Restrictive Interpretation on "Serious Circumstances" in the "Crime of Infringing Trade Secrets"

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Abstract. The Criminal Law Amendment (11) changes the criminalization standard for the crime of infringing trade secrets from "causing significant losses" to "serious circumstances", but the essence of the boundary between crime and non-crime is still whether "significant losses have been caused". By comparing the four mainstream theories and representative extraterritorial legislation, this paper analyzes from four dimensions: implementation feasibility, economic benefits, scope of application, and application possibilities. The profit method is the profit method to calculate the optimal calculation method for measuring the amount of loss caused by trade secret infringement that best suits China's national conditions.

Keywords: Crime of infringement of trade secrets; Significant losses; Trade secret; The theory of profit.

1. The Formulation of Questions

Trade secrets refer to technical information, business information and other commercial information that is not known to the public, has commercial value, and has been subject to corresponding confidentiality measures by the right holder. 1On the whole, the connotation and extension of the concept of "trade secret" in China's criminal law and other relevant laws are basically the same. In this context, since the crime of infringement of trade secrets is the only provision that criminalizes trade secrets, the crime has become the only criterion for differing an infringement of a trade secret from a civil tort to a criminal offense.

The Interpretation of the Supreme People's Court and the Supreme People's Procuratorate on Several Issues Concerning the Specific Application of Law in the Handling of Criminal Cases of Intellectual Property Infringement (hereinafter referred to as Interpretation (I)), promulgated in December 2004, 2for the first time clarified the "significant losses" in the crime of trade secret infringement. Article 219 of the Criminal Law Amendment (11) promulgated in December 2020 adjusts the threshold for the crime of infringing trade secrets from "if significant losses have been caused" to "if the circumstances are serious". Combined with judicial practice, since how to measure if significant losses have been caused is related to the evaluation of an act of infringement of trade secrets, and will directly affect if the act falls within the scope of civil law or criminal law, the key issue needs to be solved in the usage of this article is still how to measure losses.

However, in practice, there is no uniform standard for determining significant losses. For example, in the "Zhou Delong et al. Trade Secret Infringement Case3", for the calculation of losses, the court recognized both the sales volume of the infringing products of the infringer and the sales volume of the products reduced by the right holder after the infringement. In the "Pei Guoliang Trade Secret Infringement Case"4, the court calculated the "profits obtained by the infringer during the infringement period" in accordance with Article 20 of the Anti-Unfair Competition Law. The lack of uniform standards hinders fair adjudication, and the "serious circumstances" in the "crime of infringing trade secrets" must be interpreted restricted, and it is necessary to form applicable assessment norms. Therefore, this article will discuss the calculation of losses in trade secret infringement and how to determine whether significant losses have been caused.

There are three main characteristics of trade secrets: First, secrecy. The secrecy determines that after the right holder of the trade secret infringement suffers a major loss, it is limited in presenting evidence, and it is difficult to protect their rights. Determining whether a significant loss is achieved

means that the company provides the necessary undisclosed data, which inevitably undermines confidentiality. The second is value. Keeping trade secrets can enable enterprises to occupy an advantageous position in the market, and once trade secrets are leaked, it may also lead to the rapid collapse of large-scale enterprises with social influence. If the value of the trade secret is low, when it is leaked, it should be appropriate to use civil regulations, regardless of whether it will cause significant loss. The third is non-exclusivity. 5The most significant common feature between trade secrets and patent rights is monopoly, and the regulation of trade secret infringement crimes can refer to the Patent Law, but the biggest difference between them and patent rights is that trade secrets are non-public, so the protection of trade secrets cannot be copied from the Patent Law. When trade secrets are unique and exclusive in the market, the enterprise will be in a monopoly position, and the decrease in sales volume can be used as a judgment on whether the participation in the loss constitutes a major loss; However, when it is non-exclusive, it needs to consider the uncertainties caused by other competitors, and it is not possible to determine whether the loss clearly constitutes a significant loss based on the reduction in sales volume alone. Therefore, the above characteristics need to be taken into account when weighing whether the infringement has caused significant losses to the right holder.

2. Theoretical Controversy over "Significant Loss"

Different behavior patterns cause different degrees of effects of trade secrets, for example: the mal-degree of disclosure of trade secrets in public and private is different; The degree of illegality of profiting after notification of trade secrets also varies, so it is needful to divide the infringement of trade secrets. First, determine if the infringer disposes of the trade secret after illegal acquisition; if it has been disposed of, if it has been disclosed, sold or used; if it has been sold, judge if it's used by the illegal buyer. According to the above process, the infringement of trade secrets can be divided into four ways: disclosed after acquisition, used after acquisition, unused after sale, and undisposed of after acquisition.

