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A study on the development of investment banking at the industrial and commercial bank of China

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Abstract. With the continued development of direct financing, both the market environment and customers' financial awareness have matured. Traditional credit business is no longer the core financing need of large enterprises; increasingly, customers expect banks to provide comprehensive financial services such as restructuring, mergers and acquisitions, and corporate finance. A key challenge for banks is therefore how to remain the primary provider of financial services and products for major clients amid the impact of direct financing. To meet this challenge, banks must use investment banking to advance the transformation from corporate credit to corporate finance and from a credit-oriented bank to a comprehensive financial services provider. Emerging high-value-added businesses led by investment banking not only generate direct returns but also support other businesses, create synergies with commercial banking, and strengthen banks' core competitiveness. However, banking services are becoming increasingly homogenized. In China, for example, the four major state-owned banks, including the Industrial and Commercial Bank of China (ICBC), all conduct investment banking business, while large joint-stock banks such as China Merchants Bank and Industrial Bank have also entered the field, intensifying competition. To offer useful suggestions for ICBC's investment banking development strategy, this paper analyzes the current state of its investment banking business, draws on relevant domestic and international literature, and proposes reasonable solutions to existing problems. These findings offer both theoretical guidance and practical value for the development of ICBC's investment banking business.

Keywords: Industrial and Commercial, Bank of China, Investment banking, Commercial bank

1. Introduction

1.1. Research background

In modern financial markets, financial innovation stimulates the growth of social investment. Against this backdrop, commercial banks have increasingly turned to investment banking business and sought to operate steadily while complying with increasingly improve laws, regulations, and policies governing investment banking activities. From the perspective of market supply and demand, demand for investment banking business exceeds supply. Therefore, improving their competitiveness and developing more products that are responsive to market demand have become key priorities for commercial banks at the current stage of development. Investment banking business, in turn, directly promotes the development of financial markets, stimulates innovation, and meets the growing demand of customers for financial services, thereby playing a crucial role in promoting overall socioeconomic development. As important operators of investment banking business, commercial banks play a role that cannot be overlooked.

Amid the trend toward intensifying international competition, Industrial and Commercial Bank of China (ICBC), as a major state-owned commercial bank, is one of the principal institutions engaged in investment banking business. It is therefore necessary to explore strategies for the development of its investment banking business and to share with other domestic commercial banks the risks arising from changes in the economic and market structures. This innovative shift represents a qualitative change from the traditional business models adopted by many domestic banks and enterprises. Accordingly, this paper focuses on the Industrial and Commercial Bank of China, one of the most representative institutions in investment banking business, analyzes the existing deficiencies in its investment banking operations, and explores strategies for the development of its investment banking business. The aim is to provide theoretical and practical guidance for the development of its business while also offering useful experience for other commercial banks.

1.2. Literature review

1.2.1. Research on investment banking business

Stowell [1] systematically reviewed the connotations and major functions of investment banking business and pointed out that it encompasses professional services such as financing arrangements, securities underwriting, merger and acquisition advisory services, trading, and asset management. Its core function lies in helping clients carry out capital operations and resource integration through professional expertise. Junjun Chen [2] argued that investment banking business, centered primarily on corporate financing and mergers and acquisitions, constitutes one of the core businesses of the capital market and securities companies and plays an important role in broadening corporate financing channels and supporting the development of the real economy. At present, investment banking business also needs to respond promptly to the latest developments in the capital market and provide more efficient support for the real economy. Junjun Chen [3] further found through a multidimensional comparison of investment banking businesses operated by domestic and overseas securities firms that there is still room for improvement in China's investment banking business in terms of business structure and comprehensive service capabilities. Continued efforts are therefore needed to promote business transformation, product innovation, and the development of professional capabilities. Congqi Wang [4] examined the current operational and development models of investment banking in China based on the definition and development of investment banks as well as the difficulties and challenges they face. He discussed the existing problems in China's investment banking business in detail and proposed reasonable recommendations for its sound development. Meiling He [5] analyzed the internal constraints and external obstacles facing the development of investment banking business in China based on its current development status and proposed corresponding countermeasures. Yidi Liu [6] likewise identified existing problems through an analysis of the current situation and proposed targeted measures.

ADAM B [7] analyzed the conditions for the growth of investment banking-related businesses and argued that investment banking business is a key driver of banks' own development. At present, the development of investment banking business is presented with opportunities at multiple levels, including considerable potential market demand, and enjoys inherent advantages for further development. Nevertheless, investment banks continue to face various challenges and need to strengthen risk prevention and control in investment banking business. Based on a case study of the dissolution of the Daiwa Securities SMBC joint-venture investment bank in Japan, Akiyoshi [8] found that after commercial banking and investment banking activities were separated, former corporate clients found it difficult to continue receiving combined support in the form of loans and underwriting services. The original economies of scope in information and certification effects were consequently weakened. This demonstrates that commercial banks' engagement in or collaboration with investment banking business has significant relationship value.

