk of trademark infringement and infringement.

How do e-commerce enterprises carry out trademark layout?

When e-commerce enterprises are planning their trademark layouts, they need to follow systematic planning and strategies to ensure that their brands are fully protected legally and have market competitiveness at all levels. First, clarify the brand strategy, determine the brand strategy based on their own business model, market positioning, and long-term development goals, and conduct category planning protection according to the brand strategy. Second, build a trademark system with a main trademark and multiple sub-trademarks. The main trademark represents the corporate image and core values, while the sub-trademarks can be used for different product lines, services, or specific marketing activities to enhance the brand's flexibility and market adaptability. Then establish a comprehensive trademark management system, use technological means to monitor in real time, strengthen brand promotion and protection, and seek professional legal support to safeguard corporate interests. Through these comprehensive measures, e-commerce enterprises can ensure that their trademarks are fully and effectively protected, thereby maintaining their brand image and market interests.

5.4.5 Patent qualifications and technological innovation

In 2023, there will be more cases involving emerging technologies such as artificial intelligence, blockchain, and biotechnology. The rulings of courts around the world may affect the boundaries of patent eligibility and have an impact on industries that rely on cutting-edge technology.

There is a close relationship and mutual influence between patent qualifications and technological innovation, and this relationship plays an important role in promoting technological progress and economic development. The following are the main connections and impacts between them:

(1) The Promotion of Patent Qualifications on Technological Innovation

Legal Protection and Incentives:

Patent qualifications provide legal protection for technological innovation. When innovators apply for patents for their technological achievements and obtain authorization, these achievements are legally recognized and protected, preventing

unauthorized use or imitation by others. This legal protection mechanism greatly stimulates the enthusiasm and creativity of innovators, making them more willing to invest resources in technological research and development and innovation activities.

Exclusive Rights and Market Advantages:

The exclusive right of patents enables innovators to enjoy the economic benefits brought by their technological achievements for a certain period of time. This exclusive right not only provides innovators with market advantages but also promotes the commercialization and industrialization of technological innovations. Innovators can achieve the commercial application of technological achievements through patent licensing, transfer, and other methods, thereby obtaining more economic benefits.

Resource Allocation and Guidance:

The patent system also guides the direction of technological innovation through resource allocation. Innovators choose research directions and technological routes based on market demand and the provisions of the patent system, ensuring the relevance and practicality of technological innovation. This guiding role of resource allocation helps to achieve an effective alignment between technological innovation and market demand.

(2) The Impact of Technological Innovation on Patent Qualifications

Technological innovation is the source of patents:

Technological innovation is the prerequisite and foundation for the generation of patents. Only by continuously carrying out technological innovation can technological achievements with novelty, creativity, and practicality be produced, thereby providing substantial support for patent applications. Therefore, technological innovation is the fundamental driving force for the existence and development of patent qualifications.

Technological innovation enriches patent content:

With the continuous deepening and development of technological innovation, new technological achievements are constantly emerging. These new technological achievements provide a broader and more diverse range of options for patent applications, making the content of patents more colorful and rich. At the same time, technological innovation also promotes the continuous improvement and development of the patent system to meet the protection needs of new technological

achievements.

Technological innovation enhances patent value:

Technological innovation not only enriches the content of patents but also enhances the value of patents. Patents with high technological content and innovation often have higher market value and commercial value. The acquisition and commercial application of these patents can bring greater economic benefits and competitive advantages to enterprises.

(3) Mutual Promotion of Patent Qualification and Technological Innovation

A mutually reinforcing cycle: There is a mutually reinforcing cycle between patent qualifications and technological innovation. On the one hand, the patent system provides legal protection and incentives for technological innovation; on the other hand, technological innovation provides continuous substantive support for the patent system. This mutually reinforcing cycle has led to a positive interaction between patent qualifications and technological innovation in promoting technological progress and economic development.

5.4.6 Collaboration and licensing

In an increasingly interconnected world, digital asset cooperation and licensing agreements between companies are becoming increasingly common. It is possible to review cases related to licensing and sharing intellectual property, and address issues of fair use, royalty fees, and licensing practices. These decisions will play an important role in shaping how businesses collaborate and monetize their intellectual property assets.

(1) The Role of Cooperation in Intellectual Property Protection

Resource sharing and complementary advantages:

Through cooperation, enterprises can share intellectual property resources, including patents, trademarks, copyrights, etc., to achieve complementary advantages. This sharing helps to reduce duplication of research and development, improve resource utilization efficiency, and accelerate the process of technological innovation.

Risk sharing:

In terms of intellectual property protection, cooperation can spread risks. For example, in transnational cooperation, enterprises can jointly cope with the differences in intellectual property laws and litigation risks in different countries, reducing the legal

risks faced by a single enterprise.

Enhance protection capability:

Cooperation helps to enhance the intellectual property protection capabilities of enterprises. By cooperating with other enterprises or institutions, enterprises can learn from advanced protection strategies and management experiences, and improve their own intellectual property protection level.

Promote technological innovation:

Cooperation can stimulate the vitality of technological innovation. In the process of cooperation, enterprises can jointly develop new technologies and products, promote technological progress and industrial upgrading. At the same time, cooperation can also promote knowledge sharing and talent exchange, providing strong support for technological innovation.

(2) The Significance of Authorization in Intellectual Property Protection

Realizing the Value of Intellectual Property:

Licensing is an important way to realize the value of intellectual property. Through licensing, intellectual property holders can license their technological achievements or brands to others for use, thereby obtaining economic returns. This return helps to motivate innovators to continue investing in research and development and innovation activities.

Expand market influence:

Licensing helps to expand the market influence of intellectual property. Through licensing, intellectual property can cover a wider range of markets and fields, enhancing brand awareness and market share. This helps to strengthen the market competitiveness of enterprises and promote their growth and development.

Standardize market order:

Licensing can regulate market order and prevent intellectual property infringement. Through clear licensing agreements and contract terms, both parties' rights and obligations can be defined, reducing disputes and conflicts. At the same time, licensing can also promote the legal use and circulation of intellectual property, maintaining the stability and healthy development of market order.

(3) Intellectual Property Protection Strategies in Cooperation and Licensing

Clarify the scope of cooperation and authorization:

In the process of cooperation and authorization, the ownership and scope of use of intellectual property should be clearly defined. This helps to avoid disputes and controversies between the two parties and ensures the legal use and circulation of intellectual property.

Sign the confidentiality agreement:

During the cooperation process, a confidentiality agreement should be signed to protect business secrets and sensitive information. This helps prevent the leakage and abuse of intellectual property, and maintain the core competitiveness and market position of the enterprise.

Strengthening supervision and rights protection:

Enterprises should strengthen the supervision and rights protection work in the process of cooperation and authorization. By establishing a sound supervision mechanism and rights protection system, intellectual property infringement can be timely discovered and dealt with, and the legitimate rights and interests of enterprises and market order can be maintained.

Establish intellectual property management system:

Enterprises should establish a comprehensive intellectual property management system, including aspects such as the application, maintenance, transfer, and licensing of intellectual property. This helps to standardize the management of intellectual property within the enterprise and improve the level of protection and management efficiency of intellectual property.

Cooperation and licensing play a significant role in intellectual property protection. Through cooperation and licensing, enterprises can achieve resource sharing, risk sharing, enhance protection capabilities, and promote technological innovation. At the same time, enterprises should also strengthen the formulation and implementation of intellectual property protection strategies to ensure the legal use and circulation of intellectual property.

According to the congressional budget report submitted by the United States Patent and Trademark Office, as 2024 begins, it is necessary to look ahead and predict the upcoming trends and developments in the field of intellectual property. The US Patent and Trademark Office (USPTO) requests authorization to spend \$4.196 billion on institutional user fees in the 2024 fiscal year (FY) presidential budget, including

\$3.696 billion in patent fees, \$500 million in trademark fees, and \$58 million in other income.

(1) Continuously monitor digital copyright protection

With the growth of digital content consumption, online copyright protection is also on the rise.

(2) Emerging technologies

The rapid development of technologies such as artificial intelligence, blockchain, and biotechnology will bring new challenges to patent law. In 2024, the focus will be on defining patent qualifications for inventions related to emerging technologies and addressing the complexity of patent protection in these areas. Senators Thom Tillis and Chris Coons proposed the 2023 Patent Qualification Restoration Act, a bipartisan legislation aimed at restoring patent eligibility for important inventions in various fields. The bill aims to address concerns about intellectual patents outside the scope of the patent system, the discovery of existing natural phenomena, and social and cultural content. This legislation retains the existing statutory categories of eligible topics while excluding specific types deemed unsuitable for patent protection.

The bill has received support from organizations such as the Innovation Promotion Committee (C4IP) and NCPIO (North Carolina Biosciences Organization). The proposal of this bill is in response to the confusion and uncertainty caused by the Supreme Court's ruling on patent qualifications. Its goal is to restore the United States as a global leader in innovation and technology.

(3) The importance of trade secrets is increasingly prominent

Trade secrets have always been valuable, but their importance will significantly increase by 2024. When a company strives to protect its competitive advantage and confidential information, strong measures to protect trade secrets will be emphasized. Courts and legislators may enact stricter regulations to ensure the security of confidential business information in the face of growing cyber threats and global competition.

