

Antitrust Regulation in the Field of IP of MNEs in the New Era: Starting with the Patent Tying Behaviour from the Perspective of Comparative Law

Zichen Lu*

Department of Law, Southwest University of Political Science and Law, Chongqing, China

*Corresponding author: 2019022075@stu.swupl.edu.cn

Abstract. With the vigorous development of patented technology, the problem of some large multinational enterprises implementing monopoly behaviour by abusing intellectual property rights such as patent tying is becoming more and more prominent. This has had a great impact on fair market competition, especially in those developing countries. Combined with the regulation of China's Antitrust Law and other legal systems on this issue at the present stage, and based on the analysis of its imperfections, this paper explores the excellent achievements in international attempts such as the principle of the rationality of the United States and the comprehensive analysis method of the European Union. In the context of TRIPS, countries all over the world need to pay close attention to how to regulate the monopoly caused by the abuse of intellectual property rights, including patent tying. It is concluded that to better resist the monopoly of abusing intellectual property rights and develop the new driving force of a domestic innovative economy, China needs to start with the substantive concept and clarify the clear meaning, definition standards, and rank order of relevant legal concepts and systems. It also needs to up special authoritative law enforcement agencies to regulate the monopoly of multinational enterprises abusing intellectual property rights, innovate their punishment methods, strengthen the punishment, and better ensure fair market competition.

Keywords: Antitrust, Abuse of Market Ascendancy, Abuse of Intellectual Property, Patent Tying, MNEs

1. Introduction

Since China joined the WTO in 2001, multinational enterprises (MNEs) have made unprecedented development in China. These companies have brought many high-end new products to Chinese consumers and promoted the rapid development of China's economy, while some large MNEs soon occupied a dominant position in the Chinese market and monopolized the market with strong strength, which also hindered China's regular market competition. They restrict fair competition and obtain corresponding monopoly profits with the advantages of capital, brand, intellectual property rights (IP), and technology [1]. Among them, some MNEs with technological advantages abuse their dominant market position and engage in tying monopoly, which is worthy of concern. Tying refers to the seller or licensor forcing the buyer to accept, purchase or use the products, patents, or services it does not need [2]. Moreover, with the progress of science and technology as well as the long-standing interweaving of IP Law and Antitrust Law, MNEs often use their own patent advantages to carry out patent tying monopoly. The Sony case and the recent Qualcomm case were both triggered by the patent tying behaviour of MNEs, which caused adverse impacts on China's related industries, the legitimate rights of consumers, and the competition order of the market economy. However, China's Antitrust Law was not officially implemented until 2008, and its exploration of relevant issues and regulations is far less than that of some European and American countries. In addition, patent tying is a new form of monopoly in the field of IP, and China has not formed enough specific and clear countermeasures to this problem. This paper will first reveal the performance and harm of MNEs abusing IP for monopoly in the new era, including the emerging patent tying. Then, it will analyze the regulatory measures, problems, and inspiration in the field of patent tying in China and abroad, in order to provide relevant legislative or executive suggestions for China.

2. The manifestation and harm of MNEs abusing IP to monopolize

2.1. General Identification of Abusing of Market Ascendancy

According to the behaviour types of enterprises, the laws of various countries mostly divide monopoly into three types at present: reaching monopoly agreement, operators abusing market ascendancy, and concentration of operators to exclude and restrict competition. Among them, the abuse of market-dominant position is the main form of patent tying implemented by MNEs. This kind of inward tying without an agreement, which means the affected party is forced to accept the tying items while accepting the tied items, is more common and difficult to deal with than the other two [3]. In addition, in China's Antitrust Law, tying is listed as a situation under the monopoly of abusing market dominance. Based on those circumstances, this section only discusses patents tying in the abuse of market dominance. As for other tying behaviours using patents, related regulations, such as those against reaching monopoly agreements, can be directly cited to solve the problem.

Abuse of market dominance is a common form of the monopoly of large MNEs. It refers to the trading behaviour that which enterprises with market dominance use their existing market conditions and advantages to unfairly affect other counterparties or competitors, so as to exclude or control the market [4]. It is prohibited by the laws of various countries in the field of anti-monopoly because of its anti-competitiveness and special purpose. For example, the US prohibits "individuals and enterprises attempting to monopolize the market by monopolizing or colluding with others" (Article 2 of the Sherman Act). Germany does not prohibit enterprises from occupying the dominant market position, but strictly prohibits abusing that position (Article 22 of the Anti-restrictive Competition Act). In China, "Any enterprise is prohibited from abusing its dominant market position" (Antitrust Law Law). Besides, European Union (EU) and Japan also have regulations that prohibit large enterprises from abusing of market ascendancy to monopolize.