1.2.2. Research on investment banking business of commercial banks

Radic [9] argued that there is a close relationship between the degree of competition in investment banking business and risk-taking. Intensified competition may encourage institutions to assume higher risks in order to compete for business. Therefore, business expansion must proceed in tandem with risk constraints. Bo Yuan [10] explored pathways for the development of investment banking business in commercial banks under the new normal and further pointed out that, amid China's deepening reforms and increasing integration with the international economy, the transformation of Chinese commercial banks toward investment banking business requires continuous innovation and adaptation. Commercial banks should expand the types of investment banking services they provide, including investment and financing advisory services, mergers and acquisitions and restructuring, debt financing advisory services, and securitization of non-performing assets. Jia He [11] conducted a specialized study on commercial banks' engagement in investment banking business, focusing on how commercial banks can leverage their existing operational foundations to select appropriate investment banking models and implementation pathways.

Investment banking business is an important component of the business system of commercial banks. Although certain achievements have been made, shortcomings remain in the course of its development and require serious improvement. Xia Wan [12] studied and examined the development of investment banking business in commercial banks. Based on an analysis of the problems existing in the investment banking industry, she focused on proposing targeted optimization measures, with the aim of providing references and practical guidance for promoting the sound development of investment banking business in commercial banks. Xue Zheng [13] also pointed out that commercial banks face problems in developing investment banking business in areas such as industry competition, business depth, income structure, and personnel quality. In the face of unprecedented challenges, commercial banks are advised to combine market positioning with strategic planning, build on their own strengths, business qualifications, and customer groups, and reasonably select appropriate operating models and development pathways, thereby avoiding the blind expansion of business scope and scale. Furthermore, Xue Zheng [14] proposed that preventing risks associated with commercial banks' investment banking business requires not only improvements to banks' internal risk-control mechanisms but also stronger institutional arrangements in areas such as the regulatory framework, business access, information barriers, and cross-departmental coordination.

In the course of innovation and practice in commercial banks' investment banking business, various risk events have also increased. In particular, as investment banking business undergoes innovation, it must respond to various new environments in modern society, giving rise to new forms of risk. Zhiming Yang [15] argued that, with the acceleration of financial innovation and the entry of foreign-funded institutions, Chinese commercial banks are facing unprecedented competitive pressure. Risk management has therefore become one of the core tasks in the operation and management of investment banking business. Banks need to continuously improve their internal control capabilities, while effectively avoiding and preventing innovation-related risks in investment banking business has become a major research topic for contemporary financial researchers. Wei Yang [16] briefly analyzed the risk regulatory system for investment banking business in commercial banks and explored how corresponding internal constraint mechanisms could be established, with the aim of supporting financial innovation in Chinese commercial banks. Minfeng Lu et al. [17] also discussed the future prospects, transformation, and reconstruction of investment banking business in commercial banks in the context of digital currencies. They argued that commercial banks should take advantage of the promotion of legal digital currencies, strengthen digital development, promote hardware and software upgrades, and fully leverage the foundational role of digital currencies to expand their market share in financial markets and build digitally oriented banks with core competitiveness. Yongzhong Liu [18] proposed 23 specific measures, including "seven enhancements, seven focuses, three essentials, and six key actions", from four aspects: the development of smart scenarios, integration with the local digital economy, precise data identification, and improved marketing and customer acquisition. These measures are intended to accelerate the formation of a core engine for digital operations and leverage financial technology to support the high-quality development of investment banking business in commercial banks.

2. Current status of investment banking business of Industrial and Commercial Bank of China

As China's financial reform continues to deepen in the new era, competition among financial institutions is becoming increasingly intense. For commercial banks, only by vigorously promoting the development of their business systems and innovating their development models can they enhance their competitiveness. Investment banking business is an important component of the business system of Industrial and Commercial Bank of China (ICBC). Therefore, examining its current development status can help identify existing problems and, in turn, further enhance its competitiveness.

2.1. Business structure and regional distribution

ICBC's investment banking business is broadly divided into eight major segments and 19 categories of business, as shown in Figure 1. Its target customers cover different levels of clients. For example, it provides industrial fund services specifically designed for governments or leading enterprises in particular industries, as well as capital market services specifically designed for companies in certain industries or for enterprises seeking to go public. With a diverse range of products, ICBC's investment banking business can basically cover all major aspects of China's domestic capital market.

Due to China's separate-operation regulatory system, ICBC has adopted a model of division of labor, coordination, and interconnected development between its domestic and overseas operations in its investment banking business. Domestically, within the scope permitted by law, ICBC has vigorously developed banking-related investment banking businesses, including underwriting, brokerage, and trading in the interbank market, as well as restructuring and mergers and acquisitions, financial advisory services, structured financing and syndicated loans, asset securitization, asset management, and derivatives trading. Overseas, on the one hand, ICBC takes advantage of its licensing capabilities to vigorously develop businesses that cannot be conducted domestically, such as equity underwriting, brokerage, and trading. On the other hand, it leverages the capabilities of its specialized overseas platforms to actively assist domestic institutions in identifying new sources of business growth and enhancing synergies.

