

# Impact of Deposit Insurance System on Moral Hazard of Commercial Banks

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**Abstract:** With the advancement of financial globalization, China, as a country with a trade surplus, exports products to various countries around the world while also absorbing different currencies. In this context, the issue of how to maintain economic security while holding a large amount of foreign currency has become a topic worth considering. To ensure the safety of currency deposits, the government must have sufficient means and the capability to secure the currency. In the long term, the establishment of deposit insurance in China and its impact on the risks associated with commercial banks' moral hazards is of greater concern. Since its inception in the United States, the deposit insurance system has faced considerable criticism. Although its original intention was to stabilize the domestic economy, this system can lead to moral hazard problems in banks, causing excessive lending and an increase in non-performing assets, which in turn undermines the overall stability of the domestic economy and obstructs its steady development. Research on the system has shown that deposit insurance does indeed affect the moral hazard issues in commercial banks. Interestingly, bank size plays a significant role: the larger the bank, the greater the excess, the higher the risk-weighted asset ratio, and the larger the capital buffer. In other words, smaller banks are more likely to face moral hazard issues under the loan insurance system than larger banks.

**Keywords:** Deposit Insurance System, Moral Hazard, High-Risk Investment.

## 1. Introduction

### 1.1. Purpose and significance of this study

#### 1.1.1. Purpose of the study

At the macro level, for many countries in the world, the deposit insurance system, as the ultimate guarantee system for commercial banks, relates to the safety of the entire banking system and circumvents the occurrence of financial crises. If the deposit insurance system leads to excessive risk-taking by commercial banks and higher moral hazards in the entire banking system, it will certainly lead to high costs and inefficiency in the operation of the entire financial system. In that case, the government will have to pay for the huge moral risk and destroy the continuous operation of the financial system, or it may lead to a bank run or financial crisis. Therefore, the study of the moral hazard of commercial banks after the implementation of China's deposit insurance system is of great significance to the safety of the banking system, financial security and China's economic transformation.

From the micro level, the study of the risk bearing of commercial banks under the deposit insurance system is also conducive to strengthening the supervision of commercial banks and providing a better environment for the development of small and medium-sized banks and private banks.

#### 1.1.2. Significance of the research

We empirically examine the impact of the establishment of the deposit insurance system on the moral hazard of commercial banks from the perspective of risk-taking, and measure the moral hazard of commercial banks by using the three variables of excess loan growth rate, risk-weighted capital ratio and capital buffer, and examine whether the deposit insurance system will lead to the excessive moral hazard of commercial banks in terms of the banks' payment behaviors, asset compositions and their own capitals and whether there is any difference in moral hazards among banks

with different scales, and propose more targeted policy recommendations for the development and improvement of the deposit insurance system in China based on the empirical conclusions. Based on the empirical findings, we propose more targeted policy recommendations for the development and improvement of the deposit insurance system in China.

## 1.2. Review of domestic and foreign research literature

### 1.2.1. Current status of domestic research

Xiang Houjun and Zhang Qingjun (2020) found that the deposit insurance system can reduce the risk of high-risk banks on the one hand, but at the same time, it will incentivize low-risk banks to adjust their risk. Tang Hongbo (2008) found that the better the corporate governance of banks, the less moral hazard the deposit insurance system brings. Wang Daoping (2016) found that the tighter the regulation, the stronger the financial stability effect; the looser the regulation, the stronger the moral hazard. Tian et al. (2016) found that in the institutional environment where the government intervenes more and provides implicit guarantees, the higher the moral hazard brought about by the deposit insurance system; in the country where the government intervenes less and the financial system is perfect, the stronger the financial stabilization effect brought about by the deposit insurance system. Guo Ye and Zhao Jing (2017) found that the higher the bank leverage ratio and the higher the shareholding ratio of the first largest shareholder, the greater the moral hazard brought by the deposit insurance system.

