Proceedings of Business and Economic Studies

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Proceedings of Business and Economic Studies

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Table of Contents

1 **Dynamic Quantity Theory of Money: Research on Monetary Cycle and Business Cycle Based on the Concepts of Issuing Money and Operating Money**
Liankui Gao

8 **The Influence of Financial Technology on the Business of Commercial Banks and Measure Suggestions**
Zhao-Yu Wu

13 **The Realization of a Strong Trade Power and China's Direct Investment in SCO Countries**
Lei Shen

20 **A Study on Improving the Financing Environment of Small and Micro Enterprises – Based on Taizhou Model**
Jieping Cai, Aijia Wang

27 **Research on the Risk Management Issues of VAM Agreements in Private Equity Financing**
Cong Du

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Dynamic Quantity Theory of Money: Research on Monetary Cycle and Business Cycle Based on the Concepts of Issuing Money and Operating Money

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Abstract: The Quantity Theory of Money and the Theory of Credit Creation have been the major streams in the study of the quantity of money. Nowadays, monetary theory is dominated by the Quantity Theory of Money because the Monetarist School and the Rational Expectation School are both the advocates of the Quantity Theory of Money, which has resulted in a sharp decrease of scholars studying the Theory of Credit Creation. Nevertheless, the two theories will ultimately converge. Given that reason, we propose a new theory—Dynamic Quantity Theory of Money in this paper, by which the unification of the Quantity Theory of Money and the Theory of Credit Creation can be achieved. Based on the Dynamic Quantity Theory of Money, we further put forward the Theory of Money Operation Cycle, the Theory of Monetary Compensation and Theory of Investment Compensation targeting economic crises, expound why Quantitative Easing monetary policy fails and why Quantitative Easing does not cause inflation in the short term under the premise of these theories, and demonstrate the necessity of fiscal investment for rescuing economic crisis from the perspective of theories of money.

Keywords: Dynamic Quantity Theory of Money; Issuing money; Operating money, Monetary compensation and investment compensation; Monetary cycle

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1. Monetary cycle and the failure of the static Quantity Theory of Money

To better expound the Dynamic Quantity Theory of Money, we propose three new concepts related to money: issuing money, operating money, and money operation efficiency, in an attempt to avoid the confusion with existing concepts such as money base, narrow money, and broad money. Issuing money means the printing of money. Operating money means the creation of money by banks and other financial institutions with their credits. The quantity of operating money is dynamic at any time. The Dynamic Quantity Theory of Money is mainly aimed at operating money.

The law of quantity of money in the Dynamic Quantity Theory of Money is that there will be more money if it is used, and vice versa. The underlying mechanism is that an increase of money loans leads to the more derived savings, thereby increasing the total quantity of money in operation. The efficiency of money operation mainly depends on the speed of money turnover. The faster the money turnover, the higher the money operation efficiency.

The quantity of operating money is not determined by the central banks. Instead, it is determined by the macro economy, specifically by the credit willingness of enterprises and governments. Under which circumstances will the quantity of operating money increase? Under which circumstances will it decline?

A cyclical law lies behind them, which means there is a cycle similar to the macroeconomic cycle that exists in operation course of money, but the money operation cycle generally has the same frequency as the macroeconomic cycle. The cyclical law of money operation is that: the operating money increases automatically during the economic boom, while its quantity declines automatically in the economic depression cycle. In summary, the quantity of operating money rises as the economy expands and falls as the economy shrinks. During the economic boom cycle, the increase of operating money is due to the drive of the strong willingness of enterprises to borrow money during the economic boom, which derives more money, resulting in the natural increase in operating money. When the economy is in recession, fewer loans are needed, quantity of derived money slumps accordingly, thus the operating currency will naturally decline. As can been seen, money operation cycle is a cycle with the same pace of macroeconomic operation. The money operation cycle is an attachment to the macroeconomic cycle. In term of the relationship between the two cycles, the money operation cycle is consequence while the macroeconomic cycle is the cause [1].

Besides, we should also make it clear that inflation only directly relates to the quantity of operating money, but not directly relates to the quantity of issuing money, except only in an indirect manner. The creator of operating money is not the central banks, but the investment behaviors of the governments and entrepreneurs. Therefore, we propose that "generally, it is not the central banks that create inflation, but the governments and entrepreneurs."

2. Dynamic Quantity Theory of Money

In the past, people only talked about the economic cycle, but not put forward the concept of monetary cycle separately. Only when we put forward the concept of monetary cycle can we easily see through the law of money movement and give better guidance for making monetary policy. The Quantity Theory of Money is a theory with long history, derived from the earlier Monetary Veil Theory, and resulted in to the Neutral Money Theory. But according to our summary of the monetary cycle above, operating money has its own cycle. In other words, its total quantity sometimes expands, sometimes shrinks. That is to say, the total quantity of operating money is dynamic, which means that insisting on the static and mechanical Quantity Theory of Money will be futile. Strictly speaking, the Quantity Theory of Money is only applicable to the era before the emergence of banks [2]. Actually, it is senseless to talk about the relationship between the issuing money and inflation after the establishment of banks and the credit creation of money. Therefore, we need to establish a Dynamic Quantity Theory of Money by absorbing the essence of the Theory of Credit Creation on the basis of the original static Quantity Theory of Money. Only in this way, can we achieve the unification of the Quantity Theory of Money and the Theory of Credit Creation. The concepts of issuing money and operating money are the bridges for the unification of the two theories.

In addition to the impact of banks, the emergence of central banks has badly hit the Quantity Theory of Money. Since the birth of central banks, the price of money has been guided by the central banks. The central banks are the decision-makers of the wholesale price of money. In the money market, there is no longer price regulation in a full sense. Actually, "the wholesale price of money determines the retail price of money" and "the retail price of money determines the supply and demand of money" are embodied in most cases, rather than "the supply and demand of money determines the price of money." Therefore, the Quantity Theory of Money has little effect when it is exposed to the central banks' money price regulation. If humans returned to the era before the emergence of banks and central banks, the Quantity Theory of Money would be definitely undisputed. The emergence of banks has driven the quantity of money from static state to dynamic state, while the emergence of central banks has shifted the money pricing right from the market to the central banks. The Quantity Theory of Money has been severely battered with little sense in reality.

As a matter of fact, human beings have gotten rid of the shackle of the early Quantity Theory of Money since modern society. The mainstream of monetary study has been along the direction of money credit creation, such as the money theories of Mackrude, Abbott Han, and Schumpeter and Fisher's money equation. All of them are based on the Theory of Credit Creation of money. In the book *Theory of Credit*, Markrud clearly stated that "The essence of banks is the creation and issuance of credit, so banks are by no means the stores of lending money. They are credit-creating factories." Fisher's theory is in the same line as the Theory of Credit Creation, but the early credit creation theorists highlighted the role of credit expansion in the economic crisis before the outbreak of the economic crisis, while Fisher focused on the impact of the credit contraction on the economic crisis after the outbreak of the economic crisis. Friedman's return to the essence of the Quantity Theory of Money is retrogression in the study of monetary theory. The Rational Expectation School strengthened the theory of monetary neutrality from the perspective of rational expectations, which has caused another horrible retrogression in monetary theory. At present, the two schools are the cornerstones of the study of monetary theory and have had a huge impact on economics. Therefore, innovation for the monetary theory is urgently needed. The Dynamic Quantity Theory of Money in this paper is formed by integrating the advantages of the Quantity Theory of Money and the Theory of Credit Creation. Its core is the Theory of Credit Creation, but the analytical paradigm of the Quantity Theory of Money is incorporated through the concept of operating money. This invigorates the Quantity Theory of Money, making it full of dynamics.

3. Why is quantitative easing not working?

The quantitative easing monetary policy is an application of the Theory of Helicopter Money of Friedman's Monetary School. Friedman's Helicopter Money strategy is derived from his paper *The Optimum Quantity of Money* published in 1969. In this paper, Friedman Mann hypothesized a scenario: a helicopter dropped US dollar bills while flying over a community, and the money was picked up by the residents there. They treated the money as a windfall and used it in consumption, which would drive actual output, thus boosting the economy. This is where the Theory of Helicopter Money came. Former Federal Reserve Chairman Ben Bernanke is a faithful advocate of the Theory of Helicopter Money. He once elaborated on the operating mechanism of the theory and named it the "monetized financing fiscal plan," believing the theory is the ultimate weapon for central banks to stimulate economic growth and avoid deflation. Bernanke hyped Friedman's proposition in a speech in 2002. That is why he was called the "Helicopter Ben" by the media, because Bernanke's full name is Ben Bernanke.

Quantitative easing monetary policy was first implemented by the Japanese government. It has become a universal monetary tool worldwide after the global financial crisis in 2008. Since then, issuance of additional money has become the norm for governments to rescue economic crisis. Actually, the effect of quantitative easing monetary policy is limited while its harm is severe. The root cause is that Friedman did not distinguish between the issuing money and operating money. What increased by quantitative easing is only issuing money, rather than operating money. Only when issuing money is converted into operating money can it facilitate the economic growth. The willingness of companies and governments to invest with loans is needed in order to realize the conversion of issuing money to operating money [3]. During economic crisis, issuing money can be directly converted into operating money in China through government investment. However, in the United States, the subjects of investment are enterprises. If enterprises do not have the willingness to invest with loans, the increased issuing money cannot be converted into operating money. Therefore, the quantitative easing monetary policy will not work.

When Friedman studied the Great Depression, he observed a decrease in operating money. Unfortunately, he attributed it to the Fed's monetary tightening. Of course, the Fed's monetary policy was flawed, but the main culprit for the decrease of the quantity of money during the Great Depression is

definitely not the Fed. Two other factors are the true cause: one is the low willingness of companies to invest with loans as we mentioned above, which results in the decline in derived money. The other is the liquidity preference stated by Keyne, a concept that is elusive for ordinary people. We can put it in other words: "Cash is king," the troublemaker is the irrational emotions of human beings. During the economic crisis, these two factors work together, resulting in a slump in the quantity of operating money. Therefore, by means of increasing issuing money, the effect is bound to be limited. Furthermore, quantitative easing means that money price is extremely low, which makes it difficult to be compatible with financial institutions in incentive mechanisms, inhibiting the willingness of financial institutions in lending business. This also blocks the transfer of money to real economy.

