

Intellectual Property Pledge Value Evaluation for Listed Companies: A Case Study of Yunnan Baiyao Enterprise

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Abstract

In modern enterprise assets, the proportion of intangible assets is not only an important standard to measure the competitiveness of an enterprise, but also an important way to obtain financing. Bank loans can be obtained through the pledge of intellectual property rights to solve the capital problems encountered in the development process of enterprises. However, the difficulty of intellectual property pledge is value evaluation, and intellectual property belongs to intangible assets, and its uncertain characteristics easily lead to more problems in the process of value evaluation. In addition, the traditional value evaluation methods have certain limitations. This paper selects Yunnan Baiyao enterprises as an example to study the value evaluation of intellectual property pledge of listed companies.

In this paper, domestic and foreign scholars on the status of intellectual property pledge research, analysis of the focus of domestic and foreign research, at the same time, the status quo of value evaluation is analyzed, and combined with three basic methods of intellectual property value evaluation are analyzed, and taking Yunnan Baiyao enterprise as an example, the application of intellectual property pledge value evaluation method is illustrated, and relevant enlightenment and suggestions are obtained. Finally, this paper summarizes the full text and prospects the evaluation methods of intellectual property pledge

value of Listed Companies in China. The text studies the advanced experience of municipal solid waste treat.

Key words: Intellectual property pledge; Value evaluation; Financing

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1. THE INTRODUCTION

With the advent of society in the era of knowledge economy, enterprises pay more and more attention to the construction of intellectual property rights and strive to protect the value of intellectual property rights. Moreover, from the perspective of national society, they have also promulgated relevant laws and regulations to protect the legitimate rights and interests of intellectual property rights, which also proves that intellectual property rights are of vital importance to both countries and enterprises.

At present, the vast majority of enterprises regard the development of intellectual property as a long-term strategy, especially for some science and technology companies, whose survival depends on intellectual property. On the other hand, the protection and value evaluation of enterprise intellectual property is a problem perplexing these enterprises. The main methods for evaluating the value of intellectual property of enterprises include cost method, income method and market method. However, these three methods all have certain limitations, so they cannot accurately and effectively evaluate the value of intellectual property. In this context, how to correctly evaluate the value of intellectual property becomes very important.

As a kind of intangible asset, it is much more difficult to evaluate intellectual property than tangible assets. In the process of evaluation, we need to fully consider various factors in order to improve the accuracy of the judgment of intellectual property value. On the basis of the connotation of intellectual property and its related theories, the significance of this paper is to use intellectual property evaluation methods to study the intrinsic laws of intellectual property evaluation of enterprises, so as to provide certain basis and theoretical support for the evaluation of intellectual value of enterprises.

With the globalization of the world economy and the rapid development of the knowledge economy, intellectual property has become a major resource necessary for many countries to enhance their comprehensive strength and enhance their status in the world. Science and technology enterprises are the enterprise groups with the most development potential in China at present, and they are also the first choice for them to implement intellectual property strategy and enhance independent innovation ability. However, the development of small and medium-sized technology-based enterprises has lagged behind due to the limitations of small scale, less collateral assets and strict approval system of bank loan application. Small and medium-sized enterprises of science and technology have created a new way to finance intellectual property through pledging. However, in the process of the implementation of the enterprise intellectual property pledge financing, appraisal institution how to accurately determine the amount of loans to Banks and other financial institutions to assess their specific value, also can better successful financing for small and medium enterprises, also became a means of pledge financing services can be smoothly and the importance of implementation and the key.

First of all, this paper analyzes the current situation of foreign research on the value assessment of intellectual property pledge, points out the differences between the two, and draws out the relevant concepts in the theoretical basis; Secondly, the influencing factors and evaluation methods of intellectual property pledge are discussed. Finally, this paper uses the method of case study to evaluate the intellectual property value of Yunnan Baiyao, and find out the relevant enlightenment. At the same time, this paper summarizes and looks forward to the full text.

In the early stage of writing, this paper searched and read the relevant literature and materials, mainly through Wanfang, CNKI and Baidu Scholar to search for the keyword "Intellectual Property Pledge Value Evaluation", and sorted out the materials to screen the useful information for this paper. In order to make the content of this paper richer, this paper adopts the case analysis method, through the analysis of Yunnan Baiyao this case, to find out the general law.

2. LITERATURE REVIEW

2.1 Domestic Research Status

XiaoXia, LuoYang, yi hui (2020) on the basis of three basic intellectual property value assessment, put forward the "1 + 1" intellectual property value assessment, a new method, is based on the quality of enterprise management and intellectual property value assessment, specific evaluation object is our country small and medium-sized technology-based companies, the value of this assessment method compared with the traditional evaluation way to a breakthrough. Sheng Junqing (2020) also took China's small and medium-sized sci-tech companies as the research object. Sheng Junqing pointed out that although intellectual property pledge can obtain financing, the unstable status of China's financial market has also created a situation of financing difficulties for small and medium-sized sci-tech companies. To solve this situation, it is necessary to establish a risk identification system and find out the relationship between the interests of financing subjects, so as to break this fixed financing mode. GuYun (2019) argue that the process of our country enterprise intellectual property pledge financing, there is always the realistic problems financing difficulties and financing your, GuYun trademark as the pledge to discuss the feasibility of financing, optimizing scheme is put forward, in order to promote our country small and medium-sized enterprises make use of the property rights of trademark pledge financing progress. Yao Lin (2019) believes that the intellectual property pledge financing dilemma existing in China's small and medium-sized enterprises is caused by high transaction costs and the mismatch between supply and demand. Lin Fuliang (2018) took patent pledge as the research object. He believed that problems such as poor stability, large value fluctuation and difficulty in evaluation had a negative impact on the value evaluation of patent pledge, so it was necessary to further innovate the transaction mechanism of patent pledge to improve the success rate of enterprise financing. Liu Qiao, Yang Fan, Huang Jian (2016) The intellectual property financial service model based on Internet + can further solve the problem of intellectual property pledge financing for enterprises and open up a new green and efficient financing model for enterprises to conduct intellectual property pledge financing.