(4) International Patent Coordination

In the globalized economy, coordinating patent laws and procedures across different jurisdictions is crucial. By 2024, we expect to continue working towards international cooperation in the patent system to simplify the process of obtaining global patent

protection.

On November 13th 2022, the Mexican Industrial Property Office (IMPI) released guidelines for implementing a new work sharing program with the United States Patent and Trademark Office (USPTO): Accelerated Patent Authorization (APG). The new arrangement allows eligible patent applicants to obtain patent authorization in Mexico using the fast process of US patent authorization.

Kathy Vidal, Deputy Secretary and Director of Intellectual Property Affairs at the US Department of Commerce, said, "Accelerating patent authorization enables companies, including startups and small businesses, to protect their ideas and inventions, obtain funding, and bring their ideas to the market more quickly." "This initiative with one of our largest trading partners provides exciting new opportunities for businesses in both countries, increasing economic activity through key intellectual property (IP) protection."

According to the APG process, qualified patent applicants who have been granted a US patent by USPTO can choose to grant a patent to the corresponding Mexican patent application at any time during the post-processing process of IMPI's publication of the application at the Mexican Industrial Property Office. Communicate, comply with relevant Mexican patent laws.

The international protection system for intellectual property rights is gradually established on the basis of the rapid development of the global knowledge economy and the deep understanding and importance of intellectual property values by various countries. The development of international intellectual property protection standards has roughly gone through three stages: small-scale protection rules originally existing in bilateral treaties or reciprocal agreements, intellectual property definition and protection rules recognized in larger countries established by multilateral conventions such as the Paris Convention for the Protection of Industrial Property under the management of the World Intellectual Property Organization (WIPO), and multilateral intellectual property protection rules established by the Trade Related Aspects of Intellectual Property (TRIPs) under the GATT/WTO, which integrate entity protection, procedural protection, and dispute resolution in the field of international trade, gradually improving the international intellectual property protection standards. However, due to the inherent compromising nature of multilateral conventions and the

difficult and long-lasting negotiation and conclusion process, the demand of developed countries, especially intellectual property powers such as the United States and Japan, to further improve international intellectual property protection standards cannot be met. Instead, they seek paths outside the traditional multilateral negotiation frameworks of WIPO and WTO. The Anti Counterfeiting Trade Agreement (ACTA), negotiated and formulated by countries and regions such as the United States, Japan, the European Union, and Australia, with the aim of effectively combating counterfeiting and piracy on a global scale, is a new development for developed countries seeking to establish rules that go beyond the protection standards of TRIPs (TRIPs plus). ACTA has further strengthened the standards of intellectual property law enforcement in civil law enforcement, border measures, criminal law enforcement, and digital environment by expanding the civil liability of third parties in intellectual property infringement, including the inclusion of transshipment goods in the scope of intellectual property border measures, and reducing the standards of criminal procedures for intellectual property infringement. In the process of formulating ACTA, participating countries in negotiations are balancing and compromising their interests on geographical indications and human rights issues; Meanwhile, due to its overly strict enforcement measures, ACTA has faced strong resistance from developing countries such as China, India, and Brazil on issues related to the trade of generic drugs related to public health. Faced with the trend of strong international protection of intellectual property represented by ACTA, developing countries like China need to adhere to the traditional multilateral negotiation framework of WIPO and WTO to fight for their rights, and also seek breakthroughs outside this framework. To this end, it is necessary to first make good use of the multilateral negotiation venues of WIPO and WTO, and work with developing countries such as India and Brazil to clearly express their criticism and resistance to ACTA in the new round of TRIPs negotiations; Secondly, in participating bilateral or regional free trade agreements, intellectual property protection standards under TRIPs are explicitly adopted to prevent the expansion of application effects that may arise once ACTA takes effect.

Technology is an important driving force for social development. Intellectual property protection can influence innovation from the perspectives of innovation incentives and

innovation inertia. The intensity of intellectual property protection always has a positive impact on the number of patent applications, while it has a significant negative impact on the R&D investment of enterprises. On the one hand, the intensity of intellectual property protection can promote technological progress by stimulating the innovation enthusiasm of enterprises; On the other hand, a strong level of intellectual property protection can lead to innovation inertia in enterprises, thereby inhibiting technological progress.

The impact of technological progress on intellectual property protection is complex and multifaceted, bringing both new challenges and opportunities. With the development of new technologies and formats, intellectual property strategy and management are facing new demands and challenges. For example, issues such as whether works created by artificial intelligence are protected by copyright and the ownership of big data are new challenges brought about by technological progress. New technologies such as artificial intelligence, metaverse, bioprinting, and autonomous driving have increased the complexity of intellectual property protection, requiring that intellectual property must be understood and used by a wider audience, rather than just being held by a small group of professionals.

Meanwhile, technological advancements have also provided new opportunities for intellectual property protection. Strengthening intellectual property protection, especially at the source, is of great significance for promoting the construction of an innovative country, enhancing innovation capabilities, and international competitiveness. High quality creation and protection can demonstrate the effectiveness of protection, strengthen the intellectual property management of national science and technology plan projects, and enhance the intellectual property layout and quality management of key project scientific and technological achievements in various stages of project initiation and implementation. It is crucial to grasp the general trend of scientific and technological development, be prepared for unforeseen circumstances, explore the source, and take the lead in layout.

(1) The incentive effect of intellectual property protection on innovation

There are two main methods for enterprises to acquire new technologies: external

imitation and internal innovation. With the increase of intellectual property protection intensity, for imitative enterprises, the difficulty of imitating and stealing the innovative achievements of external enterprises will increase, and their imitation costs will also increase²⁸. At this time, strong intellectual property protection intensity will promote the transformation of original imitative enterprises into independent innovation enterprises, enhance the overall innovation awareness of society, and promote technological progress; For innovative enterprises, a strong intellectual property protection will reduce the externalities of their innovation²⁹, decrease the possibility of their innovative achievements being stolen, and enhance the possibility of their innovative achievements being traded normally through a good legal system and market environment. This is conducive to ensuring the deserved benefits of innovative enterprises, increasing their expected returns and innovation incentives. Enterprises guided by profit maximization will strengthen their innovative behavior and promote technological progress in society as a whole. Therefore, a strong intellectual property protection intensity will bring about a relative decrease in innovation costs and an increase in innovation benefits for imitative and innovative enterprises, promoting overall innovation enthusiasm. Independent innovation is the source of technological progress³⁰, and therefore innovation can drive technological progress. The first hypothesis is that a strong intellectual property protection intensity will promote enterprise innovation and drive technological progress.

(2) The inhibitory effect of intellectual property protection on innovation

Strong intellectual property protection, while providing innovation incentives, can also lead to some leading companies with innovative achievements being in a "comfort zone", resulting in "innovation inertia". Firstly, for an industry, due to the poor liquidity and insufficient capital reserves of small enterprises, the possibility of achieving breakthrough results is much lower than that of leading enterprises in the industry. However, as the main force of innovation, leading enterprises have technological advantages, capital advantages, talent advantages, etc., and are at the top of the

²⁸ Zhou Wei, Shen Wanjun. Research on the Mechanism of R&D Investment on Regional Innovation Capability: Empirical Evidence Based on Intellectual Property Rights [J]. *Science and Technology Management*, 2018, 39 (08): 26-39

²⁹ Wei Hao, Wu Jun. Intellectual Property Protection, Import Trade, and Innovation of Innovative Leading Enterprises: A Study on the Impact of Intellectual Property Protection on Innovation Investment of High tech Enterprises - The Mediating Role of New Technologies and Products [J]. *Financial Research*, 2018 (09): 91-106

³⁰ WEI Y, LIU X. Productivity spillovers from R&D, exports and FDI in China's manufacturing sector [J]. *Journal of International Business Studies*, 2006, 37 (04): 544, 557.

industry's technology. At this time, the strong intellectual property protection intensity further protects their innovative achievements. At the same time, due to the great uncertainty risk in the process of "creative destruction"³¹, from the perspective of maximizing benefits, large enterprises are more willing to focus on their existing profit chains rather than innovate. Secondly, strong intellectual property protection further strengthens the collaborative monopoly among enterprises. The strong protection of intellectual property rights ensures the innovation achievements of enterprises. In order to maintain the current level of profits and minimize the risk of "creative destruction", large companies with comparable strength in the industry may choose to "collude" and monopolize the entire market to maintain their existing competitiveness. At this point, industry barriers make it difficult for other large enterprises to enter, suppressing technological innovation. Again, due to the existence of conversion costs, strong intellectual property protection can lead to innovation inertia in enterprises. Strong intellectual property protection leads to the transmission of innovative achievements of enterprises. Slow broadcasting speed makes it difficult to quickly penetrate the market. However, due to the conversion costs of replacing new products and the unknown risks that consumers may face when using new products, their acceptance of new achievements is relatively low, especially in the medical industry. Therefore, most companies in the industry do not choose to innovate or surpass in the short term, but rather tend to maintain the status quo, which suppresses the overall technological progress of society. Finally, due to the protection of government trade policies³², some leading companies have insufficient innovation motivation within their own enterprises, and strong intellectual property protection policies make it less likely for them to improve their own technology through imitation. Companies tend to directly purchase advanced foreign technology, which brings strong demonstration effects and thus suppresses the overall technological progress of China. This leads to the second hypothesis H2: Strong intellectual property protection will cause innovation inertia in enterprises, inhibit innovation, and be detrimental to technological progress. At present, there is extensive research in the academic community on the relationship between the strength of intellectual property protection and technological progress,