4. Double compensations: Money compensation and investment compensation during economic crisis

According to our view stated above that the monetary cycle is consistent with the business cycle, when an economic crisis breaks out, both money and investment actually shrinks. To get rid of the economic crisis, compensations are needed for both money and investment. The governance of economic crisis is a process of "double compensations." From the perspective of the Dynamic Quantity Theory of Money, investment compensation is fundamental, because investment compensation will naturally bring about monetary compensation, and loans for investment will also derive savings, leading to an increase in operating money. However, if only the measure of monetary compensation is taken in a country, it is still difficult to form investment compensation. Even if it is formed, it will function with a delay.

Monetary compensation only works for a small quantity of countercyclical industries that require investment during the depression, but there are few countercyclical industries actually. It is too difficult to propel the vast majority of the pro-cyclical industries by relying on the ripple effect triggered by so few countercyclical industries. From the perspective of the Dynamic Quantity Theory of Money, investment compensation is the major means for the governance of economic crises, and the investment loan behavior in the investment compensation process will objectively result in monetary compensation. Therefore, according to the traditional static Quantity Theory of Money, quantitative easing is effective in increasing money to rescue the economic crisis, but from the perspective of the Dynamic Quantity Theory of Money, it is obvious that monetary policy cannot fix the economic crisis fundamentally. To quickly provide rescue to the economic crisis, the introduction of policy for investment increase is necessary. Of course, government investment must be the dominant part of the increased investment during the economic crisis. In this way, government investment policies will nurture double compensations in both fiscal and monetary dimensions.

As a witness of the Great Depression, Keynes did not write much content concerning money. Only the concepts of liquidity preference and liquidity trap are put forward by Keynes' in his monetary study in the General Theory. His focus of study is finance. In terms of studies, Keynes' theory is pragmatic, while Friedman's Empirical Monetary Theory is impractical, and his theoretical propositions are also superficial and unscientific, because rescuing an economic crisis is a process of double compensations - investment compensation and monetary compensation, with investment compensation being the mainstay, and monetary compensation being a supplement. The monetary compensation is only applicable for stimulating the countercyclical industries.

5. Why does quantitative easing not trigger inflation?

According to the Dynamic Quantity Theory of Money, when the economy is in depression, the quantity of operating money automatically declines. Quantitative easing results in the increase of issuing money, but there is little effect on total quantity of operating money. Since the total quantity of operating money almost

remains unchanged or even less. There surely will be no inflation. Inflation is related not only to the monetary base, but also to the quantity of operating money. In this paper, the additional issuance of money during economic depression is referred to as monetary compensation. Monetary compensation means the monetary regulation behavior by compensating the decreased operating money through the issuance of additional money during economic crises. It aims to maintain the stability of total quantity of operating money. Monetary compensation is not the excessive insurance of money. It does not increase the total quantity of operating money, but only helps maintain the stability of the total quantity of operating money, nor does it cause inflation during economic depression. When the economic depression fades away and economic prosperity comes, the central banks may withdraw the quantitative easing policy and shrink the issuance of additional money. In general, the total quantity of operating money can be maintained unchanged, thus there will be no inflation and deflation [4]. In short, the Dynamic Currency Quantity Theory proposes that inflation and deflation are only related to the quantity of operating money, and irrelative to the quantity of issuing money. In fact, the United States did not undergo any significant inflation in several rounds of quantitative easing, which is a proof. Nevertheless, concerns of human beings about the possibility of inflation caused by quantitative easing have been lingering. Quantitative easing did cause inflation if we consider it from the perspective of the traditional static Quantity Theory of Money. But when we apply the Dynamic Quantity Theory of Money, "quantitative easing not cause inflation" can be easily explained.

6. Central banks' responsibility from the perspective of Theory of Monetary Compensation

An additional responsibility is added to the central banks according to the Dynamic Quantity Theory of Money, that is, the central banks have the obligation to maintain the stability of the total quantity of operating money in the entire society. The public should also abandon the ideological constraints from traditional static Quantity Theory of Money, and think about money matters from the perspective of the Dynamic Quantity Theory of Money. If we move our focus of attention from issuing money to operating money, the concern over "Quantitative easing does not cause inflation" will disappear naturally. The proposition from Friedman's single rule of maintaining stable growth of issuing money is wrong. The central banks' responsibility is to maintain the stability of total quantity of operating money. Increasing the quantity of issuing money cannot effectively increase the quantity of operating money. Instead, increasing investment is the right approach to increase the quantity of operating money.

Of course, the Theory of Monetary Compensation proposed in this paper is mainly for eliminating inflation expectations after the implementation of quantitative easing. Since the predecessors did not witness quantitative easing, they would not think so profoundly. The Theory of Monetary Compensation can help get rid of the ideological constraints of the static Quantity Theory of Money. Friedman insisted on the Quantity Theory of Money, which made him unable to learn from the Theory of Credit Creation. In this paper, the Quantity Theory of Money and the Theory of Credit Creation are integrated and give birth to the Dynamic Quantity Theory of Money, and the concepts of monetary cycle and Monetary compensation are put forward. They contribute to the formation of the set of scientific theory of monetary cycle operation.

7. Viewpoint on savings from the perspective of the Dynamic Quantity Theory of Money

Savings are emphasized in Keynesian Economics. In reality, economists often use the level of savings rate to explain the economic development of some countries. The savings rate and investment rate are also highlighted in foundation of the Harold-Doma model in Economic Growth Theory. But from the perspective of Theory of Credit Creation and the Dynamic Quantity Theory of Money, money can grow automatically. It is unnecessary to attach more emphases to the savings rate because many savings are

derived from loans. When we encourage borrowing, savings are automatically created. Similarly, government investment does not have a crowding-out effect on private investment, because the law of money operation is that the more money is used, the more it will be produced. The loans used for government investment can also create savings for private financing. Therefore, government investment does not have a crowding-out effect on private investment. On the contrary, it has a promotion effect because government loans can create credit funds for private enterprise loans.

Although there is the concept that savings are equivalent to investment in Keynesian economics, expanding resident savings are not necessary for investment expansion. Social investment can be implemented even if resident savings are in negative value. Corporate savings account for most part of the total savings in macroeconomic operation. At present, there will be enough savings by reducing saving reserve, if necessary. Encouraging residents to save money in banks only has a social significance but not economically.

The quantity of savings is related to the efficiency of money operation. The higher the money operation efficiency, the more savings, and vise versa. Therefore, to promote economic growth, we should increase investment and improve money operation efficiency, but not to increase savings. As investment increases and money operation efficiency is elevated, and savings will naturally increase. This is the real operation law of savings and investment. In the Harold-Doma model, an effect has mistakenly been considered a cause.

8. Innovative points of the Dynamic Quantity Theory of Money

The concepts of issuing money, operating money and money operation efficiency are proposed in this paper, which makes it possible to explain many problems in monetary theory. There are "M0," "M1," "M2," and "M3" in monetary theory. But these are statistical concepts based on monetary stratification, not theoretical concepts. If we want to improve monetary theory theoretically, new theoretical concepts must be created. In fact, from the early Theory of Credit Creation to Fisher equation, Debt-Deflation Theory, and Post-Keynesian Endogenous Monetary Theory chronologically, the development path of the theory of money operation is very clear. The Monetary Veil Theory and the Quantity Theory of Money are both the simple understanding of money in the very early days of mankind. They should have been abandoned long time ago. Why the retro and resurgence of the Quantity Theory of Money appeared sometime in the history. This is actually a problem of theoretical unification. What I am doing is the unification work. If no one carries out the theoretical unification work, there will always be a resurgence of the Quantity Theory of Money.

In addition, the concept of money operation cycle is proposed in this paper for expounding the relationship between monetary cycle and business cycle, which is not available in other theories, and the double compensations – the Theory of Monetary Compensation and Theory of Investment Compensation and relevant concepts are proposed for economic crisis governance. This has not only innovated the theory of money but also dialectically unified Friedman's and Keynesian theories on economic crisis, which is not found in other schools of theories. The Dynamic Quantity Theory of Money and related concepts are not only a conceptual innovation, but also a revolution of thinking.

9. Conclusion

In summary, after we upgrade the Quantity Theory of Money from "static" to "dynamic," many touchy economic issues related to inflation and government investment can be easily addressed. Observation of the economy should not only be focused on the total quantity of issuing money. We should pay more attention to the total quantity of operating money. The responsibility of the central banks is to maintain the stability of the total quantity of operating money in the entire society, rather than the stability of the money

base. The quantitative easing during the economic crisis is only a compensation for the cyclical contraction of the operating money, but the central banks' monetary compensation by increasing the money base is only a "temporary cure." The fiscal compensation through fiscal policy can also indirectly form monetary compensation, so the goal of double compensations – investment compensation and money compensation – during the economic crisis can be attained, thus curing the root cause of the economic crisis. The main force for creating the operating money has never been the central banks, it is the behaviors of investment with loans by governments and enterprises.

Disclosure statement

The author declares no conflict of interest.

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The Influence of Financial Technology on the Business of Commercial Banks and Measure Suggestions

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Abstract: With the continuous development and improvement of financial technology, commercial banks are facing huge impacts and challenges brought about by financial technology, but what follows is a huge opportunity for the transformation of commercial banks. Therefore, this research analyzes the four aspects of the impact of financial technology on commercial banks, and explores the challenges that financial technology brings to commercial banks' development strategies, traditional businesses, and business processes. For the measures taken, commercial banks need to improve the financial technology-related infrastructure, and improve the main functions of supervision technology and the transformation of cultural values. This research provides theoretical basis and implementation suggestions for the transformation of commercial banks through theoretical research.

Keywords: Financial technology; Commercial bank; Cloud computing technology; Big data technology

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1. Introduction

With the rapid development of computer technology, the gradual maturity of blockchain technology, cloud computing technology and big data technology, the development of financial technology has also ushered in a climax [1]. Internet financial products are gradually gaining popularity. Third-party payment, small loans and other businesses gradually replace the original business of commercial banks, gradually intensifying the competition of banking business; therefore, many commercial banks are facing this huge challenge [1-3]. In recent years, people have gotten a taste of the convenience of financial technology to our daily life. People can enjoy fast loan business without applying for a credit card, and plan funds through APPs such as funds and wealth management. This has gradually broken the monopoly of commercial banks, thereby re-dividing the market share of banks [4-6]. Therefore, the transformation of commercial banks is imperative. In view of this, this paper analyzes the impact of financial technology on commercial banks and the challenges it brings, and then summarizes the commercial bank transfer strategies which are recommended for the transformation of commercial banks.

2. Literature review

Internet finance was first proposed by Western scholars. Scholars such as Claessens S (2002) proposed that online banking and online economy are the main Internet financial carriers [7]. Chinese scholar Zhipeng Bai

(2015) pointed out in a related article that Internet finance will cause a crisis for traditional commercial banks, and it will also prompt traditional commercial banks to find new transformation directions, improve bank management efficiency, and reduce commercial bank operating costs [8,9].

