

CCG Report

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CPTPP and China's Intellectual Property Rights (IPR)



Abstract

Intellectual Property Rights (IPR) have played an important role in encouraging and protecting innovation in today's economy as well as upholding the economic order and fair competition of the market. Since joining the World Intellectual Property Organization (WIPO) in 1980, China has continued to establish and improve relevant intellectual property laws. A comprehensive IPR legal system has now been established that covers the main IPR issues. In 2019, for the first time, the number of China's PCT international patent applications surpassed that of the US to rank first in the world. China has become a major player in intellectual property. However, with the development of the digital economy and the raising of international IPR standards, there are challenges in China's IPR system. These include how regional protectionism affects the fairness in terms of IPR's law enforcement, the compatibility among various intellectual property rules, discrepancies in comparison with international IPR standards, and the quality of the intellectual property itself.

The state of China's IPR protection has certain impacts on China's participation in regional and globalized economic development. With the development of a regionalized economy, stringent IPR protection standards are a barrier of entry for advanced Free Trade Areas (FTAs). The focus of this report is whether China's IPR protection can align with high-standards enshrined in FTAs, in particular the Comprehensive and Progressive Agreement for Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) that has higher standards than the World Trade Organization (WTO).

This report investigates and analyzes China's IPR protection across three major dimensions. Firstly, the evolution of China's IPR; Secondly, intellectual protection in the digital economy; Thirdly, comparisons between China's intellectual protection and international standards. Following the evaluation of these three dimensions, the feasibility of China's admissibility to the CPTPP will be explored from the IPR perspective.

The CPTPP, previously called the Trans-Pacific Partnership (TPP), is a regional free trade agreement initiated by the United States. Due to its high standards for intellectual property protection and trade, it was once regarded as a threshold set by the United States to exclude China from its trade circle. In 2017, after the United States' withdrawal from the TPP, Japan and other countries pushed for the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), which was announced on Dec. 30, 2018. Following the withdrawal of the United States, China faces a limited window of time within which to join the CPTPP. By comparing the differences between China's IPR law and CPTPP rules, the gap between Chinese and established international regulations becomes clear. If China joins the CPTPP, it will become a member of the largest FTA in the Asia-Pacific region, gaining access to 11 countries' markets and a voice in current multilateral free trade area negotiations. At present, although there is controversy within China's academic circles on whether China should join the CPTPP, the Chinese government has expressed a positive attitude towards joining.

Analyzing the three dimensions above, this paper provides preliminary observations and analysis on the current situation of intellectual property protection in China through an investigation of IT companies and exchanges with relevant legal and academic professionals. According to this research, even though China is a leading power in terms of IPR, the quality of intellectual property, companies' focus on intellectual property, and IPR education and laws still have room for improvement. At the same time, however, research shows that compared to international standards, China's IPR laws and regulations are not lagging far behind. Especially

within the digital economic domain, China's progress in digital economic IPR issues can be seen in business models, technology, and techniques for protecting intellectual property. These include the utilization of blockchain technology to strengthen protection of IPR, the development of business models and its related products in the digital economy, and related developments in the field of IPR which are relatively advanced.

In early 2020, under the pressure of COVID-19, the construction of "New Infrastructure" as a method to restore economic development is incorporated into the national economic policy list. "New infrastructure" focuses not only on maintaining the growth of the digital economy, but also on creating applications of new digital economy and management models and stimulating the commercial use of newly-discovered technologies. Such changes engender challenges for the innovation and protection of intellectual property. It is predominantly manifested in the blurring boundaries of IPR responsibilities and new challenges for relevant anti-monopoly laws. At the Two Sessions in May 2020, the Anti-Monopoly Law and digital economic innovation attracted a lot of attention. Some proposals suggest that the local People's Procuratorates should be given the authority to file public interest cases against illegal anti-monopoly activities, and take the burden of proof off of the small and medium-sized enterprises (SMEs), which are typically in a weaker position.

The findings of this paper suggest that issues related to local protectionism, which affect the fairness of IPR law enforcement, and difficulties for law enforcement are mainly related to factors such as regional economic disparities in China, the level of specialization of local law enforcement personnel, coordination between different agencies, and institutional factors such as the "Two-Track System" adopted by China on IPR, which lead to divergent local interests. In recent years, relevant departments have implemented improvement by setting up IPR courts and reorganizing the functions of the State IPR Office. At present, patent law and other relevant laws are revised to bring China's IPR standards up to international standards. Overall, China's IPR innovation has made great progress, and the level of IPR protection has been improved steadily, but there is still room for further enhancement.

Based on the comparison and analysis of the CPTPP's regulations on IPR, this report holds that although some of China's IPR protection standards fall behind CPTPP standards, the main problems are differences in the definition of certain terms; their implications need to be confirmed. There are also coordination problems between Chinese standards and laws, and some laws and regulations need to be further revised to align with the CPTPP. These problems

will not create serious obstacles for China to join the CPTPP. At the same time, CPTPP member states reduced some IPR provisions as part of the negotiations following the withdrawal of the United States, making compatibility with China's IPR standards easier to achieve.

In conclusion, this report proposes the following suggestions:

1. Embark upon negotiations between China and CPTPP members.

2. Pay attention to the combination of the protection of IPR in China's digital economy and the opening up of the economy. Examples of specific areas include the newly revised Copyright Law and clarity of the legal obligations of Internet service providers so as to strengthen copyright protection capabilities in the digital era. China should learn from the EU's General Data Protection Regulations (GDPR) to innovate and develop data rights in the digital age and protect enterprises' innovation and development.

3. Enhance training of IP-related talent and achieve standardization. This includes the training of IPR workforce candidates in colleges and universities and the standardization of agency IPR qualifications and certifications. At the same time, we should strengthen the supervision of the national standard of "Enterprise IPR Management Regulation", to prevent enterprises from not fully complying with the regulations.

4. Promote the application of IPR protection blockchain technology, management, and R&D. Prevent improper application of blockchain practices that led to counterfeit chains, which can erode trust in blockchain technology.

5. As Chinese technology companies move abroad, China's foreign IPR protection needs improvement. Relevant ministries need to take measures to coordinate and strengthen the protection of China's IPR abroad.

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Part One:

Research Background

During the press conference of “Two Sessions” on May 29, 2020, Premier Li Keqiang indicated that “China remains open-minded on joining the CPTPP,” demonstrating the increased possibility of China to join the CPTPP at the governmental level.

The CPTPP is an Free Trade Agreement (FTA) built upon the “Trans-Pacific Partnership” (TPP) with 11 member states, including Japan, Australia, Canada, New Zealand, Vietnam, Malaysia, Mexico, Peru, Chile, Brunei, and Singapore. Previously a member of the TPP, the United States has announced its withdrawal in 2017. China has remained an open attitude towards joining the TPP and CPTPP. However, China’s labor rights, policies on state-owned enterprises, and the lack of IPR protection have made China’s application to the CPTPP more difficult to succeed, as CPTPP has established rigorous standards of accession which were influenced by both US standards and current trends of international trade.

The CPTPP is one of the largest FTAs signed in the past decade. For China, joining the CPTPP would have significant economic and geopolitical implications. This report will mainly discuss the IPR challenges that China will face during its application to the CPTPP. Before discussing these challenges, it is necessary to review China’s progress and developments on intellectual property protection.

The term “intellectual property” was first coined in the United Kingdom in the 18th century, but had not been widely used until 1967, when the World Intellectual Property Organization (WIPO) was established with the goal of setting up a worldwide universal IPR standard and administrative organization. In fact, the scope of IPR was first defined by the Paris Convention based on the Protection of Industrial Property in 1883, which included patents, copyrights, external designs, and trademarks.

As one of the most important international organizations administrating IPR across the

globe, the WIPO has currently 193 member states. In 1994, the WTO enacted the “Agreement on Trade-Related Aspects of Intellectual Property Rights” (TRIPs), the first multilateral intellectual property agreement covering most aspects of IPR. The WIPO and TRIPs are two pillars of global intellectual property regulation: management and dispute settlement.

The WIPO and TRIPs are double-edged swords. On the one hand, their protection of IPR can promote cultural and technological development; IPR protection has provided incentives, in terms of attracting investments in innovation, rewarding research personnel, and promoting technological and commercial development. On the other hand, countries with an IPR advantage are increasingly relying on intellectual property to consolidate their upstream position in the global value chain. Countries and international organizations that possess more mature IPR standards have obtained profits through paid authorization, transfer, and branding. However, in developing countries with less mature IPR standards, the right to use technology has also been obtained by the transfer of technology, promoting global mobility of such technologies which solves the problem of insufficient investment in scientific research in developing countries.

Meanwhile, with the evolution of the global digital economy, IPR has been an increasingly important factor in determining the strength of economic development in the future. IPR, an integral part of the digital economy, has features of rapid iteration and innovation, and obstructions faced by the development and access to technology due to the so-called “Digital Gap.” In China, whether the business secrets and models under the digital economy could be adequately protected has yet to be clear. In addition, the development of the digital economy has changed how IPR protection works, such as with the implementation of new technologies and blockchain technology. As a result, the interface between the digital economy and IPR will become a new trend of IPR development.

China has started its IPR protection since Reform and Opening-up in 1978, and achieved significant progress in the past 40 years. In addition to matching the regulations on IPR with the Chinese laws, China has also introduced legislation in order to meet the requirements of TRIPs. In recent years, China has endeavored to improve the problem of lack of IPR awareness and infringements upon it. At the same time, IPR protection has also become one of the most significant developments that China contributed for motivating technological innovation. On April 7, 2020, the WIPO announced the 2019 global statistics of the PCT (Patent Cooperation Treaty) system (inventions and practical innovations), the Madrid system (trademarks), and the Hague

system (external designs). For the first time, China's application of the PCT system has led the way globally, surpassing the United States especially in the area of the digital economy¹. However, there are many problems related to IPR protection in China, which include non-uniform standards, incomplete legal execution, and low-quality copyrights. During the revision of laws, there exist conflicts among the departments, which can be attributed to the division of power and discrete standards of examination.

There are increasing gaps between the latest global IPR protection standards and long-established TRIPs standards. During the Doha Round Negotiation of the WTO, IPR was one of the most debated subjects among developing and developed countries. Many countries, especially the western ones, are trying to gain an upper hand by wielding IPR as trade barriers and establishing a new standard of protection to make the best use of this barrier. The TPP which had been led by the United States showed such a tendency. After the withdrawal of the US from the TPP, it had still set a high threshold on the admission of new members in terms of IPR, even though such a standard have become less stringent when TPP was transformed into the CPTPP, which was led predominantly by Japan and Australia. Compared to many countries, the IPR standards of China is more compatible with the CPTPP, but still remains room for improvement. China should use the opportunity to accelerate its iterations on IPR standards, which will help them get admitted to the CPTPP and improve its level of free trade. This will also better foster globalization and free trade, two spectrums that are currently subjected to recent geopolitical uncertainty.

This report will study the possibility of and work that China would need to do to join the CPTPP, with an emphasis on the history and current situation of China's IPR , as well as comparison between China's policies and global practices. It will also pay attention to China's IPR problems in the digital economy as reference for related topics.

¹ China Becomes Top Filer of International Patents in 2019 Amid Robust Growth for WIPO's IP Service, Treatise and Finances, April 7, 2020, https://www.wipo.int/pressroom/en/articles/2020/article_0005.html, Accessed on April, 30. 2020.

Part Two:

Research Focus and Methodology

This report covers three aspects: the evolution of IPR protection in China, the comparison between China's legal standards of IPR protection and international IPR standards, and the protection of IPR in China's digital economy. Through these three dimensions of research, this report aims to provide a general impression of China's IPR, the ways in which laws and regulations work in China. This allows readers to make sensible judgments on the possibility of China entering the CPTPP.

In this report, it is crucial to provide a clear understanding of the CPTPP. Along these lines, we attempt to answer two important questions: what are the potential positive impacts of China's accession to the CPTPP, and what are the challenges that China needs to overcome in order to join the CPTPP. Other than that, this report also elucidates China's development on IPR, including its history of progression, the reason behind the need of China's IPR, the relevant challenges that China are currently facing, and the global impact of China's IPR. Finally, this report will combine the two issues of China's accession to the CPTPP and the protection of IPR to explore the significance and positive impact of China's accession to the CPTPP. In terms of the research methodology, this report studies and analyzes the topic in various ways, including analyzing the existing literature from China and abroad, as well as approaching the topic from multiple perspectives. At the same time, relevant data has been obtained through official channels to reflect the corresponding changes and bolster the arguments of this report. It will also be referencing several expert interviews and seminars held by the Center for China and Globalization (CCG) in recent years, which incorporate the experts' opinion. To express China's determination in improving the protection of IPR, this report analyzes relevant cases to discuss China's enhancement on IPR. To fit with the actual situation and China's national conditions,

this report also analyzes past and current Chinese policies on IPR and cross-border trade.

1. Research Method

The research methodology of this report mainly includes collecting, synthesizing, and analyzing different opinions. Through analyzing the relevant cases and policy frameworks, this report aims to offer reasonable conclusions and suggestions for the readers. The main research methods are as follows:

(1) Literature review

Firstly, to evaluate the argument of China entering into the CPTPP and its intellectual property protection, this report analyzes academic research papers across relevant fields. Academic papers derive from domestic and foreign experts, and cover areas including but not limited to economics, law, public management, and social sciences. Expert opinions represent the research results from the China Academy of Social Sciences, Xiamen University, Shanghai University of Finance and Economics, Sun Yat-sen University of Taiwan, University of British Columbia, Brandeis University, and other well-known academic institutions. Their research provides different perspectives on the topic and some entail critical ideas. This enables this report to consider and understand the problems holistically, allowing it to arrive at more accurate and objective conclusions.

This report does not only analyze academic papers, but also receives valuable support from other official channels. Such channels include: four research reports on intellectual property by the CCG, White paper on IPR from the National Intellectual Property Administration, China Business Climate from the American Chamber of Commerce in the People's Republic of China, and European Business in China from the European Union Chamber of Commerce in China. We have also obtained relevant data from think tanks, government sectors, and foreign companies on the protection of IPR in China in recent years. We have discovered that violations of IPR still exist in recent years, but positive changes have been made. These data directly show the current situation of IPR in China. Also, experts and institutions have provided us with objective feedback on relevant issues, further supporting the opinions from academic

papers, thus adding to the credibility of the conclusions of this paper.

(2) Experts interviews and seminars

Aside from analyzing academic papers and data, we invited experts from various fields to hold seminars and interviews. Experts from the University of International Business and Economics, Renmin University, China Foreign Affairs University, Beijing University of Technology Intellectual Property Institute, Beijing University Technology Science and Technology Innovation Institute, the Chinese Academy of Social Sciences Institute of World Economics and Politics, Beijing Arbitration Commission, Ministry of Commerce of the People's Republic of China, Bureau of Industry Jury Investigation, Embassy of the Republic of Singapore in Beijing, KWM Belt & Road Center for International Cooperation and Facilitation, as well as other universities, government bodies, and organizations. The topics discussed include the impact of China's entrance into the CPTPP, challenges that China has faced, and ways to further improve the intellectual property protection system. During the COVID-19 pandemic, expert interviews also considered the issue of IPR protection in a post-pandemic era. The opinions provided by the aforementioned experts are valuable references for this research and offer a solid foundation for policy recommendations.

(3) Case Analysis

This report discusses how China has improved IPR protection especially foreign companies operating in China. Through analysis of case studies, we can gain a deeper understanding of the progress of China's IPR. The main cases include the litigation by Apple against the Beijing Municipal Intellectual Property Office in 2016, as well as Michael Jordan's litigation against Qiaodan for infringing on trademark rights and appearance patents in 2012.