After the official implementation of the Property Law promulgated in January 2007, the legal contents related to the pledge registration of registered intellectual property trademarks in the Guarantee Law have been partially revised for many times, and the law has also undergone many reforms and changes in practice.

Above all, the pledge value evaluation of intellectual property rights in China is currently facing a very serious problem, although Chinese scholars in the financing mode, evaluation method, the related property rights pledge on

innovation, but at the same time should pay attention to the value of China's intellectual property rights pledge assessment only a start stage, is bound to appear in the process of value assessment of all kinds of new problems, therefore, this paper adopted the way of case analysis, to Yunnan Baiyao enterprise as an example, analyzed its practical application, the value evaluation and value of the listed company's intellectual property rights pledge assessment provides the correlation suggestion.

2.2 Foreign Research Status

During the 1930s - 1940s, Hider and others put forward three valuation methods: cost method, market method and income method, which are also the three basic valuation methods commonly used in the international market. In the 1950s, the American valuation Society published a book called Real Estate Valuation. Although the object of the whole book is real estate, the estimation system and method lay a solid foundation for the development of intellectual property pledge valuation. K. Sim, D. Joe and G. Paul (2001), when discussing the method of value evaluation, believed that the standard of value evaluation should correspond to the maturity of technology market, so as to determine the appropriate method of value evaluation. A. J. Glass and K. Saggi proposed that the expected benefits of intellectual property rights can be analyzed through the product life cycle model. T. Fischer and J. Leidinger have studied patent valuation. They believe that the global online auction market can be used to avoid the problem of patent pledge.

Japan has achieved a relatively sound level in the aspects of intellectual property pledge, especially in the identification and evaluation of the basic value of intellectual property. In 1995, a report issued by the Institute of intellectual property in Japan pointed out that intellectual property is a new type of asset that can be used for investment. After that, the issue of intellectual property related venture capital guarantee and commercial value began to get the consensus of the whole society. The provisions of intellectual property pledge in Japan have been reflected in many laws. There are many kinds of intellectual property that can be pledged, such as individual pledge and combined pledge.

In view of the intellectual property management of small and medium-sized enterprises, Japan has promulgated Guidance on intellectual property management for SME and Guidance on disclosure of Intellectual property information. Not only for small and medium-sized enterprises with intellectual property rights own assets value assessment, also including finance, information, towards the small and medium-sized enterprises in market economy value of comprehensive forecast and statistical analysis, and other aspects of content, form a comprehensive system of enterprise assessment survey, make the enterprise value objective

scientific, credibility evaluation of the results more accurate.

Pledge of state-owned intellectual property rights and financing services in the United States have been in existence for a long time, and have a profound applicable basis of relevant laws and regulations. Secured transactions in Title IX of the United States Uniform Commercial Code (hereinafter referred to as UCC) have already started to use the concept of uniform security right, and have not followed the various forms of British chattel security system. It comprehensively stipulates the scope, establishment, form and validity of legal relations. It applies to any form of transaction (except as expressly specified) which is based on the contractual creation of a security right to movable property, and it can be seen that it applies to a wide range. Part 9 can also deal with security rights, particularly in intangible assets in general. General intangible property does not include movable property such as accounts receivable, bills, letters of credit and money. Although there is no specific provision in Article 109 of UCC Part 9 to specify intellectual property, intellectual property is classified as general intangible property in the officially published specification. Therefore, Title IX of UCC is also applicable to intellectual property pledge financing.

In addition, in order to effectively encourage, support and guide small and medium-sized high-tech enterprises to actively and independently carry out technological innovation and improve their market environment, the United States has successively promulgated the Small and Medium Enterprises Investment Act and the Equal Opportunity Act, aiming to provide major national project policy support and enjoy relevant national tax preferences for small and medium-sized enterprises to further implement innovation-driven development strategy through a series of relevant laws and regulations, and gradually consolidate and improve the important competitive position of small and medium-sized enterprises in the domestic and international investment market.

2.3 Literature Review

To sum up, the research of foreign countries mainly focuses on the innovation of value assessment methods, and their research level is far higher than that of China. Their excellent research results and experience are worthy of reference for the domestic market. Of course, this situation is also related to the late start of China's intellectual property pledge value assessment. Therefore, China must accelerate the pace of research on the evaluation of intellectual property pledge value, so as to provide a good financing environment for listed companies and small and medium-sized enterprises.

3. RELATED CONCEPTS AND THEORETICAL BASIS

3.1 Relevant Concepts

3.1.1 Definition and characteristics of intellectual property rights

Intellectual property refers to the intellectual achievements of labor, the producers and operators of which have ownership. Generally speaking, intellectual property will be understood as patent right, which is the narrow scope of intellectual property right, which is also the focus of this paper. Intellectual property not only includes patent right, but also includes trademark, copyright, scientific and technological achievements, trade secrets and so on.