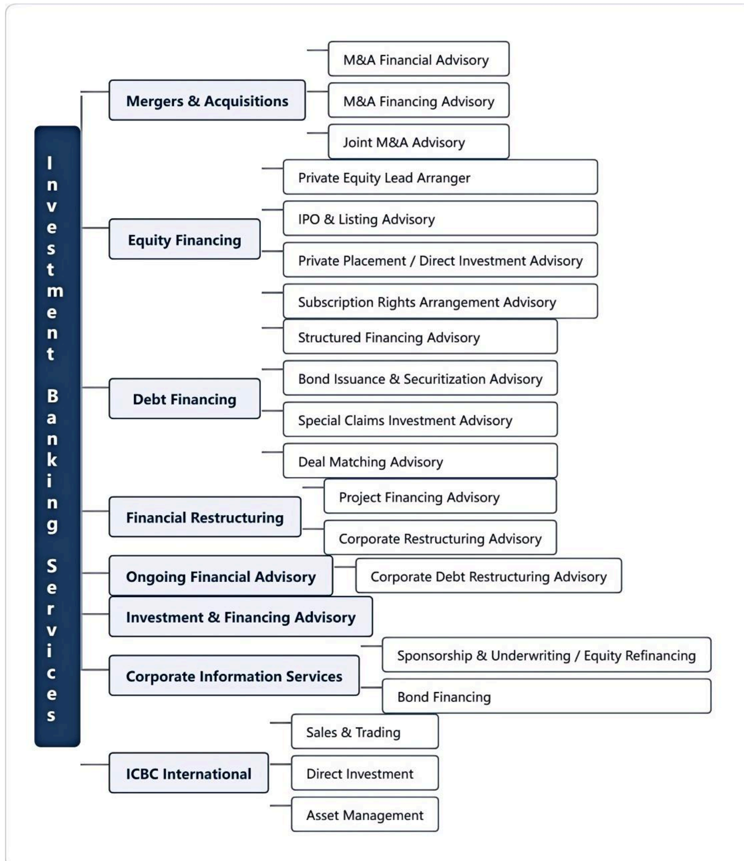

Figure 1. Structure of ICBC's investment banking products

Source: Internal materials of ICBC

2.2. Scale of investment banking business

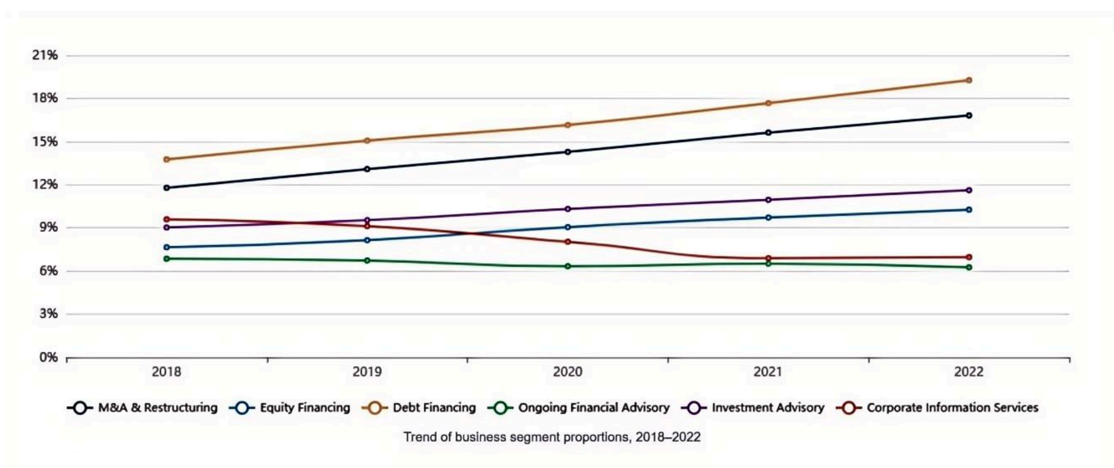

Figure 2. Proportion of business volume by type of ICBC investment banking business, 2018–2022

Source: Flush Financial

Because some branches are constrained by regional policies and market conditions, this section mainly analyzes six major segments: mergers and acquisitions and restructuring, equity financing, debt financing, ongoing financial advisory services, investment advisory services, and corporate information services. The two segments of ICBC International and financial restructuring are not considered at this stage. Among these six segments, the proportions of mergers and acquisitions and restructuring, equity financing, debt financing, and investment advisory services all showed an upward trend over the five-year period. During these five years, debt financing ranked first in terms of its proportion every year, accounting for more than twice the proportion of ongoing financial advisory services, which had the smallest share. The corporate information services segment decreased by approximately 3% over the five-year period, representing the largest decline among all segments, as shown in Figure 2.

2.3. Revenue from investment banking business

Figure 3 presents the revenue data of ICBC's investment banking business from 2012 to the end of 2021. The data show an upward trend before 2014, while from 2015 to 2021, revenue from investment banking business generally remained between RMB 20 billion and RMB 25 billion. Although the COVID-19 pandemic began in 2019, ICBC's investment banking business revenue was not significantly affected.