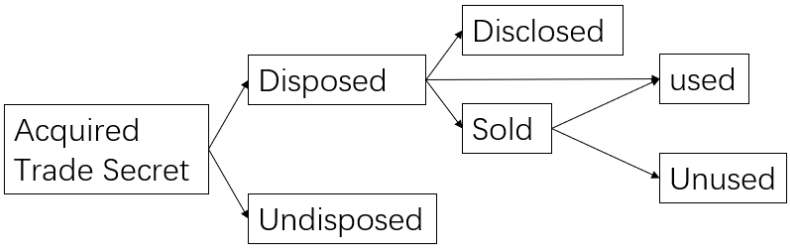

Figure 1. Figure legend

2.1 Disclosed after Acquisition

After acquisition, disclosure can be divided to two cases: public declaration and private notification. The former refers to the retention of the secret part of trade secrets, and the value reduces; The latter is the complete loss of the secrecy of trade secrets and the complete loss of value. The essence of trade secrets is their value, and once they become public, they lose their value. So, the method of calculating loss can be selected according to the degree of disclosure of trade secrets to see if it meets the criteria for constituting significant losses.

2.1.1 Publicly Declare Trade Secrets

In the case where a trade secret is publicly announced, the value of the trade secret is calculated, which can be 6called the value theory, which is applicable to the public disclosure of the trade secret, and there is no longer any possibility of using the dominant market position to obtain excess profits, and the loss of the infringed party can only be determined by accounting its own value. The value of trade secrets itself is not like the reduction of profits, etc., which can be intuitively displayed by relying on the financial statements of enterprises, and should be measured by an intangible asset appraisal agency authorized by the state. However, there are still controversies in the academic circles

about the value theory, such as: some judges claim that development costs need to be taken into account7; Another judge advocated that royalties should also be included8.

In the case of the complete loss of the rights of the right holder of trade secrets, the loss can still be scientifically measured by calculating the value of trade secrets, promotes the full compensation of victims' losses, accurately combats the crime of infringement of trade secrets, and then maintains a good ecology of commercial innovation. The part of trade secrets that is meaningful to the right holder is its value, and obtaining fair compensation is actually another way to achieve the purpose of the existence of trade secrets.

Although the "value theory" is quite scientific at the level of logical deduction, there are obstacles in the practical application of this calculation method, specifically, firstly, which economic benefits should be included in the value of trade secrets Unify the conclusion. Second, it is difficult to predict how much economic benefit disclosure to an unspecified public can make, which becomes a barrier to measuring value. Finally, the value of trade secrets is not equivalent to the loss suffered as a result of the disclosure of trade secrets, otherwise the crime of infringement of intellectual property rights will be no different from ordinary crimes of property infringement. Trade secrets that are not known to the public are exclusive, that is, they exclude the possibility of others using the same technology to produce goods, so that the right holder has more advantages in the industry and can obtain higher profits. The crime of trade secret infringement protects the exclusive right of the right holder, and the infringed party can still engage in general production through the prior art, but can no longer obtain excess profits; The ordinary crime of infringing on property violates the right of possession of the right holder, that is, the complete loss of control over a certain property. Confusing the two concepts would be contrary to the legislative intent.

2.1.2 Privately Disclose Trade Secrets

Privately informing a trade secret usually manifests itself in the following model: Jia is an employee of Company A of an agricultural product company, and he wants to join another Company B with the same business scope, so he privately copies the planting technical information of Company A to Company B, and signs a three-year employment contract with an annual salary of $200,000 with Company B. At this point, it is clear that the value of the trade secret itself cannot be determined by an employment contract worth $600,000. The essence of this situation is that the perpetrator informs the third party of the stolen trade secret for a fee, which in actual application is equivalent to the disguised "unused after sale" mentioned later, and will not be detailed here.

2.2 Used after Acquisition

Obtaining and using it is the most common mode of conduct in the crime of infringement of trade secrets, including the direct theft of trade secrets or allowing a third party to use them, but since no matter which party uses them, the perpetrator of trade secret infringement has already made considerable profits, and it is appropriate to calculate the amount of profits, which can be called profit theory. In empirical evidence, there are differences in the calculation of profits, but here are the three main ones.