### 1.2.2. Current status of foreign research

Maureen O'Hara and Wayne Shaw (2012) examined the impact of this event on 11 "too big to fail" banks, as well as those implicitly deemed "too small to save", through an event study approach. The results show that the event had an impact on 11 banks that were "too big to fail" and those that were implicitly considered "too small to save". The results show that the event had a significant positive wealth effect on the

11 “too big to fail” banks and a corresponding negative effect on the other banks. The authors also show that the magnitude of these effects depends on the solvency and size of the bank. Onali and Hryckiewicz (2014) examine the relationship between dividends and state financial help and bank moral hazard, respectively.

Hoque et al. (2015), in order to empirically test the impact of the establishment of deposit insurance system on moral hazard in commercial banks from different perspectives, selected a total of 378 listed banks in the world as a sample and found that the deposit insurance system incentivizes risk-taking in banks. Anginer et al. (2014) selected a sample of 4109 banks in 96 countries around the world and empirically examined the impact of moral hazard on the deposit insurance system.

### **1.3. Main elements of this study**

Since China's explicit deposit insurance system only came into force in 2015, and now it is only in the early stage of construction, so the specific implementation rules are still imperfect, and the collection of relevant data is relatively weak. After collecting relevant literature, this paper will analyze the impact of the deposit insurance system on the moral hazard of commercial banks from the following contents and ideas.

To empirically examine the impact of the deposit insurance system on the moral hazard of commercial banks from the perspective of risk-taking, this paper uses the three variables of excessive loan growth rate, risk-weighted asset ratio, and capital buffer as the explanatory variables, and the bank size, currency liquidity, cost-income ratio, and consumer price index as the control variables to examine whether the deposit insurance system will lead to the corresponding moral hazard problem of commercial banks and whether banks with different operating scales will face the same moral hazard problem when facing the same risk, and whether banks with different operating scales will face the same risk when facing the same risk. The three variables of bank size, capital buffer, cost-to-income ratio, and consumer price index are used as explanatory variables to examine whether the deposit insurance system will lead to the corresponding moral hazard problem in commercial banks, and whether different sizes of banks will have the corresponding degree of moral hazard problem under the same system reform.

## **2. Organization of the Text**

### **2.1. Role of the Deposit Insurance System**

#### **2.1.1. Reducing moral hazard**

While a well-developed financial safety net contributes to the maintenance of stability in the financial world, an incomplete one can increase risks, especially moral hazard. Moral hazard increases the incentive for financial institutions or banks to take on more risk, because the risk taken is highly rewarded and the cost of taking the risk is borne in whole or in part by others. Deposit insurance systems can protect depositors from losses and the consequences of unsafe and unsound bank operations, but at the same time they can contribute to speculative behavior by banks taking high risks.

## **2.2. Development status of the deposit insurance system**

### **2.2.1. Development of deposit insurance systems in foreign countries**

At the end of the 19th century, the United States banks went bankrupt one after another, in order to solve the bankruptcy problem as well as to protect the safety of depositors' funds, the United States banking industry began to consider bank notes as a supplement to the bank's loan issuance, and with the development of the economy, the deposit business is developing rapidly and occupies a considerable portion of the bank's business, the protection of the deposit safety has become even more important. Therefore, the U.S. congressman proposed to establish a deposit insurance system to deal with the deposit crisis, in 1934, the U.S. deposit insurance system was formally introduced, and at the same time, the Federal Deposit Insurance Corporation (FDIC) was set up for the collection of premiums from financial institutions such as banks, so that claims can be made in the case of bankruptcy, to help them get out of the predicament of closure.

After the establishment of the FDIC, the U.S. Congress further stipulated the specific functions of the FDIC, including its organizational structure, mode of operation, and details of the provision of protection, etc., initially establishing the deposit insurance system, and the operation of the deposit insurance system has also successfully enabled the public to have confidence in the safety of their own property. Other countries see this protection mechanism can achieve certain results, also have followed the United States, in their own countries also implement deposit insurance system, so as to protect the domestic deposit security. According to relevant information, in 1960-1993, there are nearly 40 countries in the world according to their own economic situation to formulate the corresponding deposit insurance system.