Fintech is to rely on computer technology to innovate the financial industry. Fintech mainly emphasizes the coordination and common development between financial development and technological development [9-11]. The information technology that financial technology relies on includes big data technology, Internet of Things technology, cloud computing technology, artificial intelligence technology, etc. [9,12] The financial industry using technology as the main driving force can improve operating efficiency and reduce operating costs, and better increase the user experience; this will definitely leave a huge impact on the traditional commercial banks [1,3,4].

3. The impact of financial technology on commercial banks

3.1. Competition in the banking industry is gradually increasing

With the emergence of financial technology, the rapid development and transformation of Internet finance, the competition in the commercial banking industry has gradually increased. This is because the group of commercial banks is fixed, but with the addition of foreign banks and Internet finance, commercial banks are increasing. The monopoly of Hengye has been broken, and the industry competition of banks has gradually increased. The rapid integration and development of big data technology, cloud computing technology, blockchain technology, Internet of Things technology and the financial industry have completely changed the pattern and development of the entire banking industry. With the rapid development of information technology, financial technology-related companies have developed a strong reputation in the user's psychology in terms of data security, user privacy, and efficiency. This has a great impact on the business of commercial banks. Therefore, various commercial banks have begun to develop financial technology sectors, changing the traditional banking competition model to comprehensive strength competition and innovative competition models. This form of industry competition has been gradually intensifying.

3.2. The operating income of commercial banks has decreased rapidly

The operating income of commercial banks is mainly derived from the difference between the interest rate of the deposit business and the interest rate of the loan business, followed by some intermediary businesses as the main source of income. However, with the participation of fintech institutions in the banking industry, the number of deposit business customers of banks has gradually decreased, because business products such as Yu'ebao and Lingqiantong in fintech institutions are not only easy to operate, but also have high interest rates, and have the advantages of taking and using them. The gradual removal of bank deposit business customers has caused more panic in commercial banks. Secondly, with the continuous innovation of financial products of financial technology institutions, many computer software products include loan platforms or loan functions. These loan products, owing to their fast review speed, simple application materials, and product diversification, have attracted a large number of commercial bank users. These products have seriously affected the development of commercial banks' credit card business, although they did not affect commercial banks' car loans. Housing loans, but the impact on the bank's loan business is also very serious. In order to reduce this impact, commercial banks began to reduce bank loan interest rates and increase bank deposit interest rates, which ultimately led to a rapid decline in commercial banks' operating income year by year.

The intermediate business of commercial banks, such as payment and settlement business, is one of the traditional intermediate businesses in commercial banks. However, due to the third-party payment and

mobile payment functions of financial technology institutions, the use of computing technology is acute and efficient for customer information. The storage and use of payment and settlement services has improved the information asymmetry and untimely phenomenon of payment and settlement services. Therefore, almost 90% of the customers of commercial banks are using third-party payment. In addition, with the continuous development of technology, China continues the effort to develop digital currency, which is an encrypted currency with blockchain technology as the core and uses distributed transactions without commercial banks as an intermediate system for transactions. As the trial of digital currency continues, discussions on the advantages and disadvantages of digital currency are constantly emerging.

3.3. The credit function of commercial banks is gradually weakening

The credit function of commercial banks has a very important role in finance, but with the emergence and development of financial technology institutions, the function of this role is constantly weakening or even disappearing. Financial technology refers to the use of computer technology to carry out financial innovation applications. With the integration of big data technology and cloud computing technology into the user behavior analysis of financial platform, users' untrustworthy behavior will be archived in the Internet records, which will update and affect user ratings in real time. Internet finance does not need to complete user information ratings based on bank credit records. Banks are also unable to participate in Internet financial transactions. Therefore, the business capabilities of commercial banks have weakened.

3.4. Difficulties in maintaining bank customer relationships

Fintech has a great impact on the customer relationship of commercial banks. First, many young people no longer go to the bank to handle business, and it is difficult to maintain the customer relationship of bank account managers. Secondly, many older users have a lot of influence on bank operations and processes. Without a clear understanding, it is impossible to expand the new business among the elderly users.

4. Challenges faced by commercial banks in the context of financial technology

4.1. Fintech challenges the development strategy of commercial banks

Financial technology has impacted the dominant position of commercial banks with powerful technological innovations, making commercial banks aware of their own development limitations and shortcomings. Therefore, the future development strategy of commercial banks should be to study and continue to apply the latest technology. The optimization of the development strategy creates the latest financial model that adapts to the current development model.

4.2. Fintech challenges the traditional business of commercial banks

With the integration of computer technology and finance, the gradual expansion and development of Internet financial services, third-party payment services, P2P decentralized services, and small loan services have brought serious challenges to the development of commercial banks. In 2017, the online payment business volume of non-bank payment institutions in China reached 286.747 billion, involving an amount of 143.26 trillion yuan, a year-on-year increase of 74.95% and 44.32%, respectively [9].

4.3. Fintech challenges the business process of commercial banks

In the business process of a commercial bank, the commercial banking system is divided into two parts: the foreground and the background. This separation of the system makes the transaction through the commercial bank complicated and takes a long time. At present, with the rapid development of computer

technology, cloud computing technology, big data technology and other technologies can shorten transaction time, simplify transaction processes, and improve user experience. Therefore, financial technology poses challenges to the business processes of commercial banks.

5. Suggestions of commercial banks under the background of financial technology

5.1. Improve the infrastructure of financial technology

As mentioned in the analysis in the previous two section, commercial banks need to focus on the integration of financial technology to form a complete financial technology rapid facility, in order to successfully transform the bank into a new type of commercial bank. The main requirements for a complete basic design are the commercial bank's front-end system and back-end system. The system merges, and integrates cloud computing technology and big data technology, and rationally arranges the position of the business in the system. Secondly, it is to optimize the human-computer interaction link in the commercial banking system to enhance the user experience.

For the integration of financial technology, commercial banks need to strengthen the cooperation between commercial banks and technology companies to enhance the hardware and software capabilities of industrial banks. The first requirement is high-performance computer equipment and cloud processors for hardware equipment, followed by software facilities and distributed storage, artificial intelligence recommendation algorithm, data mining and computing technology.

Finally, commercial banks should rely on information technology to transform the internal organizational structure of commercial banks, change existing business processes, products and services, realize information and data sharing, and solve customer problems in a one-stop manner.

5.2. Improve the main functions of regulatory technology

With the development and improvement of financial technology in the financial industry, the concept of regulatory technology has gradually been proposed. Regulatory technology includes the innovative development of regulatory systems, rules, policies and concepts. The first thing to do is to use technology for financial products in gray areas. In the supervision aspect, pre-preemptive supervision methods should be adopted, and a steady integration of financial technology and commercial banks in risk management and efficiency should be gradually realized.

5.3. Facilitate the transformation of cultural values

Due to the impact of financial technology, commercial banks need to change their cultural values, detail division of financial service products and financial customers, identify customers' pain points, and use financial technology to strengthen commercial bank's financial products to solve problems, so as to occupy a share of the new financial market.

6. Conclusion

This paper analyzes the four aspects of the impact of financial technology on commercial banks, and explores the challenges brought by financial technology to commercial banks' development strategies, traditional businesses, and business processes. Finally, we made several recommendations on the measures the commercial banks should take under the background of financial technology. Commercial banks need to improve the financial technology-related infrastructure and the main functions of regulatory technology; ultimately, they need to complete the transformation of cultural values, so as to better transform into a new type of commercial bank under the background of financial technology and regain a share of the market.

Disclosure statement

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Author contributions

ZY.W. conceived the idea of the manuscript and wrote the paper.

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The Realization of a Strong Trade Power and China's Direct Investment in SCO Countries

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Abstract: China's path to becoming a strong trade power can be divided into three levels: the micro level of promoting factor cultivation, the meso level of achieving industrial dominance, and the macro level of participating in the establishment of the world system. As a feature of globalization, factor flow is the foundation and key to achieve the above three-level goals. In the first stage of reform and opening-up, China complied with the globalization characteristics of factor flow and gathered a large number of capital factors. It is now the second stage of reform and opening-up; that is, the stage of export-oriented investment. International investment may help in the path to become a strong trade power, or it may become an obstacle. The maximization of benefits and evasion of disadvantages are influenced by the grasp of investment risks. Therefore, special attention should be paid to identifying potential risks and controlling risks.

Keywords: Factor flow; Strong trade power; Shanghai Cooperation Organization; Investment risk

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1. Introduction

In 2013, China has surpassed the United States as the world's largest trading nation in goods, proving that in the first stage of development after reform and opening-up, China has achieved the goals of poverty eradication and economic power. At present, it is in the second stage, which is a new stage for China to explore transformation from a large trading nation to a strong trade power. It is certain that China will achieve the goal of becoming a strong trade power through foreign investment, which is closely related to the advancement of globalization. The current globalization has evolved from trade liberalization to investment liberalization; that is, international factor cooperation in the sense of factor flow. While conforming to the development direction of globalization, China has cultivated demand based on its own factors and explored the road to becoming a strong trade power through investment-driven trade.

In September 2013, a new stage has opened up for the development of China's outbound investment. In recent years, the SCO focus gradually shifted to building economic platforms, strengthening investments, and supporting value investment programs as well as conditions suitable for establishing industrial parks. All of these contribute to creating trade and investment. The formation of the international capacity of qualified bureau and the exploration of the new stage are not only the Chinese trade patterns, but also ways of realizing China's trade power. Since 2013, the enthusiasm of Chinese enterprises to venture abroad has been rising, and the ways as well as channels of outward direct investment have been diversified. In 2015, China's foreign direct investment volume exceeded the inflow of foreign capital for the first time, and China became the second largest foreign investment country in the world. Chinese enterprises with "going global" strategy have become the impetus for domestic economic transformation and upgrading as well as

industrial structure adjustment. At the 11th China International Fair for Investment and Trade held in November 2019, more than 110 participating countries and regions were involved in a heated discussion under the theme of "High-Quality Cooperation for Prosperous Outbound Investment." The participants agreed that China's outward foreign direct investment is an important facet for promoting the development of China and the world itself. Comparatively speaking, the economic development of the countries in the SCO region is still at a relatively early stage, and the domestic capital stock is generally low. The effective countermeasure to solve this problem is to introduce foreign capital and produce projects in line with domestic advantages. The flow of international capital elements will not only fill the domestic capital gap, but also promote the long-term development of the host country's economy in view of the technical knowledge and other spillover effects brought by foreign capital. China's path of reform and opening-up over the past 30 years has set a good learning precedent for all developing countries. SCO countries can rely on the advantages of regional cooperation platforms to achieve the goal of successful transformation from "double gap" countries.