Intellectual property has exclusivity, timeliness and locality. Exclusivity means that any person or individual other than the right holder shall not possess or continue to retain the right to use the right under any circumstances, except for all other provisions that the right holder expressly agrees with or considers to be in accordance with Chinese laws and regulations. This fully explains whether the right holder can be directly protected by strict law and not be infringed maliciously by others when he fulfils the legal exclusive right of monopoly or indirect monopoly. Only by means of various laws and regulations can we completely change the exclusive right of the obligee according to law. Its timeliness is only to enjoy protection within the period of validity prescribed by law. That is to say, every right protected by law has a certain period of legal protection, and the length of the effective protection period of the right of protection varies from country to country. However, the international community will have a consistent prescription for the protection of this right only when the internationally agreed situation is declared. Regionalism refers to only in the legal recognition and identified by the legal protection of the country within the region is identified as effective; That is to say, a right protected by the law of a country has a limitation only within the jurisdiction of that country. So intellectual property is not only regional, but international, and has considerable constraints.

3.1.2 Definition and characteristics of intellectual property rights

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Exclusivity, timeliness and locality are the characteristics of intellectual property. Exclusivity means that any person or individual other than the right holder shall not possess or continue to retain the right to use the right under any circumstances, except for all other provisions that the right holder expressly agrees with or considers to be in accordance with Chinese laws and regulations. This fully explains whether the right holder can be directly protected by strict law when he fulfils the legal exclusive right of monopoly or indirect monopoly. Only by means of various laws and regulations can we completely change the exclusive right of the obligee according to law; Its timeliness is to enjoy protection within the period of validity prescribed by law. That is to say, the legal protection of each right has a certain period of legal protection, different countries' laws on the effective protection of the duration of the right is mostly different. However, when the internationally agreed circumstances are declared, there will be a consistent international time limit for the protection of this right; Regionalism refers to only in the legal recognition and identified by the legal protection of the country within the region is identified as effective; That is to say, a right protected by the law of a country has a limitation only within the jurisdiction of that country.

3.1.3 Principles and circumstances of intellectual property evaluation

In essence, intellectual property belongs to enterprise assets, which emphasizes that the current value of intellectual property is determined by future earnings, and the earning capacity of intellectual property has become an important means for enterprises to solve financing problems. In addition, judging from the current situation, the number of patent applications in China is increasing year by year, which means that the market for intellectual product evaluation will develop rapidly.

There are four main aspects in the situation of intellectual property evaluation: the price of intellectual property that can be transferred or traded is determined; At the same time, it determines the common value of Chinese enterprises' own intellectual property and enterprise capitalization, such as the amount of investment of enterprises' equity participation based on Chinese enterprises' own intellectual property. When the intellectual property of a Chinese enterprise is involved in the transformation of the shareholding system or bankruptcy or the change of property rights; Register the pledge with the administrative authority with the intellectual property rights.

The standard of asset valuation includes three main factors: the standard of asset valuation quantity, asset valuation quantity and management method, and asset valuation management method. As an important part of intangible assets evaluation, enterprise intellectual property also needs to follow the requirements of the

three evaluation elements. Fair, legal, scientific and feasible, objective and true are also its basic principles, which are also the technical principles of intellectual property evaluation. The basic principle of purpose and the principle of action mechanism of content of property right evaluation are also the basic principles of intellectual property right evaluation. The principle of purpose is the premise of reasonable and fair judgment, and the principle of action mechanism of evaluation content is the premise of guaranteeing the scientific nature, authenticity and

feasibility of evaluation. The combination and unity of these three principles is the basic principle of enterprise intellectual property evaluation. In addition, according to the special use nature of enterprise's intellectual property, such as the enterprise's intellectual property is put into its production and operation as a social resource, the principle of enterprise's intellectual property value evaluation can also be understood as the principle of substitution, the principle of expected return, the principle of variability and the principle of consistency.

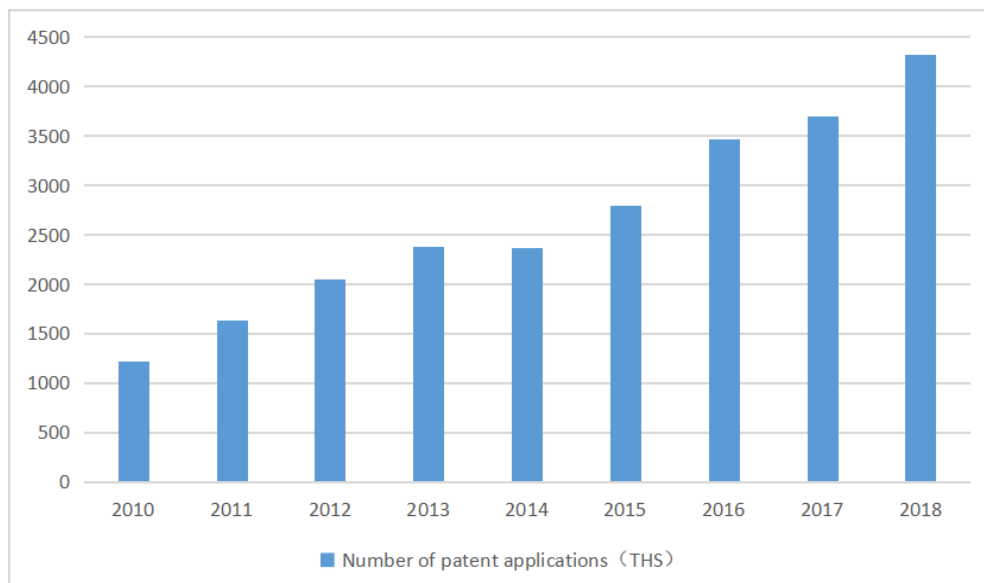


Figure 1
Number of patent applications in China from 2010 to 2018 (unit: 1000)