In recent years, each country mainly takes the rules formulated by the International Association of Deposit Insurance Agencies (IADA) as the benchmark, and applies the design spirit of its core principles to the specific situation, environment and structure of each country. According to the structure of the deposit insurance system provided by the IADA, each country takes it as a reference and applies it flexibly to the actual situation.

### **2.2.2. Development of the deposit insurance system in China**

China formally implemented the explicit deposit insurance system in 2015, which opened a new era of China's deposit insurance system and established a new framework for the system, and in recent years, more and more banks in China have joined the scope of the deposit insurance system, and the banks are gradually publicizing the deposit insurance system to the residents, and in the several years of the implementation of the explicit deposit insurance system, the domestic economy has been developing steadily at the macro level, and micro-enterprises and banks have been functioning normally at the micro level. At the macro level, the domestic economy has been developing steadily, and at the micro level, small and micro enterprises and banks have been operating normally. At present, China's deposit insurance system mainly involves the following points.

(1) China has adopted the mandatory payment of deposit insurance premiums, deposit insurance for the bank is a kind

of bottom protection, so most of the banks will choose to pay the premiums, at the same time, the bank can also publicize with the customers that the bank has joined the deposit insurance to increase the general public to the bank for deposits, and other business behavior. China's depository institutions are mainly the four major banks, and by the national credibility for the four major banks to do the guarantee, so from the bank's point of view in order to reduce costs and increase bank profits, often do not want to join the deposit insurance system, so the state mandatory payment of deposit insurance premiums is a certain reason, conducive to the establishment of the deposit insurance system and the accumulation of the deposit insurance premiums.

(2) the state provides for the deposit insurance system to implement the limit of compensation, China's deposit insurance amount is 500,000 yuan, the reason for the establishment of a compensation limit, because it can inhibit the generation of moral hazard problems in the bank, but also as far as possible to the specific to each individual depositor, so that the vested interests of small depositors can be protected.

(3) in the insurance rate, China adopts the benchmark rate and risk differential rate combination of methods, which the benchmark rate is based on China's economic development to formulate, in addition to the size of different banks and different business operations, so also have to apply the risk differential rate of different banks, so as to ensure that the fairness of the financial market and objectivity.

### **2.3. Differences between the Deposit Insurance Systems of China and the United States**

(1) Independence of the deposit insurance organization. Although the deposit insurance fund management limited liability company established in China in 2019 can participate in financial supervision and management based on the Deposit Insurance Regulations, the relevant regulations do not give it specific powers, which results in the deposit insurance fund management company not being able to effectively participate in the relevant supervisory behavior and not being able to play the role it should have.

(2) The source of deposit insurance funds. In 2015, although China implemented the explicit deposit insurance system, but until 2019, the deposit insurance fund management limited liability company was not set up, at the same time, there are ambiguous rules about the source of deposit insurance funds, which makes it lack a certain degree of initiative in the implementation of rights.

Compared with China, the U.S. has many sources of deposit insurance funds, including capital funds, annual premium payments by financial institutions, investment income and interest income of the fund, bond financing and financial assistance. And because it has a long-term fund management arrangement, it is conducive to the sustainable development of deposit insurance funds. Secondly the advance premium collection mechanism also significantly improves the liquidity of the insurance fund.

(3) Reasonableness of the maximum payout limit. The maximum payout limit currently in force in China is RMB 500,000, which, according to relevant information, can guarantee the safety of 99.63% of the deposits, roughly estimated to be equivalent to 8 times China's per capita GDP, which does not correspond to the International Monetary Fund's (IMF) recommendation of 2 to 5 times.

According to information, the United States of America, the maximum payout limit from 2,500 U.S. dollars in 1934 rose to 250,000 U.S. dollars, the current U.S. payout limit has been able to cover 99.7% of the deposits from the deposit coverage of our country and the United States is comparable to the United States of America, in terms of the limit of the trend of the United States of America is an upward trend may increase the United States of America people's confidence in the banking system.