2. Connotation of trade power and the characteristics of China's investment in SCO countries

2.1. Factor flow and the concept of trade power

Factor flow makes it rare for a country to develop a complete industry by itself [1]. While opening their own market, most countries participate in the division of labor in the global value chain with their own set of factors. Factor mobility can be divided into strong and weak according to different factors of production. Factors such as capital, technology, and management have strong mobility, whereas those such as labor force, especially low-end labor force, have weak mobility, and some factors such as land cannot even flow at all. In that case, it is natural that foreign capital flows into China, and not the other way around.

China rose to the world's largest exporter of goods in 2009 and achieved the world's largest two-way total import and export volume in 2013. Undoubtedly, China is a major trading country, which reflects the great achievements of China after years of adhering to the concept of reform and opening-up. It is important to take note that major trading countries only make statistics at the level of trade scale. Without factor flow, the size of trade scale can still represent a country's foreign trade competitiveness. However, in the current era of globalization, international factor flow is the basis and feature of the operation of the world economy. From this point of view, trade scale is no longer suitable as a proof of a country's foreign competitiveness [2]. China's status as a major trading country was formed under special conditions. From the founding of New China to the reform and opening-up, China's domestic economic development level was low, and a large number of low-end labor and land could not be effectively utilized due to the lack of capital factors. On the contrary, western developed countries have completed capital accumulation and are completing the allocation of capital factors in the global range through multinational companies, so as to obtain excess returns. In the early stage of reform and opening-up, China was faced with the issue of double gaps, but globalization, the international flow characteristics of factors, did not allow it to wait for the accumulation of domestic capital factors to a certain extent before opening up. Instead, the development strategy was to introduce foreign capital, combine domestic labor, land, and other factors, as well as develop export processing trade under the guidance of foreign multinational corporations. The export processing trade mode guided by foreign capital ensues the participation of China in the division of labor in the international value chain with low-level factors, ranking China first in the world's export volume in a statistical sense.

2.2. Factor cultivation and the connotation of trade power

Just as there are differences between strong and weak mobility of production factors, there are also high-level and low-level production factors. High-level factors, such as capital and technology, are relatively

few in quantity and have high value, whereas low-level factors are on the contrary. Simple labor and other factors have large numbers but low value. Due to their scarcity, high-level elements will earn higher returns in the division of labor in the value chain, which is determined by the essence of economics [3]. Correspondingly, the returns of low-level elements are much lower than those of high-level elements. Therefore, in the division of labor in the international value chain dominated by multinational corporations, high-level elements occupy the high-end position, while low-level elements occupy the low-end position.

The inflow of foreign capital has put cheap labor and unused land to effect in China, which is also the key to China's development of foreign processing trade. Although China has become a major trading country, it is in fact participating in the division of labor in the international value chain with low-end factors. Labor and land factors do not occupy any advantage in the international division of labor. On the contrary, although a large number of labor and land factors are invested, the actual benefits of these two factors of production are far lower than those of foreign capital inflow. In fact, this is also the purpose of foreign investment led by multinational corporations, in which China will be included in the low-end division of labor in the international value chain. Conforming to mechanism of factor flow in the era of globalization, China has accumulated a large number of capital factors from the last round of reform and opening-up, changing from "double gap" to "double surplus," but the price paid is the induced distortion of factor prices. Specifically, China participates in the division of labor in the international value chain with labor factors and land factors lower than the normal price. The so-called labor dividend that China has owned for a long time is a false phenomenon caused by the lowering labor price, that is the wage level, below the normal price in the labor market; in fact, the comparative advantage of labor factors is also based on it. When attracting foreign capital inflows, local governments have taken preferential land prices as their own advantages, but this preferential land policy for foreign capital has seriously distorted land prices. In addition, the neglect of environmental factors also results in the underestimation of the price of this factor and even causes considerable irreversible environmental damage. This series of factor price distortions have brought down China's overall trade income.

In the process of China's trade transformation from big to strong, the top priority is to complete the cultivation of high-level factors. To be sure, the spearhead that China's factor income is pulled down and factor price is distorted points to an essential reason; that is, the lack of high-level factors. Therefore, in the future, it is necessary to speed up the cultivation of factors, realize technological innovation through scientific research, and cease the situation of participating in the division of labor in the international value chain with low-level factors. The realization of high-level elements participating in cooperation and leading division of labor will also bring benefits to China, which is the connotation and foundation of building a trade power.

2.3. Factor cooperation and the characteristics of China's investment in SCO countries

In the first stage of reform and opening-up, China complied with the globalization characteristics of factor flow and gathered a large number of capital factors. At present, it is entering the second stage; that is, to achieve high-grade factor returns through factor cultivation, which is not only the connotation of trade power, but also the law of global economic development. The new round of China's foreign direct investment marked by the Shanghai Cooperation Organization will boost private capital through state capital, forming a combination of Chinese capital factors and other countries' advantageous production factors, resulting in projects. The way of international production capacity cooperation is undoubtedly a new path to achieve trade power.

In recent years, the focus of SCO's work has gradually expanded from security issues to strengthening regional economic development. The expanded SCO has become an important platform for the construction of the Chinese international trade and investment, ushering in a new era of cooperation between China and

SCO countries. China's infrastructure investment in SCO countries is mainly in the form of project cooperation. Specifically, it is funded by China, and construction engineering teams are directly transferred. Therefore, it can be said that China's advantageous elements include capital elements, construction technology elements, and skilled labor elements of construction engineering. The first thing to consider in infrastructure construction is its location. Whether it is a road, railway, or hydropower station, its geographical location is based on the land elements of a specific location. Therefore, it can be said that the advantageous element of the host country is the land element with special location value. Through infrastructure investment projects, the capital, technology, and other advantageous elements from China will be combined with the advantageous land elements of the host country, so as to achieve deep-seated international cooperation in the sense of factor flow. As of today, China has established 56 economic and trade cooperation zones in the SCO region. The economic and trade cooperation zones emphasize on strengthening investment, supporting and attaching importance to investment planning, as well as creating trade with investment. This international cooperation, which goes beyond the constraints of a country's domestic factor endowment and industrial structure while breaking through the possibility of optimal allocation of domestic resources, has played the role of advantageous factors of various countries to a large extent as well as realized a more efficient and reasonable combination of advantageous elements of various countries. China's investment in SCO countries is essentially the further deepening of the second stage of reform and opening-up; that is, from the past one-way investment structure to the current two-way investment structure.

3. China's investment risk in SCO countries under the strategy of trade power

3.1. The traditional foreign investment risk cannot explain the current Chinese foreign investment risk

In previous literatures on the risk of foreign investment, a considerable number of scholars believe that information asymmetry is the main reason for the risk of foreign investment. The host government has the private information that investors lack. There is a game between them. One party can only make decisions based on the limited information collected about the other party; hence, the incomplete information may lead to decision-making mistakes. This information asymmetry between investors and host governments is the most common factor leading to the risk of foreign direct investment. Specifically, the current problems of Chinese investment in SCO countries include the following: the host country is worried that its own energy resources will be controlled by foreign capital and thus has resistance to foreign capital, whereas the investor country is unsure about the host country's attitude toward foreign investment; moreover, the government may make certain choices that are contrary to investors' expectations, such as announcing the confiscation of investment projects after the signing of the investment agreement, resulting in higher investment risks.

Although investment risk is emphasized, the foreign investment risk of China, in the prospect of becoming a strong trade power, is completely different from that of traditional western countries. The expansion of capital within the scope, the pursuit of interests, the maximization of its capital gains, as well as the low buying and high selling of the host country's advantageous elements are the basic characteristics of its foreign investment. China's foreign investment, in the prospect of becoming a strong trade power, is an international element cooperation that conforms to the development of globalization. In the past, many organizations founded in China creatively assume their projects as the foundation of regional economic construction, which reduces the complexity of regional co-construction and is more conducive to the interconnection and development of a certain region. Taking "mutual trust, mutual benefit, equality, consultation, respect for multiple civilizations, and seeking common development" as the principle of mutual relations among countries in the region, SCO emphasizes on strengthening investment, supporting

and attaching importance to investment planning, creating trade with investment, as well as establishing economic and trade cooperation zones under appropriate conditions. Whether it is the former organization or SCO, China, as a responsible country, actively leads the development of other developing countries and uses the form of foreign direct investment to combine its advantageous elements with those of the host country to generate projects. Therefore, traditional international investment risk does not fit here.

It is believed that information asymmetry is the theoretical basis of China's investment risk in SCO countries, which lies in the zero-sum view [4]. The reason is that there are still some old conceptual prejudices against China's rise as an economic power in the world. It is undeniable that in some cases, the zero-sum game exists objectively between the two sides of the game, and neither side has created new benefits. At this time, the loss of one party is the gain of the other party. This view also extends to China, which is in the process of reform and opening-up. It holds that the huge economic benefits China has achieved in the process of reform and opening-up are the economic losses of other countries, damaging the interests of other countries, and transferring the economic benefits of other countries to China through its opening to the outside world, which has led some countries to doubt or even oppose China's reform and opening-up. In the face of much pressure, China has responded positively by showing the world that its development strategy and goal orientation have always been a win-win cooperation. The future development trend of China and other countries in the world is bound to be the international factor cooperation that conforms to the era of globalization. Factor cooperation is not only the micro basis for the economic development of all countries, but also a feature of the current world economy. The overall strategy of China's political and economic diplomacy in the new era, namely the win-win cooperation, is a macro strategy based on the micro basis of factor cooperation. Under the guidance of the win-win cooperation, all countries will achieve a positive sum game; that is, a win-win situation. It is not true that China's foreign investment risks are caused by information asymmetry at this stage.