In addition, the principle of intellectual property also contains the following three basic principles: first, the expected return principle, the expected return of intellectual property is calculable; Second, the substitutability principle, the enterprise intellectual property value evaluation can be found in the market; Third, the consistency principle, the evaluation standard is consistency; Fourth, the principle of variability, the future income of intellectual property is constantly changing.

3.2 Theoretical Basis

The definition of intellectual property in the legal category did not appear until the middle and late 19th century. In 1883, Britain first put forward intellectual property and signed laws and regulations to protect intellectual property. It was not until 1967 that intellectual property first came into the international field of view, marked by the signing of the International Joint Convention on the Protection of Intellectual Property, in which the definition, related concepts and rights of intellectual property were explained in detail.

As far as China is concerned, intellectual property is a relatively new research field, and there are always differences in the interpretation of its definition. Among them, Professor Chuntian, a Chinese scholar, explained

that intellectual property is the result of intellectual labor, and its producers and operators enjoy the right to legally own intellectual property.

The Joint Convention Organization for the Joint Protection of World Intellectual Property Rights also made relevant provisions on the scope of intellectual property rights, which mainly included copyright, patent right and neighboring right, scientific achievements, product appearance creation, trademark, and intellectual creation achievements in other fields. The scope of intellectual property rights was divided in detail.

3.2.1 Intellectual property rights are the exclusive rights derived from the results of human intellectual work. This kind of specific exclusive right can be regarded as a certain kind of specific commodity with value and use value

The use value of intellectual property mainly includes the following points:

First, the use value is unlimited within a certain period of time. People invent and create achievements in order to help people achieve a certain purpose. However, in practice, people achieve the purpose will produce a variety of beneficial improvements to the results, so that the use of these results gradually become more valuable.

With the social progress and the development of science and technology, the use value of intellectual property will be more and more possible.

Second, the use value is a potential and uncertain factor. For a certain landscape, we can directly describe the spectacle of the landscape, from the actual observation and use can directly or indirectly get some benefits or economic benefits, for example, some people take pictures or videos of the landscape uploaded to the Internet to get traffic or participate in the competition to get more economic benefits or reputation. So its actual use value is potentially uncertain.

Third, use value has increment sex. For example, an ordinary sheep, killed according to the market price of the meat, its use value is reflected as food. However, due to human training, a sheep can perform a show. Besides its edible use value, it also has the use value of performance. The reason why buyers buy a commodity is based on its use value first. Value is based on use value, so the value of the latter is much higher than that of the former. However, intellectual property is just like a new welding technology. When it is widely used in a certain type of mechanical appliance, it not only plays a role in welding, but also is likely to improve its quality due to the development of welding technology. That is to say, when this patent is widely used in machines, its use value is likely to not only transfer and fixed to the machine, but also may develop and manufacture new machines, or even produce changes, bringing more profits to the users. Therefore, we should pay more attention to the importance and value of intellectual property when evaluating intellectual property.

Fourth, use value has share sex. The right to use a tangible object is usually reserved for the owner's own use. But intellectual property can be divided among many people at the same time. For example, if the patentee owns a particular patented technology, the patent owner can not only choose to keep it for himself, but also directly lend it to others for common use.

3.2.2 The significance of intellectual property rights

First, increase the total assets to prevent the depreciation of the assets of the enterprise. Although firms clearly define the role of the investment subject in the market economy, it is necessary to make an accurate assessment of the present value of the assets they own. When compiling statistics on the company's past assets, calculations are usually based only on existing assets in the company's accounts and those involving plant and equipment, etc. Intangible assets are omitted and not recorded. Such statistical data is not accurate, or can be said to have considerable data errors. This is because in practical activities, the value of intangible assets owned by an enterprise, including intellectual property rights, is greater than the value of its plant, equipment and other fixed assets. However, the omission of enterprise assets will lead to the disadvantage of the investment enterprise in the negotiation

process, which will leave the other party in a weak position for no reason and give the other party an advantage.

Secondly, the quantified value of intellectual property is an important foundation for future investment and enterprise development. The development of market economy has changed the closed working mode of scientific and technological development of Chinese enterprises, and the work achievements of intellectuals have begun to enter the market directly. With more and more investment projects and intellectual property transactions, enterprises are paying more and more attention to evaluating their own intellectual property and the value of the intellectual property that must be purchased when determining investment and technology introduction. To some extent, the evaluation of intellectual property has become an important part of business strategy.

Thirdly, improving the brand awareness of an enterprise can make the enterprise obtain higher brand internationalization and market economic benefits. If an enterprise wants to survive and develop continuously in today's increasingly fierce social and commercial competition, it should not only strengthen its own management, but also continuously research and develop technology innovation research and expand the investment in product development. Among them, establishing a good corporate image is also the top priority. When evaluating the value of intellectual property rights such as trademarks legally owned by enterprises, it can not only play a better role in the social promotion of enterprises and establish a good image, but sometimes this kind of promotion even has a much better effect than simple advertising.