## **3. Causes and Ways of Moral Hazard in Commercial Banks Under the Deposit Insurance System**

### **3.1. Causes of moral hazard in deposit insurance system**

#### **3.1.1. Information asymmetry**

Information asymmetry refers to the existence of external factors such as artificial deception and concealment, collection costs, etc., resulting in information inequality between the two sides of the transaction, so that the party with more information can make use of its own information to make some favorable to their own interests but will be unfavorable to the other party's behavior.

In the deposit insurance system, we can find that it involves three relationship subjects: depositors, deposit insurance institutions and insured financial institutions. All three have information asymmetry problems, which further weaken the ability of market regulation and micro-prudence.

(1) Information asymmetry problems between depositors and insured financial institutions

Depositors and insured financial institutions are in a debt relationship, in which the depositor is the creditor and the financial institution is the debtor. As depositors need to store their funds in financial institutions, out of consideration for the safety of their own property, depositors often have to investigate financial institutions, but banks and other financial institutions do not publicize some internal information, so there is an information asymmetry problem between depositors and banks. It is because of the establishment of the deposit insurance system, the residents of the deposit has been a certain degree of protection, so the residents have lost the supervision and management of whether the bank to carry out high-risk investment. At the same time, as depositors lose the supervision and management of banks, they will not withdraw their money when they discover high-risk investments by banks, thus restraining their excessive behavior, and banks will be incentivized to engage in high-risk speculation, which will lead to more instability in the financial market, and the likelihood of bank failures will be greatly increased, and the likelihood of financial crises will also become higher.

(2) Information asymmetry between deposit insurers and depositors

The role of the deposit insurance agency is to supervise whether the bank has risky investment behavior, which is mainly divided into two aspects: the first is to supervise the insured institution, if there is a tendency of bankruptcy, and require it to correct its business mode in time so that it can resume normal operation. The second is that if a financial enterprise is already in the process of bankruptcy and liquidation, then the deposit insurance organization will have to pay out to the financial enterprise to help it get out of the

predicament. At this time, the deposit insurance organization is equivalent to the identity of the agent of the insolvent financial enterprise, and its main work is to save the insolvent enterprise and protect the safety of depositors' deposits.

The information asymmetry in this situation also brings about two problems. The first problem is regulatory laxity. Since the regulator needs to be in close contact with the regulated institution, if there is a situation of mutual harboring, the regulatory system will take regulatory laxity measures for the regulated institution, thus promoting the behavior of financial institutions' risk-preferred investment, which is not conducive to the stability of the financial sector. The second problem is that of delayed penalties. According to common sense, financial regulators should always check the status of funds of the regulated financial institutions, so as to determine whether or not they should be invested in their normal condition, but if the regulator in order to reduce the cost of supervision so as to reduce the frequency of checking on financial institutions, in the adjacent two inspection period, if the bank occurs in a more serious liquidity risk problem, and by chance out of the predicament, the deposit insurance agency even if the trouble is spared. But if the financial institutions are not out of the woods, the need for deposit insurance companies to rescue, this time the deposit insurance company and then go through the legal process to rescue the financial enterprise is not too late, so it causes the deposit insurance institutions to take a chance on the supervision of the lax behavior appeared to stimulate the banks to carry out the emergence of aggressive investment behavior.

(3) Information asymmetry between the insured financial institutions and deposit insurance institutions

Our country adopts the risk differential rate and mandatory insurance policy, in which the risk differential rate refers to the financial institutions according to the different risk level so as to charge different risk rate deposit insurance rate policy, the significance of doing so is to make the financial institutions that prefer high-risk investment to pay a higher cost, so that the financial market is in a fair and objective state. If our country does not implement the policy of mandatory insurance, then the financial market will have the problem of substandard vehicles, also called the lemon problem. Because well-run financial institutions do not need to insure to do for their own protection, only those who tend to high-risk investment in financial institutions will be insured, so the market is insured institutions are all high-risk banks, substandard car problem that is the result of the market transactions of the car is all substandard car, the market is filled with inferior products, which is not conducive to the country's imports and exports as well as the further development of the economy for the country's development is a great threat. This is not conducive to the country's import and export as well as further economic development, and is a great threat to national development.