2.2.1 Calculated by Subtracting Costs from the Infringer's Gains

This calculation method is often used when technical information is stolen. The economic return obtained from the sale of products produced using the trade secrets of the right holder is the income, and this amount of information can be obtained directly according to the sales contract concluded between the infringer and the buyer; The cost of raw materials, labor costs, venue rental fees, etc. required to produce infringing products is the cost. The advantage of this method is that the required data is readily available, but due to the computational costs involved, it may lead to secondary disclosure of trade secrets.

2.2.2 Measured by the Intermediate Price Difference Earned by the Infringer

This measurement method is mostly found in situations where business information is stolen, such as: A is an employee of Company A, Company B entrusts Company A to purchase goods, Company A purchases goods from its partner Company C, and A uses his position to contact Company B, and colludes with Company C to deliver goods directly to Company B without going through Company A, and the actual profit of A is the difference between Company B's purchase from Company A and the purchase from Company C. This method has the same benefits as the first calculation method of the profit theory, but because it is more suitable for situations where business information is stolen, it is less common and narrower than existing cases of infringement of trade secrets.

2.2.3 Measured by the Profitability of Similar Products in the Market

This method uses the market price or the price of similar goods as a benchmark to calculate the profits obtained by the perpetrator of trade secret infringement, which was adopted in the trade secret infringement case of Xiang Jun and Sun Xiaobin.9 The main advantage of this method is that the loss can be measured without the right holder providing any information about costs, etc., and can effectively protect the secrecy of trade secrets. However, as with the second method above, it can be used in a narrower range. The reason why trade secrets need to be protected is because the right holder can rely on the trade secret to occupy a significant dominant position in the market, and the profits of other operators cannot reach the profits of those in a monopoly position.

2.3 Not Used after Sale

The unused model after sale is manifested in the fact that the infringer infringes the trade secret to the third party for a fee, and the third party has not put the trade secret into production or operation, which will cause losses such as royalties and transfer fees. monopolies that own trade secrets tend to share trade secrets with the enterprises they work closely with in the form of royalties; Smaller enterprises that own trade secrets tend to transfer trade secrets entirely for transfer fees. Since the third party has not started to use the crime, the method of comparing the amount of profits obtained and the amount of significant losses cannot be used to determine whether the crime is constituted without profit, but the loss can be directly calculated, and this method can be called the loss theory.

Losses caused by the disclosure of trade secrets include direct losses and indirect losses. The former refers to the loss caused by the proportional decrease in sales volume in the process of the right holder's use of technology or business information to produce and sell products, and the latter refers to the loss not proportional to the decrease. Once the news of the leakage of a company's trade secrets leaks, it will damage its reputation, which in turn will cause the company's shareholders to sell stocks and the stock price to fall. The losses caused by the aforesaid reputational damage and the decline in share price are indirect losses.

Other doctrines replace incalculable losses with the value of trade secrets themselves, the profits of infringers, etc., and there is a question of whether concepts are interchangeable. In contrast, the use of loss theory to determine whether a significant loss constitutes is the most indisputable. In addition, whether it is the value of the trade secret itself, the profit obtained by the infringer or the actual cost invested by the right holder, it is too high or low compared with its loss, and only the loss itself appears accurate and scientific.

However, what the loss entails is difficult to determine. Market conditions are complex, and impacts of various factors on losses varies significant or slight. Of course, significant impacts need to be taken into account, so whether the impact is slight and to what extent it does not need to be considered needs to be stipulated. Moreover, the unresolved question of how to calculate consequential loss is one of the reasons why the doctrine is not widely applicable. Since indirect loss has been taken as a consideration to affect whether or not to criminalize, it is needful to solve the problem of how to calculate indirect loss by using the loss theory, but for it is not proportional to the sharp decline in sales volume, indirect loss is difficult to calculate by existing means, in which the loss of stock income fluctuates greatly, and it is more difficult to calculate the abstract reputation loss.

2.4 Not Disposed of after Acquisition

In the case of not disposed of after acquisition, it is a fact that the trade secret has been stolen, but the right holder hasn't suffered losses in transactions and the infringer has made no profits, and the right holder's cost of developing the trade secret and other expenses incurred in the usage of trade secrets, that is, the cost of input, can be used to calculate the loss, which can be called the cost theory.