Fourthly, it is beneficial to gradually enhance the importance of intellectual property protection in our society. Although China's intellectual property law has been basically established and the basic construction has been improved, the social awareness of intellectual property protection still needs to be improved. Through the comprehensive evaluation of the value of intellectual property, the whole society can directly realize the huge social value that intellectual property may create in the development, thus enhancing the awareness of the importance of intellectual property in the whole society.

4. THE FACTORS THAT AFFECT THE VALUE OF INTELLECTUAL PROPERTY PLEDGE

4.1 Formation Cost of Intellectual Property Rights

The value evaluation of intellectual property includes the formation cost, which is more difficult to calculate compared with tangible assets, and even the formation

cost of some intellectual property is easy to be ignored. Therefore, attention should be paid to include the formation cost in the evaluation process when evaluating the value of intellectual property to avoid the problem of value deviation.

4.2 Revenue Factors

The benefits of intellectual property can be divided into economic benefits and social benefits. Generally speaking, the stronger the profitability of intellectual property is, the more economic benefits it will bring to the enterprise, and thus the higher its assessed value will be. But in the real evaluation should not only consider the economic benefits, should also consider the social benefits, to obtain high economic benefits at the same time, intellectual property rights if there is a certain social benefits, if any, will enhance the evaluation value of intellectual property rights, if not, will to a certain extent, reduce the assessed value of intellectual property rights, therefore, the value assessment, should consider the economic benefits and social benefits.

4.3 Service Life

In general, intellectual property with a long life means that the market is adaptable and will not be abandoned by a rapidly changing market. Further, this means that the appraised value will be correspondingly higher, but the appraised value will be correspondingly lower if the intellectual property has a short term of use.

4.4 Technology Maturity

This means that the actual effect of intellectual property is the maturity of the technology. Generally speaking, the more mature the intellectual property is, the stronger the application effect will be, and the higher the corresponding evaluation value will be. If the technology of intellectual property is only at an initial stage and the practical transformation effect is reduced, the corresponding evaluation value will be lower.

Of course, in addition to the listed in this paper, four factors, including the condition of market supply and demand, technological monopoly situation and transfer, intellectual property rights of the assignee, in the same industry the same price level as well as the national policy, intellectual property, intellectual property assessment value will have influence, therefore, in the actual assessment, need to take into account the above factors.

5. CURRENT SITUATION AND METHODS OF INTELLECTUAL PROPERTY PLEDGE VALUE ASSESSMENT

5.1 Single Valuation Method

The current value of intellectual property rights pledge value evaluation method mainly includes the cost method,

market method and income method, these three methods is the main method of evaluation of tangible assets, but this kind of special intellectual property of intangible assets in the process of using the three methods of evaluation the characteristics of the inevitable don't fit, in value evaluation is the effect of will reduce a lot. In addition, in view of the current development status of intellectual property in China, there is no unified value evaluation standard in China, and the evaluation results of different evaluation institutions and appraisers are different, which also results in the inability to effectively clarify the actual value of intellectual property in the evaluation process. At the same time, there is no uniform application standard for the application of value assessment methods in China, and there will be certain differences in the value of intellectual property evaluation under different value assessment methods.

5.2 The Evaluation and Punishment Mechanism Is not Sound Enough

At present, the laws and regulations on the value evaluation of intellectual property are still imperfect, and there is no unity in guiding the evaluation of the pledged value of intellectual property. Although the asset appraisal law was issued to regulate the whole asset appraisal industry, there is no detailed regulation on the relevant laws and regulations on the evaluation of the pledged value of intellectual property. Intellectual property is an intangible asset, and the value evaluation behavior is full of uncertain factors. Therefore, we should strengthen the construction of legal system in the aspect of intellectual property pledge. The evaluation of the pledged value of intellectual property is very dependent on the appraisers and evaluation institutions. However, the professional quality of the appraisers and the evaluation institutions is uneven, which leads to the distortion of the evaluation value. This also reflects that the punishment system in the evaluation of the pledged value of intellectual property is not perfect enough, and the value evaluation behavior is meaningless under the drive of interests.

5.3 The Overall Quality of the Personnel in the Evaluation Institutions Is Relatively Low

Intellectual property rights pledge is different from the value of tangible assets evaluation, it will have higher professional quality to the appraisal institution requirements, including education, work experience, professional level, etc., it also shows to be the appraiser is difficult, and at present, the number of talent in this aspect can't satisfy the demand of the market, with the continuous development of small and medium-sized enterprises (SMEs) and an increase in the number, the number of the pledge of intellectual property rights in China will also increase, to meet the demand of the consequences. In addition, the intellectual property

rights belong to the intangible assets, in the process of its development, also will encounter all sorts of new problems, if appraiser just rely on experience value assessment, will reduce the value of intellectual property rights pledge, so must demand appraiser has the ability to keep on learning, learning new knowledge to cope with the new changes, in order to meet the needs of value evaluation.