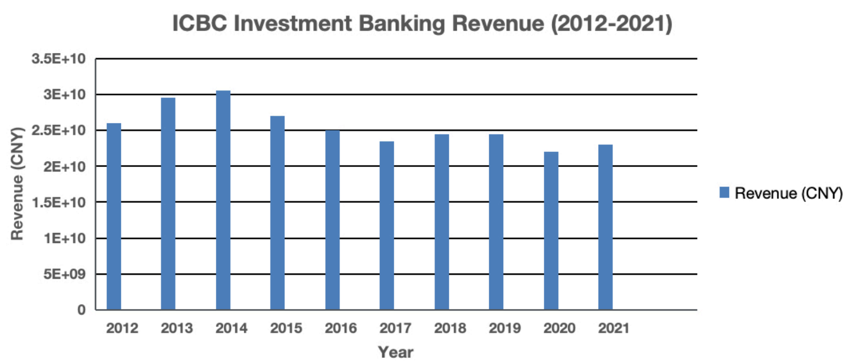

Figure 3. Revenue from ICBC's investment banking business, 2012–2021

Source: National Bureau of Statistics

2.4. Comparison of investment banking business revenue with peer banks

Table 1. Proportion of investment banking business revenue among the four major banks, 2019–2021

Bank	Percentage in 2019	Percentage in 2020	Percentage in 2021
Industrial and Commercial Bank of China	27%	24.3%	23.78%
Agricultural Bank of China	16%	17%	16%
China Construction Bank	14.5%	15.3%	14.1%
Bank of China	8.2%	6.2%	7.6%

As shown in Table 1, the table presents the proportion of investment banking business revenue among the four major state-owned commercial banks from 2019 to 2021. In terms of industry performance, the proportion of ICBC's investment banking business revenue has declined year by year since 2019, although the downward trend has not been pronounced. As can be directly observed from Figure 4, ICBC ranked first among the four banks in 2019, 2020, and 2021. In 2021, the proportion of investment banking business revenue reached 23.78%, approximately 8 percentage points higher than that of the second-ranked Agricultural Bank of China, thereby consolidating its leading position among its peers.

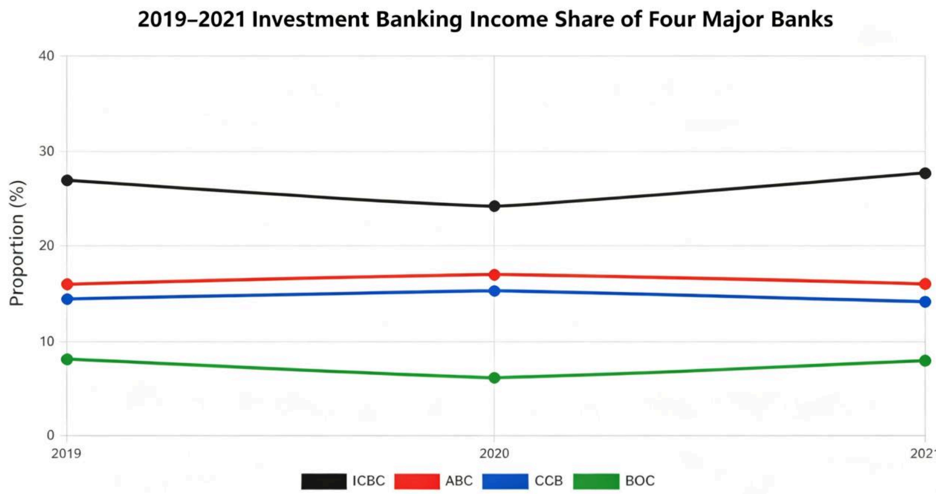

Figure 4. Proportion of investment banking business revenue among the four major banks, 2019–2021

Source: Annual reports of the banks

3. Analysis of the problems existing in the investment banking business of Industrial and Commercial Bank of China

Based on the preceding discussion, the current development status of the investment banking business of Industrial and Commercial Bank of China (ICBC) has been examined. With the continuous development of China's socialist market economy and the ongoing adjustment and transformation of its economic structure, ICBC has gained new opportunities to expand its investment banking business and accelerate its development. Therefore, understanding the problems existing in ICBC's investment banking business and the causes of these problems is of great significance for formulating future development strategies.

3.1. Insufficient product innovation capability in investment banking business

The lack of innovation is reflected in two main aspects: an imbalanced product innovation structure and the absence of an effective business innovation mechanism. ICBC has focused on innovating liability-related products as the key to product innovation, while placing relatively less emphasis on innovation in asset-based intermediary businesses. For example, although it has introduced various products such as forest-rights pledge loans and intellectual property pledge loans, relatively fewer resources have been devoted to the innovation of intermediary businesses and asset-related businesses. Based on the scope of the bank's intermediary businesses, it can be seen that the services provided to corporate clients still mainly consist of credit and settlement services, while relatively less attention has been given to investment banking businesses such as asset securitization. At present, ICBC has developed a long-term perspective in its corporate banking business, but it has neither accumulated sufficient research data on products nor developed adequate product research and development capabilities. As a result, it lacks a strong internal impetus for innovation. The difficulties encountered in market development further constrain its growth, while its tendency to follow the pace of other financial institutions in the market indicates that a forward-looking awareness of product innovation has yet to be established.

Although ICBC's investment banking business has continued to develop in recent years, its main sources of revenue still primarily consist of value-added services, wealth management products, and bond underwriting, which together account for approximately two-thirds of ICBC's investment banking revenue. Revenue from asset securitization is clearly relatively low, and revenue from equity financing is also comparatively limited. At the front end, at the branch level, investment banking business falls within the scope of the corporate banking department. At the middle-office level, branches do not have independent investment banking approval departments. At the back-office level, branches likewise do not have independent risk management departments. Therefore, with the rapid development of investment banking business and the large-scale operation of some mature investment banking products, risk management issues may emerge. These issues may be reflected in several areas: front-office departments may have insufficient ability to identify risks associated with investment banking projects during the marketing and due diligence stages; middle-office departments may lack sufficient experience in controlling the risks of investment banking projects during project risk review; and back-office departments may also lack sufficient professionalism in the subsequent management of projects after investment has been completed.

