

# Reflection on Internal Control of Commercial Banks' Bond Investment Business Process

## Taking Industrial Bank, Xiamen Branch as an Example

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### ABSTRACT

As an important part of the financial market, China's bond market has been developing and improving in recent years. With the rapid development of inter-bank bond market, bond investment business has gradually become an important tool for commercial banks to improve capital structure and conduct asset allocation. However, the overall bond market in China is still in its infancy, and the bond risk management system is not perfect. Risk control relies more on the administrative examination and approval means of strict access restrictions on bond issuers and market participants in the inter-bank bond market. The bond risk management response is relatively slow, making it difficult to resist the bond risk brought by the deepening marketization degree. [1] Therefore, the internal control of commercial bank bond investment should be improved to reduce the risk of commercial bank bond investment. Taking Industrial Bank, Xiamen Branch as an example, this paper analyzes the risks existing in its bond investment process and the corresponding internal control measures on the basis of field investigation, and then puts forward suggestions on improving the internal control in the bond investment process of commercial banks.

**Keywords:** commercial bank, bond investment, risk management, internal control, Industrial Bank, Xiamen Branch

### I. INTRODUCTION

By the end of 2019, the custody balance of China's bond market was 99.1 trillion yuan, among which the custody balance of the inter-bank bond market was 86.4 trillion yuan, ranking the second in the world. With the continuous development of China's inter-bank bond market, bond investment business has gradually become the main asset allocation channel for commercial banks in addition to loans, etc., and bond business has become increasingly important to commercial banks. At present, China's bond business is still in its primary stage, and the risk prevention ability of commercial banks in the business process of bond investment is weak. Most banks, especially small ones, have not yet developed a risk-management system that covers the entire business process of bond investment. There are still many risk points in the whole bond investment business process. For example, when making bond investment decisions, most banks still rely on the experience of business personnel and have not yet formed a comprehensive evaluation mechanism based on bond types, term, interest rates and other factors. In the process of holding bonds, there is a lack

of tracking test, analysis and control measures for bond risks, as well as a follow-up investigation of issuers, and a lack of enthusiasm for active management. After the end of the bond investment, there is no corresponding feedback mechanism on the effectiveness of bond investment and accountability system for violations, etc. Therefore, commercial banks urgently need a series of effective internal control measures to prevent possible risks in the process of bond investment, so as to ensure the promotion of bond investment business to the development of commercial banks.

### II. OVERVIEW OF BOND INVESTMENT BUSINESS OF INDUSTRIAL BANK, XIAMEN BRANCH

#### A. Institutional setting of Xiamen Branch

The organizational setup of Industrial Bank, Xiamen Branch is mainly divided into business line and risk management line, as well as operation department, accounting department, office, science and technology department, network finance department, etc. The bond

investment business of Xiamen Branch mainly involves the institutions under the business line and the risk line. The business line consists of retail business department, corporate finance department and peer customer department. The investment banking department is incorporated into the corporate finance department and is mainly responsible for underwriting bonds. The risk department consists of the risk management

department, the legal and compliance department and the credit inspection department. The business line and the risk management line jointly construct the risk defense line in the bond investment process. The subordinate institutions coordinate with and complement each other in the investment process. (See "Fig. 1")