³¹ Joseph Schumpeter. *Capitalism, Socialism, and Democracy*. Beijing: Commercial Press, 2002

³² Xiao Peng, Yu Shaowen. Inert and Solutions for Collaborative Innovation among Enterprises [J]. "Technological Progress and Countermeasures", 2013, 30 (10): 84-87

which can be mainly divided into three aspects. Firstly, the strength of intellectual property protection has a significant promoting effect on technological progress; Secondly, the strength of intellectual property protection has a significant inhibitory effect on technological progress; The third hypothesis is the "optimal intellectual property protection" proposed by Park et al. The above theoretical analysis indicates that the intensity of intellectual property protection will, on the one hand, stimulate innovation and promote technological progress; On the other hand, due to the continuous improvement of the intellectual property legal system, strong intellectual property protection may actually lead to innovation inertia in enterprises, which is not conducive to technological progress. Therefore, the article argues that there is no definite linear relationship between the strength of intellectual property protection and technological progress, but rather depends on the relationship between incentive effects and inhibitory effects. When innovation incentives outweigh innovation inhibition effects, the strength of intellectual property protection will stimulate innovation as a whole and promote technological progress; On the contrary, the intensity of intellectual property protection will inhibit innovation and hinder technological progress. Thus, the third hypothesis H3 is derived: there is a non-linear relationship between the strength of intellectual property protection and technological progress.

In addition, technological progress has also brought new challenges to intellectual property protection, such as the accelerated evolution and deepening of a new round of technological revolution and industrial transformation. New technologies represented by artificial intelligence, big data, gene editing, etc. are flourishing, promoting the continuous acceleration of intellectual property creation speed and the continuous enrichment and expansion of intellectual property output types. At the same time, it has also brought about traditional and non-traditional security, social ethics and other issues.

Since the new round of multilateral trade negotiations in the Doha Round of the World Trade Organization (WTO), due to the differences and diversity in economic development levels and interest pursuits among members, under the influence of the global financial crisis, multilateral negotiations have actually come to a standstill, and

the international trade pattern has entered a stage of stalemate and a certain degree of "reversal". In this situation, various regional trade agreements have emerged one after another, and the number is showing a sharp upward trend. As an exception to the most favored nation principle, regional trade agreements have had a significant impact on WTO's free trade and multilateralism. Developed countries represented by the United States have adopted a strategy of shelving multilateral negotiations and signed numerous regional agreements, covering almost all countries and regions that have close trade relations with China, attempting to further expand their leading advantage in global international economic and trade competition through this institutional transformation. These regional agreements are based on a high degree of liberalization and exclude many emerging developing countries, including China, seriously squeezing the space for China to participate in international cooperation. In this context, the "the Belt and Road" initiative, as a great idea to connect the Chinese dream and the world dream across time and space, is an important platform for China to expand opening up and "go global", and also provides China's solutions and wisdom for global international economic and trade cooperation. Intellectual property protection is an important factor affecting international trade.

At present, the "the Belt and Road" initiative is deeply implemented, and countries have greatly promoted the circulation and trade of goods, technologies and services between each other through mutual "introduction" and "going out". For enterprises that go global, the more opportunities they have to participate in international economic and trade cooperation, the greater the risk of various intellectual property disputes and conflicts. How to understand and comply with the intellectual property system of the host country, how to protect one's own intellectual property and legally utilize the intellectual achievements of others, and how to fairly and reasonably resolve intellectual property disputes, all require the attention of governments along the route in strengthening cooperation on intellectual property protection.

The "the Belt and Road" innovation road has driven the development of regional value chains. Intellectual property protection has become the goal and important content of the "the Belt and Road" construction, and strengthening cooperation in intellectual property protection has become a hot issue. While intellectual property agencies and

academia in various countries are paying attention to how to carry out domestic protection, they have also begun to focus on international cooperation and coordination. However, according to the latest "Overview of Intellectual Property Rights in Countries and Regions along the the Belt and Road", the intellectual property systems and protection levels of countries along the Belt and Road are uneven, making cooperation difficult. On the whole, the differences and contradictions of intellectual property systems in the "the Belt and Road" region are prominent, and the integrated intellectual property cooperation rules are far from being formed, which reduces the effectiveness of coordination among countries along the line, reduces the effectiveness of cooperation, and restricts the smooth development of international cooperation. This urgently requires countries along the route to strengthen cooperation and coordination in intellectual property protection at the international level.

Dilemma of international cooperation and coordination of intellectual property protection under the "the Belt and Road" Initiative.

From the perspective of international intellectual property protection, international coordination and cooperation of intellectual property protection in the construction of the "the Belt and Road" are facing many difficulties, mainly as follows.

(1) The international coordination mechanism is insufficient. In the construction of the "the Belt and Road", there will always be different interests in cooperation because of different values of countries along the line. The differences in understanding of international cooperation mechanisms among governments of different countries result in their desire for cooperation and coordination being expressed, while also being influenced by their own positions. Set up obstacles to cooperation in certain situations. Therefore, the current international coordination mechanism for intellectual property protection still faces many difficulties. Traditionally, international cooperation in intellectual property protection has included two mechanisms: stochastic and institutional coordination. Stochastic coordination generally means that countries consult with each other through holding temporary meetings, hosting forums and other means. According to the content of the joint declaration, declaration or international cooperation reached informally, it has the

characteristics of randomness, pertinence and flexibility, but it also has the disadvantages of being arbitrary and large and not easy to implement. Since the implementation of the "the Belt and Road" initiative, countries along the Belt and Road have realized the importance of international cooperation in intellectual property protection and carried out some coordination. For example, countries along the Belt and Road and the World Intellectual Property Organization (WIPO) jointly held the "the Belt and Road" in July 2016 The high-level conference on intellectual property expressed a strong willingness to strengthen dialogue and cooperation in the field of intellectual property, and put forward some principled suggestions to support cooperation. In May 2017, countries along the Belt and Road held the first "the Belt and Road" International Cooperation Summit Forum in Beijing and reached a number of consensus, including joint statements and declarations on intellectual property protection. However, up to now, although countries along the Belt and Road have carried out some random "health coordination" and proposed to jointly promote the construction of the "the Belt and Road" in several joint declarations, statements or communiqués, only a few achievements involve intellectual property cooperation, and even if there are a few cooperation has not been fully institutionalized, it still stays on the basis of establishing a "soft framework" style common declaration, normative guidance and behavioral guidance, and it is rare to really reach a cooperation agreement with formal legal constraints, exposing the inadequacy of such coordination. Institutional coordination means that the international community unifies and coordinates the laws or policies of countries on specific matters in accordance with predetermined rules, and generally regulates member countries by concluding formally legally binding conventions or agreements in order to achieve international coordination. Due to the strict territorial nature of intellectual property rights, their extraterritorial protection is relatively complex, which is not conducive to the development of intellectual property rights. To solve this problem, since the 19th century, countries have been committed to signing bilateral or multilateral agreements or conventions on intellectual property protection. Currently, most countries' intellectual property protection is mainly achieved through participation in international intellectual property conventions, and institutional coordination has become a way of international cooperation in intellectual property protection. The WIPO series of

conventions and the WTO's TRIPs agreements are currently the main international rules for intellectual property protection, and are also typical cases of institutional coordination, coordinating the way in which the bulletins of the contracting parties handle certain specific issues. This way of achieving, The intellectual property policy has played an important role. However, for the "the Belt and Road", WIPO conventions and TRIPs agreements are not perfect, and both have some shortcomings. First of all, since the "the Belt and Road" is mainly economic and trade cooperation, and the series of WIPO treaties are not directly linked to international trade, these treaties have limited impact on the "the Belt and Road" economic and trade cooperation. The TRIPs agreement is a core convention directly related to international trade, but it was formed under the strong promotion of developed countries represented by the United States, and the rules themselves have many obvious flaws. As Professor Chen An has pointed out, certain WTO system rules themselves are inherently unfair and unreasonable from the outset of legislation. The TRIPs Agreement unilaterally emphasizes the "high standard" of international protection of intellectual property rights advocated by developed countries while ignoring the consideration of the interests of the vast number of developing countries. It is not suitable for the "the Belt and Road" mainly composed of developing countries. Moreover, it is still nearly ten countries along the "the Belt and Road" have not yet formally joined the WTO and been included in the TRIPs system. Secondly, as mentioned earlier, in the context of the stalled WTO Doha Round negotiations, developed countries represented by the United States have begun institutional transformation, weakening the influence of the TRIPs agreement through regional agreements, making the reconstruction of current international intellectual property protection rules a trend. All these make the international cooperation of the "the Belt and Road" directly applying WIPO conventions or TRIPs D to intellectual property protection impractical. It can be seen that from the perspective of the institutional coordination of the "the Belt and Road" itself, due to the differences in many aspects, some countries have not signed the "Belt and Road Initiative"

Border trade agreements, most of which lack intellectual property content, are also difficult to form an intellectual property protection cooperation agreement that is

particularly applicable to the "the Belt and Road" in the short term. Although the region includes the ASEAN Framework Agreement on Intellectual Property Cooperation, the Eurasian Patent Organization, and the European Patent Organization. Organizations and other regional organizations, but each organization has different backgrounds, members, and concerns about intellectual property issues, which lead to conflicts and contradictions among them unavoidable. Therefore, it is difficult to build an international intellectual property protection organization based on this, which covers all countries along the "the Belt and Road" Very big. In general, the current international coordination mechanism for intellectual property protection of the "the Belt and Road" is insufficient, which has affected the process of cooperation among countries.