(4) Analysis of policy framework

For China to enter into the CPTPP and to implement specific policies to protect IPR, it is crucial to address the reality of China and call its actual situation into consideration. Through the investigation and the study of China's specific policies and measures for participating in global trade and protecting IPR since the Reform and Opening-up, this report reflects the current IPR law enforcement in China. At the same time, this report analyzes specific policies in China and the United States on past and current CPTPP issues, and provides relevant suggestions.

2. Three Aspects of the Research

(1) Evolution of Chinese Intellectual Property

Investigating the evolution of China's intellectual property protection will help us to grasp the historical development and deeply understand the influences behind various decisions during the development of China's intellectual property protection. Thus, we can make logical judgements based on these relevant clues.

Protection of IPR in China has made great legal achievements very early on. At the end of the late Qing Dynasty, the first Trademark Law of China was enacted, followed by the Copyright Law during Republic period. However, the awareness of intellectual property protection and law enforcement was insufficient. The PRC, after its creation, was influenced by the socialist countries at the time. As a result, the concept of intellectual property was unclear in China; nevertheless, the PRC still promulgated some laws and regulations on intellectual property, such as “The Provisional Regulations on the Protection of Invention Rights and Patent Rights” and “The Provisional Regulations on Trademark Registration”. After the Reform and Opening-up in 1979, foreign capital, technology, and related products entered China, along with the advent of IPR as a concept. On July 7, 1979, China and the United States signed the “Sino-US Trade Relations Agreement”, which clearly states that “both parties shall, on the basis of mutual benefit, give each other the protection of patent rights, trademark rights and copyright of natural or legal persons of the other party.” Thereafter, China's patent, trademark and copyright system began to develop. China joined the International Intellectual Property Organization in 1980, as well as formulated the Trademark Law in 1982, the Patent Law in 1985, and the Copyright Law in 1990. These laws have been revised two to four times after they were enacted, providing an effective legal basis for the protection of IPR in China.

In addition, following the reform and opening-up, China has acceded to a large number of international intellectual property protection conventions and enacted relatively comprehensive intellectual property laws and regulations. Gan Shaoning, deputy director of the State Intellectual Property Office, indicated at a news conference in November 2019: “at present, China has basically formed a legal system of ‘strict protection’ of IPR.”

From the perspective of enforcing intellectual property protection, a unique “double track” settlement mechanism of intellectual property disputes in both administrative management and civil litigation has been formed, thus enhancing the quality of China’s legal system. After joining the WIPO, China has established its Patent Office. In 1998, the office was renamed the National Intellectual Property Administration (PRC), and had become an institution directly led by the State Council. In 1993, Beijing Intermediate People's Court took the lead in establishing the Intellectual Property Court. In 2014, the Intellectual Property Judicial Tribunal was established in Beijing, Shanghai, and Guangzhou. In 2018, the Supreme People's Court established Intellectual Property Courts, which further improved the judicial quality of the people's courts. In 2018, the National Intellectual Property Administration was reorganized, which expanded the functions of intellectual property administration, and reinforced the standardization of intellectual property administration.

With years of development, China's intellectual property protection has been greatly improved. With China’s rapid economic growth, patent applications are increasing day by day. In 2015, China achieved the milestone of a “double million” in terms of the number of patent applications and valid patent ownership, laying the foundation for China to surpass the United States to become the leading country in PCT patent application in 2019.

(2) Comparison between the Standard of China’s Intellectual Property Protection and Foreign Standards

This dimension will inspect the differences between the Chinese intellectual property standard and international standards thereof, and discuss ways in which to eliminate such differences.

Although China's intellectual property protection started out late, it has been developing rapidly. Its process of development can be mainly divided into three stages. In the first 20 years of reform and opening-up, China has acceded to various international intellectual property protection conventions, and established fundamental laws and regulations corresponding to the international intellectual property system by adopting existing international standards. These conventions include “The Paris Convention for the Protection of Industrial Property”, “The Madrid Agreement on the International Registration of Trademarks”, “The Bern Convention for the Protection of Literary and Artistic Works”, and “The Rome Convention for the Protection of

Performers, Producers of Phonogram and Broadcasting Organizations”. In the second stage, in line with international standards, China obliges itself to upgrade its domestic intellectual property protection system with high-level international intellectual property rules by joining the World Trade Organization (WTO) and TRIPs. The third stage started after 2008: with the increasing number of patent applications and the upgrading of China's industry and commerce, China's intellectual property protection has entered a new height. With the development of digital economy, new formats and models have given birth to various new problems in intellectual property protection. China's have provided a lot of solutions and has gradually become one of the main creators of international intellectual property protection rules. At the same time, however, China is also trying to comprehensive integrate with the international intellectual property system. In 2019, the National Intellectual Property Administration claimed that China was negotiating with the WIPO, with regards to the accession to the Hague Agreement on the “International Registration of Industrial Designs”.

While China has been constantly seeking to enhance its level of integration with the international standards, IPR have become the fortress of Chinese foreign trade and FDI. In the 2010s, with the changing China-US trade relationship, the US had sought to increase standards of IPR during trade negotiations. This aims to secure US' advantage in brand and technology, to maintain its premium advantage in its products. Such aims are clearly shown in the TPP negotiation in which the US participated. Under the TPP negotiation, the US has set extremely high standards in IPR, including prolonged copyright protection periods and exclusive rights to undisclosed data on drugs for 5 years. This poses huge obstacles for Chinese copyright protection and the R&D of generic drugs. On the second day of Trump's presidency, the US declared its withdrawal from the TPP. Under pressure from the Japanese government, the TPP has been transformed into the CPTPP, which has taken effect on January 1, 2019. The CPTPP has eliminated various intellectual property protection clauses from the TPP that the US had pushed forward. Though IPR standards have been somewhat undermined, they still far exceed those of the TRIPs under the WTO. If China aspire to join the CPTPP, the challenges of adhering to the intellectual property provisions is less arduous than that of the TPP. Nevertheless, domestic laws will need to be revised to achieve such a compatibility.

(3) Intellectual Property Protection Issues in the Chinese Digital Economy

The digital economy will alter the global innovation and business landscape, and create new challenges and opportunities for intellectual property protection. Through this lens, we can understand ways in which China could make use of the favorable situation of its current developments in the digital economy to enhance its own intellectual property protection. This allows China to become a participant in developing international standards.

The Chinese digital economy has achieved significant growth in the past few years. In 2018, the Chinese digital economy comprised 34.8% of total GDP, with its growth of around 11.2%, notably higher than the GDP growth during the same period. This contributed to a GDP growth of 6.7%; the overall market of China's digital economy is ranked No.2 in the world. In the context of the COVID-19 pandemic, online education and remote work have developed rapidly. With the expanding 5G networks in China, the proportion of digital economy as a percentage of China's national economy will also be increased rapidly.

The rapid development of the digital economy has provided both challenges and opportunities for Chinese intellectual property protection. The intellectual property of the digital economy has shown the following characteristics: first, technological innovation in the digital economy is fast-paced in relative to traditional industries, and the former usually two to three years, or even a few months. This shortens the practical applications of related patents; second, the digital economy generates numerous new formats, models, and products, requiring extremely high skills in identifying these products and sounding judgements; third, the application format of intellectual property in the digital economy is complicated, as the relationship among obliges is hard to clarify, and the distribution of benefits is difficult.

The Chinese digital economy has encompassed world-leading commercial models and applications, offering numerous numbers of cases and practices, as well as advanced experiences and ideas for legal workers and managers. These are all opportunities for intellectual property protection. As a result, the IPR practices in China's digital economy have achieved a leading level. This puts China in a better position to help crafting rules of IPR during the era of digital economy.

Part Three:

Analysis on the Three Dimensions of Investigation

In this chapter, this report will review, analyze, and summarize the three analytical dimensions discussed in the previous chapter: the current state of IPR in China, the comparison between Chinese and foreign IPR standards, and the protection of Chinese IPR under digital economic development.

1. The current situation of China's IPR Protection

(1) China is now a country with well-developed IPR protection standards.

Due to China's rapid economic development, applications of Chinese IPR across various fields have increased dramatically. The number of patent applications in China has increased rapidly, with the number of patent applications for inventions reaching 1 million in 2010 and 1.542 million in 2018, ranking first in the world for 8 consecutive years. In 2018, the number of Chinese trademark applications has reached 7.371 million, ranking first in the world for 17 consecutive years. Moreover, within the registration of copyrights, the number of computer software copyright applications has reached 47%, with a yearly growth rate at up to 48.22%. There is also significant growth in terms of the number of registrations and applications for geographical indications and the right to new plant varieties.

In this context, Chinese IPR have obtained remarkable achievements, bringing significant

benefits to the national economy. In 2018, the value added in patent-intensive industries reached 10.7 trillion RMB in China, contributing to 11.6% of national GDP in that year. Total imports and exports of IPR royalties increased nearly fivefold from \$8.5 billion in 2007 to \$41 billion in 2019.

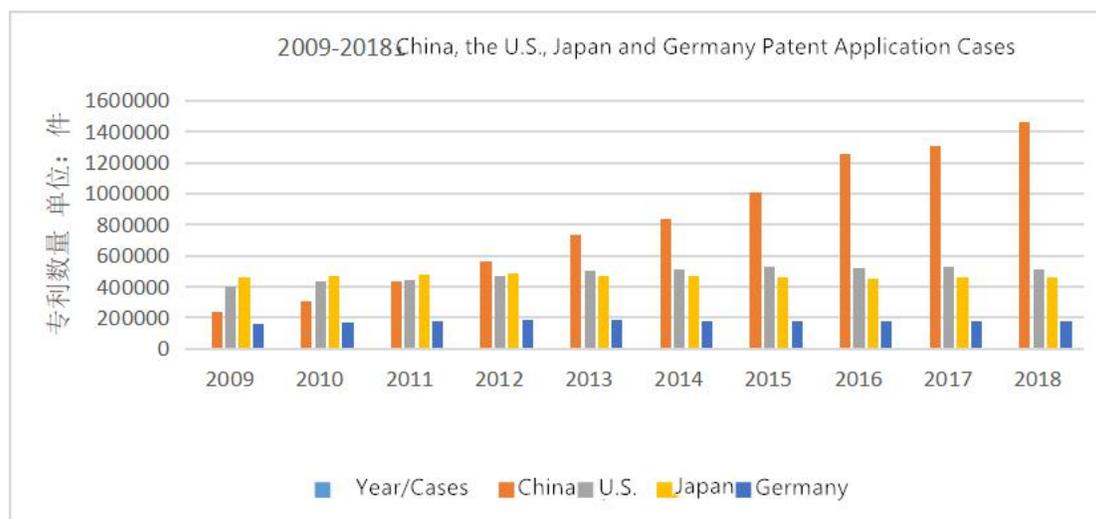


Figure: 2009-2018; Comparison on Patent Application Cases of China, the US, Japan and Germany

Source: CCG summary based on the data published by the National Intellectual Property Administration, PRC

In summary, three phenomena are noteworthy:

A. As the application and registration of IPR has increased dramatically, disputes over IPR have also increased accordingly, and the cases of IPR protection have also largely increased.

B. China has entered a partial leadership position in the innovation of IPR, leading continuous development over the innovation of IPR protection, especially in the digital economy. Some employees from digital technology firms have told CCG that China has already surpassed many other countries in the innovation of IPR in the field of Artificial Intelligence (AI) and vertical applications. These are manifested by the breakthrough in the confirmation and exercise of IPR, solving many new problems in the above areas.

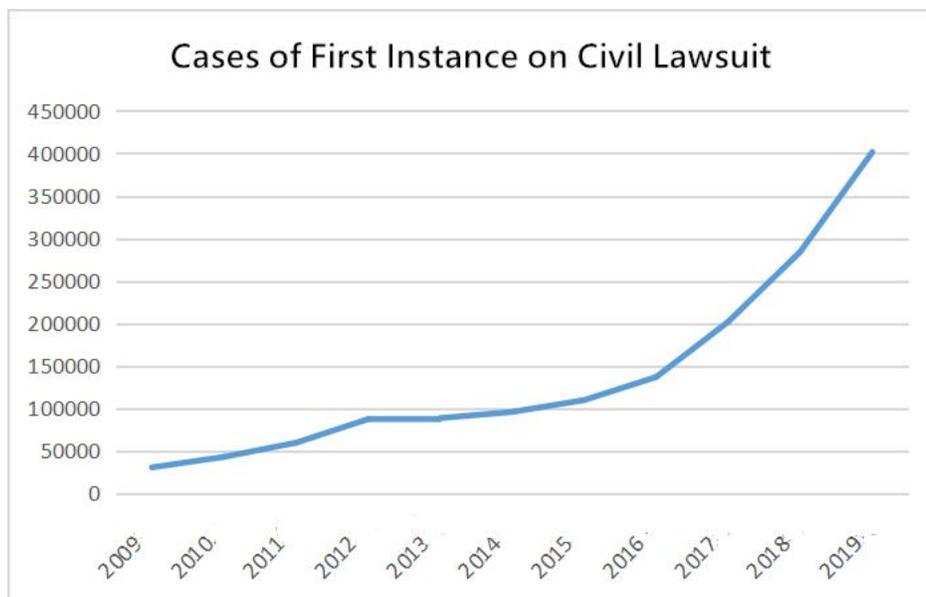


Figure 2: 2009-2019 Increasing of Cases of First Instance on Civil Lawsuit

Source: CCG summary based on the data published by the Supreme People's Court, PRC

A. The level of IPR protection has enhanced gradually in China, but there are still challenges in terms of its quality, talent, and law enforcement. These are shown in three aspects:

First, the standards of law enforcement are not always consistent. China uses an IPR protection system called the “two-track system”, or “dual system”, which goes through both administrative law enforcement and civil litigation to adjudicate violations of IPR. The main body of the administrative law enforcement is mainly the State Intellectual Property Rights Office and the local IPR bureaus, as well as a number of administrative subjects with IPR law enforcement functions. As a result, the main bodies of law enforcement are too diverse. For example, cases of trademark violations and counterfeiting infringements are investigated by the administrative departments of industry and commerce at various levels, and infringements and piracy are investigated by the State Copyright Administration. The existence of multiple law enforcement entities leads to inconsistent standards in handling infringement cases and penalties, engendering divergent interests among the various administrative law enforcement subjects and the people's courts.

In the wake of the reorganization of the National Intellectual Property Administration in 2018, the system formulation and organization of IPR such as trademarks, patents, geographical

indications of origin, and design of integrated circuit maps have been organized and guided by the State Administration of Market Supervision and Administration. Following this reorganization, the administrative enforcement in of patents and trademarks has been concentrated to a certain extent, but the overall IPR administration has existed a multi-channel management. For example, the power of law enforcement over copyright disputes is still in the hands of the National Copyright Administration, while the power of law enforcement over new plant varieties is still in the hands of the Ministry of Agricultural and Rural Affairs and National Forestry and Grassland Administration.

Secondly, the issue of local protectionism has become more prominent. It is manifested in the local people's courts in dealing with civil disputes, where local courts are often affected by various local external factors, influencing the fairness of the judgment. This leads to the failure to execute the judgements by the people's court, reducing the authority thereof. Nevertheless, since the establishment of the three IPR courts in Beijing, Shanghai and Guangdong, the issue has been solved to some extent. An IPR lawyer told investigators that when a client encounters a more important IPR issue, their law firm generally recommends or encourages the clients to litigate in the intellectual property court or in a middle-level court in a developed region, because judges in these places are highly competent which can eschew the effects of local protectionism. On January 1, 2019, the IPR Court of the Supreme People's Court was inaugurated. The second trial of IPR litigation will be handled mainly by the IPR Court of the Supreme People's Court. For design patents, the second instance of civil litigation cases is still tried by the upper court of the court of the first instance, but the second instance of administrative litigation cases is tried by the IPR court.