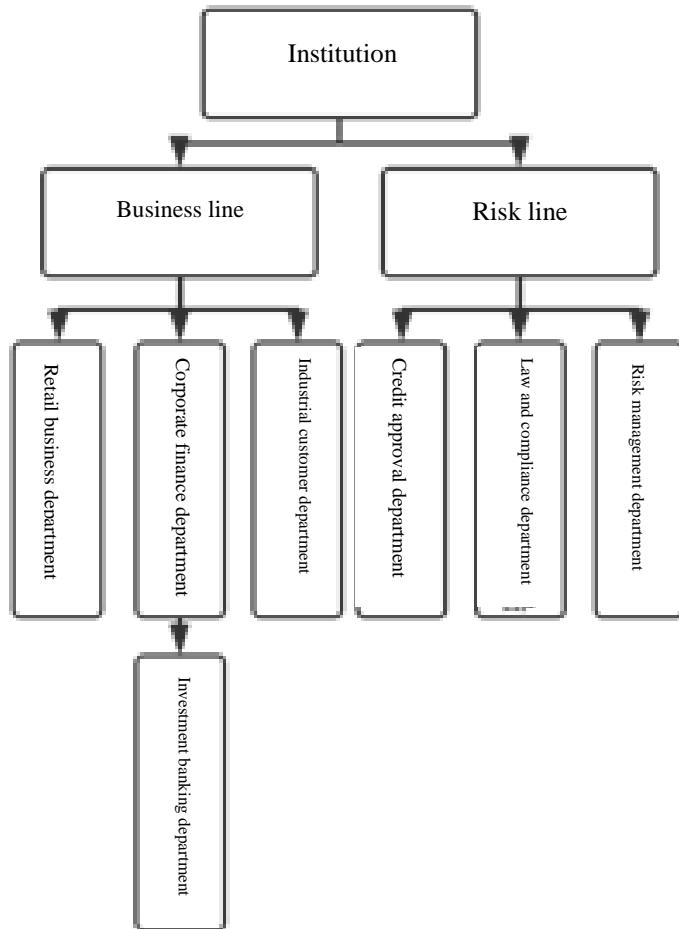


Fig. 1. Institutions involved in the bond investment business of Industrial Bank, Xiamen Branch.

#### B. Overview of Xiamen Branch's bond investment business

Industrial Bank was approved by the People's Bank of China in 1988 and was one of the first joint-stock commercial banks in mainland China. In 2007, it was listed on the Shanghai Stock Exchange. The Industrial Bank, Xiamen Branch was established in 1989. It was

the first branch established by Industrial Bank and the first joint-stock commercial bank stationed in Xiamen. Since the establishment of China's bond market in the 1990s, Industrial Bank has been engaged in bond investment business. After more than 20 years of development, bond investment business has become one of Industrial Bank's main asset allocation channels and core business except loans.

In recent years, the bond investment of Xiamen Branch has covered a variety of bond types, such as government bonds, local government bonds, policy financial bonds, and corporate bonds. Among them, the annual investment scale of corporate bonds is 30-40 billion yuan, mainly Xiamen local corporate bonds. The vast majority of corporate bonds are publicly raised bonds, accounting for about 70-80% of corporate bond investment. The funds for purchasing such bonds mainly come from on-balance sheet self-management funds and off-balance sheet wealth management funds, of which the former will occupy customers' risk exposure in Industrial Bank.

The total size of trading bonds invested by Xiamen Branch is less than 1 billion yuan, which is mainly bought from the secondary market and the term is within half a year. Xiamen Branch does not have the authority to directly purchase this type of debt investment, which shall be submitted to the head office for approval. Xiamen branch has the right to purchase bonds, which are mainly issued by key construction enterprises with a rating of above AA + approved by relevant national authorities with a maturity of less than three years, and bonds with a maturity of less than one year with a rating of above AA. The investment scale of single bonds is generally about RMB 50 million, with the minimum amount of RMB 10 million.

On the whole, the bond investment of Xiamen Branch is still based on the passive management method of buying and holding to maturity. The bond transaction frequency is very low, and the main source of income is still the loan interest, with less capital gains. The bonds they invest in are mainly government bonds, and the proportion of credit debt is relatively low.

### C. Bond investment process of Xiamen Branch

Before the bond investment, the customer manager who serves as the business line of the first line of defense shall conduct due diligence on the enterprise issuing bonds, calculate according to the online quotation, select the optimal price, recommend appropriate bonds, and report to the credit examination and approval department under the risk line of the second line of defense. The department shall review the qualification and capital exposure of the bonds recommended by the customer manager, and submit the approval to the review center of the head office, which shall review and evaluate the bonds and make further investment decisions. If approved by the head office, it shall, in accordance with the transaction contract (agreement) or capital transfer approval form authorized and approved by the head office loan center, handle the capital transfer procedures after reviewing and confirming the elements of the capital transfer voucher, and make loans and investments in the bonds.