(2) Regional intellectual property discourse power needs to be enhanced

The concept of a community with a shared future for mankind requires international coordination in the construction and protection of the "the Belt and Road". Among them, the diverse subjects should include both developed countries, developing countries, relevant international organizations, as well as intellectual property institutions and multinational corporations. When multiple subjects participate in the same field, various conflicts and contradictions are inevitable, which undoubtedly increases the difficulty of international cooperation and coordination. Specifically, first, unlike the situation where developed countries dominate the discourse power of TRIPs agreements, the lack of discourse power of regional intellectual property rights in the "the Belt and Road" is relatively obvious. Due to the low level of intellectual property protection in most countries along the Belt and Road, significant differences in the degree of integration of countries into the international intellectual property protection system, and the relatively weak legal basis of intellectual property in the whole "the Belt and Road", it is difficult to build a regional intellectual property system due to lack of experience. In the long run, establishing integrated intellectual property protection rules is also a long way to go due to insufficient regional discourse power. Secondly, the game between developed and developing countries has exacerbated the lack of regional intellectual property discourse power. Currently, the competition for the discourse power of international intellectual property rules between two types of countries is intensifying, and developed countries are attempting to continue to

dominate the formulation of international intellectual property rules. In the cooperation and coordination of intellectual property protection of countries along the "the Belt and Road", there is also an inevitable power game between developed countries and developing countries. Developed countries have established a favorable international order for intellectual property rights based on their technological and economic strength, and are in an advantageous position in the game of rules and discourse power. As passive recipients of international rules, developing countries clearly lack sufficient discourse power. In fact, developed countries have already had a significant impact on the international coordination of intellectual property protection in some countries along the Belt and Road by laying out intellectual property in advance. For example, the United States and Europe have absorbed many countries along the "the Belt and Road" as member countries through regional economic cooperation in Asia, and regional cooperation includes agreements on intellectual property protection. Generally speaking, developing countries that have signed cooperation agreements with developed countries will also have similar positions on intellectual property issues as developed countries. This has created obstacles to the formation of the new mechanism for intellectual property protection of the "the Belt and Road".

(3) There are differences and contradictions in regional intellectual property systems

Balancing the interests of different types of countries, especially intellectual property rights, requires the involvement of multiple stakeholders in order to carry out effective intellectual property rights

The interests between countries with different levels of development are an inherent requirement and development trend of the value orientation of international protection and cooperation of intellectual property rights. The realization of a country's intellectual property value and interests cannot be separated from its current international relations and intellectual property protection status. Therefore, the differences and contradictions in regional intellectual property systems undoubtedly lead to the complexity of value realization in international protection cooperation. The "the Belt and Road" covers Asia, Europe and Africa. The types of countries are diverse, and regional cooperation with different characteristics and standards are intertwined. The legal traditions and sources of countries along the Belt and Road are

quite different. Some countries even have religious laws, which makes significant differences in domestic intellectual property protection systems. "This institutional difference leads to differences in the level of intellectual property protection of countries. For example, countries such as ASEAN and Central and Eastern Europe generally have a higher level of intellectual property protection, with more complete intellectual property legislation and stricter enforcement. However, the intellectual property system of some countries and regions in Central Asia, West Asia, Indochina Peninsula and other regions is not perfect, and the protection level is also very low, which makes the intellectual property protection of different countries along the "the Belt and Road" vary greatly. This characteristic leads to differences in the intellectual property issues that countries along the route are concerned about, and collisions and contradictions are inevitable in carrying out international cooperation on intellectual property protection. How to coordinate the differences and contradictions in regional intellectual property systems and overcome their obstacles, while taking into account the realization of the value and interests of each country in international protection cooperation, is a challenge that international coordination must address in the process of intellectual property protection.

(4) Regional intellectual property policies and laws are unstable

After the outbreak of the global financial crisis, the world economy continued to decline, and the fundamental solution to the continued economic downturn lies in technological innovation. The first "the Belt and Road" International Cooperation Summit Forum proposed to build an innovative road and jointly innovate to drive development. For this goal, countries have the desire to strengthen cooperation in scientific and technological innovation and intellectual property protection. However, the willingness to cooperate is largely influenced by the legal risks of regional intellectual property policies.

The following aspects: First, the long-term political and social instability of the countries along the "the Belt and Road" in the Middle East, Africa and other regions will inevitably lead to the uncertainty of their intellectual property laws and policies and international economic and trade cooperation. This uncertainty makes intellectual property cooperation between countries full of variables; Second, the construction of the "the Belt and Road" is mostly infrastructure projects, with a long investment cycle

and difficult operation and maintenance. In addition to the expansion of the scope of intellectual property rights, various intellectual property rights have been extended from production, operation to sales at various stages. If enterprises can not fully understand the intellectual property policies and regulations of the host country in the process of "going out", it will undoubtedly increase the risk of infringing others' intellectual property rights or their own intellectual property rights, and also easily fall into the risk of various disputes of infringement and rights protection ". Therefore, the political and economic instability of the countries along the "the Belt and Road" has led to the instability of their intellectual property laws and policies, making the international coordination of intellectual property protection between countries vulnerable to unstable difficulties.

5.5 Providing useful ideas and suggestions for strengthening the protection of global intellectual property rights

Strengthening the protection of global intellectual property rights requires the joint efforts of governments, international organizations, enterprises and the public. The implementation of measures such as improving the international legal framework, strengthening international cooperation, improving law enforcement, improving domestic laws and regulations, strengthening publicity and education, promoting technology transfer and innovation, responding to international challenges and establishing an efficient dispute resolution mechanism can effectively promote the improvement of the level of global intellectual property protection. The role of intellectual property protection in promoting economic development Intellectual property protection can enhance innovation capacity, promote the increase of technology output, and promote the optimization of industrial structure. All these factors have contributed to the continuous development and progress of the economy. Intellectual property protection improves enterprise competitiveness, enhances enterprise image, increases brand value, raises market access threshold, technical barriers form market share guarantee for stabilizing market position. Intellectual property protection protects the rights and interests of consumers to ensure that consumers enjoy high-quality products, improve product quality, safeguard the legitimate rights and interests of consumers, protect the rights and interests of consumers, meet the diversified needs of consumers, and launch innovative products.

Contribution of intellectual property protection to social stability Promote social and economic development Create employment opportunities Promote stable market order Maintain a fair competitive environment Ensure long-term prosperity Promote sustainable economic development.

The World Intellectual Property Organization (WIPO) recently issued the biennial World Intellectual Property Report (hereinafter referred to as the "Report"). The report shows that innovations are highly concentrated in a few countries. For example, China, France, Germany, Japan, South Korea and the United States have all been among the top three indicators in the past five years. Deng Hongsen, Director General of the World Intellectual Property Organization (WIPO), said that in the context of changing global economic trends, geopolitical tensions and accelerated digitization, the importance of economic diversification has received renewed attention around the world. Today, a revival in industrial policymaking is seen in economies of all sizes, including many developing and least developed countries.

The report considers that the key to achieving sustainable growth in countries lies in focusing policy formulation on the development of local innovation capabilities.

(1) Concentration of new achievements

Innovation capacity can be divided into three dimensions: science, technology and production. Through the study of scientific publications, patent applications and international trade data, it is possible to measure the innovative capacity of specific countries or regions based on scientific, technological and productive knowledge. The report breaks down these data into more than 600 fields (divided into 11 scientific fields, 14 technical fields and 15 scientific and technological output fields). Analysis of data for 154 countries shows that innovations are concentrated in a few countries. Over the past 20 years, the top eight countries accounted for 50% of exports, 60% of scientific publications and 80% of international patents; Technology and science are more concentrated than exports. Scientific publications, international patent families and output in the world today are still concentrated in large countries; Most innovations are concentrated in high-income economies. There are significant differences among economies in the share of scientific, technological and scientific

and technological output. For example, Germany's concentration in scientific publications, patents and scientific and technological output is greater than its share of GDP. Brazil's share of scientific and technological output and scientific publications is higher than its share of GDP, but the share of international patents is different. Indonesia's share of scientific and technological output is higher than its share of GDP, while the share of scientific publications and international patents is much lower than its share of GDP. The vast majority of scientific, technological and productive achievements are concentrated in the innovation ecosystem of a few countries.

The report considers that specialization encourages the development of expertise to improve the production process and the quality of output. This in turn promotes healthy competition, promotes technological progress, improves productivity and ultimately improves overall economic performance. At the same time, however, it should be noted that excessive specialization may lead to a weakening of external adaptability, such as in response to global supply chain shocks. Overreliance on specific industrial systems will make them less resistant to risks such as external shocks, fluctuations in international markets and disruption of value chains.

In addition to uncovering significant differences between economies, national innovation capabilities can also be examined in more detail through relevant data on scientific publications, international patents and scientific and technological output.

According to the report, chemistry accounted for 22% of all scientific output in the 11 larger scientific fields from 2017 to 2020, while engineering, physics and mathematics accounted for 16% and 14% respectively. Of the 169 scientific capabilities, engineering accounts for 5.8% of all scientific publications, followed by chemistry (5.3%) and physics (4.3%).

