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To cite this article: Larisa Chirkova *et al* 2018 *J. Phys.: Conf. Ser.* **1141** 012013

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The problems of determining the fair value of intellectual property in the structure of assets of financial institutions

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Abstract. A strong and stable financial sector is the main element of investment inflow and increase of liquidity in the economic system of the state, striving for a developed economy. The practice of several previous years has shown the presence of certain factors of instability in the Russian financial sector. The most important factor of the instability of the national financial sector is the problem of ensuring the financial obligations of financial institutions, which at best forces credit institutions and investment institutions to introduce external management from the Central Bank, and in the worst case leads to bankruptcy.

Traditionally, the main direction in assessing the quality of assets of financial institutions is to determine the market (fair) value of tangible assets, namely financial assets and real estate. However, recent events that have occurred with large Russian credit institutions have revealed shortcomings in this approach. First of all, since the objects of intellectual property and other intangible assets are either undervalued or overvalued. Proceeding from these facts, the team of researchers developed and presented a mathematical model that allows an alternative valuation of intangible intellectual assets in the ownership structure of financial institutions. The model was used to analyze the activities of individual financial organisations operating within the national economic system.[1]

1. Description of basic data

At the end of June 2017, the public British company Brand Finance plc. published a regular review, which reflects estimated judgments about the intangible value, concentrated in the world economy [1]. Traditionally, the report is built on the account of about 60 thousand companies located in more than 100 countries.



Immediately, we note that only public company data is the basis, because the starting point is their market capitalization, which is quite convenient, accessible and acceptable for many sources of analytical data. In general, we do not dispute the position of analysts traditionally working on the content of the report, especially given their impressive authority, but we have a number of objections to certain aspects of the final interpretation of the initial values used for analysis, we will mention this further.

So, in the previous 10 years, the global market capitalization of public companies has grown from 47.8 to 92.4 trillion US dollars. At the same time, the book value of tangible data assets increased 8.3 times to 44.8 trillion US dollars, and the book value of intangible assets increased from 2.1 to 5.4 trillion US dollars, that is, only 2.6 times. At the same time, even less dynamics of growth in the category of intangible value, which for this period grew only 1.4 times.

We should especially note that in this case we are not talking about intangible assets, but about intangible (immaterial) value. This should be noted, if only because one of the basic problems of many studies in this field, including those based on the analytical data of the survey, is the identification of the category of assets and value. However, value, unlike intangible assets, can not be accepted for balance, can not participate in direct economic turnover, but, on the other hand, it exerts a global influence on the capitalization of individual companies and therefore often acts as the main driving force for the owners of individual companies are at the top of various ratings of billionaires, and therefore each asset is a value, but not every asset can be an asset.

However, this category is remarkable not at all what a billionaire can do from a young programmer, as it was and still is in the situation with the Facebook company, but at least two special aspects that probably have a time-limited action. First of all, let's pay attention to the fact that in the category of value that can not participate in direct economic turnover, almost 40% of the world economy's cost is concentrated, which in our opinion carries an increased risk for the latter. The next aspect is the cardinal difference in the structure of the corporate value of companies in comparison of the past and the present decades. Up to 2008, intangible corporate value in the economy always impressively exceeds the aggregate book value of tangible and intangible assets of public companies. Thus, at that time the market value of companies was covered by real assets, but not more than half, and the other more than the half expressed in the hope, tailored out of the air. The financial crisis of 2008 is essentially a fearful pressure at the expense of investors' losses, which, of course, has not been strongly reflected in the negative light on the market of tangible and intangible assets on the balance sheets of public companies. For example, the value of tangible assets increased by 1.2 trillion. US dollars (+ 5.4% compared to 2007), and the value of intangible assets increased by 600 million US dollars. USD (+ 22.2% against 2007). Since this period corresponded to a sharp collapse in the quotations of shares of public companies, their capitalization declined, which directly affected the reduction of intangible value, since it is precisely calculated as the difference between the market capitalization and the book value of the company. Thus, in 2008, the share of intangible value in the structure of the market value of companies was a little over a quarter. In subsequent years, with the gradual recovery of quotations on stock exchanges, the share of intangible value also gradually recovered, but it is still less than the book value of assets.