3.2. Insufficient integration of investment banking business with financial technology

The rapid development of science and technology in China has provided technological support for the integration of ICBC's investment banking business with technology, making such integration necessary. On the one hand, technology, by virtue of its own advantages, can continuously enhance the core competitiveness of ICBC's investment banking business and promote the bank's overall economic development. At the same time, the development and advancement of technology itself cannot be separated from the support of financial institutions such as ICBC. Technology can also facilitate the flow of investment banking resources among different production sectors and regions, thereby promoting the optimal allocation of resources. On the other hand, while investment banking business provides substantial financial support for technological development, it also continuously improves and standardizes itself through such developments, including the promulgation and implementation of relevant policies and regulations and the research and development of new investment banking products. Therefore, making full use of the integration of technology and finance can not only provide strong impetus for the development of ICBC's investment banking business but also create an efficient environment for its growth.

The relatively low degree of integration between investment banking business and technology can be mainly attributed to the following reasons. First, departmental boundaries hinder deep integration. The investment banking business department and the technology department are separate departments. Although the responsibilities of each department are clearly defined, this structure also makes collaboration more rigid and slower. The investment banking department must formally submit business requirements, which can proceed to the next stage only after undergoing review. Communication between the personnel proposing business requirements and technology developers is often insufficient. After requirements are transmitted through multiple levels, they may have already deviated considerably from the original business concept. Second, the traditional governance system is not conducive to rapid technological empowerment. The traditional technology governance system covers the entire project life cycle, from technology budgeting, project initiation, and requirements definition to research and development, testing, production launch, and operations and maintenance, followed by post-project evaluation. There are relatively few stages involving the "co-creation" of investment banking business and technology, and the feedback cycle is lengthy, which is not conducive to the rapid application of technology to investment banking business. Third, there is a shortage of professionals capable of integrating investment banking business with technology. Professionals who possess both business insight and technological expertise are crucial to banks, but such talent remains relatively scarce. Technology teams generally consist of large numbers of engineers who possess mainly research and development skills, while investment banking professionals often lack sufficient knowledge of technology. Consequently, it is difficult for investment banking personnel and research and development personnel to establish effective communication and reach a common understanding.

3.3. Shortage of highly qualified personnel in investment banking business

Investment banking has a history of at least 50 or 60 years, and in some developed countries even more than a century. In China, investment banking is an emerging industry, and its business has also become one of the most dynamic areas of financial services.

For many years, banks' traditional businesses consisted mainly of taking deposits and extending loans, while intermediary businesses involved only limited innovation. Consequently, the knowledge base of bank employees was largely confined to that accumulated through traditional banking activities. After ICBC became a global financial institution, most of its investment banking business was concentrated at the head office level. As a result, investment banking business at domestic branches was almost nonexistent, and professional personnel were extremely scarce. In particular, high-level professionals in investment advisory services, venture capital, and risk control were in particularly short supply, which constrained business development.

Conducting investment banking business requires substantial amounts of information, professional personnel, and advanced technologies. Relevant personnel need not only to possess extensive knowledge of investment, financing, law, industrial analysis, and macroeconomic analysis, but also to have the ability to provide highly intellectual services, such as identifying business opportunities, applying negotiation skills, selecting appropriate timing, identifying potential clients or targets, and making financial arrangements. It can be said that talent is the most important asset of an investment bank.

Investment banking business is an intelligence-intensive service, and ultimately, it is a competition for talent. According to statistics, the proportions of employees with a bachelor's degree or above among the four major state-owned commercial banks are 78.1% at Bank of China, 72% at China Construction Bank, 60.1% at Agricultural Bank of China, and 67.5% at ICBC. It can be seen that ICBC ranks third in this respect and does not have an advantage, with a considerable gap compared with the first two banks. The shortage of highly qualified professionals is one of the problems constraining the development of ICBC's investment banking business.

3.4. Lack of scientific risk control in investment banking business

Jaeggi et al. [19] further pointed out that risk management in investment banking business should not be limited to market, credit, and operational risks. Environmental and social risks should also be incorporated into the risk identification, assessment, and management framework to reduce potential reputational risks arising from project financing. In general, risk management in commercial banks' investment banking business mainly includes the following aspects. First, market risk: Market risks faced by investment banking business mainly include risks caused by fluctuations in interest rates, exchange rates, market prices, and other factors, among which interest rate risk and exchange rate risk are the most significant. Second, liquidity risk: The liquidity risk associated with ICBC's investment banking business is mainly reflected in delayed payments by debtors, mismatches between assets and liabilities, operating losses, and risks arising from derivatives trading.