Thirdly, the quality of IPR protection personnel requires further improvement. With respect to evidence collection, confirmation, and adjudication, law enforcers need to equip themselves with a high level of professional knowledge and in-depth understanding of the nature of relevant intellectual property laws and regulations. These problems manifested in the case of Shenzhen Baili Marketing Service Co., Ltd. and Beijing Zhongfu Telecommunication Equipment Co., Ltd lawsuit (Apple v. Beijing Intellectual Property Office).

Case Study 1: Shenzhen Baili and Beijing Zhongfu Lawsuit

In late 2014, Shenzhen Baili Co., Ltd. made a request to Beijing Intellectual Property Office

to handle the patent infringement on the design appearance of the iPhone 6 and iPhone 6 Plus mobile phones, which were intended to be sold by Beijing Zhongfu Telecom Equipment Co., Ltd. (an Apple Shanghai company sales agent) and its subordinate stores. Therefore, the former requested a cessation of sales and sales-related activities.

On May 10, 2016, following the hearing, Beijing Intellectual Property Bureau issued “The Decision on Handling Patent Infringement Disputes”, maintaining that there was no significant difference between the infringing products and the associated patents. According to the patent law, Beijing Intellectual Property Office ordered Apple Shanghai to stop sales and Zhongfu company to stop promising sales of its infringing products.

Apple Shanghai company and Zhongfu company refused to accept the decision and filed a lawsuit in the Beijing Intellectual Property Court. The court ruled its first instance on March 24, 2017, rejecting the claim of the plaintiff (Apple Shanghai). Apple Shanghai refused to accept the judgment and appealed to the Beijing Higher People's court. In 2018, the Beijing Higher People's Court concluded that, compared with the patent design involved in the case, “there are substantial differences in the overall visual effect between the accused infringing design and the patent design involved, which does not constitute the same or similar to the patent design involved in the case.” The court finally decided to overturn the Beijing Intellectual Property Office's “Decision on handling Patent Infringement Disputes”.

In the judgment, the Beijing Supreme People's court held that: “it is a procedural violation for the court of first instance to hear whether the civil claim for confirmation of non-infringement put forward by Apple Shanghai company exceeds its scope of authority.” In addition, the judgment also held that there was no legal basis for Beijing Intellectual Property Bureau to add Apple Shanghai company as the co-respondent, which the judgement considered it as an improper action.

This case shows that for specific technology, the administrative law enforcement capabilities in dealing with intellectual property rights needs to be improved, and the boundaries of administrative law enforcement need to be more reasonably defined.

In the process of implementing the “two track system”, different enterprises choose between the administrative law enforcement and civil law enforcement depending on their situation. Some middle and small enterprises choose civil law enforcement due to higher executive efficiency and faster turnaround time. In 2017, the National Intellectual Property

Administration set up a number of intellectual property protection centers nationwide, and the efficiency of administrative law enforcement was further improved. Normally, civil litigation is less efficient but has more uniform trial standards. After the establishment of the intellectual property court, the rulings will be more impartial. During the survey, Tencent Cloud told CCG that the dispute resolution channels for intellectual property civil litigation are rather optimal. With the establishment of various domestic professional judicial institutions (intellectual property courts and intellectual property tribunals), there exists a more professional, fair and efficient solution to intellectual property disputes, and various law firms often recommend the use of civil litigation for foreign enterprises. Due to the problem of civil case compensation following the administrative law enforcement, civil proceedings are often triggered. To reduce uncertainties in dispute settlement, a large number of enterprises prefer civil litigation over administrative law enforcement. In 2019, about 95% of the infringement disputes were settled through civil litigation channels.

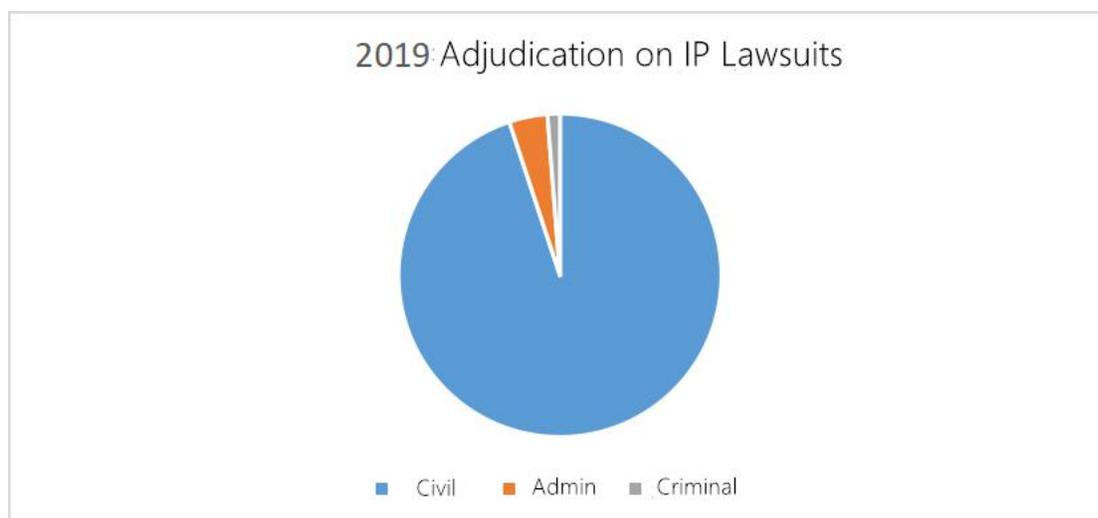


Figure 3: Most lawsuits regarding IP infringement were settled through civil adjudication.

Source: CCG summary based on the data published by the Supreme People’s Court, PRC

Fourthly, the quality of Chinese patents requires improvement. In 2019, there were 1.023 million invention-related nationwide applications, 1.981 million utility model patent applications, and 0.744 million design patent applications. Invention patents associated with significant technological progress only comprised 27.3% of the total number of patents. A large number of granted utility model and design patents were abandoned in a short period of time. According to a survey conducted jointly by Bloomberg and JZMC, a patent and trademark law firm, about

91% of China's design patents and 61% of utility model patents were abandoned within five years of authorization in 2018.² A person in the intellectual property law circle told CCG that the number of high-quality patents granted in China will not exceed 50% of the total number of patents at present.

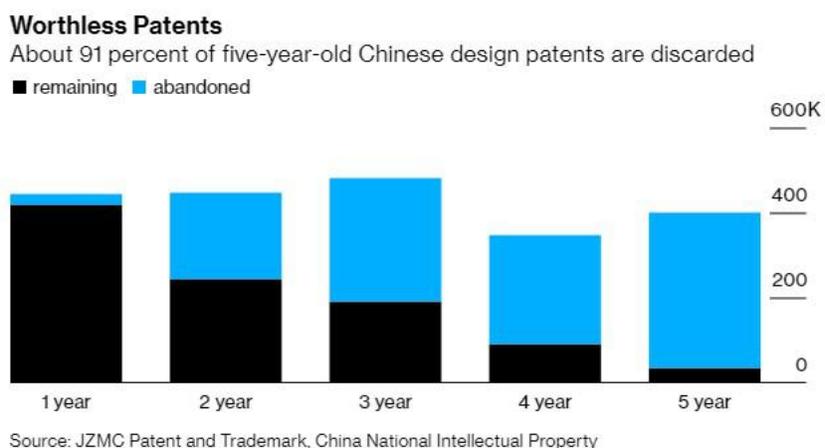


Figure 4: around 91% of China's design patents were abandoned within five years of being granted

Source: Bloomberg

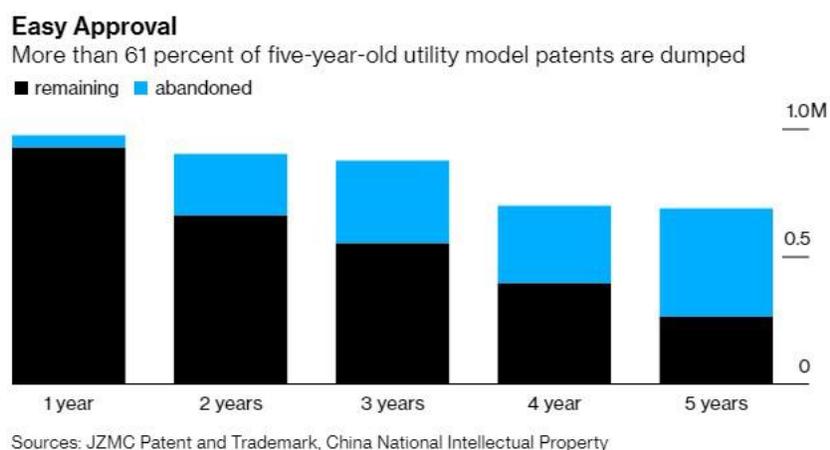


Figure 5: 61% of utility model patents were abandoned within five years of being granted

Source: Bloomberg

Fifthly, there still exist problems in the protection of IPR of foreign-invested companies and

² "China Claims More Patents Than Any Country -- Most are Worthless", <https://www.bloomberg.com/news/articles/2018-09-26/china-claims-more-patents-than-any-country-most-are-worthless>, 2020.4.26

multinational companies in China. The Special 301 report in 2019 issued by the office of the United States Trade Representative (USTR) accused China of lacking determination in the protection and enforcement of IPR, which is mainly manifested in the following ways: 1) in terms of trade secret protection, it is not clear whether it helps the creditors to obtain relief in time. Given that the legal standards are different, the infringement on business secrets by government agencies cannot be effectively regulated; 2) in trademark and copyright, China has a large number of counterfeit products, and the phenomenon of e-commerce infringement and piracy is serious. It is necessary to improve the speed of removal of infringing goods and avoid repeated infringements; 3) the standard of higher than "reasonable doubt" is adopted for transferring administrative cases to criminal cases, making it difficult to prevent infringement; 4) the report is concerned with China's use of anti-monopoly laws to force foreign patent holders to license at a lower rate; 5) excessive reliance on trademark classification has unreasonably limited and narrowed the scope of trademark protection, and imposed unreasonable restrictions.

Some US statements are exaggerated and fail to commensurate with some apparent facts, but some of those accusations are not groundless. In the course of the investigation, some foreign-invested companies and institutions told the CCG that China's intellectual property protection is yet to be sufficiently enforced, even following the judgment of the courts. Foreign-invested SMEs in China have been particularly affected. These problems are mainly attributed to local protectionism, inconsistent law enforcement standards and professional capabilities of the judicial departments to handle litigation and infringement cases, as well as the weak feasibility of laws and regulations. They all have relatively negative impacts on the business environment in China.

Case Study 2: Michael Jordan v. Qiaodan

On October 31, 2012, American basketball star Michael Jordan filed an application with the Trademark Review and Adjudication Board of the former State Administration for Industry and Commerce, asking for the elimination of the trademark of "Jordan and its pictures" (i.e. "Jordan" and pictures similar to Michael Jordan) of Qiaodan Co., Ltd. The dispute involves several products of the Jordan company, which had been registered and approved as early as March 21, 2001. On April 14, 2014, the Trademark Review and Adjudication Board made the decision to uphold the disputed trademark. Michael Jordan refused to accept the verdict and filed an administrative lawsuit with Beijing First Intermediate People's Court (court of first instance) and

requested an overturn of the ruling. In October 2014, the court of first instance dismissed Michael Jordan's appeal. Michael Jordan then appealed to the Beijing Higher People's Court (court of second instance). On 27 July 2015, the court of second instance ruled that Michael Jordan had insufficient evidence. During the appeal period, the National Intellectual Property Administration also expressed its support for the first and second instance courts' ruling of a "rejection" of Michael Jordan's appeal..

During the period of appeal, Qiaodan filed a counter-claim with the Quanzhou Intermediate People's Court of Fujian Province in April 2014, accusing Michael Jordan of infringing on Qiaodan's rights. However, because the General Principles of the Civil Law stated in the indictment do not apply due to Jordan's American citizenship, he does not have qualifying grounds for litigation. The case ultimately ended in smoke.

Michael Jordan refused to accept the decision of the second trial and continued with an appeal to the Supreme People's Court at the end of 2015. On December 8, 2016, the Supreme People's court announced the result of the ruling, under which the trademark "Jordan" should be revoked. According to the "Administrative Judgment" issued by the Supreme People's Court on March 26, 2020, the administrative judgment of the court of first instance and the court of second instance should be revoked. Also, the ruling of the Trademark Review and Adjudication Board of the former State Administration for Industry and Commerce on the trademark dispute of "Jordan and its pictures" should be revoked, and the National Intellectual Property Administration should make a new ruling.

The core of the case of Michael Jordan v. Qiaodan demonstrates that the relevant trademark used by Qiaodan infringes the portrait and naming rights of Michael Jordan and his family. Since Qiaodan used Chinese for the word "Jordan (乔丹)" and Chinese pinyin "QIAODAN" and "qiaodan" when registering the relevant trademarks, a relevant connection with Michael Jordan's English name is one of the focal points in this case. At the same time, the degree to which the figure used by Qiaodan resembles Michael Jordan, and whether it infringes on the portrait rights of Michael Jordan also needs to be confirmed by legal institutions. Finally, the Supreme People's court held that there were issues with establishing certain facts and the application of law in the rulings in the first and second instance. The Supreme Court especially pointed out that "the registration of the disputed trademark has damaged the prior naming and portrait right claimed by the retrial applicant (i.e. Michael Jordan), which violates Article 31 of the trademark law that 'the application for trademark registration shall not infringe upon the prior

rights of others.” The final ruling effectively protects the rights of foreign trademarks in China, further portraying a positive image of Chinese courts of being open, transparent, and fair. This case, which has undergone many appeals and "cases in the case", has a landmark significance for China's IPR in recent years.

Finally, despite the basic realization of the national IPR strategy, there has been a serious shortage of talent in various fields of intellectual property. At an intellectual property research conference held by the CCG on April 14, 2020, academics and legal professionals told CCG researchers that the intellectual property standards of Chinese patent agencies and enterprise intellectual property management personnel is not high, though the number of patent applications has increased dramatically. A large number of applications and authorizations in turn exacerbated the problem of talent shortages and poor professional standards. Curriculums at colleges and universities has lacked the normalization and standardization for IPR management and processes. In addition, although the number of applications for patents ranks first in the world, it fails to correspond with the actual extent of innovation.

In addition, the budget and degree of focus of each SME in the field of intellectual property is not high. The high cost of IPR protection and the dearth of professionals are the main reasons why SMEs are unwilling to set up an intellectual property strategy. Meanwhile, state-owned enterprises generally have lacked the drive towards innovation.

In 2008, the State Council of China issued the “Outline of National Intellectual Property Strategy”, which proposed to turn China into a country with a high level of intellectual property creation, application, protection and management. Shen Changyu, director of the National Intellectual Property Administration, claimed in April 2020 that this goal was “basically achieved”, and that the 2035 intellectual property strategy would be formulated. However, at the enterprise level, a large number of SMEs lack a clear intellectual property strategy, and a large number of enterprises (especially small enterprises) intentionally infringe to obtain short-term benefits. It is very difficult to deal with such enterprise infringement. An intellectual property lawyer told the CCG that the number of infringement cases is very high, and that the compensation based on the flat-rate method can only cover the litigation costs. At present, relevant domestic laws are establishing legal provisions containing punitive damages, in the hopes of raising the infringement costs to the enterprises.

(2) Evaluation of IP Protection by Foreign Chambers of Commerce in China

The survey data on multinational enterprises shows that the confidence of multinational enterprises in China's intellectual property protection system is growing, which reflects China's efforts in establishing the intellectual property protection system. American Chamber of Commerce in China and the EU Chamber of Commerce in China independently released "China Business Climate Survey Report" and "European Business in China: Business Confidence Survey". These are reports concerning the business environment for multinational firms in China, including various research on IPR protection.