3.2. Risks of China's investment in SCO countries at the present stage

3.2.1. Factor price distortion

In the process of reform and opening-up in the first stage, relying on its institutional advantages, China has attracted foreign capital inflows, formed a processing trade export industry dominated by foreign capital, and solved the issue of "double gap" in capital and foreign exchange [5]. However, in this process, an induced twist in factor prices has occurred. Due to the idleness of a large number of labor forces, the pricing of labor factors was too low at the beginning. This kind of labor pricing below the normal market level occurs not only in the low-end labor force, but also in the high-end labor force. For a long time, the labor dividend has been driving down the labor price, namely the wage level, to the normal price of the labor market. The land factor also faces a similar problem. The distortion of factor prices has brought down the overall economic benefits of China. In the second stage of China's opening to the outside world, it is very important to guard against the risk of factor price distortion and prevent this phenomenon. On the other hand, since it is an international investment with the international flow of capital factors as the carrier, it will be dominated by capital intensive industries. In recent years, the industry has experienced rapid development, which may be affected by high investment and high valuation. Therefore, this does not represent the actual value. Some enterprises may be eliminated prematurely in foreign markets because they do not have competitiveness, which will affect the overall benefits of China's international investment. Therefore, when China invests in SCO countries, special attention should be paid to the pricing of domestic factor market to reduce the risk of factor price distortion.

3.2.2. Factor cooperation trap

The key conclusions to the connotation of trade power include the cultivation of high-level elements, the participation in the division of labor in the international value chain with high-level elements, and the realization of a high-end position of the division of labor in the value chain while obtaining higher returns. This is not only China's strategic policy to transform into a strong trade power, but also to avoid the risks brought by the factor cooperation trap. The issue with this reputed factor cooperation trap is that it has occurred in the past and will persist for a long time into the future to participate in the division of labor in the international value chain with low-end factors. One of the reasons for this situation lies in the overreliance on the theory of comparative advantage [6]. It is believed that the premise for a country to participate in international cooperation is its comparative advantage that other countries do not have, in addition to path dependence. In the absence of factor flow, a country may indeed participate in the international division of labor with its comparative advantage, but this assumption is not consistent with the current fact of international factor flow. China's international investment based on the principle of international factor cooperation has revealed the world's economic essence of factor flow. The entry point for countries to participate in the international division of labor is linked to advantageous factors rather than comparative advantage. Therefore, one of the potential risks that China may encounter when investing in SCO countries is the factor cooperation trap in terms of comparative advantage. The weight is that it has been at the low end of the division of labor in the international value chain for a long time.

3.2.3. Relationship between the government and the market

Experience has proven that the best strategy of the host country is to introduce foreign capital. There is no game, especially zero-sum game, between the investing country and the host country in China's investment in SCO. The intentions of the investors are clear and definite. From the perspective of a responsible country, the investor promotes international factor cooperation with the flow of capital factors as the carrier to meet the needs of the host country to make use of idle advantageous factors. The investment risk caused by information asymmetry between the two sides, which is an international investment risk in the traditional sense, does not match reality. However, it should be emphasized that in the development process of SCO, regional cooperation and co-construction are the ultimate goals. The host country cannot always rely on foreign investment from China. The top priority is to fill its scarce capital elements first, then slowly cultivate their hematopoietic ability, and finally realize regional co-construction [7]. The host country needs to make proper use of capital elements to promote its domestic economic development, so as to avoid the unhealthy situation of arranged cooperation. It can be said that the deep-seated reason for China's investment in SCO countries lies in the realization of a strong trade power, which has a profound impact on the relationship between the government and the market. Foreign investment requires the market to be more open and operate more efficiently. At the same time, it also puts forward high-level requirements for government departments. If the relationship between the government and the market is poor, the risk of the government completely controlling the market, or the risk of government inaction and relying only on the market mechanism may occur. Whether the government is offside or absent, there will be many potential risks in foreign investment. The SCO implements a project-first policy, in which government investment is given priority, while private investment is driven. It is necessary to grasp the degree of government functions to avoid the allocation of resources by the government rather than the market, which violates the nature of economic development. In the future, with the further development of international investment, the government's continuous commitment to the leading position of investment may be counterproductive and may disrupt the market balance.

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A Study on Improving the Financing Environment of Small and Micro Enterprises – Based on Taizhou Model

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Abstract: China's small and micro enterprises have always had the typical characteristics of "five, six, seven, eight, nine," which are important supports to expand employment and improve people's livelihood. However, the current proportion of these enterprises in obtaining bank loans does not commensurate with the proportion of small, medium, and micro enterprises in the total economic aggregate. The financing dilemma of small and micro enterprises still exists. In consideration of the financing status of small and micro enterprises, this study analyzes the constraints of small and micro enterprises in financing, such as the difficulty in mortgage, difficulty in obtaining loans, and difficulty in guaranteeing. This study sorts out Taizhou's practical experience and links its operation mechanism of "two platforms, one fund, and one index." Finally, by learning from its successful experience, how to utilize the environment and the trend of big data will be further discussed, so as to form a scalable and sustainable financing method and path. This will provide a reference for improving the financing environment of small and micro enterprises.

Keywords: Small and micro enterprises; Financing; Taizhou; "Two platforms, one fund, and one index"; Financing environment

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1. Introduction

China's small and micro enterprises have always had the typical characteristics of "five, six, seven, eight, nine," which are important supports for expanding employment and improving people's livelihood. As of July 2021, the number of small, medium, and micro enterprises in China reached 143 million, accounting for 94% of the total number of enterprises in China. Small and micro enterprises contribute about 50% of tax revenue and 60% of GDP, as well as create 70% of scientific research achievements and 80% of urban employment, becoming the main players of the country's national economy [4]. At the end of the third quarter of 2021, the balance of loans of financial institutions was 189.46 trillion yuan. The balance of inclusive loans to small and micro enterprises totaled 18.59 trillion yuan, showing that the current proportion of small, medium, and micro enterprises in obtaining bank loans does not commensurate with the proportion of small, medium, and micro enterprises in total economic aggregate. The financing dilemma of small and micro enterprises still exists.

2. Constraints on the financing difficulties of small and micro enterprises

Restricted by assets scale and other factors, credit financing by financial institutions is still the main way of external financing for small and micro enterprises. At present, the establishment of the financial system in China is flawed; in addition, its venture capital and gem entry threshold are high. Small, medium, and micro enterprises face difficulty in obtaining direct financing. As vulnerable parties, the vast majority of financial institutions require small and micro enterprises to provide guarantees in view of their small-scale operation and short life span, which undoubtedly brings financing difficulties to them. In terms of the existing financing environment and financing supply, the financing constraints of small and micro enterprises include mortgage difficulty, guarantee difficulty, and loan difficulty.

2.1. The lack of mortgage conditions leads to mortgage difficulties

According to Article 179 of the Property Law of the People's Republic of China and Article 3 of the Management Measures for Mortgage Loans, the necessary condition for an enterprise to obtain loans is to have a certain number of fixed assets as collateral. Bank lending targets must meet credit standards, dynamic growth, and other requirements to reduce loan risk and bad debt rate. The majority of small and micro enterprises lack actual collateral and do not have mortgage conditions. The backward credit guarantee mechanism increases the difficulty for small and micro enterprises to obtain credit guarantee. Even if these enterprises have several mortgageable properties, it is difficult for asset appraisal companies to unify the market evaluation standards of assets and mortgaged properties, which leads to mortgage difficulties.

2.2. The reluctance of commercial banks to lend leads to difficulties in obtaining loans

Traditional financial institutions consider multiple factors prior to lending. In addition to scale effect and liquidity of funds, they also consider the credit status and scale of operation. As small and micro enterprises are born with the inherent shortcoming of "low credit rating and short life span," commercial banks tend to lend to large and medium-sized enterprises with good credit records and complete capital supply chains. In addition, due to the limited authority of grass-roots branches of commercial banks and the long loan approval time, it is difficult for small and micro enterprises to obtain loans. It is an indisputable fact that small and micro enterprises have low access to credit.

2.3. The difficulty in forming a joint guarantee relationship leads to difficulties in guaranteeing

Due to the operating characteristics of small and micro enterprises, including the small proportion of fixed assets and the long payment recovery period, it is often difficult for small and micro enterprises to find suitable guarantors or credit guarantee institutions to guarantee them. Meanwhile, small and micro enterprises with good benefits are reluctant to form joint guarantee relationships with other companies, as the untrustworthy behavior of other companies in the repayment of loans will become the sword of Damocles to punish these enterprises. As long as there is a problem in one link in the chain of joint guarantee, the entire capital chain will be interrupted, and the mutual guarantor will be affected. Over time, it is difficult to form a joint guarantee relationship between these enterprises, thus making the joint guarantee mechanism unsustainable [5].

3. Taizhou's successful experience of "two platforms, one fund, and one index"

Since the approval of the national financial service reform and innovation pilot zone, Taizhou City, Zhejiang Province has made effective breakthroughs in exploring the improvement of the financing environment and solving the problems of difficult financing, expensive financing, as well as slow financing.

This can be used as a typical representative and successful experience in cracking down on the bailout of small and micro enterprises across the country. Among them, the "two platforms, one fund, and one index" model is particularly eye-catching.

The "two platforms, one fund, and one index" model reflects China's leading credit information sharing platform, the nationwide promotion of the trademark exclusive right pledge financing platform, China's first small and micro enterprise credit guarantee fund [2], and China's first small and micro financial index. This model is a joint construction by the local government and major local banks, with full coverage of funds and government policy support. Based on the construction of "two platforms, one fund, and one index," Taizhou responds to the change and transformation of the financial digitization trend and competition pattern, improves the financing environment of small and micro enterprises, summarizes the experience that can be promoted to the whole country, and forms a replicable as well as portable "Taizhou model."

3.1. Taizhou's "two platforms, one fund, one index" model

3.1.1. Partner organizations

In the "two platforms, one fund, one index" model, the government helps to build the credit guarantee fund and construct the credit information sharing platform as well as the trademark exclusive right pledge financing platform through the accumulation of various organs and social information. As guides, Taizhou Bank and other commercial banks escort the financing of small and micro enterprises. Adhering to the linkage between provinces, cities, and counties, as well as the coordination between government, enterprises, and banks, a set of operation modes of financing services is explored, and a "financial format" is formed to promote the reshaping of the overall financing environment of "financial ecology" [6].

3.1.2. Business ability

The "two platforms, one fund, and one index" model has two major businesses (initial loan and renewed loan), realizing full financing coverage for small and micro enterprises, and even involving financing businesses from different regions of the same province and also other provinces. Both the initial loan and the renewed loan basically achieve zero cycle. The whole loan renewal process has been shortened from three days to 15 minutes. Since the establishment of Taizhou's "two platforms, one fund, one index" model, it has saved about 2.185 billion yuan in relending costs for small and micro enterprises every year, benefiting nearly 20,000 enterprises.

3.1.3. Operation mode

Taizhou's "two platforms, one fund, and one index" model is based on guarantee fund and supported by two information sharing platforms (leading credit information sharing platform and trademark exclusive right pledge financing platform), which are promoted nationwide, to provide special services for small and micro enterprises. It is responsible for docking with cooperative institutions, undertaking loan projects, implementing businesses, providing multiple financing channels and various financing methods for small and micro enterprises, as well as playing an important role as a bridge.