2.2. Patent tying from Qualcomm case

In China, tying is a specific monopoly situation contained in the abuse of market dominance. The traditional tie-in behaviour relies on physical goods. For example, when selling automobiles, automobile enterprises force consumers to buy spare tires of their brands. However, with the continuous development of science and technology and IP, coupled with the high-tech and patent dependence of some MNEs, the goods targeted by tying have also extended to the invisible patent field. Patent tying usually contains the meaning of requiring the purchase or use of non-patented products or services, that is, when the patentee implements the license contract, it requires the licensee to purchase, use or accept the patents he does not need [5].

Qualcomm case is a typical antitrust case of patent tying which has attracted extensive international attention recently. Qualcomm's main business is radio communication technology with chip R & D and production. In 2017, it was prosecuted by the Federal Trade Commission for violating antitrust laws. After years of repeated reversals by courts in the US, the case is still controversial. According to the following two patent causes of abuse of Qualcomm, some courts found that it had monopolistic acts of bundling sales and restricting competition. First, Qualcomm does not distinguish the necessary standards patents from those non-necessary, but forcibly tie-in the non-necessary patents with necessary standards without justified reasons [6]. This tying seriously excludes and restricts the competition in the relevant non-essential patent market. Second, unreasonable conditions are attached to the sales of baseband chips. If potential licensees do not sign the patent license agreement, Qualcomm will refuse to supply baseband chips. Because Chinese licensees are highly dependent on their baseband chips, they have to accept their unfair and unreasonable patent license conditions. China's provisions on tying in abusing its dominant market position, which will be mentioned in the next section, are also aimed at the above two aspects.

2.3. The harm of monopoly by MNEs using patent tying

The “Qualcomm model” has played a normative role in relevant markets. However, this operation mode of relying on standards and technology to achieve huge profits is suspected of abusing IP and bringing many hazards.

The most direct influence of MNEs’ patent monopoly by using its advanced nature in science and technology is to restrict good market competition. The main disadvantage of patent tying is to shift the focus of market dominance from the market of licensed patent or protected products and services to other unrelated markets, and the elimination of competition in the market not within the scope of licensed IP [7]. It further raises two international issues. The prosperity of the global economy depends on good competition and mutual promotion in markets to some degree. Improperly excluding competitors in some sales markets is not conducive to the overall economic development. Moreover, the monopoly of MNEs restricts the freedom of customers’ choices, while the patent license fee or the cost of tied products at high prices will often be transferred to them, which seriously damages the interests of consumers.

On one hand, the development of MNEs is on the ascendant. On the other hand, technological research is not developed in some traditional fields, so there will be some unique hazards in technologically backward countries [8]. For example, it will hinder technological progress and the development of independent IP. As the largest developing country, China must also pay attention to these issues. Meanwhile, it is not conducive to the establishment of local brands in developing countries. Furthermore, the monopoly of MNEs using patents may also threaten national economic security. Due to the imperfect development of industrial structure in these countries, some industries are still in the initial stage. The strong impact of a monopoly on them will even strangle these emerging enterprises, damage the overall interests of the national economy, and then pose a threat to national economic security.

3. China’s antitrust system against patent tying

3.1. Regulation status of tying and abuse of patent rights in China’s Antitrust Law

Although the establishment of China’s IP system mainly emphasizes the formulation and improvement of laws on its protection, some legislation still involves the regulations of patent abuse, including some provisions in patent law, civil law, and supporting judicial interpretation [9]. Among them, the Patent Law restricts the compulsory license of the patent. For example, Article 51 stipulates that the patentee shall not grant an exclusive or exclusive license for his patent, which can also achieve the effect of maintaining normal market competition to a certain extent.