Determining the amount of loss by cost means that the amount of loss can be most measured provided the right holder provides a detailed list of cost inputs. Obviously, the right holder must be the most witting about its cost input, so it's not hard to gain a list of cost inputs, which makes the adjudication fair and efficient.

However, there are also many problems that need to be solved if this method is to be promoted. The most important issue is that the use of the cost method requires the right holder to provide details of R&D investment as evidence to prove the cost, which may lead to the secondary exposure of trade secrets, which can cause the right holder to suffer re-losses on the basis of the original loss. Second, the connotation and extension of cost are not clear. In practice, different judges understand the cost differently. For example, some judges believe that the cost is the total development cost10Some judges held that the cost is part of the development cost plus part of available benefits11, and some judges held that the costs are trade secret transfer fees and employee training fees12. Third, in the case of "acquisition without disposal", the external loss of the trade secret right holder can be regarded as non-existent, and if the comparison of the total cost and the statutory amount of major loss is used to determine whether the infringer's act constitutes a crime, is this an unfair judgment against the infringer. Finally, like the theory of value and profit, the theory of cost has also been criticized by academics for if the cost of the right holder can be equated with its loss.

3. Extraterritorial Investigation of Legal Regulation of Crimes of Infringing Trade Secrets and Its Enlightenment

3.1 Civil Law Systems

3.1.1 German Model

German legislation on crimes of infringement of trade secrets is embodied in the Unfair Competition Prevention Act (hereinafter referred to as the Prevention Act). The Prevention Law stipulates five crimes: the crime of illegally disclosing trade secrets obtained through employment relationship, the crime of illegally obtaining or retaining trade secrets, the crime of illegally disclosing or using improper means to obtain trade secrets, the crime of illegally using or disclosing trade secret sample information obtained through commercial transactions, and the crime of instigating others to infringe on trade secrets. 13Under the Prevention Act, criminalization is judged on the basis of if the conduct conforms to the type described in the law and not if the loss reaches a certain amount. For example, Article 17 stipulates that whoever obtains or retains the trade secrets of others without authorization by using technical means, making copies of trade secret carriers or stealing articles containing trade secrets for the purpose of competition, personal interests, interests of third parties or harming the interests of enterprise owners shall be sentenced to a free penalty of not more than three years or a fine.

There are commonalities between China's criminal law and German criminal law in the conviction and sentencing of trade secret infringement crimes, that is, the crime of trade secret infringement can be fined alone, the reason is that compared with other types of crimes, the social harm of trade secret infringement crimes is small, and the fine alone can achieve the effect of punishing part of the crime of infringement of trade secrets. But there're also differences of legislation between China and Germany: First, compared with China's focus on meeting a certain number of incrimination criteria, Germany's focus on a certain nature; Secondly, China has made clear provisions on the meaning of trade secrets, while Germany lists the criminal acts of infringement of trade secrets in detail without definition; Third, considering penalties, the penalty of the crime of infringing trade secrets in China

can reach to 10 years in prison, which is heavier than the German of three years; Finally, all criminal offences in China are ruled by criminal law, while the crime of infringing trade secrets in Germany is ruled by the Prevention Act. German legislation is lighter than China, which may be for Germany's commercial order has been well developed and doesn't need criminal law to intervene more.

Germany's protection of trade secrets requires it to keep up with Germany's industrial progress, so it has built a legislative system that is easy to modify and change. 14However, the German model, which provides for up to five types of trade secret infringement offences, presents a striking disadvantage in that it is extremely trivial and creates obstacles to application, and it does not provide an exhaustive list of all trade secret infringement offences. The more critical reason why the German model is hard to apply is that although it can adapt to changes of society as soon as new crimes that need to be adjusted by criminal law continue to be listed, such a legislative model is not stable, and will lose the role of guiding behavior that norms should have, so that ordinary people lack a sense of stability.

3.1.2 Japanese Model

Japan also does not make the cause of significant losses a condition for the establishment of a crime of infringement of trade secrets, and its legislative thinking is basically the same as that of Germany, reflecting the difference in that its statutory maximum sentence is 10 years, which is the same as in China. However, unlike China, Japan distinguishes between "serious circumstances" and "particularly serious circumstances" based on the type of conduct, and punishes fixed-term imprisonment of not more than five years or a fine of up to 5 million yen, fixed-term imprisonment of up to 10 years, or a fine of up to 10 million yen, respectively. China is divided 15into three years and Japan by five years, which shows that Japan's statutory punishment is relatively severe, and it believes that the infringement of trade secrets must have risen to the criminal field because it is extremely bad. Japan thinks that since trade secrets of competitors can be gained by paying remunerations to the knower of trade secrets, there is no need to spend more human and material resources to seek an uncertain result, and even the state has introduced policies to support this behavior. 16The Japanese model is similar to the Germany's, and reasons for its applicability to China aren't significantly different from those of Germany, so I won't repeat them here.