Over the years, experts have fixed a number of important facts that are of fundamental importance for this study. First of all, let us pay attention to the fact that the largest corporate value is concentrated in such a sector of the world economy as the financial markets sector. In particular, the segment of credit institutions and diversified financial services of brokerage companies and investment funds account for more than \$ 13 trillion of consolidated value.

The segment of insurance services adds another 3.8 trillion US dollars here. Total about 17 trillion US dollars, that is, 18.2% falls only on the segment of financial services. We can go even further and add REITs (Real estate investments trusts) indicators to this group because it is

definitely an investment institution of the financial market. This type of institutional financial intermediaries accounts for another \$ 2 trillion, which makes a significant contribution to this economic sector and as a result of which its value rises to 18.8 trillion US dollars, and the share as a whole is already 20.4%. In other words, it turns out that the financial sector traditionally concentrates 1/5 of the world's corporate value.

A similar situation will be revealed to us if we analyze the structure of assets. We will touch on the category of assets, only related to the subject matter of the article - intangible assets. Note that we are talking only about unconditional non-material assets. That is, there are various intellectual property and other exclusive rights that are formalized in the necessary procedural way recognized in accounting and fiscal bodies for which public or international public protection and protection is provided in public space.

The first and second places are distributed among the telecommunications and pharmaceutical sectors - 1,342.9 billion and 1071.5 billion US dollars, respectively. This in itself is not surprising because, for example, the telecommunications sector is a huge number of exclusive rights to trademarks, intellectual property for technology, for development, and not rarely for telecommunications products. If we take for the pharmaceutical sector, there is also a huge concentration of intellectual property on technology, on medical development, as well as exclusive rights not only on the brands of pharmaceutical manufacturers, but also on the market elements of individual drugs produced by them. The sector of credit and other diversified financial services (DFS - Diversified Financial Services) takes only the third place, consolidating intangible assets by 1064.3 billion US dollars. However, if we again add a segment of insurance companies that Western researchers can use in a separate analytical subgroup, where intangible assets are consolidated by another \$ 464.3 billion, it is obvious that the financial sector is also unconditional on this criterion the leader - 1528.6 billion US dollars or 28.3% of the total world value of intangible assets on the balance sheet of the analyzed companies.

In general, if we consider the financial sector in dynamics, then it lags behind in the growth rates of both intangible assets and intangible corporate value in general. For example, insurance for a five-year rate of increment in the value of intangible assets occupies only 18th line of the rating with a positive result of + 27.3%, significantly behind the Internet sector (+ 121.2%). The banking segment and financial services on the securities market occupied only 34th line of the five-year dynamics with a negative result of -13.6%, losing only the sector of oil and gas production (-13.8%), the metallurgical sector (-16.7%) and mining (-48.5%).

Here we immediately note two important aspects. First, over the past long-term periods of 10-30 years, the financial sector has accumulated such a level of value and, in particular, in the form of intangible assets, that its positions in the middle and below dynamic ratings can not affect its strong leadership positions in absolute value ratings. Secondly, according to the sociological part of this review, ordinary financial analysts and senior financial executives note not only the high importance of intangible assets for business development, but also that this importance is growing every year. And moreover, it grows in the types of activity that are connected either with the segment of financial markets, or with corporate finance issues. In particular, that intangible assets are of crucial importance for: financial risk management areas were indicated by 53% of financial analysts and 68% of CFOs; 72% of financial analysts and 76% of CFOs indicated financing of mergers and acquisitions.

Thus, the scientific development of issues related to intellectual property and intangible assets in general, as well as the development of scientific problems to determine their fair value, are very important and relevant in the field of financial institutions in the financial markets.