For MNEs using patent tying to monopolize, China is based on the Antitrust Law implemented in 2008, in which Article 17 makes specific provisions on the “abuse of market ascendancy”. China’s legislation now uses a hybrid method, namely “enumeration + generalization”, to regulate a monopoly. As one of the situations, it is prohibited for operators with a market ascendancy to tie in goods without justifiable reasons or attach other unreasonable trading conditions to the transaction. With the continuous development of IP, China’s Antitrust Law is paying more attention to the use of technological means to restrict competition. In the Antitrust Law (amendment draft) in 2021, the last sentence is added: ‘who sets up obstacles to other operators by using data, algorithms, technologies and platform rules, etc., belongs to the abuse of a market ascendancy’. However, there are no special provisions of the Antitrust Law on the abuse of IP, especially patents. It only stipulates the form of monopoly in the field of IP in Article 55, and its normative object has only involved the behaviour of excluding and restricting competition. How to make the theory and analysis ideas of courts and administrative organs on Patent Tying more unified, so as to judge the relevant cases fairly, is still a topic worthy of consideration.

3.2. Practical problems and reasons for patent tying regulation in China

3.2.1 Conflict of legal concepts

The concept of law is still unclear. First, the definition of the limit between the abuse of IP, including patent tying, and the normal standard necessary patent license is unclear. The current Antitrust Law and Patent Law have not made clear legal provisions on this common problem, so the judicial and law enforcement organs always have no clear criteria to be based on when facing some specific patent tying cases. Many MNEs also take advantage of this to label illegal patent tying as legal patent protection and implement monopoly behaviour [10]. In addition, the provisions in China's Antitrust Law are very general. Illegal tying in China is based on "without legitimate reason". Nevertheless, there are no clear provisions on what this "legitimate reason" means and there is also a lack of corresponding judicial interpretation and guidance cases to clarify it.

Second, the different recognition standards of the same legal concept in different countries may cause difficulties in the recognition of monopoly behaviour for MNEs. To be considered to have a market ascendancy in the US, it must occupy at least 50% of the market share, while occupying more than 75% of the market share means it must have a dominant position. In the EU, when considering the market-dominant position of an enterprise, it will also think about the market entry threshold and its competitors' share. Even if it occupies only 40%, it may be considered that the position exists [11]. The identification criteria of this concept in China are more complex. The minimum market share of a single enterprise according to the number of operators is 10%-50%.

3.2.2 Lack of specialized law enforcement agencies

China now does not provide an independent and authoritative professional law enforcement agency for MNEs to monopolize or restrict competition. Although China has established a special IP court, it has not established a special antitrust department, which is not conducive to the correct judicial identification and actual implementation of the regulation of patent tying. Both Antitrust Law and Patent Law are highly professional, especially the law on anti-monopoly, which often needs a macroeconomic operation. In order to accurately judge and execute cases, relevant legal workers need to have deep knowledge reserves in the field of antitrust law and IP law at the same time. The ability of ordinary courts and administrative organs may not be able to ensure that.

3.2.3 The accountability mechanism needs to be improved

China's Antitrust Law provides the punishment of monopoly perpetrators to order them to stop their illegal acts, confiscate their illegal income and impose a fine on a certain amount of sales in the previous year. Nevertheless, it does not punish enterprise managers and relevant responsible persons, but only the enterprise itself. What's more, the EU has repeatedly imposed antitrust penalties on American digital platform giants in recent years, such as Apple, Amazon and Google. However, compared with the huge benefits these super large enterprises can obtain from monopolistic acts, the deterrence of the current antitrust penalties is obviously insufficient. Therefore, insufficient punishment may also lead to the failure of the Antitrust Law to protect market competition and consumer interests, because enterprises may continue to illegally obtain more profits [12].

3.4. The regulation of patent tying should follow a certain limit

Although there are many deficiencies in China's existing system, it is worth noting that the restrictions on Patent Tying should not be excessive. The emergence of patent tying does not necessarily lead to monopoly or illegal consequences for the monopoly attribute of IP itself is not illegal. For instance, if the patent tying of enterprises is not mandatory, but can be freely selected by consumers, it will often not lead to the problem of antitrust or abuse. Moreover, the patent tying under the appropriate purpose and scope also has its benefits. In some situations, the tying of patented products or patent licenses is the inevitable result of the existing technical level, or just for the patent to play a better role or save costs. Meanwhile, the patents brought by MNEs may even stimulate China's market competition and promote the innovation and research of local patents [13].