Figure 6 shows the attitude of the American Chamber of Commerce member companies in China towards risks of intellectual property leaks and IT/data security threats. The data demonstrates that in comparison with other markets, the proportion of enterprises indicated "lower" or "similar" risks of intellectual property leaks and IT/data security threats in China has been increasing year by year. However, the proportion of enterprises which convinced that such risks and threats are greater in China has been gradually decreasing. Especially in 2019, companies with the impression that the Chinese market has greater risks of intellectual property leaks and IT/data security threats than other countries have significantly decreased to 44%. Before 2019, the proportion had always been greater than 50%. In October 2018, Chinese Premier Li Keqiang, during the China-Netherlands Economic and Trade Forum, claimed: "China will strengthen intellectual property protection with greater efforts, which is also the requirement of China's own economic transformation and upgrading." Later in 2019, with the release of the "Foreign Investment Act" and other IPR protection policies and regulations, departments of market analysis emphasize the protection of IPR, safeguarding legal rights and interests of multinational firms in China.

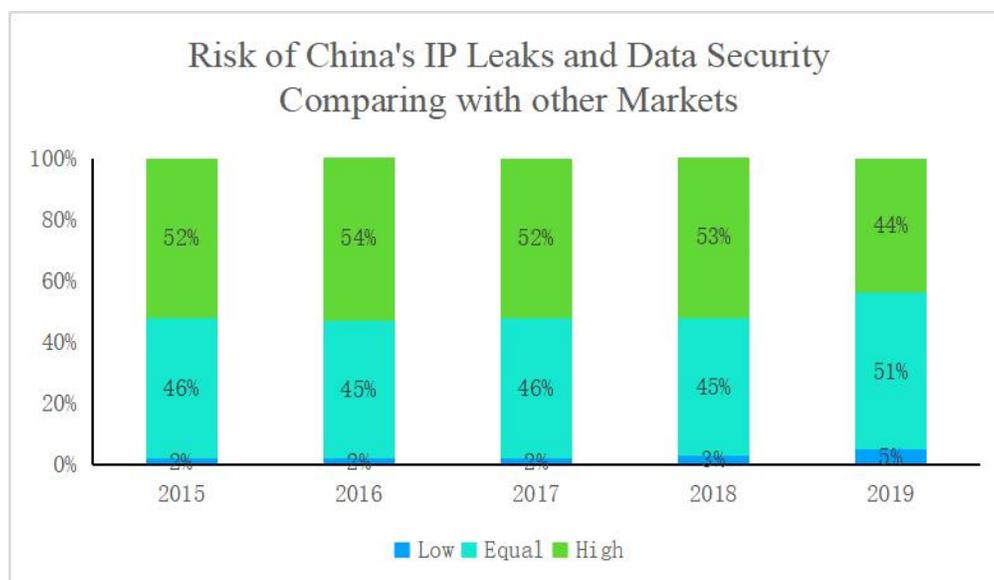


Figure 6: Risk of China's IP Leaks and Data Security Compared with other Markets (2015-2019)

Source: AmCham China : 2020 Business Climate Survey³

American multinational corporations have also expressed their attitudes towards the enforcement of IPR in China. Figure 7 shows a fall in the proportion of enterprises that felt IPR protection had worsened in each year from 2015 to 2019. Comparing data between 2018 and 2019, it can be found that in the latter, the proportion of enterprises hold a conviction that China's IPR protection law enforcement has made progress has increased significantly, witnessing a 10% increase than in 2018. In 2019, the General Office of the State Council of China issued the "Opinions on Strengthening the Protection of IPR", which clearly put forward the requirements for strengthening the enforcement of intellectual property protection law, such as "effectively implementing the punitive compensation system", "strengthening the enforcement measures of cases", and "strengthening the supervision and inspection of the execution of cases off site." Law enforcement concerning IPR protection regulations is a crucial link as to whether the regulation can impact the stakeholders. Therefore, progress seen in China's enforcement strongly enhance the confidence of multinational corporations to invest and operate in China.

³ AmCham China: 2020 Business Climate Survey, <https://www.amchamchina.org/policy-advocacy/business-climate-survey/>, 2020年3月14日

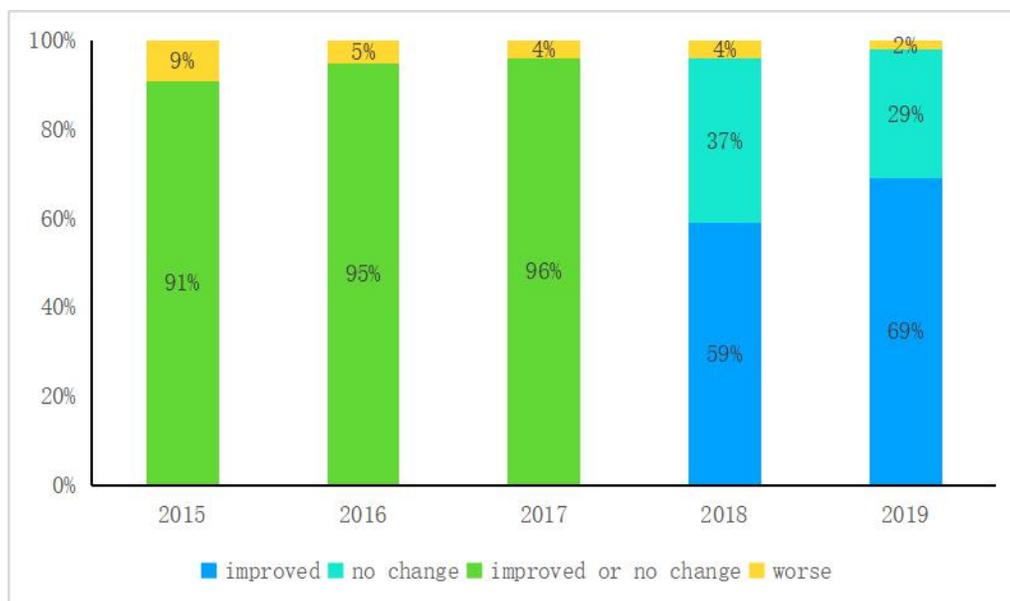


Figure 7: Evaluating China's IPR Law Enforcement in the past 5 Years

Source: AmChamChina: 2020 Business Survey

In addition to the judicial level, the effectiveness of laws and regulations is also an important part of improving China's IPR protection system. Figure 8 shows that among the enterprises interviewed by the European Chamber of Commerce in China, the proportion of enterprises which thinks that China's laws and regulations on IPR protection are very effective or appropriate has increased on a yearly basis, which is greater than 60%. In recent years, China has continuously improved the laws and regulations on IPR protection, making the legal provisions more targeted according to the market requirements. Such measures commensurate with the actual needs of multinational enterprises, effectively solving the practical difficulties encountered by multinational enterprises in China.

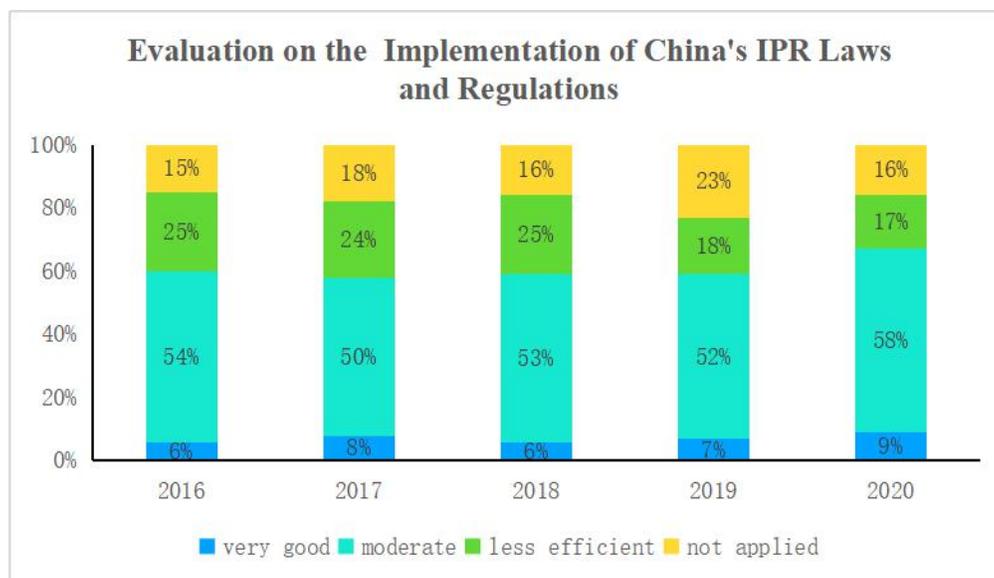


Figure 8: Evaluation of the Implementation of China's IPR Laws and Regulations

Source: the European Union Chamber of Commerce in China, Roland Berger: *EUCCC Business Confidence Survey 2020*⁴

At the enterprise level, the number of foreign enterprises that have suffered from intellectual property infringements in China has also been decreasing. As shown in Figure 9, more than 60% of multinational enterprises have claimed that they have not suffered from intellectual property infringement in China. It is noteworthy that the enterprises that chose “frequent” or “a few” in a certain year will not choose “never” in the subsequent years. Theoretically, even if there are no new intellectual property infringement cases, the proportion of those that chose “never” would not increase. However, this proportion actually increase in 2019, which may be attributed to the increase of sample sizes in 2019 and 2020, and among the newly added enterprises, the vast majority of enterprises have not suffered from intellectual property infringements in China.

⁴ Roland Berger: EUCCC Business Confidence Survey 2020, <https://www.rolandberger.com/zh/Publications/%e4%b8%ad%e5%9b%bd%e6%ac%a7%e7%9b%9f%e5%95%86%e4%bc%9a%e5%95%86%e4%b8%9a%e4%bf%a1%e5%bf%83%e8%b0%83%e6%9f%a52020.html?country=null>

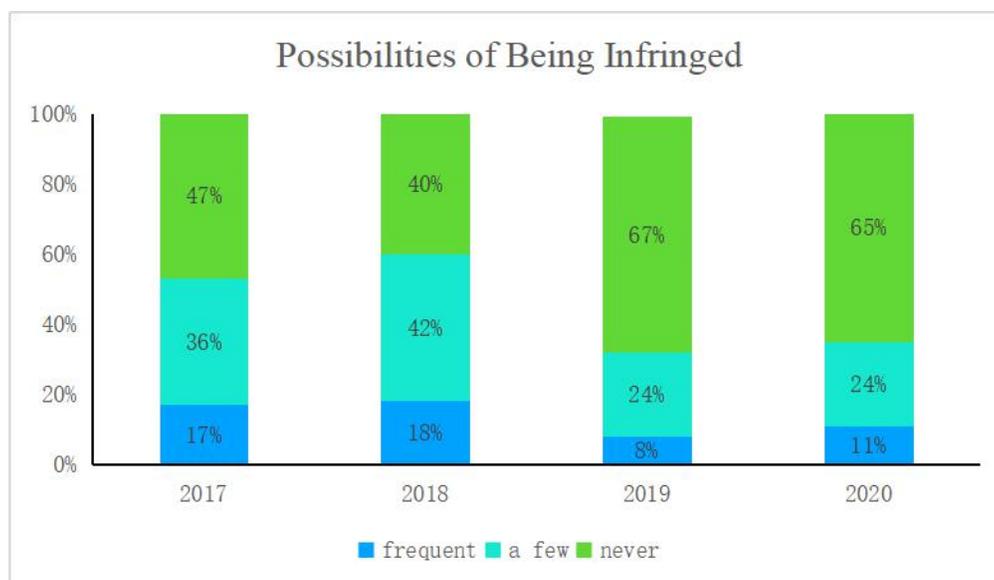


Figure 9: Enterprises' Possibilities of Being Infringed

Source: Roland Berger: *EUCCC Business Confidence Survey 2020*

Among the cases of IPR infringement, compulsory technology transfer or forced technology transfer are rather common cases. As figure 5 has shown, among the enterprise members of the American Chamber of Commerce in China, the proportion of enterprises that are not forced to transfer technology to maintain market access increases year by year, exceeding 80% in the past three years. The Foreign Investment Law issued by the Chinese government in 2019 clearly states that “no administrative organ or staff member may force the transfer of technology by administrative means.” Despite implemented until 2020, it still influenced related personnel when handling cases, reducing the possibility of compulsory technology transfer.

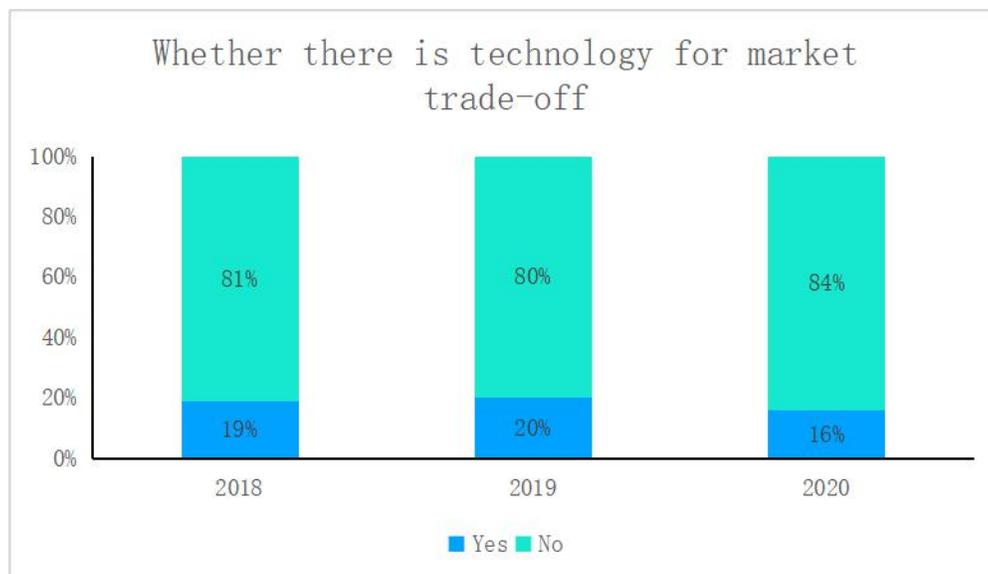


Figure 10: Rates of technology for market trade-off for surveyed enterprises

Source: Roland Berger: *EUCCC Business Confidence Survey 2020*

Technology transfer for technology and other R&D intensive industries has been a source of concern in some countries in terms of whether China can threaten their security. According to figure 11, in 2019, only 1% of enterprises claimed that there are more sharing of technology and specialized knowledge with Chinese customers compared to other overseas jurisdictions. China has always maintained its open market attitude, supporting domestic R&D and technology exchange by legal means. The conditions of technological exchanges is determined by various investors based on fair and equal principles.