3.2 Common Law Systems

3.2.1 British Model

The UK is recognized as the first country in the world to use legal means to protect trade secrets. As a typical case law country, the UK does not expressly provide for the offence of infringement of trade secrets, but only recognizes that trade secrets are considered punishable as property offences when they are tangible property. In addition, the UK is opposed to the extraterritorial application of trade secret crimes regulated by other countries and its own country, while China advocates promoting the extraterritorial application of our legislation17.

China and the United Kingdom have adopted completely different qualitative paths for infringement of trade secrets: the former combines the type of conduct with the amount of loss as a criterion for judgment, and the range of judges' discretion is relatively narrow; The latter relies entirely on the discretion of the judge. This distinction is rooted in different judicial models of the two countries: British courts have long relied mainly on experience of judges as the core of justice, while the judicial model that our courts are used to is to choose proper laws for accurate application. Just as it is unrealistic to require British judges to accurately locate the one that should be used in a large number of laws like Chinese judges, for Chinese judges haven't been cultivated to do so, and they cannot judge cases mainly by experience, it is unwise to blindly promote the British model in China.

Although the models of the two countries are so different, the practice of adjudicating on the basis of judicial precedents is worth properly reference. For example, China's current legislation does not specify how to calculate the number of losses caused by trade secret infringement, but as mentioned

above, many judges have proposed reasonable calculation methods, and the Supreme People's Court can select and form guiding cases to apply in subsequent judicial judgments.

3.2.2 American Model

Similar to the German and Japanese model, the US evaluates the infringement of trade secrets as a crime in order to meet the objective behavior and subjective mentality stipulated in the Counter-Economic Espionage Law (hereinafter referred to as the "Espionage Law") as a needful condition. To specific, the Espionage Law stipulates causes of the crime, including the right holder's failure to take confidentiality measures for the trade secret, the actor using the right holder's trade secret to develop a new trade secret, and the actor's inference of the content of the trade secret from the split information of the product. 18

There are obvious differences in the legislation of China and the US on the issue of trade secret infringement crimes: First, China and the US have adopted different bases for the division of trade secret civil infringement and criminal offenses, the former is based on the amount of loss, and the latter is based on the nature of the act. Second, U.S. legislation is stricter, with sentences up to 15 years.

There are two main reasons for the different severity of criminal law: First, the US attaches great importance to IP rights, has formed a separate legislative system for the protection of trade secrets, and the use of severe penalties for crimes of infringement of trade secrets is accepted by society. 19Second, the US has considerable influence in the world by its large enterprises, and the heavy damage caused by the leakage of trade secrets will affect markets of various countries, so it is needful to build a strict regulatory system. However, Chinese enterprises are currently in the stage of expanding rather than keeping stable, and excessive penalties hinder their development and discourage technological innovation, 20in addition, Article 219 of the Criminal Law and relevant judicial interpretations are sufficient to achieve the purpose of regulating the crime of infringement of trade secrets in China. Therefore, the path of heavy criminalization in the United States on the issue of infringement of trade secrets is not applicable in China.

4. Reconstruction of the Identification Model for "Major Losses" in Trade Secret Infringement Crimes

4.1 Conduct Feasibility Analysis

In theory, no matter what kind of calculation method is adopted, the calculation method it depends on is clear, and the difficulty of performing different calculation methods depends to a greater extent on the difficulty of gaining the data used for calculation. Therefore, the criterion for the feasibility of implementation is mainly if the data used for the calculation is readily available.

The fatal disadvantage of the loss method is the difficulty of defining the scope of the data to be calculated, especially the indirect loss component. On the one hand, the practical and theoretical circles have not reached a unified consensus on the connotation and extension of indirect losses. On the other hand, under the premise of ambiguity of the concept, let alone the determination of the method of measuring indirect loss as the norm. The calculation of the amount of loss when all aspects of indirect loss are highly uncertain leaves judges with a wider discretionary space, and different judges may make completely different judgments on the same type of case based on different understandings, resulting in different judgments in the same case, and may even lead to judicial corruption.