### **3.1.2. Misalignment of rights and obligations**

Rights and obligations are a pair of proper nouns in the law, they are interdependent, there is no separate existence of rights, there is no separate existence of obligations, in general, rights and obligations are balanced. In the legal contract, when party a demand to exercise the right, party b has the obligation to fulfill the contract, the same party b if exercise the right, party a have to fulfill the obligation, so the two sides of the rights and obligations are equal. However, in the deposit insurance system, the rights and obligations of the two sides is obviously not equal.

(1) to the depositors. Depositors enjoy more rights and no obligations, depositors mainly enjoy two rights. The first is the right to request the deposit insurance company to pay out when the bank fails, the second is the right to supervise the deposit bank to see if there is any high-risk investment behavior, but this second right is difficult to realize, mainly because of the information asymmetry between the two sides is too serious, the depositors want to supervise the bank behavior there is no direct and powerful channel, and the depositors can't investigate the internal capital status of the bank, so the depositors almost can't implement the second right. rights, resulting in a state of unequal rights and obligations.

(2) For the deposit insurance organization. It holds a lot of rights, such as setting deposit insurance rates, issuing risk warnings, requiring supervised institutions to submit financial reports and keeping premiums, but at the same time there is no other supervisory body to supervise it, which may occur similar to the case of stock rating agency forgery, and this kind of supervisory body, because of the lack of constraints, out of the temptation of their own interests, may be colluding with the supervised sector that cause bad social impact.

(3) For the regulated organization. Banks mainly bear a lot of obligations and seldom have rights, such as the regulated institutions need to be regularly supervised by the watchdog, pay premiums, and maintain low-risk investments as much as possible, etc. However, from the bank's point of view, it is inevitable that it will be rebellious if it bears so many obligations but has no rights, so it will be more probable that the bank will risk a high level of risk to obtain a high return, and the bank doesn't need to pay the price for its own The bank does not have to pay for its risky behavior because the deposit insurance agency will provide funds to help it out of its predicament.

## **3.2. Impact of the deposit insurance system on moral hazard**

### **3.2.1. Impact on moral hazard issues in terms of payout ceilings**

The maximum payout limit in China is about 5.8 times the GDP per capita, which is still relatively high compared to countries and regions in the world. Under such conditions, depositors with smaller deposits have little incentive to supervise whether the bank has made risky investments or not, because there are relevant supervisory authorities to supervise the bank and because their deposits can be paid out in the event of a bank's bankruptcy, so such small depositors will not contribute in supervising and monitoring the behavior of the bank. However, for the large depositors of banks, they are well-funded and have great incentives to supervise banks, and in terms of access to information, they have wider access, thus the market discipline of banks mainly relies on large depositors. However, since the maximum payout limit is RMB 500,000, which is a very small amount for large depositors, they are more likely to be concerned about whether the bank has an incentive to make risky investments. After all, if the bank has a moral hazard problem, the large depositors will suffer a greater loss of their assets compared to other depositors.

Therefore, in terms of the maximum payout limit of the deposit insurance system, the level of the limit will have a direct impact on the behavior of large depositors on the market restraint, and thus have an impact on the moral hazard problem.

### **3.2.2. Impact on moral hazard issues in the context of differential rates for risk**

China's deposit insurance rates consist of fixed rates and risk-differentiated rates. Fixed rates mean that all financial institutions pay premiums to the DIC at a fixed rate, regardless of the bank's risk rating. Risk-differentiated rates mean that premiums are charged differently to different banks according to their risk ratings, e.g., higher rates are charged to institutions with high risk ratings, and lower rates are charged to enterprises with low risk ratings. On a macro level, the formulation and implementation of fixed rates are relatively simple, and the formulation and implementation of risk differential rates are more complicated, but if fixed rates are implemented, no matter what kind of risky investments banks make, they only need to pay the same rates as those banks that don't make risky investments, and such a policy will obviously cause dissatisfaction among those banks that are operating normally, and the differentiated rates are useful in that they can curb the high-risk. The role of differential rates is to curb the moral hazard problem of high-risk investment banks.