Among the 14 technical fields, two fields are more prominent, namely, information and communication technology and biological pharmacy, accounting for 18% and 16% of all international patents respectively; Of the 172 detailed technical capabilities, the pharmaceutical and veterinary pharmaceutical fields hold 8.6% of international patents; The second area is computing technology (6.6%) and electronic digital communications (6.3%). Of the 15 scientific and technological output areas, machinery and transport equipment account for 30%, followed by manufactured

goods and articles (21%) and chemicals (10%). Of the 285 production capacities, the automotive sector accounts for 3.6% of all international trade, followed by crude oil minerals (3.14%) and telecommunications equipment (3.11%).

(2) Research and development expenditure structure

In addition to data studies such as innovation and industrial policy, this year's report also examines the state of innovation in three areas: agriculture, motorcycles and video games.

Governments that invest heavily in agriculture, for example, have benefited from stronger economic growth and lower poverty rates. A study by the United States Department of Agriculture found that for every \$1 spent on public agricultural research and development from 1990 to 2011, the United States economy could benefit from \$20. The Global Report on Agricultural Science and Technology Indicators (2020) of the International Food Policy Institute shows that global research and development expenditure on agricultural science and technology in 2016 was close to \$47 billion (excluding for-profit expenditure by the private sector). The public sector in high-income countries accounts for 40% of global expenditure. However, the share of agricultural research and development undertaken by the public sector in high-income countries has declined and stagnated since 2011. Instead, private sector spending on agricultural research and development has increased. In most low-income and middle-income countries (except Brazil and China), the public sector still bears the bulk of research and development expenditure. According to the report, the video game industry generated about \$184 billion in revenue worldwide in 2023. The revenue of this industry is distributed in mobile games (49%), game hosts (30%), personal computers (PCs) (20%) and browser games (1%). By comparison, the second largest entertainment industry, the film industry, generated \$99.7 billion in revenue in 2021.

It can be found that the budgets of today's big budget video games can be comparable to those of big budget movies. For example, in 2023, the cost of the video game *Cyberpunk 2077* was \$441.9 million; The most expensive film of the same year, *Speed and Passion X*, cost \$340 million to produce. In addition to its overall contribution to economic activities, the video game industry has also created highly

skilled and well paid jobs. Between 2018 and 2022, workers in the video game industry earned one to three times the average wage in Finland, Japan, Poland and the United States.

This year marks the 32nd anniversary of China's accession to the World Copyright Convention. Recently, a spokesman for the Ministry of Foreign Affairs of China said at a regular press conference that copyright protection is the epitome of China's intellectual property protection. In recent years, China has continuously strengthened the protection of various types of intellectual property rights, including patents, trademarks, copyrights and geographical indications, to assist in high-quality development. China's intellectual property protection capacity and level have been continuously improved, effectively stimulating the innovation vitality of the whole society, and at the same time bringing new opportunities for win-win cooperation to the world.

The protection of intellectual property rights has made remarkable achievements and accelerated the release of innovation vitality. In the first half of this year, China granted 554000 invention patents, an increase of 28.0% year on year; There were 2463000 registered trademarks, up by 22.0% year on year; A total of 111 geographical indication products and approved geographical indication collective certification trademarks were identified, and 5365 integrated circuit layout designs were registered. Through deepening various reforms in the field of intellectual property rights, a series of landmark achievements have emerged. Intellectual property rights are the core elements of national development strategic resources and improving international competitiveness. China's construction of an intellectual property power is a resounding step, which provides strong support for promoting high-quality development. The report issued by the World Intellectual Property Organization in early July shows that China has become a leader in patents in the field of generated artificial intelligence. In response, the French News Agency reported that the report issued by the World Intellectual Property Organization highlighted China's incredible innovative vitality. From 2014 to 2023, more than 38000 of the global total of 54000 patents for productive artificial intelligence came from China.

The application of high-value patents has been accelerated, effectively enabling economic innovative development. In the first half of this year, the number of patent transfer licenses of Chinese universities and scientific research institutions increased by 22.2% year on year, and a group of high-value patents accelerated their landing in the scene of high-end, intelligent and green industries. From January to May, the total import and export of intellectual property royalties reached 180 billion yuan, an increase of 14.1% year on year, of which the export volume increased by 17.7% year on year, 4.7 percentage points higher than the import growth. Intellectual property protection is an important support for innovative development, and the accelerated landing of high-value patents witnesses the vitality of innovative development and injects strong momentum into economic development. Take the digital economy as an example. At present, the core industries of the digital economy have become a hot area of technological innovation. In 2023, the number of invention patents granted to the core industries of China's digital economy will reach 406000, accounting for 45% of the total number of invention patents granted by the whole society in the same period, and the average annual growth rate in the past five years will reach 21.0%. The added value of the core industries of the digital economy accounts for 10% of GDP and has become an important engine of China's economic growth.

We will continue to open up to the outside world at a high level, and the protection of intellectual property rights will benefit the world. China attaches great importance to international patent cooperation and intellectual property protection, and has become a veritable intellectual property power and an important pole of the world's innovation landscape. At the same time, China has continuously expanded its opening up in the field of intellectual property rights, participated in the global governance of intellectual property rights under the framework of the World Intellectual Property Organization, and continued to deepen institutional exchanges with the United States, Europe, Japan, South Korea and the Brics countries. In 2023, the satisfaction of foreign-funded enterprises with China's intellectual property protection reached 80.55 points, 1.44 points higher than that in 2022. The number of intellectual property applications, authorizations and availability from abroad in China has also increased

rapidly. As of June this year, the number of valid invention patents and valid registered trademarks in China reached 919000 and 2135000 respectively, up by 3.9% and 3.8% respectively on a YOY basis. The increasing number of "confidence votes" from foreign investors is inseparable from China's insistence on equal protection of intellectual property rights of domestic and foreign enterprises and the creation of a fair, open and transparent business environment.

The Third Plenary Session of the Twentieth Central Committee of the Communist Party of China proposed to establish an efficient comprehensive management system for intellectual property rights. China will continue to adhere to high-level opening up, continuously improve the level of intellectual property protection, deepen international exchanges and cooperation, and jointly abide by the "kindling" of intellectual property rights and share the "fruits" of innovative development with all parties.

5.5.1 Recommendations for international intellectual property protection within the framework of the United Nations organization.

The international legal framework for the protection of intellectual property rights is mainly composed of a series of international conventions, treaties and agreements, which provide common principles and provisions for all countries to promote the protection and utilization of intellectual property rights. Among them, one of the most important international institutions is the World Intellectual Property Organization (WIPO), which is committed to promoting intellectual property protection and cooperation on a global scale. In order to meet the challenges of intellectual property protection, it is particularly important to establish a modern legal framework and system for intellectual property. This includes improving the legal system of intellectual property rights, strengthening the ability to supervise and enforce intellectual property rights, and improving the public's awareness of intellectual property protection. At the same time, the role of transnational cooperation and international organizations cannot be ignored, such as multilateral trade negotiations and intellectual property framework conventions, which can provide global intellectual property protection standards and legal rules.

World Intellectual Property Day has become a truly global event. In 2024, WIPO

applauded reformers around the world who are promoting the innovation and creativity needed to achieve the Sustainable Development Goals (SDGs) and build a better and more sustainable future for all. Intellectual property rights are at the heart of the global challenges that people face together. Intellectual property rights are a powerful catalyst for growth and development and therefore play a key role in improving people's livelihood and protecting the planet. World Intellectual Property Day 2024 is an opportunity to highlight the central role of intellectual property, innovation and creativity in achieving sustainable development goals for the benefit of all.

The international community adopted the 2030 Agenda for Sustainable Development in 2015, which provides a common blueprint for the present and future peace and prosperity of mankind and the planet. The 2030 Agenda is underpinned by 17 Sustainable Development Goals. These SDGs urgently call upon all countries to act in a global partnership to open the way to a better and more sustainable future.

To build our common future and achieve sustainable development goals, we need to rethink the way we live, work and play. World Intellectual Property Day 2024 is an opportunity to explore how intellectual property can encourage and expand innovative and creative solutions vital to building our common future.

(1) Strengthening the Improvement of the International Legal Framework

At present, the major international conventions and agreements are:

WIPO Patent Cooperation Treaty (PCT)

Content: The PCT provides a simplified international application procedure for patent applicants so that they can obtain patent protection in multiple countries or regions through a unified application procedure.

Functions: reduced application costs, improved application efficiency, and promoted international patent cooperation.

WIPO Copyright Treaty (WCT)

Content: WCT aims to protect copyright and related rights in the digital environment, including computer programs, databases and works on the Internet.

Role: It provides a legal basis for copyright protection in the digital age and ensures

the legitimate rights and interests of copyright owners in the network environment.

WIPO Treaty on Visual Works Rights (WPPT)

Content: The WPPT is mainly concerned with the protection of the rights of performers, producers of sound recordings and broadcasting organizations, especially in the digital environment.

Role: It provides more comprehensive legal protection for performers and other obligees, and promotes the development of relevant industries.

Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)

Content: TRIPS is an important agreement under the WTO, which stipulates the minimum standards for the protection of intellectual property rights, including patents, trademarks, copyrights and other fields.