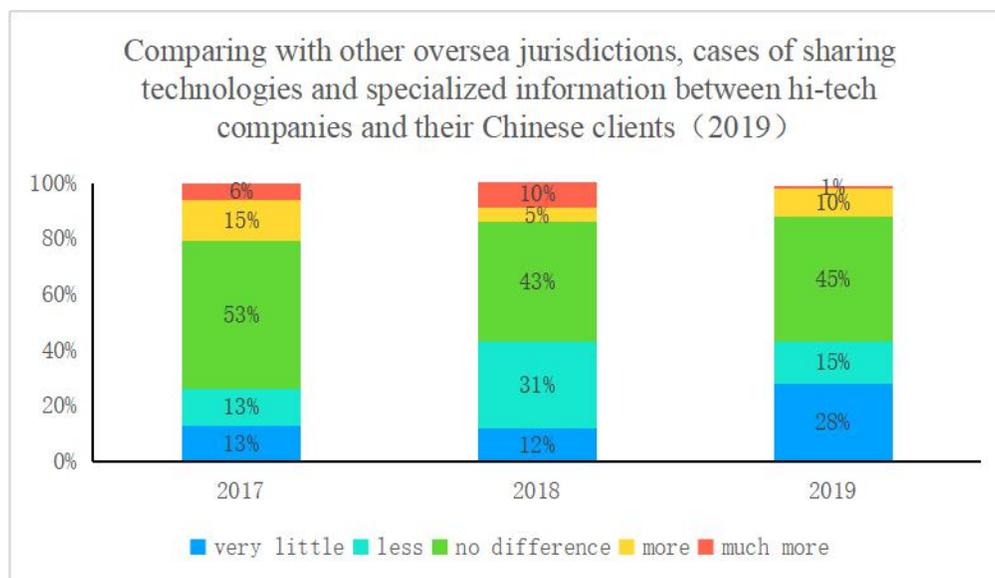


Figure 11: Compared with other overseas jurisdictions, cases of sharing technologies and specialized information between hi-tech companies and their Chinese clients (2019)

Source: AmCham China: *2020 Business Survey*

2. China's IPR Protection in the field of the digital economy: lead and gap

The digital economy comprised 35% of Chinese economy in 2019 and is expected to reach 50% by 2030. While China is becoming a major player in terms of size of its digital economy, the IPR protection in this area faces new challenges. Nonetheless, there are already new solutions and innovations. These details as follows::

1. Intellectual property in the digital economy is facing unprecedented problems, such as rapid iteration, high degree of specialization, and difficulty with obtaining evidence. Generally, patent authorization can take as long as 20 years, but the innovation cycles for large technology enterprises globally is shorter than 10 years, and the iteration cycle for computer software is usually around three to five years. In TPP negotiations, the United States aimed to further extend the protection period of some of its patents. In the survey, some enterprises claimed that the IPR protection duration in the digital economy is too long to encourage innovation.

Tencent Cloud told CCG researchers that with new business and technology advances, current laws are lagging behind when dealing with related disputes. New business

communication models include but not limited to the use of short video, VR, live broadcasts, whilst new technologies include not limited to various big data technologies, cloud computing, and AI. The issues of IPR protection raised in the context of the new technology landscape imposes greater challenges, such as the intellectual property ownership of AI content and the unfair competition in cloud gaming. Certain IPR protection issues in the digital economy can be solved legally, such as copyright protection of codes and the patent protection for related technical solutions.

With the rapid development of digital technology, the protection of IPR is mainly achieved by revising the Guidelines for Patent Examination. The Intellectual Property Office of the PRC has revised the patent examination guidelines multiple times to qualify for the innovation and development of digital technology as intellectual property. For example, the latest revision since 2020 has focused on internet and AI standards. The revision mainly expanded the patent examination within the computer field, in Chapter 9 of the examination guide. The reviewed benchmarks considered the following four aspects: internet, AI, blockchain and big data.

2. Protection of IPR in the field of commerce and commercial secrets has become a concern in the society. Trade secrets and business methods related to technology have been included in the scope of IPR in the “General Provisions of Civil Law”, which was implemented on April 1, 2017. In the process of digital economy development, China's business model has experienced a change from a “Copy to China” to a “Copy from China” approach. Due to China's own development of infrastructure, the Chinese economy has set up a strong base. This base supports the rise of a digital economy-oriented consumer culture, with the growth of commercial mediums, such as short videos and sales through live streaming. Nevertheless, patent protection concerning business secrets and business models also emphasize the link with technological innovation.

360 Finance said in the CCG survey that the United States has the most commercial methods patents, whilst Japan and Germany have relatively strict controls. In recent years, with the rapid development of the digital economy, China aim to break through the traditional industry-based patent protection system. On December 31, 2019, the National Intellectual Property Administration issued a revision of the “Patent Examination Guidelines”. Following the case study method, the revision lists that AI algorithms for specific technical problems, such as applications for bicycle sharing , and communication methods using blockchain nodes, are all capable of becoming the subjects of IPR protection. In recent years, the government's

intellectual property system breakthroughs, whether it be the graphical user interface (GUI) patent protection in the open design patent, or the revision of the business methods patent examination system, are consistent with the large number of new IPR needs arising in the process of industrial, economic, and digital development. The industry has widely recognized these changes. In internet commerce and finance, it is necessary to integrate more scientific and technological innovation related to AI algorithms to solve the technical problems in specific scenarios, so as to meet the requirements of the current patent examination system and obtain authorization. It reflects the innovation potential of financial technology and the strategic pattern of core intellectual property protection.

3. Innovations using digital technology to protect IPR have been promoted. In the field of e-commerce, necessary measures should be taken by e-commerce platforms and network service providers according to the provisions of the “Electronic Commerce Law” and “Tort Liability Law”. On the basis of this authorization, Alibaba integrates a set of algorithmic technology systems through its accumulated e-commerce data and experience, which is dubbed the “IP protection technology brain”, to deal with trademark infringement on its e-commerce platform.

Blockchain technology has become a new phenomenon in the protection of IPR. In terms of laws and regulations. On January 10, 2019, the Office of Central Cyberspace Affairs Commission issued the “Management Regulations on Blockchain Information Service” with “Order No. 3 from the Office of Central Cyberspace Affairs Commission”, which will be implemented on February 15, 2019. In September 2018, the Supreme People's Court issued “The Provisions of the Supreme People's Court on Several Issues concerning the Trial of Cases by Internet Courts”, which recognized blockchain as a technical means to underpin the authenticity of electronic data. Subsequently, the Supreme People's Court issued technical guidelines for the use of blockchain technology in civil law enforcement to standardize its application. In July 2019, Tencent cloud launched “Zhixin chain” based on blockchain technology to protect the copyright of the creators of its content platform. When CCG conducted a survey on Jingdong, the latter claimed that it had joined the alliance chain of China's Copyright Protection Center. It utilizes the DCI system and blockchain technology to quickly confirm the rights of the original works of the company and platform merchants. Through information sharing of each node in the alliance chain, the effective recording and traceability of information is achieved, which facilitates confirmation and evidence collection of IPR and effective maintenance. The IPR of all users are protected.

4. A new challenge to intellectual property protection is in the area of “new infrastructure”. The concept of “new infrastructure” was first mentioned in a Central Economic Working Conference in December, 2018. Later this concept was written into the “Government Work Report” in 2019. The executive meeting of the State Council and the Standing Committee of the Political Bureau of the CPC Central Committee made extensive arrangements for work related to this area from January to April 2020. On April 20, 2020, the National Development and Reform Commission Press Conference for the first time officially affirmed the basic scope of the “new infrastructure”, detailed in Table 1 as follows:

Table 1: Specific categories of “new infrastructure”

Information Infrastructure	Telecommunication Infrastructure	5G, IOT, Industrial Internet
	New Tech Infrastructure	AI, Cloud Computing, Blockchain
	Computational Infrastructure	Power Data Center, Intelligent Computing Center
Combination Infrastructure	Intelligent Transportation Infrastructure	Smart Traffic Regulation, Management and Control
	Smart Energy Infrastructure	Smart Grid and Charging Pile
Innovation Infrastructure	Important Technology Infrastructure	Large-scale and Complicated R&D Device/System
	Scientific Educational Infrastructure	Innovative and Coordinating Application R&D Platform
	Industrial Technology New Infrastructure	Lab, R&D Center, and Industrial Park

Sources: Public data compiled by CCG

The new infrastructure will greatly encourage the development of the Chinese digital economy and accelerate the transformation of industrial digitization. However, this also introduces three new challenges for IPR, which will be detailed as follows:

First, new infrastructure will accelerate the emergence of new technology, applications, and management models within the digital economy, therefore leading to ambiguous IPR definitions and ill-defined tort liabilities. For example, some digital products (i.e. 5G smartphones) greatly

increase the number of IPR subjects across hardware and software. A single digital product might include several different IPR subjects, such as software design, ports, data, and application modes. This increases the difficulty in judging infringements, and thereby requires consideration during revisions to the law, increasing the need for pragmatism. There are similar problems in the issue of copyright, as it is difficult to define and deal with the copyright of internet articles, pictures, and videos.

Second, the conflicts between intellectual property management and anti-monopoly laws & regulations have intensified. This appears in both domestic and foreign settings. While new technologies and models continue to develop, the market has shown a trend towards oligopoly. In various vertical fields, only a small number of head manufacturers occupy the main market share, leading to a more monopolistic environment. The controversies over Yewen group in April 2020 show that it is difficult to protect copyrights and related rights, as well as interests of creators under monopolistic conditions. Therefore, it is necessary to further enhance the coordination between intellectual property laws, including patent law, and domestic laws (such as anti-monopoly laws).

On this issue, there are some inconsistencies between intellectual property and anti-monopoly laws. The essential nature of IPR is civil rights and private rights. Although it has public welfare objectives, its main and most direct purpose is to support private interests. The antitrust law is mainly a public law and is concerned with the society in terms of achieving public welfare. At present, the official attitude is that when someone exercises their IPR beyond the legal scope conflicting with the overall goals of society, which is achieved by anti-monopoly laws through protecting competition, the anti-monopoly laws should be applied preferentially in order to impose necessary restrictions on the exercise of IPR.

Third, the conflict between the US and China over the IPR in the digital economy has deteriorated. The United States believes that there are a larger number of digital infringements and compulsory technology transfers in China. These views have been summarized above. It is noteworthy that these views have actually undermined bilateral business relations, with some notable cases listed below in table 2:

Table 2: Some Lawsuits Sued by American Companies to China (2010-2019)

Year	Case	Exact Contradictory Point
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2010	Taobao platform commodity infringement case	USTR accuses Taobao Platform of selling counterfeit goods
2011	Novatel v. ZTE for patent infringement	ZTE has infringed on 5 patents on Novatel MiFi's mobile hotspot devices
2012	InterDigital v. ZTE and Huawei	Novatel sues ZTE and Huawei for infringing on its wireless communication patent
2013	Hua Rui and American Superconductor Dispute	Hua Rui infringes on the copyrights of American Superconductor's software and commercial secrets
2015	Tsinghua Ziguang's acquisition of Meguang	Tsinghua Ziguang has the intention to purchase Meiguang, which is blocked by the US government
2016	Under Armour sues Chinese enterprises for infringing trademark	Under Armour sues a Chinese brand named Uncle Martian for infringing on its trademark
2017	Intel v. ZTE for patent infringement	Intel sues ZTE for infringement of 4G mobile terminal patent
2018	LLC sues many Chinese LED enterprises	LLC applies to launch "337 investigations" into many Chinese LED corporations, accusing Chinese enterprises of infringing on the patent
2019	Dareltech sues Dji of infringing patent	Dareltech sues Dji for intentional infringement of patent rights

Source: Zhou Nianli and Li Yunhao: Divergence, Upgrade and Strategy between China and the US on the Issue of Digital Intellectual Property Protection

As the US election year approaches, the issue of IPR in Sino-US economic and trade relations may lead to disputes and even conflicting measures, which cannot be solved in a short period of time. As such, China needs to join the CPTPP under which the US is absent.

Facing the first two problems, the CCG, after communicating with related personnel in intellectual property, is convinced that the solutions require the following approach: at first, the state needs to push for high-quality law revisions, implementing the protection of new technology. In terms of the overall system, the government needs to be more flexible, and judicial interpretations must meet the practical developmental needs. Moreover, the state should

promote standardization, including the centralization of adjudication and adjudication power, and the unification of adjudication and judgement standards in various fields. According to the announcement of the State Administration of Market Supervision on the *Revised Draft of the Anti-Monopoly Law (Draft for Public Opinions)* drafted on January 2, 2020, the draft confirms some concepts and practices in the digital economy through legislation. As for whether the IPR holders have a dominant market position, according to the relevant Interim Provisions, the revised draft of the anti-monopoly law confirms some concepts and practices in the digital economy through legislation. The relevant cases are readjusted and regulated to adapt to the characteristics of intellectual property protection in the current digital economy era. During the “Two Sessions” in May 2020, some relevant representatives have submitted proposals on the implementation of anti-monopoly laws for the digital economy. The relevant reforms include the introduction of the inversion rule for the burden of proof and the anti-monopoly public interest litigation system. The former displaces the burden of proof towards the operators of SMEs who are in a weak position, while the latter endows the People's Procuratorates at all levels, with the power to file public interest litigation against illegal anti-monopoly behavior, thus changing the mode of intervention by the general public under the anti-monopoly law. This is a new phenomenon in the discussions around amending the anti-monopoly law. In recent years, the trademark and patent laws have been amended, and the e-commerce law implemented at the beginning of 2019 has made greater strides to safeguard the rights of intellectual property owners. Relevant measures include increasing punishments and providing convenient ways for one's confirming rights.

China is in a leading position in the protection of IPR in the digital economy, and has been innovating with new models and formats. The improvement in the level of protection of IPR in the digital economy in China is more in line with international standards, safeguarding China's interests in international IPR. This is of great practical significance for China with respect to joining the CPTPP in the future. China's leading position in IPR in the digital economy is also supportive of enhancing China's intellectual property protection standards, providing contributions to eliminate the structural contradictions in intellectual property issues between China and the United States under the digital economy.

Part Four: the CPTPP and China's IPR

1. The History of the CPTPP

The full name of CPTPP is the "Comprehensive and Progressive Trans-Pacific Partnership." Its predecessor, the Trans-Pacific Partnership (TPP), was first launched in 2002 by New Zealand, Singapore, Chile, and Brunei, with the United States joining the negotiations in 2009. By the time the negotiations were completed in 2015, 12 countries, including those in the Pan-Pacific region, had joined. The United States led the negotiations and proposed much stricter standards than those of the WTO in terms of labor rights, IPR, as well as environmental standards, enabling the TPP to be considered a high standard FTA. Yet, the TPP agreement was put on hold after some U.S. politicians, including the former U.S. secretary of state and 2016 Democratic presidential candidate Hillary Clinton, argued that the U.S. had too much responsibility and offered too much. On January 20, 2017, Donald Trump, in the first day of his presidency, had announced that the United States would withdraw from the TPP.

In November 2017, the 11 members of the TPP, with the exception of the United States, agreed to rename the TPP as the CPTPP and restart negotiations, which would be led predominantly by Japan. The negotiations were completed in March 2018, and the CPTPP came into effect on December 30, 2018. The CPTPP's IPR provisions have changed compared to previous TPP provisions, but still represent higher standards than those of the TRIP. The partnership covers a population of more than 500 million people and 13.4% of the world's GDP⁵. In terms of the overall GDP, the CPTPP is the world's third-largest free trade area after the USMCA (formerly NAFTA) and the European Common Market. Its standard of IPR protection is also in a leading position in the world.