Therefore, the talent plan should be formulated in accordance with the development strategic objectives of the national asset appraisal industry, and fully combine with the long-term needs of the development of China's asset appraisal industry, so as to cultivate a high-quality professional asset appraisal team. Promote the teaching reform of education and asset appraisal courses in application-oriented appraisal colleges and universities, cultivate a large number of asset appraisal talents with excellent qualities according to the current situation and actual situation of China's economic and social development; Improve continuing education system, establish curriculum management system, such as vocational skills training, vocational skills training, skills qualification certification, as soon as possible to assets appraisal of the latest theory, knowledge and skills into practice, update the knowledge structure system of assets appraisal professionals, enrich their knowledge.

5.4 Measures for Appraising the Value of Intellectual Property Pledge

5.4.1 Cost method

Cost method is one of the mainstream methods of intellectual property value evaluation in China. It realizes value evaluation by means of replacement cost, but it also has some limitations. First, no measure of cost value can be determined. The premise of using cost method is to set the measurement standard for the object of value evaluation, but often the measurement standard set cannot effectively evaluate all the value elements. For example, the composition of multiple costs is a value element that is difficult to evaluate, so the accuracy of value evaluation will be affected to a certain extent. Second, too much subjectivity. Replacement cost is the core of cost method, but replacement cost is based on current price, and intellectual property is a kind of intangible asset. The value of current market price is not too objective, and it depends on subjectivity to evaluate the value to a large extent. Third, the failure rate of replacement cost is difficult to estimate. Replacement cost itself is a complex process, the relationship between the need to consider the cost value and present value, based on the depreciation cost estimate, calculated the value assessment, but the cost of depreciation of the assessment has always been the difficulty of the asset appraisal industry, for the value of intellectual property rights pledge evaluation is a very difficult thing.

5.4.2 Market method

Compared with the cost method, the market method is based on the existing market and makes differentiation adjustment through the value assessment of the existing intellectual property. This kind of value assessment method is more real and effective and closer to the actual value of the intellectual property pledge, but it also has some shortcomings. First, the need to complete market system, the need for a law laws and regulations, market activity, equity market environment, because under the market environment can more easily find the similar intellectual property pledge value assessment case, but for our country, it is not meet the conditions, imperfect market rules, less number of deals, such problems as lack of information reduces the evaluation value of the market to search. Second, there are few specific transaction cases. In China, there may be some concealment in the evaluation of the value of intellectual property pledge, and the data are not necessarily true, which means that the value comparison based on cases loses the significance of differentiation adjustment. Third, the independence of intellectual property rights is low. In the process of developing intellectual property, most of Chinese enterprises bind tangible assets and intellectual property together, which reduces the independence of intellectual property. Therefore, it will become much more difficult to evaluate the value of intellectual property pledge. Fourthly, timeliness is an important criterion for the implementation of market law. The application of market law to a large extent depends on the dynamic market information, so as to more accurately evaluate the value of intellectual property pledge, but China's intellectual property market has a big defect, the lack of market information.

The market method is easier to understand than other methods because it follows the principle of substituting according to the fact that the amount is not higher than the price of similar products in the market. The prerequisites for the application of market law in China are as follows: (1) There needs to be a fully developed active and fair capital trading market. (2) The market reference of the assessed asset and its comparative index parameters are truly available.

5.4.3 Income method

The income method is a method to determine the value of the intellectual property pledge. It discounts the future cash flow generated by the intellectual property to determine the value of the intellectual property. However, the inclusion of future earnings is uncertain, so this method has certain limitations. First, forecasts of future earnings are fraught with uncertainty. The evaluation of the future benefits of intellectual property is not an objective standard, but rather a subjective one. Second, the technology sharing rate is full of uncertainty. Technology sharing rate is a way of net income separation, which is

mainly based on manual labor and reflects independent consciousness. People who do not use it have different evaluation criteria. Third, the discount rate is fraught with uncertainty. The results calculated by choosing different discount rates are also different, and according to the actual situation of our country, appraisers also rely on individual subjectivity when choosing discount rates. However, it is undeniable that the rate of return is indeed a more comprehensive way to evaluate the value of intellectual property pledge.

The present value income method reflects its use value over time and the characteristics that determine its value. It takes into account the time value of future income. Compared with the market method and the cost method, the income method is more flexible and applicable, and has obvious advantages over the market method and the cost method in intellectual property evaluation. Therefore, the income method is a common method used by assessors to evaluate the value of intellectual property. However, in view of the current development of value assessment in our country, its practical application still needs a long time.

Valuation of intangible assets= r is the discount rate, which is usually replaced by the average return on equity of the industry, and i is the serial number of the service term. F_i is the future year i earnings = net profit - total net assets industry average profit (difference method)

The present value of future cash flows= $P = F_1 / (1+r) + F_2 / (1+r)^2 + \dots + F_n / (1+r)^n$, P is the appraisal value of intangible assets.

Income method is actually the expression of the principle of economic utility, and at the same time it fully embodies the principle of economic anticipation. As the actual use of the assessed IP grows larger, so does its value. In general, the discounted value we calculate exceeds the actual selling price of the valuable asset, meaning that intellectual property can only be resold after it has been purchased. The use of profitability analysis requires a measure of the condition of the value asset and the risk taken by the owner of the monetary asset.

6. CASE STUDY OF INTELLECTUAL PROPERTY EVALUATION -- YUNNAN BAIYAO ENTERPRISE

6.1 Intellectual Property Rights Involved in Yunnan Baiyao Enterprise

Up to now, the intellectual property rights involved in Yunnan Baiyao Enterprise include new inventions, utility models, appearance designs and invention authorization. According to SOOPAT data in China, the number of intellectual property rights has reached 1084, including 444 inventions, 126 utility models, 347 appearance

designs and 167 invention authorization.