Compared with the loss method, the merit of the value method in terms of the feasibility of implementation lies in the fact that the method is based on the assessment report provided by intangible asset appraisal agencies that has been approved by the state. Compared with judges engaged in judicial work, the statisticians of intellectual property valuation institutions are experienced experts in the calculation of the amount of loss, and often have more professional countermeasures to the difficult problem of measuring the amount of loss, while the approved

assessment body represents authority because it is licensed by the state, and from a theoretical level, the calculation results may have stronger credibility and are more easily recognized and accepted by the general public.

The data referred to by the profit method is mainly the amount of profit made by the infringer, and the profit amount is a relatively easy data to obtain, for three main reasons: First, the rich calculation methods of the profit method make it possible to turn to searching for other available data that can reflect the profit situation in a situation where data is difficult to obtain. Second, companies tend to truthfully disclose their earnings to the public in order to attract more corporate or individual investors. Finally, the perpetrator of trade secrets is obliged to cooperate with the judicial authorities in handling the case, which makes the judicial authorities less resistant to grasping the profits of the infringer.

In summary, since data on indirect losses cannot be determined, the loss theory has little realistic feasibility at this stage. In contrast, the cost method data is also relatively accessible. It's because if the cost is divided into direct and indirect costs, the difference between them and losses is that the indirect part is still tangible and can be measured in economic amounts, such as rent, depreciation, power and other indirect costs can be materialized as capital expenditures. Developers of trade secrets usually keep a record of these expenditures.

4.2 Analysis of Economic Benefits

The cost method relies on the list of various human and material resources provided by the enterprise to obtain the cost expenditure, that is, the amount of loss, which is certainly the simplest calculation method, but the risk that it may lead to secondary leakage of trade secrets and cause greater losses is an unacceptable result for ordinary rational enterprises. In order to avoid this risk, the infringed party may draw up a false list and modify some of contents of the list, which will undoubtedly add work to the judicial authorities to test the authenticity of such evidence, increase judicial costs, and eventually project onto the social cost, and the society will bear this excess expenditure. Besides, the loss calculated by using the cost method is the most basic value of trade secrets, which is far from covering all expected future benefits trade secrets may bring, and calculating the amount of losses of trade secret rights holders through the cost method may lead to excessive underestimation of the losses suffered by trade secret rights holders.

Unlike the cost approach, the core of the value method lies in the fact that burdens of measurement are placed on an IP valuation body that has obtained a state mandate, which ensures the authenticity of evidences used as references for judges' discretion, which judges can admit, and reduces the unnecessary workload caused by the need for repeated verification. Although this calculation method makes the infringed party have to bear an assessment fee on the basis of the loss of economic benefits, compared with the more serious economic losses caused by secondary leakage, the value method is relatively more conducive to safeguarding rights and interests of the trade secret right holder, and the input-output ratio of the cost of rights protection and the effect of rights protection is more in line with the psychological expectations of the infringed operator.

Similarly, the profit method has advantages over the cost method in improving economic efficiency. The profit method is a highly mobile calculation method, which is manifested in the fact that there are many other methods of calculating profits in the case that one calculation path is difficult to continue using due to lack of data. In contrast, the cost method only relies on the right holder of trade secrets to actively disclose its confidential commercial information, supplemented by the judicial authorities to verify the authenticity of the evidence. Once there is a lack of data, it is likely to fall into a deadlock where even if we continue to invest human and material resources, it is still only a meaningless consumption, and it is difficult to further advance the judicial process.

On the whole, the cost theory has obvious shortcomings compared with the other two theories, that is, the authenticity of the data evidence provided by the infringed party for calculation may be doubtful, which will cause the economic cost of verifying the evidence.

4.3 Analysis of the Scope of Application

The scope of application of the value method is extremely limited, and it can only be applied if and only if the trade secret is made public and completely loses its economic value. In the case where the trade secret is disclosed but only part of the value is lost, since the loss suffered by the right holder may not reach the amount of the full value of the trade secret at this time, it is unscientific to use the value law to use the full value of the trade secret as the amount of the right holder's loss, and it is obviously unfavorable to the infringer to judge if the infringer should be convicted by the amount of loss determined by this method. Therefore, the value method can only be used in the case of complete loss of value of trade secrets, and using the value method in other situations isn't proper.