2. How Will Joining the CPTPP Influence China?

⁵ TPP 2.0: The Deal Without the US, April 24, 2020, <https://thediplomat.com/2018/02/tpp-2-0-the-deal-without-the-us/>

Joining the CPTPP can result in multiple positive effects on China. Joining the CPTPP can promote China's trade liberalization and implementations in the future. At the same time, the CPTPP provides a good platform for China to promote the "Belt and Road" initiative in addition to the construction of a community with a shared vision for the future of humankind, and it is also a new opportunity for China's future development. After China joined the WTO, GDP has increased eight-fold from 2001 to 2017. The CPTPP is also a multilateral trade cooperation agreement similar to the WTO, despite the former having higher entry requirements for certain standards, such as those relating to the promotion of trade in services and free trade. China's trade in the tertiary industry now accounts for approximately 60% of its total GDP. A large number of e-commerce and software service companies, including Alibaba, need to establish connections with the global market. The CPTPP can better protect the performance of Chinese companies under international rules. However, there are some reservations about China's accession to the CPTPP, and this report takes into account the challenges China will encounter in the process of joining the CPTPP. The second section of the fourth part of this research discusses related issues based on the opinions of experts from various fields concerning the impact of China's accession to the CPTPP and the challenges China faces in its accession to the CPTPP. The impact of joining CPTPP to China is mainly in the following two aspects:

(1) International Relations

From the perspective of international relations, joining the CPTPP will help China resolve trade frictions with some countries and enable China to better integrate into the world's multilateral trading system. This report categorizes the benefits of joining the CPTPP for international relations into several types:

A. Joining the CPTPP can solve some of the China-US economic and trade issues. The CCG Chairman Dr. Wang Huiyao believes that since the CPTPP regulations involve trade liberalization, environmental protection, labor standards, state-owned enterprise reforms, intellectual property requirements, and other issues, there are many points of convergence with the American public's concerns with China. Joining the CPTPP will reduce trade frictions and increase consensus between China and the United States. The CPTPP trade framework can also hedge against the negative impact of the Sino-US trade war to a certain extent. Specifically, it can improve China's intellectual property standards. Intellectual property disputes between

China and the United States are core issues in the bilateral trade relations. China's improvement of intellectual property standards will help alleviating this problem, reducing U.S.' accusations against China of involving in the so-called "forced technology transfer." Some experts and scholars from the CCG exchanged views with members of the U.S. Congress on this issue in a series of activities during the "Track II Diplomacy", which was held in the United States in September 2018. The lawmakers also believe that China can join the CPTPP to show a positive attitude towards opening up. Kent Calder, former special assistant to the U.S. ambassador to Japan and director of the East Asian Studies Center at Johns Hopkins University, Craig Allen, President of the US-China Business Council, and Rick Larsen, chairman of the US-China Working Group and Democratic Representative, expressed the hope that China will consider the possibility of joining the TPP; if China joins or at least gestures towards joining the TPP, the image of a more open China will be strengthened. Because the TPP upholds higher standards in trade services and intellectual property protection, and because China has also reached this stage of development, China's measures for joining the TPP will signal China's aspirations to improve its authenticity and credibility. Thus, the United States will also perceive China as a more open market, which can contribute to advancing Sino-US negotiations. Although the United States later withdrew from the TPP negotiations and Sino-US relations have regressed, China's continued participation in the CPTPP with an open attitude can still be regarded as a gesture that China has made towards the United States to improve bilateral trade.

There is a broad and deep foundation of common interest between China and the United States. Under the spirit of the United States expressing its support for the Asia-Pacific Free Trade Area (FTAAP), the initiative to join the CPTPP is conducive to the establishment of FTAAP and a more comprehensive regional economic arrangement. Although the Trump administration withdrew from the TPP, he also stated that it needs what he believes in a "fairer" trade arrangement. If China joins the CPTPP and strengthens dialogues with CPTPP member states, it can connect the original TPP with the substance of the Regional Comprehensive Economic Partnership (RCEP) agreement. As such, it can attract the United States to jointly promote the establishment of FTAAP, enhancing broader trade and investment collaboration. This is crucial to achieving inclusive development and further integration into the world trading system.

B. From the perspective of the relationship between China and other TPP member states, many TPP member states had, according to CCG's past surveys, actively supported China's accession to the TPP after US' withdrawal, during which the TPP had not yet been renamed

CPTPP. China's active participation in the TPP can fill the gap that United States' withdrawal caused, increase the proportion of the TPP's total economy in the world, and enhance TPP's influence. Also, China can also improve international relations through economic diplomacy. Australia, Japan, and other member countries have contributed a lot of experience in the TPP, and have always aimed to coordinate and promote economic and trade development among regions. In the face of the sudden withdrawal of the United States, the opinions of other member states have become more complicated. Some countries still hope to rebuild a TPP with U.S. participation, but more countries have begun to focus on the important role China plays in economic and trade activities in the Asia-Pacific region. Japanese Prime Minister Shinzo Abe and Australian Prime Minister Turnbull (2015-2018) have all publicly stated that they are open to China's accession to the TPP, believing that the participation of China and other Asian countries can help reassert the TPP.

C. From the perspective of Asian integration, the Trump administration intends to establish FTAs in East Asia and other regions and exclude China, though China's active participation in the CPTPP can improve the relationship between Northeast Asian and Southeast Asian countries and advance its "Belt and Road" Initiative. China's role in the world has attracted much attention and expectation, and by actively joining the CPTPP, China can further demonstrate its determination to build a global open economy and promote common prosperity. In the interview with Professor Tu Xinquan, Dean of the China-WTO Research Institute at the University of International Business and Economics, he said: "A very important feature of the U.S. government today is that it is not akin to multilateral or regional, or any supranational dispute settlement mechanism." Therefore, the United States is somewhat unhappy to see a free trade agreement that is beneficial to regional integration. Some TPP member states, such as South Korea, are China's major economic partners and neighboring states, and the parties have common interests in strengthening mutual relations. In the event that the United States provokes conflicts in Asia, China should use an economic-focused diplomacy to actively improve relations with various countries in Northeast Asia and Southeast Asia, and strengthen mutual trust and cooperation through the basis of common cultural and economic interests. Through participating in the CPTPP, China can strengthen its relations with the Philippines, Indonesia, and other Southeast Asian countries (the surrounding countries of the South China Sea). In addition, it can also improve its relations with South Korea and Japan, strengthen cooperation with these countries, which will foster the cohesion of Asian regional culture and promote greater Asian integration.

In 2017, the CCG released the report: "China's Diplomacy Enters a New Direction, and it may consider joining CPTPP." It was the first attempt to conduct systematic research on the TPP and subsequent CPTPP in China. The report indicated that: "China's economic development has built the foundation for the implementation of economic diplomacy, and joining TPP can be an important starting point for this strategy...it should seize the opportunity to join TPP as soon as possible." After three years, the international political, economic, and diplomatic landscape has undergone drastic changes, but the CCG report's conclusion on China's participation in the TPP and the positive significance of the CPTPP remains convincing.

(2) Economic Development and Opening-Up

The CPTPP currently includes 11 member states, with a total economic output accounting for 13.2% of the global sum, and a total trade volume accounting for 15% of the global sum. It is currently the largest trade agreement in the Asia-Pacific region. If China joins the CPTPP, it will increase its share of the global economy to more than 30%, enabling it to become one of the largest FTAs in the world. At present, it is noteworthy that China is still a developing country, but that the development after 40 years of Reform and Opening-up has been surmountable, emerging into the world's second-largest economy more than ten years after China's accession to the WTO. When considering the CPTPP agreement, it is also necessary to break away from the dualistic thinking in terms of "developed countries vs. developing countries," but to consider the positive and negative impacts on China's actual economic development, improvements on productivity, and optimal allocation of resources.

A. China needs new multilateral trade agreements to continue to increase openness and free trade.

President Xi Jinping mentioned on multiple occasions that China insists on opening up. For example, at the 2018 Bo'ao Forum for Asia Annual Conference, he claimed that "China's door to opening up will not be closed, but will only open wider"; he made another speech at the celebration of the 40th anniversary of Reform and Opening-up, indicating that "[China] must insist on increasing the level of opening up and consistently building a community with a shared future for the mankind." It has been 19 years since China joined the WTO, and China has already surpassed the market size of a typical developing country and the expectations on economic output. However, according to the World Bank's standard based on per capita GDP, China has yet to be a developed country. Such a special positioning requires China to

participate in, while concomitantly making reservations and amendments to, the trade rules under organizations or agreements in which China participates.

The WTO is currently facing various difficulties. In the past decade or so, with the increased divergence between developing countries and developed countries and the lack of progress in the Doha Round negotiations, the WTO entered a period of stagnation. In the face of the impasse in WTO negotiations after Trump came into power, the United States adopted a negative attitude, gradually abandoning multilateral negotiations and relying on bilateral negotiations to solve economic and trade issues. Trump has also often threatened to withdraw from the WTO. In addition, the existing dispute settlement mechanism faces serious challenges. In the face of the new global economic situation in recent years, the WTO has failed to catch up effectively. It ignores the rapidly developing digital economy in the world today. Because it only focuses on traditional trade issues, such as the trade of goods and tariffs, it has not been able to incorporate emerging topics, such as information and digitization, into its framework. Therefore, in addition to the WTO, China needs to participate in other multilateral trade agreements to adapt to the current economic situation, allowing the country to continue its opening up and development.

B. Joining the CPTPP is conducive to Chinese companies engaging in global competition and the "going out" of the service industries.

Since joining the WTO, China's total GDP has steadily grown and now ranks second in the world. Data in 2019 shows a nearly tenfold growth compared to 2001 when it joined the WTO. If China maintains its accustomed attitude and conditions of opening up, it will be unable to protect the development of its own economy and enterprises. On the contrary, the principle of reciprocity will restrict the development of competitive Chinese enterprises overseas. Promoting competition and allowing Chinese companies to participate in more international competition provides the opportunity for Chinese companies to further develop.

In the past 40 years since the launch of reform and opening-up, China's service industry has made considerable progress. After prolonged years of development, the added value of China's service industry accounted for 51.6% of GDP in 2017, and its contribution to economic growth was 58.8%. It is estimated that by 2025, China will, on the basis of optimizing structure, improving quality, and improving efficiency, increase the added value of its service industry up to 60% of its GDP. The CPTPP agreement, which focuses on the protection of IPR and trade of

services, is consistent with China's continuously improving service industry, e-commerce, information technology, and other advantageous industries. It can also effectively guarantee the development and rights of China's service industry. In the future, the service industry will account for a higher proportion of China's GDP, especially under the influence of the epidemic, requiring more technical services to implement remote working. A number of internationally competitive e-commerce and information technology companies have emerged in China, such as Huawei, ZTE, Xiaomi, Alibaba, Tencent, Lenovo, Meituan, and JD.com. Due to geopolitical changes in the external environment, countries including New Zealand, Australia, and Japan are considering "blocking" and "banning" sales of China's Huawei products and ByteDance's overseas product Tik Tok. Actively joining and participating in the CPTPP will support a larger share of foreign market for China, thereby establishing a fair, free, and broad global market for Chinese companies to operate in, and provide them with more opportunities to develop the service industry in these countries.

In addition, the "E-commerce" chapter of the CPTPP provides extensive protection for data created through digital trade, which can provide tremendous help and support for China's service industry to "go abroad." By 2016, the productivity benefits of digital trade will create economic value for the Chinese economy at an estimated 3.2 trillion yuan (\$466 billion U.S. dollars). By 2030, this number may increase more than 11 times, reaching 37 trillion yuan (5.5 trillion U.S. dollars). Digital exports are China's second-largest export commodity today, and are likely to continue growing. The total value of exports of virtual goods and services facilitated by the digital economy (such as e-commerce) is 1.6 trillion yuan (\$236 billion U.S. dollars), making it China's second-largest export industry. In fact, more than 80% of the value is driven by digitally supported products, mainly influenced by exports. By 2030, the value of digital support exports is expected to increase by 207% from current levels, reaching 5 trillion yuan (726 billion U.S. dollars). At the same time, the CPTPP also has provisions in the "Government Procurement" chapter that include open government procurement contracts for foreign bidders, which is also highly compatible with efforts by China to hold the International Import Expo. Such efforts have promoted the development of China as an open world economy.

3. The Challenges China Faces in Joining the CPTPP

Under the current situation, most experts and scholars in political and academic circles believe that China's entry into the CPTPP will pose three major challenges: state-owned enterprises, labor rights, and IPR.

(1) State-Owned Enterprises

The main challenge for state-owned enterprises lies in the difference in the positioning between China and CPTPP member states. China's general understanding of state-owned enterprises is based on the Chinese model, which has always emphasized that state-owned enterprises operate in accordance with market regulations. In the interview with Professor Tu Xinquan of the University of International Business and Economics, he said that China opposes the so-called "discrimination of ownership" and cannot discriminate against an enterprise in the formulation of market regulations on the basis of it being a state-owned enterprise. Therefore, China proposes the concept of neutral ownership at the moment. However, most of the existing international regulations, including those set by the CPTPP, do not advocate ownership neutrality and still consider state-owned enterprises as special entities, which restricts their operation and affects the treatments from the government. When China considers joining the CPTPP, it is difficult to anticipate the extent to which its member states will be receptive to the idea of neutral ownership.

To be more specific, the CPTPP's regulations for state-owned enterprises are not excessively strict; in terms of the business consideration criteria and non-commercial assistance provisions, current Chinese laws generally align with CPTPP's regulations. Business consideration criteria have already existed in WTO rules, and China clearly committed state-owned enterprises to conducting business in accordance with commercial considerations mentioned in the WTO. Decision-making and non-commercial assistance are also mentioned by the WTO. When China entered the WTO, it promised that subsidies for state-owned enterprises would be restricted, but not be prohibited. The more controversial aspect is whether state-owned enterprises should be treated as government entities or public institutions. In the past, the WTO had not provided a clear definition of public institutions; yet, in the countervailing cases of various countries, state-owned enterprises were basically regarded as public institutions. Therefore, although the CPTPP does not completely prohibit the establishment of state-owned enterprises, it has formulated special rules for them. Whether China can accept these special

rules, and whether it recognizes that state-owned enterprises can only exist in the case of market failure, is an issue to further consider upon. Of course, among the CPTPP member states, Vietnam and Malaysia also have many state-owned enterprises, and the list of exceptions allowed by the CPTPP is excessive. Many state-owned enterprises are not restricted, leaving room for further negotiation.

(2) Labor Rights

CPTPP's labor rights standards emphasize labor rights, including freedom of association and collective bargaining, the abolition of forced or compulsory labor, the prohibition of child labor, as well as the elimination of employment and occupational discrimination. At present, China has ratified four core international labor conventions that cover the latter two fundamental labor rights but has not yet ratified the four international labor conventions covering the first two fundamental rights. China's labor law has been gradually improved in recent years, and the labor situation has been greatly improved. Also, there are related laws in the country to protect labor rights, but there are still some differences with the CPTPP standards.

In addition, the increase in trade frictions is also a concern for labor rights. Among the current trade frictions, lawsuits initiated by foreign countries (especially the United States) against China are mainly related to three topics: anti-dumping, anti-monopoly, and intellectual property. After joining CPTPP, labor rights will become another reason to initiate litigation against China. In the course of trade, China's products may face more trade disputes for its failure to comply with the relevant labor rights clauses, which may hinder (China's) free trade (with other member-states).

(3) Intellectual Property

CPTPP has lowered the requirements of intellectual property rules and has not adopted the excessively high standard requirements for intellectual property as in the TPP. In total, 11 TPP intellectual property standards have been shelved. This makes it more feasible for China's IPR standards to align with CPTPP standards. Cui Fan, professor at the School of International Trade of the University of International Business and Economics, said that many of the CPTPP

provisions are not unattainable for China, and there are room for improvement. For example, smell and sound can be trademarked. Of course, developed countries will have better domestic law experiences than China in this spectrum, yet China is capable of making improvements therein. For example, geographical indications can be protected as trademarks. In China, the management of geographical indications is carried out by the Department of Science and Technology of the Trademark Office, the former Quality Supervision Bureau, and the Ministry of Agriculture. The use of different procedural systems on the same matter means relevant arbitration agencies and departments have difficulties in adjudicating cases. By adopting high-standard international rules and accepting unified standardization in this regard if possible, it will help to reform China's intellectual property system.

On the whole, the TPP standards retained in the CPTPP are worth researching in China. These are realms that China's intellectual property protection laws and regulations need to be connected with. There are three main points: 1) compared with TRIPs, the scope of intellectual property objects has expanded; 2) the protection standards for IPR have been clarified, and the content of IPR has been expanded; 3) strict law enforcement procedures and legal responsibilities.