The basic mode of operation is shown in **Figure 1**.

Data source: Taizhou Small and Micro Enterprise Financing Integration Service Center

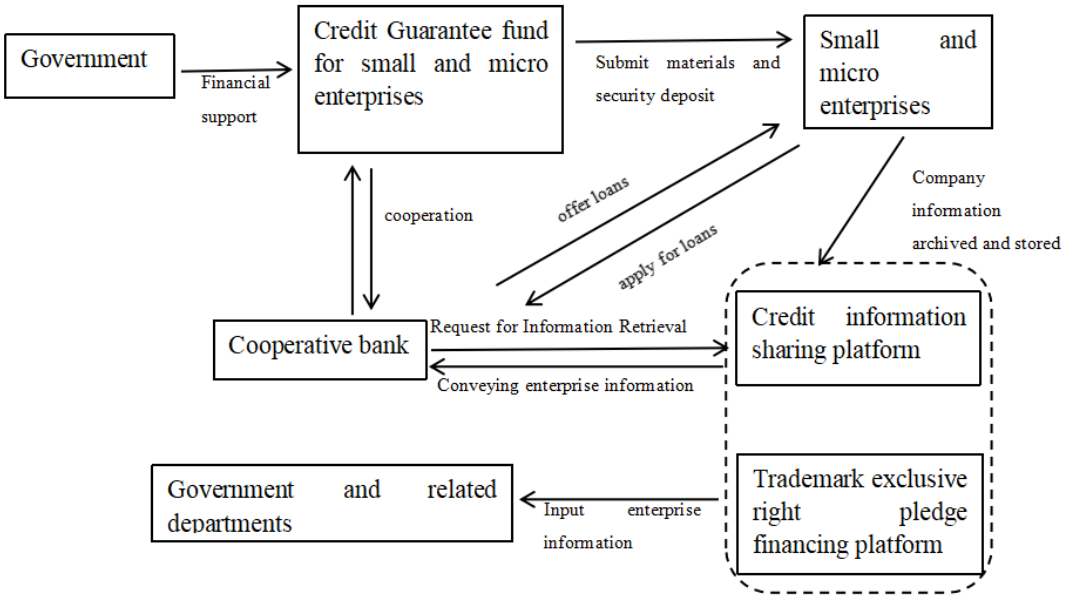

Figure 1. The operation mode of Taizhou's "two platforms, one fund, and one index" model

3.2. Taizhou's successful experience with the "two platforms, one fund, and one index" model

The "two platforms, one fund, and one index" model, as a typical successful example of financing platform for small and micro enterprises, is summarized below.

First of all, it seizes the opportunity of the era of big data and uses it to build a systematic credit information database as well as an enterprise virtual collateral gene database. The "two platforms, one fund, and one index" model mainly serves high-quality small and micro enterprises. Qualified small and micro enterprises can apply for loans by providing credit, trademarks, intellectual property rights, pollution rights, and other guarantees to relevant loan platforms, thus averting the problem of the lack of collateral and guarantee. The government has jointly established a unified credit information sharing platform for small and micro enterprises with the People's Bank of China as well as other social information platforms. They invested in the construction of credit guarantee funds, encouraged major investment institutions, banks, and all sectors of the society to participate in the construction of guarantee funds, widely absorbed investment funds, as well as established the framework of credit guarantee funds. The lending platform will call the information sharing platform to confirm the credit rating of those enterprises that have sent in their application for loans. This fundamentally solves the current situation of low credit and the unwillingness of banks to lend due to information asymmetry [1].

Secondly, it optimizes the process and builds a platform for small and micro enterprises as a "bridge." The "two platforms, one fund, and one index" model eliminates several constraints, such as complicated process and slow approval, as well as realizes a virtuous cycle of zero-cycle financing and the fast application of small and micro enterprises and bank lending, with the characteristics of "zero cycle, zero cost, and zero threshold" [6]. With the help of big data information on the platform, banks can quickly conduct a series of loan works, such as pre-loan investigation, approval during the loan, and post-loan management for small and micro enterprises in terms of finance, as well as provide special extension services for those with operating difficulties. Small and micro enterprises tend to use their own only credit, goodwill, trademarks, and other virtual collaterals to guarantee loans effectively. Through efficient, high-quality, and preferential loan services, diversified financial products are offered to serve small and micro enterprises, a variety of virtual collateral application channels are opened, and an information exchange

bridge is built for small and micro enterprises as well as the participating banks, with the advantages of wide coverage, convenience, and benefit to the people.

Finally, it establishes and improves the trust-breaking punishment mechanism and risk prevention mechanism of small and micro enterprises to promote the maintenance of good credit investigation. With the "two platforms, one fund, and one index" model, Taizhou has accumulated more than 4,000 items of credit information in 118 categories from more than 30 departments [6], including warnings on the blacklist of trust-breaking and the punishment of trust-breaking. When small and micro enterprises have borrowing needs, financial institutions can log on to the platform to query and obtain credit information, thus alleviating information asymmetry between banks and enterprises to a certain extent. The innovative development of the model drives the development of small and micro enterprises in Taizhou and benefits the whole province as well as the whole country.

4. Promotable paths to improve the financing environment of small and micro enterprises

It is a long-term project to establish and improve the financing environment of small and micro enterprises. They need to improve their own competitiveness as well as the cooperation of relevant departments and credit guarantee institutions. How to make good use of financing methods under the big data trend to solve the issue of financing requiring in-depth research?

First, a financing and credit service platform should be established. All sectors of the society should jointly build a financing credit service platform on the basis of data standardization and standard unification. The government-led "Xinyidai" platform is a good example. All sectors of the society should not only speed up the construction of the platform's functions and promote the development of the platform's personalized functions, but also increase the construction of the financial refined service function system in various cities and industries. Relying on the national credit information sharing platform ("Xinyidai"), a comprehensive public credit evaluation system should be designed in line with the operating characteristics of small and micro enterprises [1]. In regard to the credit rating of small and micro enterprises, enterprise managers should pay attention to the quality of the enterprise, especially the overall situation rating of the enterprise in terms of its quality, including the quality rating of the enterprise leadership group, the rating of the business management ability of the enterprise, and the rating of the enterprise competitiveness.

Secondly, policy support is necessary. The government takes the lead in formulating relevant standards and norms, regulating the operation of guarantee institutions, and giving full play to the role of local governments and policies. Local government departments should further speed up the implementation of policies and increase the intensity of supporting policies. Relevant departments should issue special support policies, make good use of existing inclusive financial support policies, various funds, and other resources, fully mobilize the enthusiasm of local governments, encourage qualified local governments to set up special funds, share out the financing risks of small and micro enterprises, as well as reduce the financing costs [7]. At the same time, under the guidance of the government, all relevant departments should accelerate the improvement of the credit information collection and sharing mechanism by promoting the establishment and improvement of the credit information sharing mechanism, making good use of information resources, such as the national credit information sharing platform and the international trade "single window" platform. They should also explore ways to solve the issue of information asymmetry between banks and enterprises.

Thirdly, public credit institutions should gradually establish a default risk prevention and disposal mechanism. The risk sharing mechanism and risk compensation mechanism are important guarantees for the healthy development of public credit institutions. Financial institutions should be encouraged to establish a multilevel risk warning and management system based on FinTech as well as realize a risk prevention and disposal mechanism with three interconnected parts: pre-loan, in-loan, and post-loan. They

should also establish an online compulsory notary mechanism to speed up the resolution of debt disputes. Relying on the national credit information sharing platform, the repayment ability and willingness of enterprises can be evaluated according to the credit data accumulated by enterprises in their past operations, so as to effectively control loan risks. In addition, joint punishment should be executed on debtors who break faith to serious acts of malicious evasion or rejection of debts.

5. Conclusion

In short, a joint risk control mechanism should be established between relevant institutions. Joint risk control refers to risk sharing. Financial institutions, guarantee institutions, insurance institutions, credit service institutions, the government, and other parties should carry out reasonable system design to build a multiparty risk sharing mechanism. Financial institutions should actively respond to the settlement, achieve win-win results for both sides, help the development of small and micro enterprises, as well as effectively realize risk prevention and control. The government should give play to the role of associations of various industries and social organizations, strengthen the publicity and training of small and micro enterprises on credit policies, and help the enterprises improve their internal credit management system. Guarantee institutions should improve the product system of the platform, provide diversified solutions for financing, and achieve precise negative reduction. At the same time, in the field of industrial application, insurance also plays a role for small and micro enterprises in bidding, medical care, transportation, and other fields to achieve burden reduction. Credit service institutions should establish an assessment mechanism conducive to promoting "credit and easy lending," mobilize the enthusiasm of various financial institutions and credit service institutions, as well as fulfill the obligation of inclusive finance. Under the premise of controllable risks, the national credit and easy loan platform should be promoted and play effective roles in various places.

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Disclosure statement

The authors declare that there is no conflict of interest.

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Research on the Risk Management Issues of VAM Agreements in Private Equity Financing

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Abstract: At present, the biggest obstacle that growing enterprises may encounter in their development process is insufficient funds. Private equity financing does not only solve the capital problem of enterprises, but also provide enterprises with professional management concepts and even help growing enterprises to go public in advance. However, high returns must be accompanied by high risks. For example, private equity financing has information asymmetry risks, principal-agent risks, etc., and these risks make it impossible to maximize the advantages of private equity financing. Therefore, in order to reduce the risks brought by financing, investment and financing parties should choose to sign gambling contracts to reduce the risk. In recent years, the use of VAM agreements has become more in China. However, according to incomplete statistics, less than 30% of VAM agreements are successful, and this result is mainly due to the insufficient depth and breadth of research on VAM agreements. Therefore, this article will comprehensively analyze the problems that need to be paid attention to when signing a gambling agreement by introducing the case of Anda Technology, and the issue of targeted risk prevention will also be discussed in this paper.