Therefore, the role of risk differential rates is to effectively restrain the behavior of high-risk investment banks, enhance the enthusiasm of internal self-supervision, reduce the occurrence of moral hazard in banks, and contribute to the healthy development of banks.

### **3.2.3. Impact on moral hazard in terms of market constraints**

If a bank engages in behavior that is detrimental to the safety of depositors' property, the deposit insurance agency has the right to issue warnings, require replenishment of capital, control the rate of growth of credit assets, and so on, so that the bank in question will stop or reduce the dangerous operations in question, operate healthily, and reduce its losses. However, if market discipline is not in place, or if the regulator colludes with the regulated institution and the regulator obtains benefits from the regulated party, it is possible that the regulator will relax its supervision of banks and other institutions, thus increasing the probability of moral hazard in banks.

## **4. The Impact of Deposit Insurance System on Moral Hazard of Commercial Banks: A Case Study of Baoshang Bank Bankruptcy**

### **4.1. Background of Baoshang Bank Bankruptcy Event**

Baoshang Bank is a privately owned bank in China that grew rapidly in its early years and became a major player in China's banking industry. However, in 2016, the bank's top executives were exposed to irregularities and embezzlement, leading to serious moral hazard for the bank. These irregularities, which included illegal loan issuance and inflated assets, seriously damaged the bank's reputation and asset quality. As a result of the exposure of moral hazards, Baoshang Bank was plunged into a serious crisis and eventually declared bankruptcy.

### **4.2. Involvement in the deposit insurance system**

In the face of the bankruptcy of the Baoshang Bank, the China Deposit Insurance Corporation (CDIC) acted swiftly to

activate the deposit insurance system to provide protection for affected depositors. By providing depositors with a certain level of compensation, the deposit insurance system mitigated their financial losses and safeguarded their rights and interests. Affected depositors are entitled to a certain percentage of compensation for their deposits, which has helped them alleviate the financial hardship caused by the insolvency of the chartered banks and restore a certain degree of confidence.

In addition, the deposit insurance system provided financial support to Baoshang Bank to support its reorganization and consolidation. The China Deposit Insurance Corporation (CDIC) injected funds into Baoshang Bank to help the bank tide over its capital crisis and implement the necessary measures to reorganize its operations and liquidate its risks. This financial support provided important support for the reconstruction and reform of Baoshang Bank and contributed to the improvement of the bank's risk management capacity.

### **4.3. Analysis of the impact of the deposit insurance system**

The intervention of the deposit insurance system played an important role in the Baoshang Bank insolvency. First, the existence of the deposit insurance system mitigated the financial losses of affected depositors and provided a degree of protection and security. This helped to maintain public confidence in the banking sector, reduce possible vicious circle effects and prevent further spread of financial risks.

Second, the intervention of the deposit insurance system contributed to the reorganization and consolidation of chartered banks. The activation of the financial support and response mechanism helped the bank to tide over the financial crisis and implement the necessary measures to reorganize its operations and clean up its risks. The injection of funds from the Deposit Insurance System (DIS) provided Baoshang Bank with the opportunity to rebuild and reform, and facilitated the improvement of the bank's risk management and internal governance capabilities. By strengthening the bank's internal control and supervisory mechanisms, the deposit insurance system had a positive impact on the bank's moral hazard problem.

It has played an important positive impact in the event of bank insolvency. The following is an analysis of the specific impact of the deposit insurance system in the bankruptcy of Baoshang Bank:

1. Protection of depositors' rights and interests: The intervention of the deposit insurance system ensured that affected depositors were able to receive a certain level of compensation. This helped to alleviate the financial burden of depositors and protect their rights and interests. Affected depositors are able to obtain partial or full compensation for their deposits through the deposit insurance system, thereby avoiding the financial losses they may face.