The comparison between China's intellectual property protection standards and CPTPP standards will be discussed in detail in Section 5 of this part.

4. Literature Review

Academics generally believe that China's protection of IPR has been weaker than that of other developed trading countries for some prolonged period, which poses some negative effects on China's internal innovation and development and China's image in international trade. In recent years, China's efforts on IPR are clear in terms of seeking to understand and solve these IPR problems. However, experts and scholars also believe that China's improvement still has a long way to go, and further improvement of relevant laws will have positive impacts on China's development in many respects. The current opportunity to join the CPTPP will help China improving its own economic and trade regulations, forcing itself to align with international standards, especially the enhancement of IPR protection. Many scholars also pointed out that joining the CPTPP itself will have a positive impact on China, including the defense against US

efforts to ostracize China from the global trade network. However, some have put forward different opinions, believing that CPTPP has a limited impact on China's economy and should not be a key concern.

The concept of "counterfeit products" was strengthened in China around 2008, referring to the illegal infringement on original intellectual property products to counterfeit and compete with them in the market. Its scope not only involves all kinds of products, but also includes software, film, and television works. This had a negative impact on early Chinese enterprises (Huang Hui, 2015). In addition, China's laws and regulations have also been questioned by some scholars in terms of its treatment on illegal infringement. Although China's relevant laws are in place, people often take "shortcuts" in their actual implementation. This engender domestic and foreign research and development institutions question the objectivity and independence of China's legal system (Fairbairn, 2016). Although China has formulated and amended laws and regulations to achieve a high level of intellectual property protection, the protection of IPR has been weakened by the insufficient law enforcement (Dai Zhongqiang, 2014). However, in recent years, China's IPR work has also been improving in terms of reforming the management system and mechanism, enhancing laws and regulations, and reforming the intellectual property judicial system (Yi Jiming, 2017). The substantial increases in the number of intellectual property and patent disputes among enterprises in China objectively illustrate the soundness of relevant laws and regulations, and of the increasing importance of IPR (Brander et al., 2017). In fact, the improvement of intellectual property laws and regulations has a positive impact on domestic companies. Chinese companies have also faced the problem of IPR infringement overseas (Zhang Changli et al., 2015). At the same time, corresponding laws and regulations have increased the expected income of R&D investment that enhanced the willingness of enterprises to further innovate and develop (Wu Chaopeng and Tang Di, 2017).

Although Japan led the CPTPP negotiations after the United States withdrew, leading to the revision of some disputed clauses which have increase the feasibility of China's being able to join, its intellectual property rules still maintain high standards compared with existing multilateral FTAs. In terms of current Chinese rules, commensurability of relevant standards is relatively difficult to achieve: if China joins CPTPP and accepts brand-new standards, there will be significant difficulties to overcome. Once China has made up its mind, it must prepare in advance to lay a solid foundation for the alignment of Chinese and international standards (Bai Jie, Su Qingyi, 2019). Some experts and scholars emphasize the difficulty of China's complying with the relevant standards; Some opinion states that joining an agreement with higher

standards will force it to further carry out reforms and opening up, especially China's acceptance of high standards. The possibility has been significantly improved, and there is a demand for this (Su Qingyi, 2019). Moreover, the standards of the CPTPP agreement are so high that existing agreements (such as the Regional Comprehensive Economic Partnership Agreement, RECP) cannot reach (Liu Jingqing and Xia Fangjie, 2019). However, there are still foreign scholars questioning China's determination to reform. Whether it is at the legislative or law enforcement level, commensurating China with international standards will face huge pressures to reform and political challenges (Petri Plummer, 2020). Some scholars believe that even after signing the corresponding agreement, China will still condone some infringement issues, and these intellectual property infringement issues will have a negative impact on global trade (Brander et al., 2017).

On the whole, many scholars also support China's accession to the CPTPP, believing that the agreement itself has more advantages for China than disadvantages. The predecessor of CPTPP, the Trans-Pacific Partnership Agreement (TPP), is a trade agreement led by the United States to combat China's trade influence and block China in the Asia-Pacific region. Although the United States has now withdrawn from this agreement, the CPTPP has reduced the tariff and non-tariff barriers of its member states and weakened the competitiveness of similar Chinese products, which will undoubtedly negatively impact China's exports (Shen Minghui and Li Haifeng, 2019). It is precisely because of the withdrawal of the United States, that joining the CPTPP has become a possibility for China to further integrate into the global economy. Also, China has already participated in the RECP, and could also possibly join the CPTPP, which will help China participating in the construction of the global trade governance system and Asia-Pacific economic integration (Su Qingyi, 2019). Some scholars also pointed out that the Trump administration will eventually pay attention to the economic significance of CPTPP, so the United States has a high probability of returning to CPTPP (Whalley et al.; 2020). Yet, at present, China and the United States are at the same playing field (and possess this hard-won opportunity), China needs to act first to compete for such an initiative (Su Qingyi, 2019). After the U.S.' withdrawal, CPTPP has been suffered in terms of international influence and GDP volume. Therefore, even if its member states have different attitudes towards China, there is no absolute obstacle to joining the agreement. In general, they are positive, or even welcoming, towards China's participation in this FTA (Liu Xiangdong and Li Haodong, 2019). However, some experts do not approve of China's participation in the CPTPP. The main reason is that CPTPP has a rather relatively minor impact on China's economy, which can be potentially offset

by accelerating completion of the RECP; China is already promoting free trade negotiations such as RECP, so there is no need to waste resources in joining the CPTPP (Wang Xiaosong and Wu Sui, 2018).

Simply put, academics hold two viewpoints in the accession of China to the CPTPP. Supporters of China's accession are convinced that joining the FTA will enhance China's participation in the regional economic integration. This will enhance standards and enforcements on IPR and related issues. On the other side, some are convinced that the standards of CPTPP is too rigorous which lower China's profit when joining. Also, China's efforts should be allocated to the participation of RCEP, not CPTPP. At the official level, the attitude of the central government is pellucid, claiming that China "holds an open-minded attitude in joining the CPTPP". Such an attitude can demonstrate the zeal of China in joining the FTA, and Chinese government has started the related preparations.

5. CPTPP: A case study comparing China's IPR and international standards

After US' withdrawal from the TPP, the CPTPP, which is predominantly led by Japan, have changed some of its clauses compared to TPP, but such standards are still more rigorous than that of TRIPs. Its standards of IPR is still high by global standards. Due to WTO mechanism of dispute settlement being undermined by the US, and the failure of the Doha Round negotiations in 2016, regulations of TRIPs among members states of the WTO started to alter. Before, IPR regulations of WTO and WIPO frameworks emerged into that of FTAs, but the former may be replaced by regulations in TPP and CPTPP. In this context, if China refrain from joining the CPTPP, it will not integrate with the high standards of trade, which will undermine the participation of China in the regional economic integration. This will further undermine China ability to further negotiate other FTAs.

As early as the TPP period, the government said China's attitude to it was "open." After the CPTPP came into effect, China claimed: "as long as it is in line with WTO principles, open, inclusive and transparent, and conducive to promoting global economic integration and regional

economic integration, China would then have a positive attitude towards it."⁶ CCG has repeatedly called on China to join the TPP/CPTPP since 2019 in hopes of promoting free trade especially in the Asia-Pacific region. This might alleviate the negative impact of Sino-US trade frictions and allows China to attain the role of "openness for reform." Major CPTPP member countries, including Japan, Australia, Canada, New Zealand, Singapore, and Malaysia, have all expressed positive attitudes of China's accession to this regional FTA⁷.

After withdrawing from the TPP, the Trump administration claimed it would consider rejoining if the CPTPP provisions commensurate with U.S. interests, and requested the Office of the United States Trade Representative and the Director of NEC to re-evaluate the importance of joining the agreement. But even after the 2020 U.S. election, the bilateral negotiation process will not be smooth, given the discrete bilateral trade standards towards the CPTPP. The U.S. has emerged from being a standard-setter into a standard-bearer, resulting in a change of initiative in the negotiations. Since 2018, there have been devoid of any real negotiations between US and the CPTPP, the congress had refrained from incorporate related bills into the agenda. Yet, in June 2020, the UK government from the other part of the Atlantic Ocean had announced its intentions to join the agreement. Objectively, the CPTPP, influenced by the high standards imposed by the US in the TPP period, had maintained rigorous trading standards, which would become an area for further negotiations in the future. China has now understood such an attribute of the CPTPP, and thus aspire to become a part thereof.

At the moment, China should take advantage of the current "window period" caused by U.S. absence to seek to join CPTPP. The United States is entering its election year with more political change to come. Whether Trump or Biden is elected, both sides still need time to build consensus within the government and Congress. As such, the window for China to join the CPTPP will be about two to six years. Chinese officials may be pushing for a regional economic partnership agreement (RCEP) to be reached this year (2020) and may suspend preparations for the CPTPP. The main current approach is to conduct a feasibility study on joining the CPTPP and communicate with member states, and is expected that accession to the CPTPP will be possible as early as 2021. The main negotiators will be Japan, Australia, and Canada. Since Canada and Mexico are also members of the USMCA, there might be the possibility that

⁶ Will China join CPTPP? Ministry of Commerce Responded. April 24, 2020, http://news.china.com.cn/txt/2019-12/05/content_75482434.htm

⁷ Wang Huiyao: China may consider whether to join CPTPP, Global Times. September 17, 2019, http://news.china.com.cn/txt/2019-12/05/content_75482434.htm, Accessed on April, 24, 2020.

the U.S. using the "Poison Pill" in the USMCA, to block Canada and Mexico from ratifying China's accession⁸.

Judging from the various provisions of the CPTPP, it is relatively easy for China's laws and regulations to interface with its IPR rules. In total, CPTPP has shelved or deleted nine IPR provisions, namely 1) expansion of national treatment, 2) reduction of types of patent objects, 3) removal of path extension of the patent protection period, 4) disclosure of the advantages of pharmaceutical patent data has been removed, 5) suspension of protective terms for drug sales, 6) return of copyright protection period to TRIPs standards, 7) suspension of the technical protection measures of copyright and information management terms, 8) reduction of IPR relief for satellite and cable television signals, and 9) elimination of the internet provider legal relief and safe harbor system requirements.

The copyright of works, performances, and phonograms, as well as the extension of data confidentiality periods for pharmaceuticals and biological agents, are two key areas for the protection of IPR in the US. The halt of these two provisions has obtained a transition period for the improvement of relevant laws and regulations on IPR protection in China. If the U.S. strives to join CPTPP in the future, it will be difficult to resume negotiations in such IPR provisions. It will also be a problem whether other member states, especially developing countries, to accept the IPR provisions that convey the will of the United States. On March 8, 2018, CSIS announced a series of "critical questions" about the CPTPP, noting that "(C.P.) TPP agrees...Patent protection period of innovative drugs and copyright protection of some materials have been shortened, and the scope of protection of technology and information has been reduced"⁹.

However, although these provisions were shelved, CSIS still considers the level of intellectual property protection of CPTPP to be the highest and most detailed among current trade agreements. It will provide substantial assistance to companies operating abroad to prevent their innovations from being plagiarized. Thus, the CPTPP continues the broad-area, high-standard, and strict-rule system that features the "next-generation trade rules" in the TPP agreement.

⁸ "Poison Pill " could be found in article 10, Clause 32 of USMCA. The pill restricts the conclusion of free trade agreements between the United States and Mexico with "non-market economy countries," including the right to evaluate the FTA and the right to declare the USMCA invalid as a result of the signing of the FTA. This pill is widely considered to have been tailored to prevent China from signing up free trade agreements with Canada and Mexico.

⁹ From TPP to CPTPP, <https://www.csis.org/analysis/tpp-cptpp>, April, 26, 2020

If China's relevant IPR laws and regulations need to be aligned with CPTPP, then the following different situations will arise bilaterally in specific areas:

CPTPP's IPR protection regulations are divided into four parts: trademark rights, patent rights, copyright, and enforcement.

The trademark rights section includes 1) the inclusion of sound and odor in the scope of trademark registration, 2) the protection of well-known trademarks is not conditional on registration, and 3) the recognition and protection of geographical indications. The core content of the three sections is to expand the object of IPR. In this area, the related law in China has recognized the legal concept of objects other than odors. The sound and geographical indications are included in the application for trademark registration, but odors have not yet included though have already been under discussion. Articles 13 and 14 of the newly amended the trademark laws to provide protection for well-known trademarks, whereby well-known trademarks registered and unregistered in China have discrete effects. Yet, digital reproduction of well-known trademarks have not been included in the new Trademark Act, which is different from CPTPP.

The patent rights section includes 1) enlargement of the range of patentable objects, and 2) increased protection of drug and biopharmaceutical data. In the field of patent rights, CPTPP provisions that are aligned with Chinese laws and regulations will not have a particularly large impact. In terms of drug data and biopharmaceutical data protection, China proposed, according to "the 2018 Implementation Measures for Data Protection in Drug Experiments (Provisional) (Draft for Comments)", that China would implement a 12-year data protection period for approved opportunities for innovative therapeutic biologics. Such measures show that China's data protection period is approaching 12-year, which is similar to CPTPP's standards.

In terms of copyright, CPTPP's approach includes 1) expansion of the content of the copyright owner's right to copy, 2) the duration of protection of copyright and adjacent rights, and 3) specification of the liability of network service providers for infringement. In China's third revision of the Copyright Law, the definition of "copying right" has not been extended to the standard of CPTPP. Yet, in terms of copyright extension and protection of rights in line with CPTPP, there are differences in the network service provider's liability determination, which would need to be clarified in laws and regulations.

In terms of enforcement measures, it mainly includes 1) maintaining the range of use of border measures, 2) increasing the compensation of civil damages, and 3) lowering the threshold for criminal penalties. China has a relatively big advantage in border measures, and its overall terms are no weaker than that of TPP/CPTPP's. China is undertaking a broader reform on the remaining law enforcement issues, and the new measures include, but are not limited to, the following: 1) the establishment of the China International Intellectual Rights Property Arbitration Commission, 2) strengthening the ability of IPR courts to hear and enforce IPR cases in Internet courts (70% of cases accepted by Internet courts are related to IPR), 3) the increased amount of tort compensation; it is possible to change the principle of "fill-in compensation" to "punitive compensation." 4) making full use of China's existing systems, and, with permitted conditions and in accordance with relevant foreign rules, conduct trials and adjudicates in some demonstrating areas of China including Qianhai and Shenzhen.

Table 3: Comparison between CPTPP intellectual property clauses with China's current IP clauses

	CPTPP	中国
Trademark right	Sound and smell can be included into the registration of trademark	Sound has already been included, and smell is still under discussion
	The protection of well-known trademarks is not conditional to registration	The digital reproduction form of well-known trademarks is incorporated into the new trademark law.
	Recognition and protection of geographical symbols	Geographical symbols are incorporated into legal protection
Patent Right	Enlarges the scope of patentable objects	Basically similar to the standard of CPTPP
	Increase the protection of drug data and Biopharmaceutical data	Close to the standard of CPTPP
Copyright	Expand the content of copyright owner's right of reproduction	The right of reproduction failed to reach CPTPP standard
	Term of protection of copyright and neighboring right	Same with CPTPP
	Stipulating the tort liability of Internet service providers	The tort liability is different from CPTPP
	Maintaining the scope of use of border measures	Same and even higher than the CPTPP standard

Enforcement	Increase civil damage compensation (implement punitive compensation)	From filling compensation to punitive compensation
	Lower the standard of criminal punishment	Strengthen the ability of Internet courts to hear and enforce intellectual property cases

Source: CCG compiled public data

In general, comparing CPTPP's IPR provisions to China's laws, regulations, and enforcement, a considerable part of the two areas of trademarks and patents are the same, but there are differences in the definition and connotation of the concept as well. CPTPP's copyright law is no stricter than that of WTO TRIPs' standards, so there are only few details that exist for laws in China to align with. In terms of law enforcement, the geographical scope of customs clearance procedures applicable to the protection of IPR in China are not clear, and are not compatible with some domestic laws. In the CCG IPR-related seminar, some scholars claimed that in the protection of copyright law, the classification of copyright is relatively board in categories, and that China's law enforcement rules also need to be updated according to the actual situation.