In contrast, the profit law is much broader in scope. Even when trade secrets only lose part of their value, the profit law can be applied in a variety of scenarios, such as using trade secrets to produce and operate, selling and transferring trade secrets to gain profits, and using trade secrets to gain profits from investing in shares, 21and can basically meet the adjudication needs of various cases.

The scope of application of the cost method is also relatively widespread. It can be applied not only to the situation analyzed above that the infringer has not disposed of the trade secret after stealing the trade secret and has not caused substantial loss, but also to the situation where substantial loss has been caused, for example, in the trade secret infringement case of He Qingmei and Li Wulin and others, 22the judge rejected the defender's defense opinion that the infringer didn't cause significant losses on the basis of the cost of R&D of the trade secret of 9.9 million yuan, and objectively convicted the infringer.

4.4 Application Possibility Analysis

The profit method is highly flexible and includes a wide range of calculation methods. This richness, in turn, gives judges moderate discretion, provides more possibilities for achieving "differentiated treatment of different issues", and adapts to the needs of various cases. Besides, the usage of the profit method can be accomplished by entrusting an authoritative accounting firm that is more adequate than intangible asset valuation institutions in society. For cases where the facts of the case are relatively simple and clear, judges can even use their own experience to complete the assessment independently. Besides, since the profits of the trade secret offender are based on the fact that he has stolen the technical information or business information of the right holder, if he has not obtained the details of the trade secret, there is no possibility of profit, which means that only the right holder can gain this part of the income originally, and the infringer has taken this part of the income by stealing the trade secrets of the right holder, which is essentially the income that the right holder originally deserved. Therefore, with regard to the question raised by the academic circles whether the profits obtained by the infringer can be equated with the losses suffered by the infringed, this paper argues that the profits obtained can be equated with the losses suffered.

In addition to the problems mentioned above that are difficult for the public to accept, the value law also has the following problems that hinder its application. In order to ensure the objectivity of the valuation results, it takes a certain period of time for the relevant institutions to intercept the data of the start time of the appraisal work as a reference value to measure the value of the analysis and assessment results, and China's intellectual property valuation institutions are not yet in a highly developed stage, limited by many factors such as the work schedule of relevant institutions and the number of personnel, based on the above two reasons, the assessment results cannot be obtained immediately. However, it should be taken into account that value is a relatively floating concept, and although the infringer will often stop producing and selling the infringing product after filing a case for investigation, it cannot immediately remove all infringing products, which means that the infringement of the rights holder's interests is still continuing. Failure to calculate the consequences of damage that will continue to occur in a timely manner may not fully summarize the value of trade secrets and affect the objective evaluation of the degree of infringement.

The cost method cannot really solve the problem in practical application. First, there is an inherent defect in the cost theory, that is, the theoretical and practical circles have not agreed on the

connotation and extension of cost. Second, the use of the cost method may give rise to new issues to be solved, such as verifying the authenticity of the cost information provided by the trade secret rights holder. Finally, in the event that the infringer has not used and disseminated it after theft, the right holder of the trade secret can be regarded as having not suffered any actual economic loss, and convicting the infringer with the full cost of the right holder as the amount of its loss is contrary to the modesty of the criminal law.

The value method and the cost method both have the problem of having only a separate set of mechanically fixed calculation methods, which lack flexibility compared with the profit method, so they are less likely to be applied.

4.5 Optimal Path Selection

In summary, the ambiguity of the concept of indirect loss makes the loss method almost completely unusable. The value theory has the outstanding shortcomings of narrow scope of use, and the cost method has the outstanding shortcomings of low economic efficiency, while the profit theory has no obvious shortcomings in these two aspects. Not only that, the wide range of application scenarios of profit theory is also irreplaceable by the other two theories. Therefore, the profit theory is the most widely adopted in judicial practice, and the use of the profit law should be given the highest priority in adjudication. 23When all data on profits obtained by the infringer are in a state of inaccessibility or in rare circumstances such as the complete loss of the value of trade secrets, consideration shall be given to the application of the value theory and the cost theory, and when necessary, the Supreme People's Court and the Supreme People's Procuratorate may publish guiding cases as judicial supplements.