2. Maintaining the stability of the financial system: The intervention of the deposit insurance system is crucial to maintaining the stability of the financial system. In the case of the Baoshang Bank bankruptcy, without the intervention of the deposit insurance system, depositors might have faced the risk of not being able to retrieve their deposits, which might have triggered a panicky run on the bank and led to further turmoil in the financial system. The payout measures of the deposit insurance system help to avoid such risks and maintain the relative stability of the financial system.

3. Enhancing public confidence: The intervention of the

deposit insurance system plays an important role in enhancing public confidence in the banking system. In the case of the Baoshang Bank insolvency, the prompt payment of compensation by the deposit insurance system sent a clear message that the interests of depositors were protected. This helped restore public confidence in the banking system, reduced the risk appetite of the financial system and maintained the stability of the financial market.

4. Regulating bank behavior: The existence and intervention of the deposit insurance system has a warning and restraining effect on regulating bank behavior. In the bankruptcy of Baoshang Bank, the moral risk problem of banks was exposed and punished. This incident sends a clear signal to other banks that violations of ethical and risk management principles will face serious consequences, including the possibility of bankruptcy and the involvement of the deposit insurance system. This has had a positive impact on prompting banks to strengthen their internal risk controls and ethics.

In summary, the deposit insurance system played an important role in the Baoshang Bank insolvency.

#### **4.4. Implications and conclusions of the bankruptcy of Baoshang Bank**

The bankruptcy of the Baoshang Bank and the intervention of the deposit insurance system have provided us with some important insights. First, moral hazard poses a serious threat to the stability and trustworthiness of the banking sector, and there is a need to strengthen supervision and risk management measures to prevent and mitigate the occurrence of moral hazard. The deposit insurance system, as an institutional arrangement, can reduce the probability of moral hazard and provide protection for affected depositors.

Secondly, the effectiveness of the deposit insurance system needs to be continuously enhanced. In the bankruptcy of Baoshang Bank, although the deposit insurance system played an important role, it also faced some challenges and limitations. These include the improvement of the deposit insurance system's funding source, payout ratio, and payout speed. In addition, there is a need to strengthen the risk assessment and monitoring of banks, and to identify and respond to potential moral hazard problems in a timely manner.

In summary, the deposit insurance system has played an important role in the bankruptcy of Baoshang Bank, mitigating the financial losses of affected depositors and facilitating the reorganization and consolidation of the bank. However, in order to further enhance the effectiveness of the deposit insurance system, there is a need to strengthen financial supervision and risk management measures, and to improve the internal governance and ethics of banks. Only through the implementation of comprehensive measures can moral hazard in banks be better mitigated and the stability and sustainability of the financial system be safeguarded.

### **5. Countermeasures and Suggestions to Prevent Moral Hazard in Commercial Banks under Deposit Insurance System**

#### **5.1. Operational Environment**

Factors affecting the effectiveness of a deposit insurance system include the operating environment, which is divided

into general business conditions, financial system structure, prudential regulations, and accounting and disclosure systems. Although much of the operating environment is outside the scope of the deposit insurance system, it influences the ability of the DIS to carry out its responsibilities and decisions to protect depositors and stabilize the financial system.

##### **5.1.1. General economic conditions**

General business conditions affect market efficiency, the intermediation function of the financial system, and economic growth. Continued economic instability can affect market functioning and the ability of financial institutions to absorb and manage risk. During periods of economic instability, market volatility may lead to creditor runs, and in particular, uncertainty about future price movements in assets, exchange rates, etc., makes it difficult for financial institutions to continue to operate. Therefore, the core principle is that banks are required to have a larger-than-usual amount of deposit protection funds, a more reliable emergency funding pipeline, and to work closely with other members of the financial safety net in order to strengthen financial stability.