Role: Setting common standards and requirements for the protection of intellectual property rights by Member States, and promoting the healthy development of international trade.

The international legal framework is characterized by:

Global: The international legal framework covers the protection of intellectual property rights on a global scale and provides a common legal basis for all countries.

Uniformity: Through the formulation of unified international conventions and agreements, the international legal framework ensures the basic consistency of countries in the protection of intellectual property rights.

Flexibility: The international legal framework allows countries to formulate specific legal systems and policies in accordance with their national conditions on the basis of common principles.

Challenges and Responses to the International Legal Framework:

Technical challenges: With the rapid development of digital technology and the Internet, the protection of intellectual property rights faces new challenges, such as online piracy and digital infringement. The international community needs to strengthen cooperation to jointly address these challenges.

Regional differences: There are differences in the protection of intellectual property

rights in different countries and regions, which may lead to difficulties in the settlement of cross-border intellectual property disputes. The international community should urge all countries to strengthen exchanges and cooperation and narrow regional differences.

Enforcement: Strengthening enforcement of intellectual property rights is the key to ensuring the effective implementation of the international legal framework. All countries should strengthen law enforcement, crack down on IPR infringements, and maintain market order and fair competition.

Improving the international legal framework and rules for the protection of intellectual property rights is a complex and important task, which involves many aspects, including the revision of international conventions, the formulation of rules in the field of emerging technologies, and the strengthening of law enforcement cooperation mechanisms.

Promote the updating of international conventions and agreements: The United Nations and its subordinate agencies such as the World Intellectual Property Organization (WIPO) should actively promote the review and updating of existing international conventions such as the TRIPS Agreement to ensure that these conventions can meet the new needs of scientific and technological development and intellectual property protection.

Formulating new rules: For emerging technology fields such as artificial intelligence, biotechnology and the Internet, the United Nations should coordinate with all countries to jointly formulate special international intellectual property protection rules to clarify the ownership, scope of protection and tort liability.

Simplifying and unifying international application procedures: For example, the Patent Cooperation Treaty (PCT) and the Madrid System for International Trademark Registration promoted by the World Intellectual Property Organization (WIPO) should further simplify and unify international intellectual property application procedures and reduce the cost and complexity of applicants.

Coordinating national legal systems: There are differences in the legal systems of various countries in the protection of intellectual property rights, which may lead to difficulties in the settlement of cross-border intellectual property disputes. Therefore, States should strive to coordinate their legal systems, especially in terms of ownership of rights, scope of protection and compensation for infringement, so as to reduce legal conflicts and uncertainties.

Strengthening protection by technical means: With the development of technology, digital watermark, blockchain and other technical means can be used to strengthen the protection of intellectual property rights. These technologies can provide a reliable source of evidence to help combat infringement.

Promote the integration of technology and law: strengthen the combination of technology and law, and formulate legal rules suitable for the development of new technologies. For example, with regard to copyright protection in the Internet environment, special legal rules can be formulated to regulate the responsibilities and obligations of network service providers.

(2) Promoting International Cooperation and Information Sharing

Establish international cooperation mechanisms: The United Nations should advocate and promote cooperation among intellectual property management agencies of various countries, establish regular exchange mechanisms, and jointly combat transnational intellectual property infringement.

Strengthening information sharing: The United Nations can establish or support the establishment of a global intellectual property information sharing platform, promote the exchange of information among countries on patents, trademarks and copyrights, and improve the transparency and efficiency of global intellectual property protection.

The intellectual property system is the product of the development of modern science and technology and commodity economy, and intellectual property has become the core element of international competitiveness and an important global trade resource in the era of economic globalization. According to the Civil Code of the People's Republic of China, intellectual property rights are the exclusive rights enjoyed by the obligee according to law with respect to the following objects: (1) works; (2) Inventions, utility models and designs; (3) Trademarks; (4) Geographical indications;

(5) Trade secrets; (6) Integrated circuit layout design; (7) New plant varieties; (8) Other objects stipulated by law. Among the numerous types of intellectual property rights, the most common are copyrights, patents and trademarks. Trade in intellectual property rights is a trade in which intellectual property rights are the subject matter of the transaction. Since the beginning of this century, international trade in intellectual property has grown rapidly, with the volume of trade expanding from US \$150 billion in 2000 to nearly US \$1 trillion in 2020. The annual growth rate is higher than that of global trade in goods and services, and the volume of trade in intellectual property has accounted for 9% of the total global trade in services.

The quantity and quality of intellectual property ownership is an important indicator of a country's economic competitiveness and determines the role that the country plays in the global intellectual property trade market. At present, global intellectual property trade as a whole is characterized by the export of intellectual property rights from developed economies to emerging economies. In 2020, the top ten surplus countries of intellectual property rights trade in the world are all developed countries, and the top three surplus countries of the United States, Germany and Japan account for 83% of the total surplus, reflecting their leading position in global manufacturing and other industries and their competitive advantages in a large number of internationally renowned brands. In 2020, half of the top ten countries with trade deficits in intellectual property rights in the world will be emerging economies, indicating that the introduction of intellectual property rights from developed economies is an important way for emerging economies to realize technological upgrading and manufacturing upgrading.

China has become an important participant in global intellectual property trade. Especially since China's accession to the WTO, China has actively promoted international cooperation and competition in the field of intellectual property rights, and the volume of international trade in intellectual property rights has risen rapidly. In 1997, China's import and export of intellectual property rights was less than US \$1 billion, and by 2020 it had grown to US \$46.3 billion, accounting for 8% of China's total international service trade over the same period. The proportion of intellectual

property rights trade in service trade is equivalent to the global average. By 2020, China has become the fifth largest intellectual property trading economy in the world after the United States, the Netherlands, Japan and Germany.

Actively participating in the global governance of intellectual property rights and protecting the intellectual property rights interests of all countries are conducive to promoting international scientific and technological exchanges and cooperation and trade exchanges, deepening international economic and trade cooperation, and promoting the continuous improvement of the international governance system of intellectual property rights. Strengthening the protection of intellectual property rights is conducive to stimulating innovation, promoting openness, improving the quality of intellectual property rights, optimizing the business environment and developing a higher level of open economy. Deepening international cooperation in the field of intellectual property rights is an inevitable choice for the development of intellectual property rights in the new era.

(3) Improving Law Enforcement and Judicial Protection

International law enforcement and judicial protection of intellectual property rights are important links to ensure the effective operation of the global intellectual property system.

International Law Enforcement Protection

A multinational law enforcement cooperation mechanism shall be established among countries to jointly combat transnational intellectual property infringement. This includes intelligence sharing, joint law enforcement operations, case investigation assistance, etc. The challenges of transnational intellectual property crimes can be effectively addressed by strengthening international cooperation.

Border Protection Measures

Customs offices of all countries shall strengthen the protection of border intellectual property rights, conduct strict intellectual property rights examination of import and export goods, and prevent infringing products from entering the market. At the same time, an efficient border law enforcement cooperation mechanism shall be established

to jointly combat infringement activities through international trade channels.

Technical support

Use modern information technology means, such as big data and artificial intelligence, to improve the efficiency and accuracy of law enforcement. Through the establishment of an intellectual property information sharing platform, cross-border law enforcement information can be transmitted and shared in real time to provide strong support for law enforcement actions.

International Judicial Protection

International conventions and agreements

By acceding to international conventions and agreements, such as the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), all countries assume common obligations to protect intellectual property rights. These conventions and agreements stipulate minimum protection standards for intellectual property rights and provide a legal basis for international judicial protection.

Mutual legal assistance and extradition

In transnational intellectual property disputes, countries may provide legal support and assistance to each other through judicial assistance and extradition systems. This includes assistance in investigation and evidence collection, service of legal documents, enforcement of judgments, etc., to ensure that transnational intellectual property cases are effectively handled.

Specialized Courts and Arbitration Institutions

Some countries and regions have set up special intellectual property courts or arbitration institutions to deal with intellectual property disputes. These institutions have professional intellectual property legal knowledge and trial experience, and can provide efficient and fair judicial protection. At the same time, these institutions also actively communicate and cooperate with international counterparts to jointly promote the improvement of judicial protection of international intellectual property rights.

Strengthening trial procedures and enforcement

In international judicial protection, courts of various countries attach importance to strengthening trial procedures and enforcement. To ensure the timely and effective

settlement of intellectual property disputes through measures such as improving trial procedures, improving trial efficiency and strengthening enforcement. At the same time, all countries have also paid attention to strengthening cooperation with the international community to jointly combat transnational intellectual property crimes.

International enforcement and judicial protection of intellectual property rights is a complex and important area. The implementation of such measures as strengthening cross-border law enforcement cooperation, border protection measures, technical means support and compliance and implementation of international conventions and agreements can jointly promote the continuous improvement of the level of global intellectual property protection.

(4) Promoting technological innovation and industrial upgrading

In today's fast-growing economic environment, technological innovation and industrial upgrading are important drivers of a country's sustainable economic development. As an important mechanism for guaranteeing innovative achievements, intellectual property protection plays an irreplaceable role in promoting technological innovation and industrial upgrading. The following details how intellectual property protection promotes technological innovation and industrial upgrading from several aspects:

Safeguarding the legitimate rights and interests of inventors

Clarifying the ownership of property rights: The protection of intellectual property rights provides legal protection for inventors by clarifying the ownership of innovative achievements, and prevents their innovative achievements from being illegally occupied or misappropriated. This has stimulated the enthusiasm and creativity of inventors and made them more willing to invest resources in technological innovation.