Risk management in this area is consistent with that for traditional business and is supported by a dedicated management system. Through the effective identification, measurement, and monitoring of liquidity risks, the bank can ensure that it is able to meet the needs of investment banking business while maintaining normal operations and can effectively balance the efficiency and stability of its funds. Third, operational risk: In the risk management of banks' investment banking business, operational risk is one of the major risks. It may take the form of internal fraud, external fraud, and process management issues. Fourth, legal risk: Compared with traditional commercial banking business in China, investment banking business remains relatively immature and underdeveloped, and the development of its relevant legal provisions and regulatory framework is also incomplete. Consequently, various actions taken by relevant personnel at ICBC may potentially be inconsistent with China's requirements for investment banking business, making legal risks particularly likely to arise.

4. Recommendations for promoting the optimization of investment banking business of Industrial and Commercial Bank of China

HaoTian Zhang [20] pointed out in the context of supply-side structural reform that economic restructuring and industrial upgrading will generate new financial demands, such as mergers and acquisitions, restructuring, and direct financing. Commercial banks should therefore adjust the priorities of their investment banking business accordingly. Taking the investment banking business of Industrial and Commercial Bank of China (ICBC) as the subject of analysis and addressing the problems identified in its development, this section puts forward corresponding recommendations and countermeasures for further transforming and developing ICBC's investment banking business and achieving growth in business scale.

4.1. Enhance innovation capabilities and achieve product transformation and upgrading

Tianhong Li [21] proposed that commercial banks need to adopt systematic measures in areas such as product innovation, comprehensive customer services, professional talent development, and internal coordination in order to strengthen the core competitiveness of their investment banking business. Specific measures include the following. First, greater importance should be attached to branded investment banking business so as to continuously increase investment banking revenue and establish a favorable brand image in the market and among industry peers. In response to issues such as unclear target markets and relatively limited business methods, ICBC should continue to consolidate and improve the image and quality of its branded investment banking business in its future development, seize favorable opportunities, pay close attention to the domestic and overseas strategic expansion of other listed companies, vigorously develop businesses such as mergers and acquisitions and restructuring, debt financing, and equity financing, and strengthen the operational capabilities of branded investment banking products. Huanzhong Liang [22] pointed out that, against the backdrop of an increasing proportion of direct financing and the emergence of "big investment banking" business, listed banks should focus on developing actively managed industrial funds, promoting the integration of lending and investment, facilitating the integration of asset management investment with financing by the real economy, and strengthening the development of international investment and trading platforms at the head-office level. Second, investment and financing advisory services and ongoing financial advisory services are among the most fundamental businesses of investment banks. They mainly provide target clients with professional information and consulting services, but their products are highly homogeneous and competition among industry peers is relatively intense. Feng Li [23] proposed that, in developing green investment banking business, commercial banks should, on the one hand, meet enterprises' basic funding needs through financing-oriented investment banking services and, on the other hand, explore deeper sources of added value through knowledge-oriented investment banking services, while continuously deepening innovation in green financial products and services. For basic investment banking business, ICBC should leverage its advantages in its extensive network and information resources to promote the transformation and innovation of investment banking advisory services and improve product management. On the one hand, it should strengthen the marketing and promotion of consulting and advisory services and develop high-quality service cases. It should conduct diversified product marketing targeting enterprises, government institutions, and financial institutions, recommend services such as investment and financing advisory services, corporate financial advisory services, Rongzhi e-Xin, and country risk services to medium-sized and large corporate clients; recommend government financial advisory services to government institutions and platform enterprises; and recommend services such as Rong'an e-Xin to small and medium-sized banks and non-bank financial institutions. It should intensify the marketing and promotion of the Rong e-Xin series of products, leverage the bank's advantages in data, channels, software development, and other areas, explore customer needs in greater depth, improve customer experience, and enhance the overall level of integrated customer services. Financing projects that meet the investment criteria of pension funds and insurance funds should be screened and recommended to improve the investment banking matchmaking and advisory capabilities, strengthen the product line, and consolidate ICBC's brand image in basic investment banking services among industry peers. On the other hand, ICBC should improve the professional capabilities of flexible teams and enrich the content of advisory services. Branches may adopt methods such as delivering training directly to branch offices and regularly distributing research reports on key industries to grassroots units to strengthen training for flexible teams at sub-branches and branches. This will ensure that employees are familiar with products, services are provided on a regular basis, and key points are firmly understood, thereby ensuring that grassroots account managers can identify and respond rapidly to customer needs.

4.2. Deepen the integration of business and technology

Data are an important factor of production in the information age. With the rapid development of new-generation technologies such as 5G, Artificial Intelligence (AI), big data, and the Internet, ICBC should actively develop an efficient and integrated marketing system suitable for customer resource integration and analysis and information security management in a big-data environment. Based on a series of models and algorithms, customer data should undergo text analysis and cluster analysis. Different modularized and standardized components should then be matched according to customer profiles and preferences to rapidly develop products for different levels of demand, strengthen the technological empowerment of business development, and achieve differentiated and precise marketing.

Specific measures include the following. First, ICBC should improve information-sharing and tracking mechanisms and provide data analysis support for differentiated services. It should strengthen the support of technological innovation for business development, establish data exchange platforms across different specialties and organizational levels, promote the sharing, coordination, and effective transmission of data resources, strengthen online-offline integration and connectivity, and leverage big-data analysis to enhance internal management. It should develop an ICBC-specific development model as soon as possible and promote the effectiveness of marketing to technology-based enterprises. Based on a big-data analysis and processing platform, ICBC should strengthen industry research and analysis and comprehensively assess market changes, thereby providing support for the forward-looking deployment of differentiated strategies for investment banking business.