In the process of holding bonds, the risk management department set under the risk line is responsible for the risk management of the duration. The rating model set by the head bank is used to rate the bond issuing enterprises, and the internal rating report is formed to grasp the debt paying ability and other financial conditions of the bond issuing enterprises. At the same time, it pays attention to the changes in the valuation interest rate of the invested enterprises, the implementation of the approval notice, the changes in production and financial operations, and reports the quarterly review report to the head office. In case of any bond delivery, custody, capital liquidation and other abnormal situations during the bond's existence, the reasons shall be found out in time, and the reasons shall be reported to the department head and the manager in charge, and measures shall be taken to properly solve the problems.

After the maturity of the bonds, the audit department of the enterprise will be the third line of defense, in strict accordance with accounting rules, accurately accounting of bond investment business. All fund transactions arising from bond transactions must be received and paid through a designated bank account, and shall not be settled in cash or by any other means. Fees shall not be collected or paid in addition to the price or interest agreed upon in the transaction contract. Finally, the bond investment is settled and sorted out, the bond investment effect is summarized, and the information related to bond investment is fed back.

These three lines of defense respectively monitor the bond situation before the bond investment, during the bond holding process and after the maturity of the investment, thus minimizing the risk of bond investment. (See "Fig. 2")

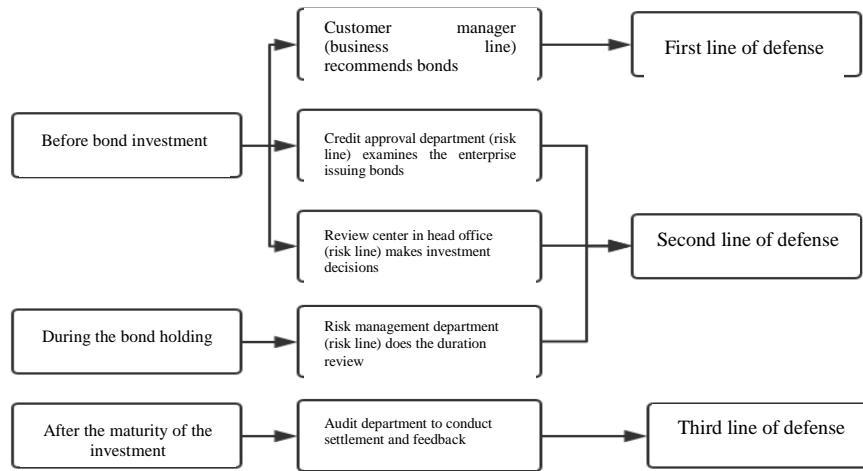


Fig. 2. The bond investment process of Industrial Bank.

### **III. INTERNAL CONTROL MEASURES FOR BOND INVESTMENT IN XIAMEN BRANCH**

#### *A. Risk control by the head office*

On the whole, the branch of Industrial Bank has a relatively small authority. The branch only makes recommendations, while the head office makes investment decisions, which to some extent reduces the risk and improves the efficiency of bond investment. Specific measures include the following. The first is that the bond investment business must be approved by the head office's review center, and branches cannot directly invest in bonds. The second is to establish an internal level-by-level authorization and approval system based on the degree of risk and amount of bond investment. The bank's purchase or sale of bonds shall be reported by the credit approval department to the review center of the head office, which shall be studied and decided by the head office. Third, the duration review report made by the risk management department shall be submitted to the head office regularly. Moreover, the rating model set by the head office can only be used once by each issuer, so as to avoid the manipulation of rating by internal staff and the issuer.