2. Statement of theoretical and practical problems

The fundamental problem of the theoretical-practical nature in our opinion is the incorrect interpretation by the authors of the review and a number of other researchers of the category

"intangible value" [3]. In this case, the intangible value, which does not include the value of the disclosed intangible assets and goodwill, refers to the value of the company's brand. The rejection of this approach is based on the logic of understanding the principles and aspects of the functioning of the financial market and the realization of its interests on it by investors. Again, note that the calculation of the value of the brand is based on market capitalization. In turn, market capitalization is a product from the market (stock) quotation of the company's shares and the number of shares issued in circulation. Thus, any valuation of investors that is not covered by the value of net balance assets according to the authors of the survey is the value of the brand. However, it is necessary to understand what the investor is guided by, making trading operations thereby affecting the quotation, and, therefore, the company's capitalization. It is guided by the current fundamental indicators of companies, taking into account future prospects for extracting investment income, including generated cash flows, debt load, profitability and net assets value, profit retention ratio and dividend policy. They allow him to estimate the expected investment income, which is ultimately reflected in the current quotation. But the aspect of the relationship between the brand and capitalization remains unclear. It is necessary to decide what is primary and what is secondary. In science and practice, the prevailing view is that capitalization is primary, and the brand value is secondary. However, this requires then qualitative explanations why the bearish trend in the crisis market affected the cost of brands of public companies, when in a moment the company's brands became cheaper. Just from the standpoint of this logic, the market capitalization has nowhere to be attributed except to the value of the brand, since the value of both tangible and intangible assets has increased. In our opinion, this is a mistake in the reference point and in the direction of movement of this reference point. Our position is based on the fact that the brand is an intangible factor that shapes the expectations of investors thereby generating part of the increase in the market capitalization of the company - the brand's carrier, expectations that are not covered by the financial performance of the company. In other words, the investor also takes into account the company's brand, counting on the fact that this factor will allow the company to achieve better results than determined by fundamental analysis, but it only takes it into account, and does not form its value, its valuation. And to determine the brand value based on market capitalization is logically incorrect, because the brand influences capitalization, and not capitalization on the brand.

This is a very common mistake in judgments and in the conclusions of various researchers. And the main reason is that they identify the root aspects of the brand category, but in the course of further research and analysis they do not take them into account. For clarification let us turn to the modern interpretations and characteristics of the category "brand". In particular, for example, one of the practicing specialists of the international company Ernst and Young quite rightly points out that the brand is nothing more than an impression about the product that was formed in the minds of consumers [6]. Hence emerges a category such as trademark capital (from the "trademark") which represents an added value to the price of the product as a result of its belonging to the particular trademark. Many researchers allow a more specific and justified brand identification, like the existing information about the company and the product, motivating the consumer to purchase this product [5]. Others in the same vein reveal the essence of the brand category - to induce the consumer to make economic decisions with respect to the goods, proceed from emotional criteria, and not be guided by rational ones [2]. Thus, it is quite obvious that the brand and its value exist in the "product-consumer" system, and not in the "investor-financial asset" system.

We can assume that such an approach to the definition of a brand based on capitalization can be applied to non-public companies, but again, a clear and uniform identification and qualification of the "brand" category is required. In the end, it is impossible to estimate the value of non-public companies, since this will not be a market valuation, but a subjective opinion of

the appraiser. But in the case of the acquisition of a non-public company, this means that there is a market value a priori. Well, or at least until the tax authorities or other interested parties prove the opposite in the process of challenging. But here again we have objections, because in the case of the acquisition of a public company, all parties in their judgments and actions will be guided by the value of shares on the exchange trades and their number in circulation. But in the case of non-public companies, the excess of the cost of acquisition over the value of net assets is identified as a positive goodwill or business reputation. And goodwill is again the perception of the investor, not the consumer. And so we again rest on the question of what the brand is, to whom it positively or negatively affects the consumer or investor, and what interests of the owner and company he promotes - commercial or investment. We will anticipate possible speculative ideas that consolidate investors and consumers within the same group, since this is a fundamentally different basis.

The essence of the brand is reduced to the formation of economic benefits in the course of commercial activities, and as an element of intellectual property, it certainly incarnates as an intangible asset - a registered trademark, and not in intangible value, as part of the company's capitalization. Thus, the value of a brand or trade mark is the current value of the economic benefits that they bring in the future from using them in commercial activities, expressed in current prices, taking into account the costs accumulated or accumulated to the current moment, which are aimed at creating and maintaining its ability to generate these economic benefits. If this characteristic is lost, then any of our private judgments about the brand value can not be realized or capitalized.