Table 1
Quantity of Intellectual Property Rights of Yunnan Baiyao Enterprises (Unit: Item)

keywords	The invention	Utility model	Appearance design	The invention authorization
Yunnan baiyao	444	126	347	167

Source: SooPAT

6.2 The Importance of Intellectual Property Pledge Evaluation of Yunnan Baiyao Enterprises

Intellectual property has the characteristics of improving the competitiveness of enterprises. If Yunnan Baiyao Enterprise wants to improve its comprehensive strength as a listed company, intellectual property is an indispensable part. Intellectual property rights can be financed by means of pledge, which is extremely beneficial for Yunnan Baiyao enterprises to expand market share, and can solve the problem of capital shortage encountered by Yunnan Baiyao enterprises. In addition, with the deepening of the integration of the world economy, many listed enterprises in China expand their international influence by listing overseas. In this process, it is very important to choose an appropriate value evaluation method to evaluate their intellectual property rights.

6.3 Analysis of Intellectual Property Evaluation Methods of Yunnan Baiyao Enterprises

Yunnan Baiyao for intellectual property valuation method has three options: market method and cost method and income method, if choose cost method, the significance of the replacement cost to Yunnan Baiyao company sex is not big, because of its cost and loss and the relevance of intellectual property rights is not high, so it is concluded that the value of evaluation the result is not objective, However, as Yunnan Baiyao enterprises belong to the pharmaceutical industry, there are few specific cases on the market in China, so differentiation adjustment cannot be achieved, and the final evaluation results are not high in authenticity. So, suit to Yunnan Baiyao enterprise intellectual property pledge value evaluation way is income method, although the market method fraught with uncertainty, but comprehensive three basic assessment method, income method is the most suitable, only need to consider the discount rate, the future yield, fixed number of year of the expected return of the three factors, which can calculate the final assessment of the value.

Table 2
Net profit of Yunnan Baiyao Enterprise from 2017 to 2019 (unit: 100 million yuan)

Year	2017	2018	2019
Net profit	31.33	34.8	41.73
Net asset	88.64	76.12	98.02

Source: Financial Statements 2017-2019 of Yunnan Baiyao Enterprise

The following takes an invention license of Yunnan Baiyao as an example to calculate the evaluation value by using the income method. We can see from table 2, Yunnan Baiyao enterprise's net profit is increasing, we choose three years average (3.595 billion yuan) as the next 10 years the annual net profit, earnings duration of selected 10 years, the discount rate (r) was 8% (overseas analysts general discount standards), and assuming that the next 10 years with a net worth of keep at 88.64 yuan, can calculate the invention authorization current assessed value (P).

$$=A \frac{1}{r} = 3595 * \frac{1}{8\%} = 1217 \text{ (mn)}$$

$=A \frac{1}{r} = 8864 * \frac{1}{8\%} = 3002 \text{ (mn)}$ R = Net Profit - Total Net Assets Average Industry Profit, that is, $12.17 - 30.02 * 15 = 7777 \text{ (million)}$

Therefore, the value of an intellectual property of Yunnan Baiyao is RMB 767.77 million at present, and its estimated value is $=7.6777 / 5.2338 = 1.465 \text{ million}$.

7. ENLIGHTENMENT FROM THE EVALUATION OF INTELLECTUAL PROPERTY PLEDGE VALUE OF YUNNAN BAIYAO ENTERPRISES

7.1 Cross - Use of Three Basic Valuation Methods

The application of the three basic value evaluation method have different effect, although the assessment method is relatively single, but a lot of intellectual property rights pledge evaluation can apply to the multiple evaluation methods, at the same time in the enterprise intellectual property pledge on the choice of value evaluation, should cross use, can enlarge the using range of evaluation way, also can let the result of evaluation more comprehensive and real.

7.2 Improve the Legal Mechanism and Evaluation Management Mechanism

Compared with other appraisal industries in China, the value assessment industry of intellectual property pledge is still in the growth stage. The current situation of imperfect legal mechanism and management mechanism seriously hinders the progress of the value assessment of intellectual property pledge. Therefore, China needs to urgently establish a complete legal evaluation and management mechanism. First, on the allocation of assessment personnel, to attract more professional talents into the industry to provide talent guarantee for the development of the industry; Second, the evaluation method should be based on the actual situation in China, and the innovation should be made on the basis of conditions, or the three basic evaluation methods should be improved to meet the needs of China's intellectual property value pledge value

evaluation; Thirdly, in terms of the evaluation system, the emphasis should be placed on standardizing the evaluation process, increasing the qualification audit of the evaluation institutions, and allowing more evaluation institutions that meet the requirements to participate in the value evaluation. Fourthly, a unified standard should be set for the assessment fee, and the assessment fee for some enterprises should be appropriately reduced. Government guidance should be strengthened, so that more enterprises can obtain financing by means of intellectual property pledge, so as to promote the development of the whole industry.

7.3 Strengthen Government Guidance

The establishment and improvement of the Asset Appraisal Law needs to rely on the function of the Asset Appraisal Association. However, as an emerging industry, the value appraisal of intellectual property pledge is bound to be guided by the government in the early development process. The healthy development of the whole industry can be guided by the way of industry supervision and unified management. In addition, the government should also pay attention to this aspect of talent cultivation, compared with other industries, talent or relative lack of intellectual property value assessment, although our country continues to rise in the number of appraiser each year, but the segmentation in the field of intellectual property rights, the number of appraiser or less, therefore, to do a good job of talent training is also a focus of government guidance.