Keywords: Private equity financing; Gambling agreement; VAM agreement; Risk prevention and control

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1. Introduction

In the current environment, financing difficulties and high financing costs are the financial difficulties faced by most small and medium-sized enterprises [1]. Under such circumstances, enterprises have begun to turn their attention to the capital market. At the same time, with the accelerated growth of China's capital market, private equity financing has gradually become a financing channel for the majority of private enterprises [2]. However, with the development of private equity financing, the disadvantages of private equity financing have gradually emerged. For example, there are obvious information asymmetry risks and principal-agent risks in private equity financing. In order to accurately determine the financing amount in private equity financing, investors need to measure the value of the financing company; however, the valuation of the financing company is affected by the information asymmetry between the two parties [3]. Therefore, it is difficult for the investment and financing parties to reach an agreement on the valuation of the company. In order to solve this drawback, the two parties will sign a VAM agreement, which stipulates that the valuation of the financing company can be adjusted in the later stage. With VAM agreements, investors can design a guarantee mechanism to protect their own interest, and it is then possible to reach the right effect of financier incentives [4]. Although VAM has been widely used in private equity financing, not all VAM agreements can achieve a win-win situation. On the contrary, most VAM agreements end in failure. Many gambling agreements fail due to other external factors or the failure of the set gambling

performance in meeting certain standards [5]. Therefore, the issue of how to better use the VAM protocol and take precautions against the risks that may occur during the use of the VAM protocol is very important. Private equity financing and VAM agreements will play increasingly important roles in more financing activities in the future [6].

2. Related concepts

2.1. The connotation of private equity financing

Private equity financing refers to the handover of funds to equity investment managers by specific subjects, such as companies and their individuals, or other financiers for management and investment in a non-public way. Investment managers invest in unlisted companies for equity financing, thereby relying on business operations to obtain premium income [7].

2.2. Participants in private equity financing

Private equity financing is mainly composed of three parts: investors, financiers, and intermediaries [8]. Financiers refer to financing enterprises, and traditional private equity financiers mainly refer to growing private enterprises that have potential [9]. Investors mainly refer to large enterprises, including institutional investors and wealthy people [10]. Among the investors, institutional investors account for the majority. Most of the intermediaries refer to fund managers or fund companies. Fund managers, as unlimited partners, assume unlimited responsibilities in private financing. This helps to curtail the extreme information asymmetry that may be caused by the financing process and solve the corresponding incentive mechanism problem [11].

2.3. The concept of VAM agreement

Valuation adjustment mechanism (VAM) refers to an agreement that is designed to reach a private equity financing agreement as it is difficult for both, investment and financing parties to make a 100 percent correct judgment on the actual situation of the future development of the financing company [12]. The agreement stipulates that the investment can be adjusted according to the actual operation of the enterprise in the future [13]. While alleviating the information asymmetry between investment and financing parties, the VAM agreement can also form an incentive mechanism for financiers [14]. In terms of corporate valuation, investors inevitably use less information on the operation of financing companies than financiers, and at the same time, it is difficult for investors to fully understand the actual investment value of financiers through other channels. The agreement can alleviate this information asymmetry risk [15]. Through this agreement, it is then possible to agree on terms that will come into effect conditionally based on the business performance over a period of time and define the obligations and rights established by both parties. In this way, the investment risk can be reduced, and the profitability and safety of investors will improve. In addition, the VAM agreement can motivate the management of the financing company because the value of the agreement ultimately depends on the improvement of the financing company's management level [17]. Therefore, the agreement plays an incentive role for financing companies, and in foreign private equity financing, gambling agreements are also commonly used to incentivize management [18].

2.4. Components of VAM agreement

The main components of the gambling agreement include the gambling subject, the gambling standard, and the gambling object. The subjects are the participants who sign the gambling agreement, including investors and financiers. As VAM agreements are not widely used in China, most investment institutions with

overseas background are the investors who sign these agreements, and there are only a small number of investment institutions with financial strength in China. Another signing entity is the financier. Most of the financiers in China are start-up private enterprises. There are many enterprises with great development potential. These enterprises are rapidly developing, but they lack funds; in addition, the traditional financing channels are relatively inferior. There are also many financing obstacles, so it is important for these enterprises to rely on investment institutions for financing.

The VAM standard refers to the evaluation and judgment criteria for VAM. It refers to the crux that triggers the VAM agreement to function. The standard of gambling mainly includes non-financial performance, financial performance, the whereabouts of management, stock issuance, redemption compensation for corporate behavior, and so on. There are many indicators of financial performance, including operating income and net profit growth rate; the indicators of non-financial performance include sales volume, output, research and development (R&D) technology, market share, etc.; corporate behavior includes horizontal competition, illegal crimes, affiliated transactions, etc.; stock issuance refers to the main board listing, listing on the New Third Board, etc.; redemption compensation refers to the repurchase of preferred shares. When financial performance is used as the standard, investors generally have the following three choices: the first is based on a single objective, such as the quarterly profit or pre-tax profit index, as the condition for equity changes; the second is based on a single target, in which a series of step-by-step standards will be set up, and each time a standard is reached, the equity will change to a certain degree; the third is to set the upper and lower bounds as long as the change of equity can be realized between the upper and lower bounds. At present, the VAM standard applied to VAM agreements in China is still mainly based on financial indicators.

The gambling object is the bet, in which most of the bet is based on option subscription, investment amount, and equity. If the operating performance of the financing company reaches the target set in the VAM clause, the investor will transfer a certain equity stake to the management of the financing company at a lower price or even for free; otherwise, the management of the financing company will directly obtain part of the option subscription. On the contrary, if the financing company does not meet the set standards, the management needs to purchase the equity held by the investor at a higher price or transfer a certain option subscription right, thus increasing the investor's financing and the seats on corporate boards.

3. Case discussion

3.1. Financing party

Guizhou Anda Technology and Energy Co., Ltd., also known as Anda Technology, was incorporated on August 23, 1996. At the time of its establishment, it mainly engaged in the production of traditional businesses, such as phosphoric acid and yellow phosphorus; however, the pressure of development faced by traditional businesses was increasing. By looking for a new way to solve this issue, Anda Technology gradually took on the role of an enterprise that engages in the new energy industry. In 2006, Anda Technology had not yet been upgraded and transformed, but it was able to complete the annual production of high-yield phosphoric acid and sodium tripolyphosphate. At the same time, affected by the country's continuous implementation of industrial structural upgrading, energy conservation, and emission reduction policies, as well as the transformation and upgrading of global industries, Anda Technology proposed a ten-year development plan in 2009 to cope with the pressure. The goal of industrial transformation and upgrading has been set as its development direction, while technological innovation is assumed as the core competitiveness of enterprises by Anda Technology. Taking advantage of the policy situation related to the improvement of China's new energy industry, Anda Technology came to actualize spinoff businesses in 2013 and successfully completed the reform work pertaining to shares. Anda Technology also landed on the New Third Board in the second year acceding the new energy theme.

3.2. Investors

The investors who contributed are Jiaxing Chunqiu Chuzhuang Jiuding Investment Center (hereinafter, referred to as Chuzhuang Jiuding), Jiaxing Chunqiu Jinwen Jiuding Investment Center (hereinafter, referred to as Jinwen Jiuding), Jiaxing Chunqiu Qiheng Jiuding Investment Center (hereinafter, referred to as Qiheng Jiuding), and Suzhou Jiaying Jiuding Investment Center (hereinafter, referred to as Jiaying Jiuding). A total of four four-share equity funds participated, with a joint investment of 154.3 million yuan. These four investment institutions belong to Kunwu Jiuding Investment Holdings Co., Ltd. (hereinafter, referred to as Jiuding Investment). Jiuding Investment currently has three main businesses, including real estate investment, private equity investment, and fixed income. There are professional teams in most fields.

4. Gambling agreement

4.1. Contents of gambling agreement

In the gambling agreement, the first clause is performance compensation. Jiuding Investment required Anda Technology to deliver a net profit of more than 8 million yuan in 2011, 20 million yuan in 2012, and 30 million yuan in 2013. In 2014, it should not be less than 40 million yuan. If one of the four years does not meet the performance standard, Anda Technology or Party C would be required to pay Party A cash compensation. The amount of cash compensation in each year = Party A's investment * (1 – actual achieving performance / promised performance indicators).

The second clause is the exit arrangement. In the case of Anda Technology and Jiuding Investment, Jiuding Investment made the following clauses when signing the VAM agreement: if Anda Technology wants to liquidate, then Anda Technology must pay the taxes owed; when the company's debts are paid off and Party B's remaining assets are distributed, Party B and Party C must ensure that Party A obtains all the investment in Party B plus additional payment, which is part of the dividends that Party B has announced but has not implemented yet; if the remaining assets distributed by Anda Technology to Party A are less than the above amount, then the insufficient part should be obtained by Party C according to the liquidated assets to compensate Jiuding Investment.

The third clause is the supplementary agreement. On January 23, 2014, Party A, Party B, and Party C signed a supplementary agreement, the Supplementary Agreement II on the Capital Increase and Share Expansion Agreement of Kaiyang Anda Phosphorus Chemical Co., Ltd. in Guizhou Province. This supplementary agreement does not have any impact on the validity of the relevant capital increase agreement and the supplementary agreement signed by all parties. According to the agreement, ever since the application of Anda Technology for listing, Jiuding Investment has temporarily waived the investigation of Anda Technology to assume joint and several liability, pay the corresponding performance compensation, and give up the requirement for Party B and Party C to transfer or repurchase the shares of Anda Technology in the hands of Jiuding Technology. However, Jiuding Technology can still request Party B and Party C to pay the corresponding performance compensation.

4.2. Results of betting

According to the WIND database, the net profits of Anda Technology in 2012-2014 did not meet the set gambling performance standards (**Table 1**).

Table 1. Anda Technology's net profit from 2012 to 2014

Year	Actual net profit (RMB)	Performance requirements (RMB)	Compliance
2012	698,0575	20,000,000	No
2013	-4,438,643	30,000,000	No
2014	16,361,358	40,000,000	No

Data source: WIND database

From **Table 1**, it can be seen that although the actual net profit of Anda Technology from 2012 to 2014 did not meet the performance standards required by Jiuding Investment, the Supplementary Agreement II on the Capital Increase and Share Expansion Agreement of Kaiyang Anda Phosphorus Chemical Co., Ltd. in Guizhou Province pointed out that from the day of reporting the listing materials to the National Equities Exchange and Quotations, Jiuding Investment will temporarily give up on pursuing Anda Technology to assume joint responsibility and pay the corresponding performance compensation as well as in requiring Party B and Party C to transfer or repurchase Anda Technology from Jiuding Technology. However, Jiuding Technology can still request Party B and Party C to pay the corresponding performance compensation. Anda Technology was successfully listed on the New Third Board in 2014. At the same time, the net profit of Anda Technology in 2016 after the listing increased significantly. In the 2016 intermediate report, three Jiuding investment companies, Jinwen Jiuding, Chuzhuang Jiuding, and Jiaying Jiuding, held a total of 18,220,184 shares of the financier, but in the 2016 annual report, Jiuding Investment was not listed as one of the top ten shareholders of Anda Technology. From the 2,815,000 shares held by the tenth shareholder, Zhu Qingfeng, Jiuding Investment sold at least 9,775,184 shares of Anda Technology in the second half of 2016. The average transaction price of the stock in half a year is 19.85 yuan. Party A could have at least earned 194 million yuan and a maximum of 362 million yuan in profit in that half-year. It can be seen from the above results that although Anda Technology did not achieve the net profit target, it was successfully listed in the end, making both parties profitable. Therefore, the bet between Anda Technology and Jiuding Investment was considered successful.