Academics believe that China's level of IPR protection has still existed a certain gap compared with CPTPP. Some ambiguities in the legal provisions of both parties still need to be clarified. In addition, the IPR protection of internet content providers (ICPs) has not been fully demonstrated in the CPTPP. China's ongoing patent law should reflect the joint legal liability of ICPs. China's legislation on the Internet and the digital economy is also inadequate; written guidelines should be further developed in the areas of Internet content delivery, and digital information with high standards should be established. As CPTPP's IPR standards put pressure on existing laws and regulations in China, the government needs to prepare and test these laws in advance.

Part Five:

Conclusion and Policy Recommendations

1. Conclusion

China's economic development over the years and the continuous adjustment and change of its economic structure have resulted in the formation of a complete system of Chinese IPR from scratch in the past 40 years. In the fields of intellectual property innovation, application, authorization, and law enforcement, China has possessed prerogatives in terms of its volume and standards.

Especially with the continuous innovation within China's digital economy, China has reached the forefront of the world in terms of intellectual property protection in the digital economy, and to a certain extent, is well positioned to participate in the formulation of intellectual property conventions. However, improvements are needed in terms of integrating law enforcement standards, personnel training, and the standardization of intellectual property management.

In terms of joining CPTPP, China's standards in the field of intellectual property protection have already been rigorous and close to the benchmark set by the CPTPP's intellectual property protection system. However, compared to CPTPP's IPR rules, China's related laws and regulations still include divergent terms, definitions, and applicable boundaries. China currently has a window of opportunity to join the CPTPP. In the absence of the United States and being unable to join the CPTPP in the short term, China will have 2-6 years to join this high-standard free trade agreement. China needs to conduct research in the field of intellectual property protection as soon as possible in order to reach a consensus on intellectual property rules with the CPTPP during negotiations.

In the digital economy, China needs to deal with new formats, models and scenarios created by rapidly developing digital technologies. It is necessary to consider not only the

protection of innovation, but also the high degree of specialization in the digital economy, which has changed the means of obtaining power, collecting evidence, and adjudicating compared with traditional methods. The growth of the digital economy has led to changes in the applicability of some domestic laws. It is necessary to cautiously, yet assertively, introduce technology into the field of intellectual property protection to maximally prevent market and technological monopolies. In the course of building "new infrastructure" supporting the practical applications of a large number of digital technologies, policymakers should pay more attention to judicial interpretations to make relevant laws and regulations more enforceable.

2. Suggestions from Enterprises

In this research, some enterprises have put forward suggestions on the revision and changes of laws and regulations related to IPR. For example, some companies believe that the current digital patent rate of iteration is very fast, but the review will take from one to one and a half years. Hoping to speed up the review, JD.com put forward the following suggestions:

1. The number of complaints received by e-commerce platforms is very large, including standard IPR protection complaints. Yet many of which are malicious complaints, for which there are few regulations at present. It is desirable that the amendments to the Patent Law and the Trademark Law can provide guidance and clarification on the judgment standards and penalties for malicious complaints.

2. The "squatting" of trademarks, as well as the problem of duplicate trademarks at home and abroad with inconsistent registrants, have caused e-commerce firms difficulties with the import of goods. It is desirable that relevant laws and regulations will be clarified.

3. During operation it is difficult for e-commerce companies to judge complex and difficult cases. It is desirable that an authoritative administrative agency or a professionally neutral third party will provide guidance.

4. Regarding the 15-day waiting period stipulated by the E-Commerce Law, a counter-guarantee mechanism can be introduced.

3. Policy Recommendations from CCG

1. Submit an application to join the CPTPP as soon as possible and start the negotiation process. Applying to join the CPTPP requires substantial preparation, including diplomatic efforts with the member states thereof, as well as promoting the establishing of a consensus prior to the negotiations. China also needs good efforts in revising relevant laws and regulations, and actively seeking to align with CPTPP standards. At the start of the negotiations, China should consider a bilateral investment agreement (BIT) to promote negotiations with major CPTPP countries, such as Japan, as well as a bilateral consensus through negotiations, turning bilateral consensus into multilateral consensus.

2. Strengthen the implementation of intellectual property law enforcement. It is possible to consider centralizing authorization/registration agencies, separating and strengthening administrative law enforcement agencies, granting some law enforcement agencies more enforcement authority (including the police), and expanding customs oversight of IPR. It is crucial to improve law enforcement standards, achieve consistent case rulings, and unify administrative law enforcement standards with judicial protection standards.

3. Pay attention to the relationship between the protection of IPR in China's digital economy and the opening up of the entire digital economy. To ensure that the market remains open, further assessment and auditing are needed on issues such as source code, algorithms, and keys that are in line with national security needs, in the hopes of achieving the goal of continuing to open markets and improving the business environment. This aims to avoid unreasonable restrictions on foreign companies and transnational corporations due to IPR legal restrictions on their businesses with China, which affects foreign investment and the share of technology.

The IPR dispute between China and the United States is currently primarily focused on mandatory opening-up of Chinese laws, such as source code, algorithms, and keys, as well as ISPs' liabilities with respect to copyright. Such areas involve national security and other issues, which will be part of a long-term negotiation between the two sides. The EU is following the U.S. on similar topics as well. China's newly revised Copyright Law on the liability of ISPs should be more explicit in its legal obligations to strengthen its copyright protection capabilities in the digital era.

Meanwhile, China should protect its increasingly strong innovation capabilities in digital technology and avoid these innovation capabilities being limited by IPR barriers when relevant laws and regulations are enacted. For example, laws on standard-essential patents requires clarification as soon as possible. The EU implemented the GDPR in 2019, which has introduced data rights in the digital era. China should learn from the EU's approach with GDPR, maintain innovation capabilities of the enterprises, and define the boundaries of relevant rights in the digital era.

4. Improve talent development and standardization. This should include standardizing the training of IPR talent in colleges and universities, the certification of IPR agencies, and intensifying supervision following the implementation of the national standards for the Administration of IPR of Enterprises, so as to mitigate potential laxity following the achievement of the enterprise's target.

5. Promote the application, management, and research of IPR technologies. Blockchain is one of the major emerging IPR protection technologies, which is supported and developed by many digital technology companies. However, there are number of problems in the development and application of blockchain technology in China. One problem is that blockchain is largely associated with virtual currencies such as Bitcoin, which has been the subject of much hype and improper activities. Another problem is that blockchain has been subjected to numerous scams when applied to IPR authentication, and many blockchain companies do not have the technology to develop genuine blockchain mechanisms. In the investigation, the CCG learned that many copyright confirmation processes nominally relied on the blockchain; in fact, the use of network crawling technology, so that the ability to confirm and trace the work become extremely unreliable, making information obtained difficult to use as legal evidence. Therefore, the legal status of blockchain should be studied in-depth on the basis of existing laws, so as to promote judicial and administrative entities of IPR to obtain evidence, certainty, and adjudication.

6. As Chinese technology companies are gradually becoming well-known internationally, overseas measures of protection for Chinese IPR need to be enhanced. In 2016, the Ministry of Commerce established the Overseas Protection Assistance Center for enterprise IPR, and in July 2019, the State Intellectual Property Rights Office established the National Overseas Intellectual Property Dispute Resolution Guidance Center. Although it strengthens the protection of IPR overseas by many parties, the overall standard has yet to be jointly enforced. Consideration could be given to promoting cross-departmental cooperation among agencies,

including the Ministry of Commerce and the State Intellectual Property Office, and the establishment of an overseas IPR information service system and a platform for the protection of rights.

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Research Seminars

1. On January 9, 2019, CCG held a seminar to release a new report, titled "CPTPP, New Opportunities for China in Future Free Trade" at its Beijing headquarters. At the seminar, CCG President Dr. Wang Huiyao, President of the China WTO Research Institute of the University of International Business and Economics Tu Xinquan, Associate Professor of the Foreign Affairs University Fu Yujun, CCG Secretary General Miao Lu, First Secretary of the Embassy of the Republic of Singapore in Beijing Mr Alvin Wong Tze Chin and CCG Deputy Secretary-General Tang Beijie discussed the report and other issues related to CPTPP.

2. On December 13, 2019, CCG held a roundtable seminar over the topic of "CPTPP and Rules of Chinese Intellectual Property Protection" . At the seminar, CCG President Dr. Wang Huiyao, Nonresident Senior Fellow of CCG, Professor in International Trade, School of International Trade and Economics (SITE) of the University of International Business and Economics (UIBE) Cui Fan, Senior Fellow of CCG, Former President of the Chinese Academy of International Trade and Economic Cooperation (CAITEC) Huo Jianguo, the director-in-chief of KWM Belt & Road Center for International Cooperation and Facilitation (BRCICF) Huang Jianwen, the incumbent Director of the BAC office, a member and the Secretary General of the Sixth Committee of the BAC Lin Zhiwei, the Partner of King & Wood Mallesons Tina Tai, Professor of Law of Renmin University of China, Chairperson of Chinese Intellectual Law Research Association Liu Chuntian, CCG Deputy Secretary-General Xu Haiyu and CCG Secretary-General Zhang Wei discussed the CPTPP and related issues.

3. On April 9, 2020, CCG hosted a webinar titled "Investing in a digital economy: The 'new infrastructure' program in response to COVID-19." CCG Secretary General Miao Lu, CCG executive council member, founder and CEO of QuantGroup Zhou Hao, Senior Fellow of CCG, Former President of the Chinese Academy of International Trade and Economic Cooperation (CAITEC) Huo Jianguo, executive director of CCG's Belt and Road Institute, Executive

President of School of Chinese Digital Economy Huang Rihan, assistant resident of Venustech Jiang Rongsheng, CCG Nonresident Senior Fellow, professor at the School of International Trade and Economics of UIBE Wang Jian, CCG executive council member and chairman of Peogoo Pei Shanying and CCG Nonresident Senior Fellow, member of the CPPCC National Committee Zhang Lianqi participated the webinar and engaged into the discussion.

4. On April 14, 2020, CCG hosted an online discussion webinar titled “New infrastructure and intellectual property protection”. CCG Executive Council Member, Founder and CEO of WeBranding Global Consulting Network Ding Feng, Senior Research Fellow, Research Section of International Investment in CASS, Han Bing, Global Vice CEO of Qualcomm China Guo Tao, Former Senior examiner of invention patent examination department, National Intellectual Property Administration, Senior Consultant of China Communications Society Intellectual Property Center He Chunhui, Vice Secretary-General of China International Council for the Promotion of Multinational Corporations Luo Xiaoqi, Vice Chairman of Intellectual Property Expert Committee, All China Lawyers Association, executive council member of Intellectual Property Law Association Sun Yan, Director of Qualcomm (China) Government Affair Tan Xiaolong, CCG Associate Research Fellow Wu Mengqi, Vice President of School of Intellectual Property, Vice President of School of Technology Innovation, Beijing University of Technology Yang Dengcai, CCG Senior Fellow, Former Director of Bureau of Industry Injury Investigation, Ministry of Commerce Yang Yi and CCG Vice Secretary-General Zhang Wei participated the webinar.

5. On April 29, 2020, CCG held a webinar focusing on the role of US-China technology in the COVID-19 crisis. President of the Information Technology and Innovation Foundation (ITIF) Robert Atkinson, Professor and Founding Director of the Technology and Management Center for Development at the University of Oxford Fu Xiaolan, Senior Associate with the Trustee Chair in Chinese Business and Economics at the Center for Strategic and International Studies (CSIS) and Senior Director of the McLarty Associates John Holden, Founder and CEO of the Kuan Capital and CCG Vice Chair Micheal Kuan, Senior Director of the Bay Area Council Economic Institute Sean Randolph, Vice President and Chief Economist of JD.com Shen Jianguang, Professor and Director of the Center for American Studies and Dean of the Institute of

International Studies at the Fudan University Wu Xinbo and CCG Vice President Victor Gao participated the webinar.

6. On May 14, 2020, CCG held the webinar, titled “New Infrastructure Model after pandemics and Intellectual Property Protection”. CCG Senior Fellow, Former Director of Bureau of Industry Injury Investigation, Ministry of Commerce Yang Yi, Vice President of School of Intellectual Property, Vice President of School of Technology Innovation, Beijing University of Technology Yang Dengcai, Senior Research Fellow, Research Section of International Investment in CASS, Han Bing, Vice Chairman of Intellectual Property Expert Committee, All China Lawyers Association, executive council member of Intellectual Property Law Association Sun Yan, Vice CEO of Quancomm (China) Zhang Xiaolin, CCG Executive Council Member, Founder and CEO of WeBranding Global Consulting Network Ding Feng, Former Senior examiner of invention patent examination department, National Intellectual Property Administration, Senior Consultant of China Communications Society Intellectual Property Center He Chunhui and CCG Vice Secretary-General Zhang Wei joined the webinar.

List of Experts in the Research Group

Members of the Research Group:

Wang Huiyao	Counselor for China State Council, founder and president of CCG
Miao Lu	CCG Secretary-General, Leader of the Research Group
Tang Beijie	CCG Vice Secretary-General, Research Fellow, Coordinator of the Research Group
Zhang Wei	CCG Vice Secretary-General, Research Fellow
Zheng Jinlian	CCG Vice Secretary-General, Research Fellow
Li Qing	CCG Director of Global Migration Research, Associate Research Fellow
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Qu Mei	CCG Associate Research Fellow
Yu Weiwei	CCG Associate Research Fellow
Wu Mengqi	CCG Associate Research Fellow
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Interns of CCG (**Peng Yue, Wang Zhangchen, Yan Boshen, Zhang Tianheng, Wu Zhengxi** and **Jiang Zirui**) have also made great contributions to this report.

Founded in 2008 and headquartered in Beijing, the Center for China and Globalization (CCG) is China's leading global non-governmental think tank. It has more than ten branches and overseas representatives and over 100 full-time researchers and staff engaged in research on globalization, global governance, international economy and trade, international relations and global migration.

CCG is a member of the Belt and Road Think Tank Alliance, a founding member of the US Research Think Tank Alliance established by the Ministry of Finance, a National Talent Research Facility, the site of the China International Professional Committee for Talents of the Ministry of Human Resources and Social Security, and a national Postdoctoral Programme research center. CCG has also been granted Special Consultative Status by the United Nations.

While cultivating its own research teams, CCG has also built an international research network of leading experts in China and overseas. CCG engages in ongoing research on China and globalization from an international perspective. Contributing to policies relating to development and global governance in many countries, CCG has developed into a think tank providing new ideas, innovation and perspectives for domestic and international media. CCG also plays an active role in nongovernmental exchanges and Track 2 diplomacy, becoming a valuable platform to aid mutual understanding between China and the rest of the world.

After over a decade of development, CCG has grown into a significant think tank with global influence that promotes China's globalization process. In the 2019 Global Go To Think Tank Index Report released by the University of Pennsylvania, the world's most authoritative think tank ranking, CCG was again recognized as one of the world's top 100 think tanks, ranking in 76th place globally. CCG was the first Chinese non-governmental think tank to achieve this feat and is consistently considered the leading Chinese non-governmental think tank in authoritative think tank evaluations at home and abroad.



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