Second, ICBC should cultivate new marketing models for digital transformation and provide technological support for differentiated online marketing and personalized product innovation. On the one hand, it can establish information registers, proactively collect and track information, verify potential business opportunities individually, and follow up on the progress of business opportunities in a timely manner. It can also extract and create a whitelist database of high-quality customers, obtain multi-level customer information, proactively visit key customers, keep track of customer developments in a timely manner, and further explore and enhance the value of potential customer resources. On the other hand, ICBC can establish a full-product scenario simulation platform. By importing various types of operational and financial data and other information of target corporate clients, the platform can generate customer profiles, support simulated scenarios for various investment banking products and services, and provide demonstrations of the expected effects of prospective products. This would give customers a more intuitive and comprehensive experience of products and business management, thereby meeting their differentiated needs in multiple dimensions.

4.3. Improve the professional skills of investment banking personnel

Specific measures include the following. First, improve the incentive and performance evaluation mechanisms. ICBC can further raise the performance evaluation standards for branded investment banking revenue and improve the efficiency of performance-based compensation, thereby enhancing the motivation of flexible teams to expand their business. In addition, basic advisory services can be operated by full-time and part-time investment banking personnel, who can then participate in the distribution of performance-based rewards. Branches should be supervised in implementing the performance distribution principle of "those who market the business should benefit from it". If the above requirements are not followed, the branch may deduct a corresponding amount from the rewards associated with the relevant revenue to ensure the fairness of performance distribution among marketing personnel. The performance evaluation coefficient for investment banking teams can also be appropriately increased to raise and stabilize performance-based income, compensate for the effort invested in projects that fail to materialize due to objective reasons, attract more talent to join the investment banking team, and enhance employees' sense of recognition of their own value. Second, strengthen training for investment banking teams and build strong professional capabilities in investment banking, while continuously promoting the training of investment banking professionals within the jurisdiction. At the branch investment banking team level, branches may apply to the head office to arrange practical exchanges with employees of the head office and subsidiaries in the form of "training through work" and other approaches, thereby further enhancing the international perspective and professional capabilities of investment banking professionals at branches. At the level of flexible teams at sub-branches and branches, branches should intensify their training efforts and regularly distribute exemplary cases to effectively improve the investment banking expertise and marketing capabilities of grassroots flexible teams.

4.4. Strengthen risk management in investment banking business

Jiayou Deng [24] conducted research on risk management in commercial banks' investment banking business and advocated improving the standardization and effectiveness of investment banking risk management by enhancing mechanisms for risk identification, assessment, control, and supervision. Wenbin Yan [25] emphasized that, in response to new businesses and new risks in investment banking business, commercial banks should continuously improve their risk identification, assessment, and control mechanisms and enhance the standardization and targeted nature of risk management. Specific measures include the following. First, establish a sound risk assessment system. As China's financial market continues to develop, various risks emerge accordingly. Therefore, Chinese commercial banks should establish a sound risk assessment system.

At present, China's financial regulatory authorities have established a comprehensive risk indicator system through which the level and specific characteristics of risks can be identified. Commercial banks can use this risk system to regularly report their financial conditions to the banking regulatory authorities. The regulatory authorities can then conduct an overall assessment based on the information provided by commercial banks, evaluate their risk prevention and control capabilities, and provide reasonable recommendations for their future development. At present, ICBC's internal risk assessment system is not sufficiently well developed and has many deficiencies, including inadequate risk identification and insufficient supervision. Therefore, ICBC needs to establish an appropriate internal assessment system based on its actual circumstances, develop a shared information database among banking institutions, and explore assessment models and channels that are more suitable for its own development. By establishing a sound and comprehensive assessment indicator system and refining the assessment of risks, ICBC can strengthen risk management and control. This is also a core element in promoting the continuous development of the bank's future risk management and control system. Second, strengthen internal risk management and control within the bank. When commercial banks manage their own investment risks, they need to establish a sound and comprehensive internal control system. At the same time, relevant regulatory institutions should conduct comprehensive assessments and reviews of commercial banks' new businesses. In addition, when Chinese commercial banks cooperate with certain securities companies, the China Securities Regulatory Commission and the banking regulatory authorities need to jointly undertake supervisory responsibilities. During the regulatory process, communication and coordination problems may inevitably arise, and these problems may expose banks to certain risks in their development. In the future development of investment banking business, ICBC should pay attention to the following aspects. First, improve bank employees' legal awareness. Only when internal bank employees have a strong awareness of the law can they comply with laws and regulations, refrain from seeking opportunistic gains in their work, and avoid unlawful conduct. Second, establish a sound management system. Commercial banks should establish reasonable management mechanisms for their employees and strengthen employee management to improve the bank's operational efficiency. Third, establish a legal review department. Banks should establish specialized legal review departments staffed with professional review personnel to conduct strict reviews of the bank's investment products and services. At the initial stage of conducting investment business, banks should strengthen risk control, standardize and constrain employees' daily conduct and operations, and regularly organize legal knowledge lectures so that employees can consciously comply with laws and regulations.