5. Anda Technology's gambling risk analysis

5.1. External macro environment

When the external environment of an industry is in a relatively unstable state, it will lead to uncertainties in the future direction of the market, so the possibility of failure in the gamble is higher. Therefore, analyzing the external environment is crucial. Since July 2012, China has promulgated a series of relevant policy plans for the new energy automobile industry, which have laid the foundation for the development of new energy automobiles and provided policy support. The State may subsidize the sales of certain products in the new energy automobile industry in the future. This will also affect the development of other industries related to this industry. The main products of Anda Technology include lithium-ion batteries for new energy automobiles as well as iron phosphate and lithium iron phosphate battery materials. Its production is directly affected by the promotion of national policies. The development scale of lithium batteries in China from 2012 to 2015 is shown in **Figure 1**.

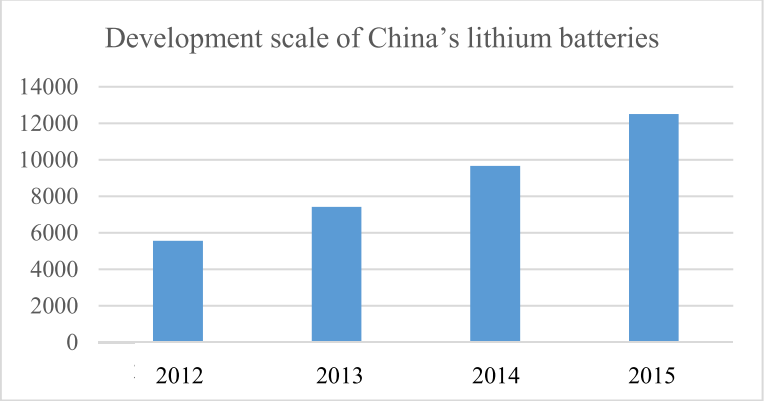

Figure 1. Development scale of China's lithium batteries

By analyzing **Figure 1**, from the perspective of the external macro environment of lithium batteries, Anda Technology is facing opportunities along with risks and challenges. The company must improve its competitive advantage and seize opportunities, so as to improve its corporate performance and the probability of success of the gambling agreement.

5.2. Performance commitment setting

The level of performance commitment is positively related to the difficulty of realizing the agreement. If the level of performance commitment is higher, it will naturally be more difficult for the company to achieve the performance standard and to realize the VAM agreement. If Anda Technology plans to achieve a net profit of 40 million yuan in 2014, it means that its' compound growth rate in three years must reach 71%, but in fact, its' annual growth rate since the signing of the agreement has not been ideal. In 2013, the net profit became negative. Although it finally achieved a great increase in net profit in 2014, its overall compound annual growth rate was only 53.1%, lower than the expected 71% (**Table 2**). This shows that the average annual growth rate required of Anda Technology in terms of net profit by the performance requirements is too high as it is inconsistent with the average annual growth rate in the industry itself.

Table 2. Comparison of the actual net profit and expected performance standard of Anda Technology in 2011-2014

Year	2011	2012	2013	2014	Compound growth rate
Anda Technology (actual)	-	698	-444	1,636	53.1%
Anda Technology (expected)	800	2,000	3,000	4,000	71%

Data source: WIND database

5.3. Enterprise valuation

There are various methods for evaluating the value of an enterprise, but the obtained value from each method is not indistinguishable. At present, the cost method, the income method, and the market method are more recognized. These three methods have their own advantages and disadvantages. At present, there is no single evaluation method that can combine the advantages of these three methods.

In the betting between Anda Technology and Jiuding Investment, from the analysis of the commitment terms set above, it can be seen that the performance of the bet is far from the actual performance. Jiuding Investment's valuation of Anda Technology is not completely accurate. In the actual process of signing the agreement, a combination of the market method and the income method was used. However, the market

method requires an open and active market, so that the valuation made on this premise can objectively reflect the asset's current market conditions. The disadvantages of the income method include the requirement of forecasts of future earnings and discount rates. In addition, both methods must rely on the subjective judgment of the evaluator; thus, it is impossible to guarantee the objectivity of the results.

5.4. Financier's performance capability

Many investors take the initiative to sign VAM agreements mainly because these agreements can reduce the risks caused by incomplete contracts and information asymmetry. It is expected that the risk can be controlled within a certain range by signing such an agreement. If the commitment standard is met, the investor can also be compensated accordingly. However, many investors often disregard the question of whether the financier has the ability to fulfill the compensation. In consideration of the incomplete historical data of Anda Technology before 2012, this study analyzes its VAM agreement based on the current ratio, quick ratio, equity ratio, and asset turnover ratio of Anda Technology over three years from 2012 to 2014 (**Table 3**).

Table 3. Anda Technology's solvency indicators in 2012-2014

Year	2012	2013	2014
Current ratio	1.62	2.42	2.14
Quick ratio	0.75	0.91	0.69
Asset turnover ratio	0.72	0.78	1.36
Equity ratio	0.78	0.40	0.58
Interest coverage ratio	0.84	-5.12	3.63

Data source: WIND database

Generally speaking, if the current ratio is around two, it means that the liquidity is good. From **Table 3**, it can be seen that the current ratio of Anda Technology was lower than 2 in 2012 and higher than 2 in 2013 and 2014. According to the indicators, Anda Technology has strong solvency, but the quick ratios over the three years were relatively low, all below 1, indicating that the financing company has a large inventory scale and a slow inventory turnover. This reflects that the company has realized cash flow. The ability is relatively weak, which leads to the weakening of its actual short-term debt repayment ability. From the perspective of long-term debt repayment ability, the asset turnover ratios in 2012 and 2013 were lower than 0.8, but in 2014, it was as high as 0.8 (1.36). Therefore, from an overall point of view, the asset turnover over the three years is acceptable. The property rights ratios of Anda Technology over the three years were lower than 1. Therefore, it can be inferred that the proportion of non-self-owned capital of Anda Technology to the total capital is relatively small. It can be seen that the company's asset structure is relatively reasonable. Overall, Anda Technology's short-term solvency is weak, but its long-term solvency is strong.

6. Risk prevention and control of gambling agreements

6.1. Macro environment

Investment and financing companies should pay attention to the following aspects when conducting market and industry analyses: (1) pay attention to the macro environment, such as industry policies, make reasonable expectations for the future development of financing companies, and analyze contingencies and uncertainties; (2) investors should strengthen their understanding of the industry in which the company

focuses on, and both investors and financing parties should pay more attention to competitors in the industry; (3) strategically pay attention to product pricing strategies, product lines, and sales channels.

6.2. Setting reasonable gambling standards

Investment and financing parties should reasonably compare and analyze the risks caused by the betting target and the economic benefits brought about by the future development of the financing company. The two parties should negotiate properly when signing the contract. The investor should not make a higher performance commitment due to capital, and the financier should not accept the investor's funds or unreasonable gambling chips, which increases the gambling risks of the enterprise on the road to development. For example, Liujing Technology and Jingjia Investment set higher gambling indicators, which led to the financier, Liujing Technology, to bear greater risks, resulting in the irrational expansion of Liujing Technology in its development. This is not conducive to the development of the enterprise in the future. Therefore, companies must analyze their past performance and current performance in a comprehensive manner, and at the same time consider the changes in the external macro environment as well as the impact of policies on the industry to rationally judge the company's future business performance. Enterprises are caught in a situation where the betting performance is too high, which results in failure.

6.3. Setting up multiple betting indicators, and integrating financial and non-financial standards

Anda Technology does not only set financial standards, but also standards for companies to go public, which is conducive to the long-term development of the company. Blindly expanding just for short-term net profit will not be the case for Anda Technology. However, Liujing Technology only sets financial performance standards, thus focusing on main business income and net profit, which will not be conducive to the long-term development of the enterprise or the improvement of internal governance and management capabilities as the management will only pay attention to the improvement of the enterprise's operating performance in the process of development. Therefore, financing companies must set multiple indicators when signing a VAM agreement and integrate financial with non-financial standards, so that the the long-term development of the company is not neglected in the pursuit of performance growth.

6.4. Investing companies evaluate the value of financing companies

Both investment and financing parties should select a reasonable and effective evaluation method. With different assessment methods, considering the advantages and disadvantages of the methods and combining them with the application of the gambling agreement can ensure the acquisition of accurate and complete data and parameters as well as the accuracy of value prediction and evaluation, so as to obtain the financial data of the financing enterprise and to fully analyze whether the financing enterprise has sufficient performance capacity.

6.5. Investing companies provide mature management concepts for financing companies

After signing the VAM agreement, the financing enterprise must not only realize the VAM standard, but also improve the management ability of the enterprise from the perspective of long-term interests, so as to ensure the long-term stability and healthy development of the enterprise. In order to improve the operation and management capabilities of enterprises, first of all, financing enterprises must improve their core competitiveness and grasp the competitive advantages in the industry. At the same time, they should formulate future development plans according to their own development scale and other conditions in line with the changes in the macro environment and their strategic goals. Secondly, investors must provide financiers with mature management concepts and operating experiences. They should also establish unified

strategic partnerships with financiers, help financiers to standardize company management systems, improve corporate governance structures, promote strategic planning, improve the supervision and management of financiers, and enhance the investment value of financiers.

Disclosure statement

The author declares no conflict of interest.

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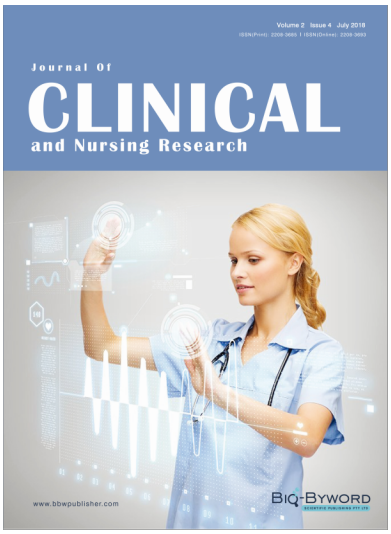

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