CONCLUSIONS

Compared with foreign countries, the development of China's asset appraisal industry lags behind that of some developed countries. Especially for intellectual property value appraisal, problems such as imperfect laws and regulations, single evaluation method, low overall quality of evaluators, and high evaluation risk need to be solved gradually. With the continuous development of intellectual property, China must pay attention to the following aspects: first, improve laws and regulations, accelerate the construction of intellectual property pledge systematization and institutionalization, and constantly optimize the legal atmosphere in the market; Second, to speed up the exploration and innovation of evaluation methods, because some of China's listed companies in order to improve the international competitiveness, the urgent need for a relatively perfect intellectual property pledge value evaluation methods; Third, strengthen the role of market guidance, give full play to the advantages of China's socialist market economy, and promote the progress and innovation of the entire asset appraisal industry.

REFERENCES

- Bau, X. Z. (2019). Intellectual property financing: models, barriers and policy support. *Science and Technology Management Research*, 39(04), 136-141.
- Glass, A. J., & Saggi, K. (2002). Intellectual property rights and foreign direct investment. *Journal of International Economics*, (2), 387-410.
- Gu, Y. (2019). *Research on optimization of financing mode of trademark pledge of small and medium enterprises*. Beijing Institute of Printing.
- Guo, H. (2019). Discussion on the actual obstacles and path of intellectual property pledge financing in China. *Journal of Financial Development Research*, (08), 87-89.
- Li, L. Q., Huo, S. Q. (2019). Analysis on the market environment of intellectual property guarantee financing for technology-based small and medium-sized enterprises. *Journal of Henan University of Technology (Social Science Edition)*, 15(04), 57-67.
- Li, L. Q., Shen, Y. Y. (2019). Discussion on the existing problems and improvement measures of patent pledge financing for small and medium-sized technology-based enterprises. *Journal of Anyang Normal University*, (06), 23-27.
- Li, Z. G. (2019). Legal dilemmas and countermeasures of intellectual property pledge financing for small and medium-sized enterprises. *Science and Technology for Development*, 15(05), 24-532.
- Lin, F. L. (2018). The dilemmas and countermeasures of patent pledge financing. *Knowledge Economy*, (10), 43-44.
- Liu, N., Lin, Y. (2019). Real dilemmas and future prospects of intellectual property pledge financing in China. *Journal of Northeast Agricultural University (Social Science Edition)*, 17(02), 35-40.
- Liu, X. X. (2019). Research on the pledge financing service system of intellectual property rights of small and medium-sized enterprises in science and technology. *Times Finance*, (34), 43-46.
- Nan, X. H., & Yang, D. (2019). Research on the Risk of Intellectual Property Pledge Financing Based on the Pledge Financing Process. *Science and Technology Management Research*, 39(13), 170-176.
- Ohlin, J. (2019). The pledge of intellectual property rights in small and medium-sized enterprises. *Business accounting*, (11), 107-108+123.
- Poltorak, A. I., Lerner P. J. (2002). *Essentials of licensing intellectual property*. John Wiley & Sons.
- Sam, K., Joe, D., & Paul, G. (2001). Selection and application of intellectual property valuation methods in portfolio management and value extraction. *Ies Nouvelles*, (9), 77-86.
- Sheng, J. Q. (2020). Identification and analysis of influencing factors of intellectual property pledge financing risks -- A case study of small and medium-sized technology enterprises in Shandong province. *Rural Economy and Science-Technology*, 31(12), 119-120.
- Song, J. S., Wang, Y., Qin, G. Z., Wang, Y. J., & Zhao, R. Q. (2019). Research on financing mode and policy of pledge of national defense intellectual property in China. *Science and Technology Progress and Countermeasures*, 36(12), 125-130.
- Wu, D. (2020). Risks and countermeasures of patent pool financing for small and medium sized enterprises. *Market Modernization*, (02), 98-99.
- Xiao, X., Luo, Y., & Yi, H. (2020). Evaluation of the value of intellectual property pledge financing for small and medium-sized enterprises based on "1+1". *Journal of Jiangsu Ocean University (Humanities & Social Sciences Edition)*, 18(04), 110-117.
- Xu, W. (2019). *Research on intellectual property development and pledge financing*. University of Science and Technology of China.
- Yao, L. (2019). Research on the Difficulties and Countermeasures of Intellectual Property Pledge Financing for Small and Medium-sized Enterprises in Science and Technology. *Neijiang Science and Technology*, 40(11), 50-51.
- Zhang, X. Y. (2019). Research on asset appraisal in intellectual property pledge financing. *Marketing Sector*, (21), 70.
- Zhao, Y. C. (2019). *Research on risk prevention of intellectual property pledge financing for small and Mediumsized internet enterprises*. Tianjin University of Finance and Economics.
- Zhou, J. N. (2020). *Research on the risk management of patent pledge loan in China*. Yunnan University of Finance and Economics.
- Zhu, H. (2019). *A case study of intellectual property pledge financing*. Guangzhou University.
- Zhu, J. (2019). Research on the industry status quo and risk prevention measures of intellectual property pledge financing. *Modern Economic Information*, (21), 293.