It should be borne in mind that it is impossible to literally identify the brand value based on the price of a transaction with a trademark, in some cases it may include a premium for the risk of causing damage to the user / lessee.

But it must also be taken into account that in the case of industrial companies, the "brand" category and the "trademark" category can vary significantly in their content. To a greater extent, this concerns the production of consumer goods, where a global brand can consolidate subbrands and stand-alone trademarks that are divorced from the main brand by virtue of national or subnational market features where the goods under this brand are produced and sold, or because of specific marketing maneuvers. For example, this is very common in the practice of the company Unilever in relation to its territorial brands and individual brands. However, this is very uncommon for the financial sector and in practice it is actually encountered only within the framework of international expansion, for example, in the case of the regional brand DenizBank still owned by Sberbank.

In 2017-2018, the Russian financial market revealed unaccounted risks directly related to the valuation of intellectual property in the form of trademarks and other exclusive rights associated with the brands of financial institutions. Moreover, it is worth noting that the problems that have arisen turned out to be somewhat looped, since individual events were related to the same groups of financial institutions. In particular, we are talking about the situation with the bank "FC Otkrytie". In August 2017, the credit organization showed problems with financial stability, as a result of which a temporary administration was introduced into the bank. Later the bank got under the sanation of the Central Bank of Russia, the result of which was that the state regulator became in fact the sole owner of the bank. It soon became clear that the credit organization does not have ownership of the trademark, since the exclusive rights to it belong to the former owner of the bank, JSC Otkrytie Holding. The whole situation was accompanied by a set of paradoxical circumstances. For example, at the time of financial instability, the same Brand Finance plc. estimated the value of the brand of this bank at 214 million US dollars or 13.4 billion rubles, that is, the brand that the bank did not own on the basis of exclusive property rights, and which was used by the bank on the basis of the agreement [4]. The cost of using a brand based on an officially registered trademark was about 65 million rubles a year

or 3.8 million in US dollars for the same period. For comparison, if we translate the estimate of British researchers into annual periods based on the cost of renting a trademark, we will get a contrasting value of 56.3 years. However, the paradoxical circumstances did not end there, as the former owners voiced their own brand assessment in probabilistic judgment - "not less than 1 billion US dollars". In other words, all the extremely negative facts from the brand's recent history not only did not have a negative impact on the value of the trademark, but even on the contrary its valuation increased by \$ 786 million, or by 46 billion in rubles, from an independent expert assessment conducted in the British jurisdiction. On this basis, the owners of the trademark expressed their intention to change the license agreements in terms of increasing the cost of renting the trademark. It should be noted that some experts suggested that when determining the brand value, the owners of the trademark proceeded from the costs of its promotion. But in this case, it is even more surprising for such a contrasting gap between three values: the valuation of the owners, the independent evaluation and the real cost of use.

In the future, the situation with the brand and the brand has been continued in connection with new developments. However, in them, FC "Otkrytie" from the position of the person obligated moved to the position of the person eligible. The essence of the situation is that prior to the introduction of the temporary administration by the Central Bank, the ownership of a number of financial organizations united under the Rosgosstrakh brand was transferred to the FC Otkrytie Bank, namely: an insurance company, a credit institution, a non-state pension fund and a number of facilities The real estate, excluding the insurance company, operating in the segment of life insurance. At the same time, the latter reserved the right to use the trademark on the basis of a multi-year license agreement. After a short time, the new management of FC "Otkrytie" disagreed with this state of things with regard to the trademark "Rosgosstrakh" and in July 2018 sued the life insurance company. It also does not do without paradoxical situations. First of all, the paradox is that the amount of the claim is 116 billion rubles, while own capital is 6.8 billion rubles, and the value of the assets of the insurance company is 123.8 billion rubles, that is, According to the rightholder's assessment, the brand value was comparable to the value of all the company's assets and repeatedly exceeds its own capital. Equally paradoxical is the fact that the plaintiff interprets this amount in a peculiar way, indicating that the very cost of the brand, that is, the basic claims under the lawsuit, is only 2 billion rubles, and the remaining 114 billion rubles are penalties of an unknown nature. Even more absurdity of this situation is also the fact that the right of ownership and ownership of companies united under a single brand and the rights to the brand were transferred at the end of 2017, and after a short period of time, by mid-2018, the rightholder assessed the damage and his compensation in the astronomical amount. And, of course, one can not ignore the paradoxical fact that such multi-billion damage was formed over several quarter-year periods, although for the use of its own name, the rightholder in the amount pays about 200 million rubles for a three-year period.