4. Foreign patent tying regulation methods can be used for reference

4.1. EU's comprehensive consideration

In the EU, it is necessary to comprehensively consider whether the supporting product enterprises have a dominant position in the relevant market and whether consumers are forced to buy two products at the same time. While regulating illegal patent tying, the EU also recognizes its positive impact. The guide on the application of Article 81 of the Treaty of the European Communities to technology transfer agreements analyses the restrictive effect of exclusion on competitive suppliers of tied products, and also believes that tying may also improve efficiency. It is emphasized that only the patentee who occupies a dominant position in the market will be negatively evaluated by the law if he uses tying to force consumers to choose unnecessary products and eliminate competition in the relevant market.

Compared with the United States, the two sets of exemption provisions on licensed trade in the Rome treaty make the ban a little more relaxed. It exempts the so-called "technology tying", that is, tying unprotected products or services "is necessary for the specific development of licensed inventions or technologies". However, it should be emphasized that the premise of the exemption clause is that the compulsion of its technical standards is necessary. Therefore, MNEs entering Europe may still need to report the agreement including bundling terms to the EU Member Council. Unless these tying demands are technically justified, whether this is technically necessary is obviously a question that needs to be explained by judicial practice. What's more, the monopoly regulation caused by the abuse of IP in EU law reflects the characteristics of paying attention to the decisive role of market dominance [14]. When EU competition law is applied to the abuse of market ascendancy of IP, the first thing that needs to do is to define whether the IP owner has the market ascendancy.

4.2. The principle of reasonableness applied in patent tying cases in the United States

Compared with China's anti-monopoly law, which was formally formed in 2007, the United States began to seek effective regulation on the monopoly behaviour of large enterprises as early as the 19th century. In 1890, it promulgated the *Sherman Law* summarizing the basic requirements and purposes of antitrust, and in 1914, it promulgated the more detailed and operable *Clayton law*. The antitrust regulation of patent tying in the United States began with the *International Salt Co. Inc. v. the United States* in 1947. This case opens the door for the judicial application of patent tying anti-monopoly law. For a long time, the United States Supreme Court regarded tying in patent licensing as essentially illegal, that is, it is presumed that the patentee has a market ascendancy by enjoying the patent right, and the illegal act can be determined without analyzing the actual effect of enterprise behaviour. In the subsequent *United States v. Lowe's Inc.*, the judge followed the precedent and directly presumed that the patentee had a market ascendancy. This situation did not change until the US Patent Reform Act in 1988. In order to prevent patent abuse, the United States began to apply the principle of rationality to patent tying cases to analyze whether it has the effect of restricting competition.

In 2006, the U.S. Supreme Court explicitly applied the principle of rationality to patent tying in *Illinois tools v. independent ink company*. The court held that the continued application of the principle of illegality in patent tying cases did not comply with the provisions of the law, and the plaintiff must prove that the defendant had a dominant position in the tying market. The United States has adopted the principle of rationality in patent tying cases, which requires the analysis of the rationality of the case. The 1995 licensing guide also recognized the importance of establishing economic control over market forces before blaming tying. The principle of rationality is more in line with the legislative purpose of anti-monopoly law to protect the interests of consumers and promote competition.

4.3. Enlightenment of China's regulation of patent tying leading to monopoly under the framework of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)

TRIPs are a series of international treaties to reduce distortion and resistance in international trade, promote full and effective protection of IP, and ensure that the measures and procedures of IP law enforcement will not become obstacles to legitimate trade [15]. It involves the control of competition restriction, stipulates and strengthens the enforcement procedures of IP, and conditionally treats different types of members differently.

By combing the history and system of regulation in the US and the EU, two countries and regions that have developed deeply in the monopoly caused by the abuse of IP, it can be found that there are two main aspects that need to be improved in China: one is that the substantive law norms are incomplete and unclear, which may lead to the failure of regulation due to the inability to identify some patent tying acts. The other point is, that due to the absence or imperfection of the legal liability system or punishment measures, some abuses cannot be effectively or deterrent regulated.

Furthermore, IP holders may violate the anti-monopoly law when exercising their power, which is recognized by the anti-monopoly laws of various countries, including the TRIPs Agreement. With the development of MNEs in traditional underdeveloped areas, it is not uncommon for them to abuse patent compulsory license for patent tying. However, most countries will limit certain conditions for patent tying and even the regulation of tying in legislation in order to maintain its positive impact [16]. How to give better play to its advantages and curb the impact of unfair competition is an issue that China must pay attention to when introducing MNEs and maintaining a good market competition situation.