5. Conclusion

Trade secrets become interests worthy of legal protection because of their value, and they are vulnerable to infringement because of their non-exclusivity, but the secrecy of trade secrets reflects that they are more legal interests belonging to the private domain, and it is not appropriate to raise the infringement of trade secrets with significantly minor circumstances and little harm to the scope of criminal law adjustment. Ensuring that trade secret crimes are combated in place is indeed conducive to the full protection of intellectual property rights, but such protection should not be expanded indefinitely, and it should be said that restrictive interpretations must be resolutely implemented in assessing whether infringement of trade secrets constitutes a crime, otherwise it will be an abuse of criminal punishment and violate the modesty of criminal law. Only when the infringement of trade secrets seriously undermines the order of the market economy and causes major damage to the public interest, can criminal law be used to regulate it. Only by ensuring the intensity of the crackdown and controlling the intensity of the crackdown can we truly balance the relationship between stopping illegal acts and promoting technological innovation.

References

[1] See Article 9, Paragraph 4 of the Anti-Unfair Competition Law of the People's Republic of China (Amended in 2019).

[2] The first paragraph of Article 7 stipulates that "if one of the acts provided for in Article 219 of the Criminal Law causes losses to the right holder of a trade secret in the amount of more than RMB 500,000, it shall be 'causing major losses to the right holder of a trade secret', and shall be sentenced to fixed-term imprisonment

[3] See Shanghai No. 2 Intermediate People's Court (2003) Hu Er Zhong Criminal Chu Zi No. 150 Judgment.

[4] See Xi'an Intermediate People's Court (2005) Xi Xing Er Chu Zi No. 93 Judgment.

[5] See Wang Wenjing, "On the Principles for Determining "Significant Losses" in the Crime of Infringing Trade Secrets", Law Review, No. 6, 2020.

[6] See Wu Yunfeng et al., "Research on the Identification of "Significant Losses" of the Crime of Infringing Trade Secrets", Journal of Law, No. 9, 2010.

[7] See National Judges College and Law School of Renmin University of China, ed., Compendium of Trial Cases in China (2002 Criminal Trial Case Volume), Renmin University of China Press, 2003, pp. 186-188.

[8] See Shenzhen Intermediate People's Court of Guangdong Province (2004) Shen Zhong Fa Er Zhong Zi No. 258 Judgment.

[9] See Supreme People's Court: Guiding Cases for Criminal Trials in China, Law Press, 2009, pp. 338-342.

[10] See Anhui Province Bengbu Intermediate People's Court (2001) Criminal Judgment No. 147.

[11] See Hangzhou Intermediate People's Court of Zhejiang Province (2007) Hangzhou Criminal Ruling No. 135.

[12] See Beihai Intermediate People's Court of Guangxi Zhuang Autonomous Region (2007) Bei Xing Zhong Zi No. 101 Criminal Civil Ruling.

[13] See Qi Wenyuan et al., "The Criminal Law Protection Provisions of German Trade Secrets and Its Enlightenment", Journal of South-Central University for Nationalities, No. 4, 2013.

[14] See Zheng Youde et al., "On the Formulation of China's Special Law on the Protection of Trade Secrets", Electronic Intellectual Property Journal, No. 10, 2018.

[15] See Liu Ke, "A Comparative Study of Trade Secret Infringement Crimes in China and Japan," China Journal of Criminal Law, No. 3, 2011.

[16] See Wang Mianqing, "The Development Trend of Criminal Protection of Trade Secrets", Electronic Intellectual Property Journal, No. 2, 2010.

[17] See Zhang Huaiyin, "The Extraterritorial Application of Trade Secret Criminal Law: U.S. Mechanisms and China's Response," China Journal of Criminal Law, No. 1, 2022.

[18] See Jia Xuesheng et al., "The Criminal Law Protection of Trade Secrets in the United States and Its Enlightenment", International Intellectual Property Journal, No. 5, 2014.

[19] See Ma Zhongfa, "Revisiting the Legislative Model of Trade Secret Protection in China", Electronic Intellectual Property Journal, No. 12, 2019.

[20] See Tang Jiyao, "Expansion and Limitation: On the Basic Position and Realization Path of Criminal Law Protection of Trade Secrets in China", Politics and Law, No. 7, 2020.

[21] See Chen Xingliang, "Determination of Significant Losses and Amount of the Crime of Infringing Trade Secrets", Law Forum, No. 7, 2011.

[22] See the People's Court of Bao'an District, Shenzhen City, Guangdong Province (2019) Yue 0306 Criminal Chu No. 4934 Judgment.

[23] See Shen Yuzhong, "Judicial Determination of "Significant Losses" in the Crime of Trade Secret Infringement", Intellectual Property Journal, No. 1, 2016.