Economic incentives: The commercial use of intellectual property rights, such as patent licensing and technology transfer, has brought economic benefits to inventors and further encouraged the continuous progress of technological innovation.

Promoting Technology Transfer and Diffusion

Reducing transaction costs: The clear definition and effective protection of intellectual property rights reduce transaction costs in the process of technology transfer and diffusion, so that innovative achievements can be more smoothly transformed into productive forces.

Accelerate industrial upgrading: Through the licensing and transfer of intellectual property rights, advanced technologies can be quickly disseminated to the industry to promote industrial upgrading and transformation.

Optimizing the Innovation Environment

Improving innovation efficiency: The improvement of the intellectual property protection system has provided a fair and transparent competitive environment for innovation, reduced uncertainty in the innovation process, and improved innovation efficiency.

Attracting innovative resources: A good intellectual property protection environment can attract more innovative resources, including talents, funds and technologies, and provide strong support for technological innovation and industrial upgrading.

Promoting International Cooperation and Exchanges

Promoting technology introduction: Through cross-border protection of intellectual property rights, domestic enterprises can more easily introduce advanced foreign technologies and promote technological exchanges and cooperation.

Improving international competitiveness: Strengthening the protection of intellectual property rights will help enhance the competitiveness of domestic enterprises in the international market and promote the development of industries to a higher level.

Intellectual property protection plays a vital role in promoting technological innovation and industrial upgrading. Strengthening the protection of intellectual property rights can stimulate innovation vitality, promote technology transfer and diffusion, optimize the innovation environment, and promote international cooperation and exchange, so as to promote the sustainable and sound development of the national economy.

Encouraging technological innovation: The United Nations can encourage countries and enterprises to strengthen technological innovation and promote the generation and application of new technologies by providing policy guidance and financial support.

Promoting industrial upgrading: The United Nations should pay attention to the upgrading and transformation of traditional industries, promote the role of intellectual property rights in industrial upgrading, and improve the core competitiveness and

added value of industries.

(5) Strengthening public awareness and participation

Strengthen publicity and education: The United Nations should increase publicity on the protection of intellectual property rights and raise public awareness of the importance of intellectual property rights through various channels and means.

Encourage public participation: The United Nations may establish a public participation mechanism to encourage the public to actively participate in the supervision and management of intellectual property protection and jointly safeguard the legitimate rights and interests of intellectual property rights.

(6) Give full play to the role of international organizations

Strengthening the coordinating role of WIPO: As the body responsible for intellectual property affairs within the United Nations system, WIPO should play a greater coordinating role to promote cooperation and exchanges among countries in the protection of intellectual property rights.

Promoting cooperation among international organizations: The United Nations should encourage other international organizations such as the World Trade Organization (WTO) to strengthen cooperation with WIPO in the protection of intellectual property rights and jointly promote the development of global intellectual property protection.

Giving full play to the role of international organizations in the protection of intellectual property rights is the key to promoting the development of the global intellectual property governance system in a more just and reasonable direction. The following are some specific strategies and suggestions:

Actively participating in the formulation of international intellectual property rules

Using the platforms of international organizations:

Make full use of the important platforms of international organizations such as the World Trade Organization (WTO) and the World Intellectual Property Organization (WIPO) to actively participate in the discussion and formulation of international intellectual property rules.

Through these platforms, China's position and demands on intellectual property protection are expressed, and a more fair, reasonable and effective international

intellectual property rules system is promoted.

Strengthening international cooperation and exchange:

Strengthen cooperation and exchanges with the United States, the European Union and other developed countries and regions, and learn from their advanced experience and practices in intellectual property protection.

At the same time, we should also maintain close communication with developing countries to jointly address challenges and problems in the field of intellectual property rights. Promoting International Cooperation in the Protection of International Intellectual Property Rights

Establish a cooperation mechanism:

Promote the establishment of multilateral or bilateral intellectual property cooperation mechanisms and strengthen cooperation in intellectual property law enforcement, judicial protection and personnel training.

Through these mechanisms, information, resources and experience are shared to improve the overall level of global intellectual property protection.

Strengthening capacity building:

We shall support developing countries in strengthening their capacity building for the protection of intellectual property rights, and provide technical assistance and training support.

To help these countries establish a sound intellectual property protection system and improve their ability to innovate independently and protect intellectual property rights.

Promoting the Settlement of International Intellectual Property Disputes

Establishing a dispute settlement mechanism:

Promote the establishment of an intellectual property dispute settlement mechanism within the framework of international organizations to provide fair and efficient dispute settlement channels for all countries.

Through these mechanisms, conflicts and disputes in the field of intellectual property rights shall be resolved in a timely manner, and the stability and prosperity of the global intellectual property market shall be maintained.

Strengthening law enforcement cooperation:

To strengthen cooperation and coordination in the enforcement of transnational intellectual property rights and jointly combat transnational intellectual property crimes.

To improve the efficiency and effectiveness of law enforcement and protect the legitimate rights and interests of obligees through joint law enforcement operations and information sharing.

Promoting the sharing and exchange of international intellectual property information

Establish an information platform:

Promote international organizations to establish intellectual property information platforms and provide comprehensive, accurate and timely intellectual property information services.

Through these platforms, countries can easily obtain information resources such as laws and regulations, policy documents and case precedents related to intellectual property rights.

Strengthening exchanges and cooperation:

States are encouraged to exchange and cooperate with each other in intellectual property information and share their respective experiences and practices in intellectual property protection.

Through exchanges and cooperation, we will promote the sharing and utilization of global intellectual property information and improve the overall level of global intellectual property protection.

Strengthening the Capacity Building of International Organizations in Intellectual Property Protection

Providing financial support:

We will increase financial support for international organizations to help them strengthen their capacity building in intellectual property protection.

These funds can be used to train talents, improve facilities and carry out research, so as to improve the professionalism and effectiveness of international organizations in the protection of intellectual property rights.

Promoting the reform of international organizations:

Promote international organizations to carry out necessary reforms and innovations to meet the new situation and requirements of global intellectual property protection.

Through reform and innovation, the work efficiency and decision-making level of international organizations shall be improved, and their role in intellectual property protection shall be better played.

To sum up, it requires the joint efforts and cooperation of all countries to give full play to the role of international organizations in the protection of intellectual property rights. By actively participating in the formulation of international intellectual property rules, promoting international cooperation and exchange, strengthening capacity building, promoting the settlement of international intellectual property disputes, and strengthening information sharing and exchange, we can promote the development of the global intellectual property governance system in a more fair and reasonable direction.

Attention to emerging challenges: The United Nations should pay close attention to challenges such as emerging technology fields and cross-border infringement, formulate timely response measures, and ensure the effectiveness and pertinence of intellectual property protection.

Strengthening capacity building: In response to the difficulties and problems of developing countries in the protection of intellectual property rights, the United Nations should provide technical assistance and financial support to help them strengthen their capacity building in the protection of intellectual property rights.

To sum up, strengthening the protection of international intellectual property rights within the framework of the United Nations organizations requires the joint efforts and cooperation of governments, international organizations, enterprises and the public. The implementation of measures such as improving the international legal framework, promoting international cooperation and information sharing, improving law enforcement and judicial protection, promoting technological innovation and industrial upgrading, strengthening public awareness and participation, and giving full play to the role of international organizations can effectively promote the improvement of the

level of global intellectual property protection.

5.5.2 The Status Quo of China's Intellectual Property Protection under the WTO Framework and Suggestions on the Protection Work

Reasons for the Close Relationship between Intellectual Property Protection and the WTO In recent years, the losses caused by intellectual property infringement in global trade have reached \$100 billion a year, and intellectual property trade accounts for a large proportion of trade, mainly referring to copyright industries and copyrighted products. While promoting the development of the world economy and international trade, information technology and network technology have also increased the difficulty of protecting intellectual property rights. Infringement of intellectual property rights shows a trend of high technology, popularization and internationalization, and China hopes to establish fair and equal world multilateral trade rules for the protection of intellectual property rights for the development of its own science, technology, economy and trade.

Impact of WTO Rules on the Protection of Intellectual Property Rights in China:

First of all, the scope of regulation and control of WTO rules has been expanded, and trade-related intellectual property rights have been included in their scope of adjustment, which has legally strengthened the relationship between intellectual property protection and trade. Secondly, the effectiveness of WTO rules is relatively high, which directly binds the domestic legislation, administration and justice of members to protect intellectual property rights, making international protection of intellectual property rights mandatory. Thirdly, WTO rules have formed relatively comprehensive international standards for the protection of intellectual property rights and improved the level of international protection of intellectual property rights. Fourthly, the WTO rules effectively implement the safeguard mechanism and strengthen the international protection of intellectual property rights. Fifthly, the unified multilateral dispute settlement system has further strengthened the international protection of intellectual property rights.

The impact of China's accession to the WTO on the improvement of China's intellectual property protection.