5. Suggestions for China to deal with the patent tying monopoly of MNEs in the new era

5.1. Clarify the applicable standards of key legal concepts and formulate implementing laws

The government should issue antitrust guidelines on the abuse of IP as soon as possible and reasonably grasp its content. Although the antitrust guide to the abuse of IP (Draft for comments) reflects that China's legal provisions on international patent license tying have certain operability, it has not been officially promulgated and implemented. The government should implement the relevant work as soon as possible. Besides, the basic analytical method of the principle of reasonableness can be used for reference in judicial practice. The abstract provisions can also be supplemented by some Supreme Court guidance cases or judicial interpretations. For example, to make specific provisions on "no justifiable reason" in the current tie-in prohibition provisions and appropriate enumeration should be made on the basis of investigation, that is, to explain the specific legal concept by "illegal Standard + type".

Moreover, the patent tying of MNEs belongs to the cross-field of multiple laws, and the order of application of laws in different fields should be stipulated. As the general existence as an "economic constitution", Antitrust Law provides more principles and bottom covering provisions. Therefore, Antitrust law only regulates IP under special circumstances. Only when enterprises abuse IP and constitute Antitrust behaviour, and cannot be regulated only in accordance with the IP law, the Antitrust law can be directly applied. For the different standards of various countries for defining the same legal concept, it should also clearly specify the application of China's legal provisions, for example, as long as they are registered and operated in China, or when Chinese capital accounts for more than a certain proportion of shares, they should be determined in accordance with Chinese standards.

5.2. Set up a special department to deal with the monopoly caused by the abuse of IP by MNEs

There is a need to establish a special anti-monopoly enforcement organ or centralized jurisdiction mechanism for regulations of MNE'S monopoly by abusing IP. The enforcement organ of the current Antitrust Law is the administrative department for Industry and Commerce, which is basically unable to file civil and criminal proceedings on behalf of the state, and the ability to exclude the monopoly of MNEs is very limited. Antitrust Law is an important law different from the general economic law, which needs to set up special law enforcement agencies to ensure its effective implementation, such as the Federal Trade Commission and the U.S. Ministry of justice, the German Federal Ministry of economy and cartel Bureau. Therefore, there should be a special antitrust law enforcement agency from the central to the local. Considering the number of cases involving the extraterritorial application of Chinese law, it is not appropriate to set up another judicial institution at present, but such foreign-related cases can be directly tried in designated courts or special courts of specific types [17]. In terms of regional jurisdiction, it can learn from the successful experience of cross-regional jurisdiction of some intellectual property cases. In addition to setting up IP courts in Shanghai and other big cities, it can still set up special judicial institutions in some intermediate courts and try specific intellectual property cases such as patents, technical secrets and computer software across regions.

5.3. Change the existing punishment mechanism and adopt the “double punishment system”

Increase the number of fines for relevant illegal acts, and implement the “double punishment system” for monopoly acts, which means not only punishing the enterprises but also punishing relevant personnel who are personally responsible. Increasing the punishment for acts with serious consequences caused by monopoly is the common voice and institutional choice of many countries and regions, as well as the development trend of antitrust law in the world. In the revised draft of China's Antitrust Law in 2021, the “double penalty system” also clearly appeared, but by May 2022, the revised bill had not been formally determined. China, now the world's second-largest economy, has a stronger demand than ever for fair competition in order to achieve high-quality innovation-driven development. By enhancing the authority and deterrence of the anti-monopoly law, eliminating market competition barriers and restricting operators' pursuit of monopoly profits, it is conducive to providing institutional guarantee for the construction of a new development model and promoting the higher quality development of China's economy.

5.4. Encourage domestic enterprises to innovate in scientific research

Domestic enterprises should pay attention to market research and technological development, make new breakthroughs in the field of IP and reduce their dependence on the scientific research achievements of other countries. Due to the complexity of national legislative procedures and contents, it often lags behind the actual situation. Hence, to fundamentally enhance the strength of China's MNEs and national economy, enterprises must be based on long-term strategy, and pay attention to brand management and quality management. Only by fully mobilizing the enthusiasm of the state and enterprises can it implement the antitrust regulation of IP abuse faster and better.