##### **5.1.2. Financial System Structure**

(1) Assessment of bank soundness: covering capital adequacy, liquidity, and credit quality; the DPS should maintain adequate resources, improve its ability to identify risky assets, and strengthen the relationship between the DPS and other financial safety net members.

(2) Structural aspects of financial institutions: the number, shape and characteristics of banks, etc., as well as the types of protected deposits and depositors. These factors may cause danger contagion to the assessment of the DPS's operational effectiveness, and the interconnection, competition, and concentration of banks may cause danger contagion, so these aspects should be strengthened and regulated.

##### **5.1.3. Prudential regulations and treatment mechanism**

Perfect prudential regulations are an important factor in reducing moral hazard, when the shareholders of financial institutions feel that problems occur in the operation of the bank, but the regulator does not sanction them, the bank will increase the issuance of non-performing loans, which will lead to the obstruction of economic development. Intervention measures should be required to target poorly run banks so that the cost of dealing with problem banks and the cost of paying out on deposits and insurance will increase, thus restraining their bad behavior.

##### **5.1.4. Accounting and Disclosure Mechanisms**

A well-developed accounting and disclosure mechanism is important for effectively assessing the risks of a deposit insurance system. An independent auditing mechanism ensures that users of financial statements have independent assurance that the financial statements of the financial institution are fair and objective, and that the report is prepared by an authorized auditor who is accountable in accordance with accounting principles. All members of the financial safety net, including the deposit insurer, should have access to timely and reliable information on financial institutions.

#### **5.2. Timely intervention by the DPS to address problems**

Timely intervention by the DPS is important in addressing the moral hazard problem of banks, because once a bank realizes that it is not being held accountable for its risky investment behavior, it will invest more aggressively,

increasing the threat to the safety of depositors' deposits, and thus contributing to the moral hazard problem of the bank. Only with the establishment of a sound supervisory system that enables the DPS to obtain true, efficient and timely information on insured banks, so that it can correctly analyze the structure of corporate assets to determine whether or not to warn them, can the problem of moral hazard in banks be reduced.

## 6. Conclusion

The legacy of the economic crisis caused by the U.S. in 2008 still has an impact on the economies of various countries until now, and almost all countries including the U.S. are practicing quantitative easing, and in this context, the impact of the implementation of the deposit insurance system on China's banking industry has become an issue worthy of study. This paper firstly introduces the reasons for the emergence of the deposit insurance system and the background of the era, then introduces the development history of the deposit insurance system in the United States, and makes a reasonable proposal for the existing deposit insurance system in China by comparing the differences between China and the United States in the deposit insurance system. Finally, through empirical research, it proves that the deposit insurance system does cause the moral hazard problem of commercial banks.

### 6.1. Main Conclusion

The implementation of the deposit insurance system will lead to excessive credit and the holding of risky assets by banks, in the empirical study, this paper uses the three variables of excessive loan growth rate, risk-weighted asset ratio, and capital buffer as the explanatory variables, and the bank size, currency liquidity, cost-income ratio, and the consumer price index as the control variables to examine whether the deposit insurance system will lead to the corresponding moral hazard problem of commercial banks, using annual data from 2011 to 2018 to build a panel model to empirically test the impact of the deposit insurance system on the moral hazard of commercial banks. The results show that on the liability business side, the establishment of the deposit insurance system failed to significantly affect the capital buffer of commercial banks. On the asset side, the establishment of deposit insurance does increase banks' behavior of risky investment.

After improving the panel data model by adding the

product terms of bank size and dummy variables to the explanatory variables regression, the paper finds that the implementation of the deposit insurance system does not have a consistent impact on the moral hazard of banks of different sizes. When the deposit insurance system is established, the smaller the bank size, the larger the bank's loan excess growth rate, the larger the risk-weighted asset ratio, and the smaller the capital buffer. Conversely, the larger the bank, the smaller its loan excess growth rate and risk-weighted asset ratio, and the larger its capital buffer. That is, the establishment of a deposit insurance system is more likely to lead to moral hazard in small banks than in large banks.

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