(1) Important factors in foreign trade affect China's intellectual property protection. WTO rules bring trade-related intellectual property rights into their adjustment scope, legally strengthen the relationship between intellectual property rights and trade, link international protection of intellectual property rights directly with international trade, and make the former an important factor affecting the latter. The WTO legal enforcement safeguard mechanism and dispute settlement mechanism have strengthened the international protection of intellectual property rights. The principle of transparency, notification procedures, trade policy review mechanism and trade retaliation undoubtedly make WTO rules have greater binding force on the protection of intellectual property rights and international trade of Members. To this end, our legislative, administrative and judicial organs should formulate and implement effective measures to protect our intellectual property rights.

(2) The enforceability of rights affects the protection of intellectual property rights in China. From the perspective of consumers of intellectual products, intellectual property laws should also be enforceable. As users of intellectual products, the public has the obligation to respect the intellectual property rights of others, and at the same time protect the rights and interests of the public in sharing human knowledge achievements. The line between infringement and fair use should be clear. The United States Copyright Law stipulates that the use of copyright works can be studied from four aspects: the purpose of use, the nature and quantity of the works to be used, and the impact on the sale of copies of copyright works.

(3) Affecting the protection of intellectual property rights in China in terms of law enforcement. WTO rules require Members not only to undertake the obligation to bring their domestic laws, regulations and rules into line with the requirements of the WTO Agreement, but also to undertake the obligation to bring their administrative and judicial procedures for the protection of intellectual property rights into line with the requirements of the WTO Agreement, and to assume full responsibility for ensuring such consistency. First, administrative law enforcement and judicial procedures for the protection of intellectual property rights in China must be standardized in accordance with WTO rules. Second, administrative rules that are inconsistent with WTO rules must be cleaned up, abolished or amended as soon as possible to remove obstacles for administrative law enforcement and judicial compliance with WTO rules. Thirdly,

we must step up efforts to crack down on and sanction all kinds of IPR infringements nationwide.

China's intellectual property protection work under the WTO framework has made remarkable achievements, but it still needs to further improve the legal system, strengthen law enforcement, raise public awareness and strengthen international cooperation to meet new challenges and opportunities. Under the WTO (World Trade Organization) framework, the status quo of intellectual property protection in China has shown a positive trend of development, but it still faces many challenges. The following are the status quo of intellectual property protection in China and suggestions for protection work:

(1) Status quo of intellectual property protection

Improvement of the legal system:

Since China's accession to the WTO, China has formulated and revised a series of laws and regulations related to intellectual property rights, such as the Copyright Law, the Patent Law and the Trademark Law, which provide legal protection for the owners of intellectual property rights.

These laws are not only in line with international standards, but also strengthen the fight against infringement.

Strengthening of law enforcement:

Government departments have stepped up their crackdown on IPR infringements, including banning pirated and counterfeit products, and improved law enforcement efficiency.

An intellectual property rights protection service center has been established to help enterprises solve intellectual property disputes.

Popularization of publicity and education:

Through publicity activities, education and training, the government and relevant institutions have raised the public's awareness of intellectual property rights and enhanced the importance of intellectual property protection.

International cooperation and exchange:

China and other WTO Members have strengthened cooperation in the protection of intellectual property rights and jointly promoted international cooperation and

exchanges in the protection of intellectual property rights.

(2) Challenges Faced

Improvement of standards and requirements:

The standards and requirements of the WTO for the protection of intellectual property rights have been continuously raised, forcing China to strengthen the construction of its legal system and law enforcement capacity.

International query:

As China's intellectual property protection system is still incomplete, some countries have questioned China's intellectual property protection measures.

Infringement trend of high technology, popularization and internationalization:

The development of information technology and network technology has increased the difficulty of protecting intellectual property rights, and infringement has shown a trend of high technology, popularization and internationalization.

Protection work recommendations

Further improving the legal system:

We will intensify efforts to crack down on intellectual property infringement, increase criminal and administrative penalties, and strengthen judicial protection of intellectual property rights.

Continuously improve the national intellectual property law system and create a legal environment for respecting and protecting intellectual property rights.

Strengthening law enforcement and building law enforcement capacity:

Strengthen the training and technical support of judicial departments and law enforcement agencies to improve the efficiency and quality of hearing intellectual property cases.

We will intensify the investigation and punishment of intellectual property infringement to ensure the effective implementation of the law.

Strengthen publicity, education and training:

Through publicity activities, education and training, the public, enterprises and individuals shall enhance their awareness of intellectual property rights and guide them to abide by intellectual property laws and regulations.

Strengthen the training and introduction of intellectual property professionals to

improve the professional level of intellectual property protection.

Strengthening international cooperation and exchange:

Strengthen cooperation with other countries and WTO members to jointly promote international cooperation and exchanges in the protection of intellectual property rights.

Actively participate in the formulation and revision of international intellectual property rules, and strive for more rights and interests for Chinese enterprises.

Establish a special review mechanism:

In order to avoid the loss of independent intellectual property rights, a special review mechanism for intellectual property rights in major economic activities shall be established to ensure the effective protection of intellectual property rights in major economic activities.

Improving relief channels:

Improving the remedies for infringement of intellectual property rights, including negotiation, administrative handling, arbitration and civil litigation, so as to provide multiple options for obligees.

Customs protection shall be strengthened to investigate and deal with infringement of intellectual property rights involving import and export.

Promoting technological innovation and industrial upgrading:

Enterprises are encouraged to increase investment in research and development, promote technological innovation and industrial upgrading, and improve the ability to create and use independent intellectual property rights.

06 Conclusions

Intellectual property protection is an important factor in the development of modern society, especially in the context of economic globalization, the importance of international intellectual property protection has become increasingly prominent. Foreign intellectual property protection systems are widely recognized for their advancement, completeness and effectiveness, and their legal transparency and judicial practice are more mature and systematic than those of other countries. Therefore, it has important reference value for studying the relevant policies and measures of foreign intellectual property protection systems and for the further

improvement of a country's own intellectual property protection system. The protection of intellectual property rights under the framework of the WTO (World Trade Organization) is an important part of the international trade legal system. Its study of international law involves many aspects, including the contents, enforcement mechanism, dispute settlement and the practice of various countries in the protection of intellectual property rights of the TRIPS agreement (the agreement on trade-related intellectual property rights). The following are some major aspects of the study of international law on the protection of intellectual property rights under the WTO framework:

(1) Basic contents of the TRIPS agreement

The TRIPS Agreement is the core agreement on the protection of intellectual property rights under the WTO framework, which stipulates the basic obligations and rights of Members in the protection of intellectual property rights. The scope of intellectual property rights protected by the TRIPS agreement is wide, including copyright, trademark rights, patent rights, trade secrets, origin marks, prohibition of unfair competition, etc. These intellectual property rights are of great significance in international trade and are important means to protect the innovative achievements of enterprises and maintain the order of fair competition in the market.

(2) Implementation Mechanism of the TRIPS Agreement

The enforcement mechanism of the TRIPS agreement includes civil, administrative and criminal procedures. Among them, administrative procedures play an important role in the protection of intellectual property rights, especially in countries with administrative protection traditions such as China. The TRIPS agreement holds a positive attitude of "sublating" the intellectual property administrative protection system, affirming its positive role and setting some restrictions. For example, the TRIPS agreement allows Members to choose independently whether to adopt the administrative protection system for intellectual property rights, but not to choose to apply the customs administrative protection of intellectual property rights. For Members who have a tradition of administrative protection of intellectual property rights, if they abandon this system, they must be restricted by the principle of "not lowering the level of existing protection".

(3) WTO Dispute Settlement Mechanism and TRIPS Agreement Disputes

The WTO dispute settlement mechanism provides an effective platform for members to settle intellectual property disputes. When disputes arise between Members over the protection of intellectual property rights, they may seek fair and reasonable solutions through consultation, mediation, arbitration and other procedures through the WTO dispute settlement mechanism. The dispute settlement procedure of the TRIPS agreement follows the general principles of the WTO dispute settlement mechanism, including transparency, impartiality and efficiency.

(4) Practice of various countries in the protection of intellectual property rights

The practice of intellectual property protection in various countries has its own characteristics, but on the whole, all countries are striving to improve their own intellectual property protection systems to meet the needs of the development of international trade. For example, the intellectual property protection system in the United States is known for its high legal transparency and mature judicial practice; Europe pays attention to the internationalization, consistency and predictability of intellectual property protection; Japan promotes the creation and utilization of intellectual property rights through the association of intellectual property protection mechanisms and scientific and technological innovation policies.

(5) Characteristics and Development of China's Intellectual Property Administrative Protection System

China's intellectual property administrative protection system is an intellectual property protection system with Chinese characteristics. Under the WTO framework, China actively fulfills its obligations under the TRIPS agreement and constantly improves the administrative protection system for intellectual property rights. The administrative protection system of intellectual property rights in China has played a huge role in practice, not only has the administrative department played an important role in the administrative adjudication of civil disputes over intellectual property rights, but also the functions of administrative mediation and administrative investigation cannot be completely replaced by judicial protection. In the future, China's intellectual property administrative protection system can follow the basic path and development mode of "from focusing on administrative processing to focusing on administrative investigation and punishment to focusing on administrative services" to better meet the needs of the development of international trade.

To sum up, the study of international law on the protection of intellectual property rights under the WTO framework is a complex and important field, involving many aspects and levels. Through in-depth study of the contents, implementation mechanism, dispute settlement and the practice of various countries in intellectual property protection of the TRIPS agreement, we can provide strong support for improving the international intellectual property protection system and promoting the healthy development of international trade.

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