#### *B. Risk control from the source*

The investment objects show that Industrial Bank also carried out the corresponding risk control. The corporate bonds invested by the Industrial Bank, Xiamen Branch are mainly bonds issued by local companies in Xiamen, and are basically credit clients of the bank, which is conducive to understanding the

corporate credit risk. The head office of Industrial Bank is less supportive of branches' contact with remote projects, which not only avoids the vicious competition of different branches within the bank, but also helps each branch invest in enterprises that are familiar with. And they tend to invest in government bonds, which largely controls investment risks and guarantees investment security.

#### *C. Risk preparation*

There are also corresponding risk preparations within the bank. Each department of the bank (except the comprehensive section) needs to pay the corresponding risk reserve every year. In the event of a major investment error, the bank will pursue responsibility according to the nature of the violation and the degree of loss, and make corresponding punishment decision to prevent some people from controlling the bond investment process.

### **IV. SUMMARY OF EXPERIENCE**

#### *A. Summary*

Industrial Bank has established a set of risk control systems with risk asset management as the core before, during and after the event, perfected the risk management system and operating procedures of various businesses, improved the risk accountability and punishment mechanism, and formed a risk prevention and control system for bond investment process composed of business line, risk line and internal audit department with clear responsibilities.

These "three lines of defense" are dedicated to the realization of risk management objectives. When faced with the inherent credit risk, liquidity risk and operational risk of bond investment, the bank's compliance department and risk management department cooperate with the business department to standardize internal control measures and pay attention to and control risks in real time.

In terms of credit risks, Industrial Bank attaches equal importance to risk management and business development coordination, strengthens risk early warning and monitoring, and strengthens dynamic monitoring and early warning of the whole business process by means of big data analysis, so as to ensure the "early detection, early warning and early disposal" of risk projects. It continuously strengthens the credit management and uses the model set by the head office to grade the credit customers. With the help of the "three lines of defense" in the bond investment process, real-time control of the whole process of the bond before investment, during holding and after maturity is conducted. The head office issues the credit line for bond investment. Those who exceed the credit line should be submitted to the head office for approval and the head office does not support contact with projects in other places. Local banks can only invest in local credit customers, which reduces the credit risk to a certain extent.

In view of liquidity risks, industrial bank attaches great importance to long-term growth, constantly optimizes debt structure, improves debt stability, and emphasizes the matching of deposit business and asset business. In 2018, the bank set up liquidity ratio, liquidity coverage ratio and other liquidity risk indicators, as well as asset-liability ratio management policies, so as to fully grasp the company's liquidity risk situation and ensure the steady and healthy development of various asset-liability businesses.

It also established a market risk management system for market risks, actively responded to changes in the market environment, and continuously optimized the market risk management system. It also strengthened marking to market of trading accounts, optimized the monitoring of market price deviation, established the internal market risk model, and improved the accuracy of system valuation and risk measurement. The corresponding risk management system is set up for the interest rate risk and exchange rate risk under the market risk.

1) *Interest rate risk:* Repricing gap analysis, duration analysis, scenario simulation and other methods are used to measure and analyze bank account interest rate risk on a monthly basis. The interest rate risk of the company's trading account is managed through the risk index quota system, which includes

interest rate sensitivity index and stop-loss index. In view of the domestic economic downturn, the slowdown in GDP growth, the increase in credit default events and the decline in short-term interest rates in 2018, Industrial Bank actively carried out long-term management in accordance with market changes, guided its branches to timely adjust the term structure of funds, and enhanced the matching management of capital sources and use.

2) *Interest rate risk:* The exchange rate risk of the trading account is managed uniformly by the capital operation center of the head office, and the risk management measures are mainly managed by the exposure limit. The bank account exchange rate risk is under the unified management of the head office's planning and finance department. It is mainly the exchange rate risk exposure of the foreign exchange capital account, which is the company's largest current exchange rate risk exposure.

In view of operational risks, Industrial Bank started from daily business management, combined operational risk management tools with business operations, promoted the application of operational risk management tools, strengthened the pre-assessment of operational risks of new products (new businesses), further improved the business continuity plan, and actively enhanced the rectification. All departments within the bank (except general department) also have corresponding risk preparation, and need to pay corresponding risk reserves every year. If there is a major operational error, the bank will make corresponding penalty decision according to the nature of the violation and the extent of loss.