5. Conclusion and outlook

This paper reviewed the views and experience of domestic and international scholars regarding the development of investment banking business in commercial banks and, in combination with the current status of ICBC's investment banking business, summarized the various problems existing in its development and proposed corresponding recommendations to address these problems.

In recent years, China's economy has developed rapidly, while market conditions have continued to change. The economic structure has consequently undergone continuous transformation to adapt to changes in the market, making the market economy increasingly complex. In order to better adapt to changes in the market, various industries have continuously increased their investment in management. As a state-owned banking institution, Industrial and Commercial Bank of China (ICBC) began conducting traditional banking business at an early stage and has now begun to strengthen the development and expansion of its investment banking business, achieving certain results. However, many problems remain to be addressed. With the rapid development of the economic market, demand for commercial banks to conduct investment banking business has continued to increase, while requirements for the types of businesses and services that banks can provide have also become increasingly demanding. It is hoped that this study can contribute to the rapid development of ICBC's investment banking business, enhance the market competitiveness of commercial banks, and improve the overall environment for investment banking business in China's commercial banking sector.

References

[1] Stowell, D. P. (2010). *An introduction to investment banks, hedge funds, and private equity*. Elsevier.

[2] Chen, J. (2022). Problems and countermeasures in the development of investment banking business in China. *China Small and Medium Enterprises*, (1), 189–190.

[3] Chen, J. (2022). A comparative analysis of investment banking business between domestic and foreign securities firms. *China Economist*, (1), 106–108.

[4] Wang, C. (2020). Research on the problems and countermeasures of investment banking business in China. *China Foreign Investment*, (19), 90–91.

[5] He, M. (2020). Research on the problems and countermeasures facing the development of investment banking M&A business in China. *Market Weekly*, (8), 133–135.

[6] Liu, Y. (2022). Research on the problems of investment banking business of commercial banks in China. *Trade Fair Economy*, (2), 84.

[7] Ashcraft, A. B. (2008). Are bank holding companies a source of strength to their banking subsidiaries? *Journal of Money, Credit and Banking, 40*(2–3), 273–294. https://doi.org/10.1111/j.1538-4616.2008.00113.x

[8] Akiyoshi, F. (2019). Effects of separating commercial and investment banking: Evidence from the dissolution of a joint venture investment bank. *Journal of Financial Economics, 134*(3), 703–714. https://doi.org/10.1016/j.jfineco.2019.05.004

[9] Radic, N., Fiordelisi, F., & Girardone, C. (2011). Competition and risk in investment banking. In *2011 International Finance and Banking Society (IFABS) Conference*, Rome, Italy.

[10] Yuan, B. (2020). Discussion on the development path of investment banking business of commercial banks under the new normal. *Trade News*, (3), 148–149.

[11] He, J. (2017). Research on commercial banks' engagement in investment banking business. *Times Finance*, (20), 123–128.

[12] Wan, X. (2020). Problems and countermeasures in the development of investment banking business of commercial banks. *Fortune Today (China Intellectual Property)*, (8), 71–73.

[13] Zheng, X. (2020). Development problems and path choices of investment banking business of Chinese commercial banks. *Modern Finance Guide*, (9), 50–55.

[14] Zheng, X. (2021). Regulatory framework and policy recommendations for preventing risks in investment banking business of commercial banks. *Economic Forum*, (2), 102–110.

[15] Yang, Z. (2019). Discussion on risk management of investment banking business of commercial banks in China in the new era. *Modern SOE Research*, (4), 169.

[16] Yang, W. (2021). Future development prospects, transformation, and restructuring of commercial banking business in the context of digital currency. *Modern Business Trade Industry*, (12), 121–122.

[17] Lu, M., & Zhou, J. (2020). Future development prospects, transformation, and restructuring of commercial banking business in the context of digital currency. *Southwest Finance*, (9), 3–13.

[18] Liu, Y. (2022). Research on promoting the development of commercial banking business through digital operations. *ABC Finance*, (5), 39–43.

[19] Jaeggi, O., Kruschwitz, N., & Manjarin, R. (2015). The case for environmental and social risk management in investment banking. In K. Wendt (Ed.), *Responsible investment banking: Risk management frameworks,*

sustainable financial innovation and softlaw standards (pp. 535–543). Springer International Publishing. https://doi.org/10.1007/978-3-319-10311-2_36

[20] Zhang, H. (2019). Research on the development strategies of investment banking business of commercial banks under the background of supply-side structural reform. *West China Finance*, (4), 94–96.

[21] Li, T. (2018). Research on strategies for commercial banks to enhance the core competitiveness of investment banking business. *China International Finance*, (7), 56–58.

[22] Liang, H. (2019). An analysis of the development trends and key areas of "big investment banking" business of listed banks. *Journal of Tianjin College of Commerce*, (4), 11–18.

[23] Li, F. (2018). Reflections on the development of green investment banking business by commercial banks. *Tsinghua Financial Review*, (7), 15–17.

[24] Deng, J. (2021). Research on risk management of investment banking business of commercial banks in China. *Trade News*, (31), 83–85.

[25] Yan, W. (2020). Research on risk management of investment banking business of commercial banks. *Rural Economy and Science-Technology*, (8), 132–133.