Meanwhile, these inter-corporate disputes hide the main problem. Here global financial risks are built that can cause serious damage not only to individual institutional entities of the financial market, but also to greater damage to state and public interests. Therefore, the financial markets sector requires special attention in terms of methodology and model for determining the fair value of intellectual property items, both in the form of trademarks and other forms of ownership and registration of exclusive rights to the brand, and as a whole with respect to intangible assets in the ownership structure and ownership of financial institutions. Separately, we note that one of the problematic aspects in such situations is that the evaluation of intellectual property is required already after the fact. That is, when a number of risky events have occurred and effects have already occurred in the form of a decrease in the brand's ability to generate an economic effect and added value, and, consequently, the brand value has decreased.

3. The model

In constructing the model, we proceed from the assumption that the fair value for the cases described is the value at which the financial effect of operations with brand is equally directed to both parties to the license agreement, that is, does not cause to each party separately unjustified losses or profits. This may seem somewhat incongruous and contrary to the principles of functioning of a market economy, but it must be taken into account that all the described situations a priori concern exceptional situations based on non-market conditions, when the parties radically change their views on the value of an intellectual asset, and thereby create increased risks for economic relations and interests of the licensed relations concerning the brand outside the relationship of the parties. This same aspect is emphasized by a cohort of practicing experts who note that in all the cases described, all the arguments and actions taken by the participants in the relationship regarding the change in the brand value or the cost of its use are extremely unfounded.

The central balancing element in this case is the economic sense, which corresponds to the criterion of expediency in the interests of each of the parties to the license agreement.

In other words, this is an elementary understanding of the fact that if the cost of using the brand becomes higher than the economic effect it brings, the licensee can not find the appropriate reasons for its further use.

On the other hand, if the current costs of maintaining a brand are higher than the fee for using it, then the licensor can not find an appropriate reason for further operations with the brand. However, a common element in both cases is the essential characteristic of the brand, namely, the generated added value is an accumulated economic effect.

Based on this, we present the following model:

$$BV_{TM} = C_{TM}/Q * R * K_{TM} * r \quad (1)$$

Where:

BV_{TM} – the cost of using the brand (trade mark);

C_{TM} – the costs of maintaining a brand (trade mark);

Q – number of license agreements per brand;

R – discount factor;

K_{TM} – coefficient of financial result by brand;

r – risk factor under the license agreement.

$$K_{TM} = (NPI_{TM} - NPI)/NPI \quad (2)$$

Where:

NPI_{TM} – discounted profit taking into account the additional value of the brand;

NPI – discounted profit without taking into account the additional value of the brand;

Conclusion

Thus, we have presented a model for determining the fair value of the intellectual property of a trademark in the aggregate of the indicated exclusive criteria and conditions. It should be noted that this model has an exclusive (narrow) application and is more aimed not at regulating the position and relations between the right holder and the licensee, but for its application by the regulatory bodies in the protection of public interests, as determining the initial position in the qualification of socially dangerous actions in the extreme realization commercial interests of financial institutions. At the same time, the model also allows you to define a boundary point when determining the specifics of licensing relationships. In other words, applying this model to the above-described practical situations and events allows us to justify a judgment about the undervalued cost of using the brand or vice versa about its extreme overestimation of evaluation.

The confirmation

The article was prepared in accordance with the state task of the Federal Agency of Scientific Organizations of Russia for the Federal State Budgetary Institution of Science "Institute of Economics" of the Ural Branch of the Russian Academy of Sciences for 2018.

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