6. Conclusions

In conclusion, starting with patent tying, this paper analyses China's existing system and its deficiencies in the abuse of IP by MNEs for monopoly, and puts forward relevant legal reform suggestions for China in combination with the reference theories and judicial practices of the two international entities of the US and the EU, which have developed in this field for a long time. In terms of substantive law norms, the government needs to clarify the applicable standards of the legal concepts in the monopoly problem caused by the abuse of IP, and formulate operable regulations. In terms of ex post facto relief such as implementation, special departments shall be established to deal with the monopoly caused by the abuse of IP by MNEs, and the “double punishment” system shall

be implemented for enterprises and directly responsible personnel. With the development of economic globalization, the progress of science and technology and the increasing improvement of China's international status, IP abuse, such as the patent tying, constituted by MNEs poses an increasingly significant challenge to China's existing legal system. China is a country with relatively young development of Antitrust Law and IP Law. Although it has also put forward documents similar to the guide to the abuse of IP, they are still in the stage of soliciting opinions and have not been formally implemented. China's legal regulation of monopoly by MNEs using IP abuse is in the stage of vigorous discussion and development. This paper attempted to put forward some analysis and suggestions in order to help better solve this problem.

References

- [1] Dennis Carlton, Jeffrey Perloff. *Modern Industrial Organization* [M]. Pearson Press, 2004.
- [2] Alden F. Abbott and Joshua D. Wright. Antitrust analysis of tying arrangements and exclusive dealing [J]. *Antitrust Law and Economics*, 2010, 4(8): 183-212.
- [3] GUO Dezhong. The Tying Arrangement in Patent Licenses [J]. *Hebei Law Science*, 2007, 25(9): 93-98
- [4] FENG Jiang, *Antitrust law and practice of abusing market dominant position* [M]. Law Press China, 2020.
- [5] Jay Dratler, Jr. *Licensing of Intellectual Property* [M]. Law Journal Press, 1994.
- [6] NING Lizhi, GONG Tao. Theoretical Analysis of the Case of *FTC v. Qualcomm* [J]. *Wuhan University International Law Review*, 2021, 2021(4): 119-138.
- [7] ZHAO Shuwen and WANG Jiawei. analysis of monopoly (restrictive competition behaviour) of multinational corporations and regulation of antitrust law [J]. *politics and law*, 2007, 2007(1): 21-25.
- [8] Rico Valderrama DOMINGO. *Multinational Corporations and the Philippine Antitrust Policy: An Appraisal* [J]. *Philippine Law Journal*, 1985, 60: 116-152.
- [9] ZHANG Weijun. *Research on the legal system of regulating the abuse of intellectual property rights* [M]. Intellectual property press, 2008.
- [10] Alison K. Hayden. *Patent Tying Agreements: Presumptively Illegal* [J]. *John Marshall Review of Intellectual Property Law*, 2005, 5(1): 94-119.
- [11] A.E. Rodriguez, Malcolm B. Coate. *Limits to Antitrust Policy for Reforming Economies* [J]. *Houston Journal of International Law*, 1996, 18(2):312-357.
- [12] Thomas E. Kauper. *Antitrust Enforcement from the Inside* [J]. *Antitrust Law Journal*, 45(1): 154-162
- [13] MEI Shuwen, HAO Shibo and SUO Futao. *Empirical Research on Intellectual Property Management in Internet Industry* [M]. Intellectual Property Press, 2019.
- [14] ZHANG Jiwen. *Study on the Regulation of Anti-monopoly Law of Patent Tying Behavior--Analysis "Patent Equipment + Material" Tying* [J]. *Electronic intellectual property*, 2016, 2016(12): 43-49.
- [15] Alan Dunlop. *Conventional TRIPS* [J]. *Juta's Business Law*, 1994, 2(3): 137-138.
- [16] Jacob R. Osborn. *A View of the Hierarchy of Patent Rights, Trips, and the Canadian Patent Act* [J]. *Akron Intellectual Property Journal*, 2010, 4(2): 261-280.
- [17] Research group of Shanghai First Intermediate People's court. *The path and mechanism of Chinese courts participating in the construction of the extraterritorial application of Chinese law system* [J]. *Application of law*, 2021, 2021(1): 157-168.