#### B. Deficiencies

Although the Industrial Bank, Xiamen Branch has established a relatively complete internal control and risk management system in bond investment, there still exist some deficiencies in the survey.

1) *Risk management of branches is relatively passive:* The head bank has a relatively small authority to each branch, and the branch has a relatively poor autonomy in risk management. The head office has set up credit risk, market risk and speculation risk management institutions, which has affected the independence of the risk management department of the branch to some extent.

2) *Weak awareness of risk management:* With the development of economy, banks have gradually realized the importance of risk management, but there is still insufficient understanding of risk. Risk managers do not fully understand the risks and mostly control the risks by reducing the business. Business people at the

grassroots level do not view risks correctly and believe that risks will hinder business development.

3) *Overemphasis on credit, approval process:* There are three lines of defense within the bank, and each line of defense is subject to review. However, there is little information exchange among departments, and internal information is asymmetric. It is also unknown whether there is any overlap of review business among review departments.

4) *Relatively backward risk management technology:* The bank's risk management automation, systematization degree is relatively weak. Most of them still need to be judged by the experience of professionals, and the risk management and control process has not been automated.

## V. CONCLUSION

As one of the core businesses of Industrial Bank, Xiamen Branch, bond investment business directly affects the profit, risk and sustainable development of the bank. In general, Xiamen Branch's bond investment business risk management is still relatively passive, with less authority. In the face of the new market environment, Xiamen Branch must actively cope with the risks, do a good job in risk prevention and control, strengthen the internal control of the enterprise, and control the risks within a reasonable range.

### A. Giving the branch a certain authority, and strengthening the division of labor and cooperation

The head office may, according to the actual local conditions of the branch, grant the branch a certain degree of risk control authority, and under the guidance of the head office, establish a set of risk management system that conforms to the actual local conditions, so as to ensure that the risks in each process of bond investment are minimized.

Without affecting the independence of each department, the branch should strengthen the communication between departments, reduce the duplication of work between departments and improve the work efficiency.

The cooperation between the departments has been strengthened to deepen the understanding of the status of issuers and reduce credit risks.

### B. Strengthening the bank's overall risk management awareness

The bank sorts out the risk management consciousness as a whole and sets up the value of comprehensive risk management. Full participation, bottom-up and top-down approaches to the design and implementation of risk management programs are adopted. The internal control training of all staff was

carried out to improve the staff's understanding of the internal control objectives. The enthusiasm of various institutions and departments to participate in the internal control management can be mobilized, further enhancing the power of the implementation of the internal control management of commercial banks.

### C. Improving and updating the internal information system

The internal information system has been improved to realize the informationization and information standardization of operation management and internal control management. The database and management information system covering all departments within the bank have been improved to ensure timely and accurate provision of all kinds of data and written statements needed for internal management of bond investment and reduce the cost of internal information communication.

### D. Establishing a comprehensive risk monitoring system

The inherent credit risk, liquidity risk and operational risk of bond investment require the compliance department and risk management department of the bank to cooperate with the business department and pay attention to and control risks in real time through the internal control of "business process, process standardization, standardization and system formalization". A complete index system has been established to evaluate different types of risks and timely control the occurrence of different types of risks. Comprehensive credit management method was established to enhance the understanding of customers.

### E. Establishing a sound internal rating system to comprehensively review the qualifications of enterprises issuing bonds

The financial report quality of the enterprise issuing bonds is evaluated at the stage of pre-examination of bond investment. At the same time, other multi-dimensional channels are added to continuously obtain other non-financial information of the bond subject, so as to ensure the accuracy of the information obtained. The practice experience of the signed accountant of the audit report can be investigated, for example, whether the signed accountant has been punished by the CSRC or the China national notes association due to material misstatement in the financial report. In addition, it is necessary to observe not only whether enterprises change external audit institutions frequently, but also whether enterprises rotate accounting firms for a long time.

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