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Master Thesis U.S.E

# Banking Stock-Market Responses to China's Financial Opening Measures: An Event Study<sup>1</sup>

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## Abstract

This research paper empirically investigates the impact of recent financial opening measures on the expected profit efficiency of publicly listed banks with varying ownership structures in China. Utilizing an event study methodology and the Fama-French Three-Factor Model, the study analyzes a panel datasets of 58 publicly listed banks across both A and H share markets. The findings reveal an overall positive impact of the openness policy on the domestic banking sector in the A share market, reflecting market confidence in these regulatory changes. However, results in the H share market were found to be less significant. Additionally, the study identifies city commercial banks as exhibiting the largest positive response, followed by joint-stock and rural commercial banks. State-owned commercial banks also showed a positive reaction, but to a lesser extent. From a managerial perspective, the study suggests that stakeholders, including policymakers, domestic bank operators, foreign capital managers, and stock market investors, should consider the varying responses of different bank types when formulating strategies to navigate the changing regulatory landscape. The review of the literature and study results indicate that further research is needed to broaden the datasets and models used, particularly to explore the long-term effects and the influence of international investor sentiment on these financial opening measures.

**JEL Codes:** G21,F36,C58

**Keywords:** Financial Regulation, FDI, Equity Structure, Profit Efficiency

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## 1. Introduction

My paper investigates the impact of recent financial opening measures on the expected profit efficiency of domestic listed banks with varying ownership structures in China. Specifically, it examines how the relaxation of foreign ownership restrictions and the elimination of access barriers for foreign investments influence the stock price returns of various types of banks, including state-owned, joint-stock, city commercial, and rural commercial banks. The response of the stock market acts as a barometer for a bank's profit efficiency, reflecting investors' expectations regarding future profitability. Understanding how investors interpret and react to these regulation changes across different types of banks, is essential for informed strategy development by stakeholders, including policymakers, domestic bank operators, foreign capital managers, and stock market investors.

On January 25, 2024, Yuanqi Xiao, the deputy director of the Financial Supervision Administration of China, announced over 50 new financial opening measures. Key among these is the complete removal of restrictions on foreign capital shares, allowing foreign investors to achieve up to 100% equity ownership in banking and insurance institutions (Xinhua, 2024). This major regulatory shift is poised to deepen banking reform and reshape the competitive dynamics within the Chinese banking sector by potentially increasing foreign capital inflows and competition. My study aims to explore how these changes are perceived in the market, specifically through the lens of stock price fluctuations, a proxy for investor expectations on the potential profit efficiency of banks.

Banking sector reform in China has continually evolved since its accession to the WTO in 2001, gaining momentum over the years. Notably, foreign banks were granted full access

to the Chinese market in 2006, which coincided with the relaxation of restrictions on foreign acquisitions of Chinese domestic banks. By 2014, foreign investors were permitted to collectively hold up to 25% of shares in any domestic bank and up to 20% for any individual foreign investor. These progressive reforms paved the way for the January 2024 announcements, where limitations on ownership percentages were completely lifted. This trajectory underlines the progressive nature of financial openness in China, emphasizing that such opening measures are not merely a policy decision but a process intertwined with structural reforms within the domestic financial sector and broader macroeconomic implications (Bayraktar and Wang, 2004).

Specifically, the general effect of financial openness, particularly the introduction of foreign investment, on local banking industry has always attracted attention of researchers worldwide. While some scholars argue that increased foreign investment enhances the profit efficiency of domestic banks through knowledge spillovers and improved governance (John et al., 2005, Jiang et al., 2009), others contend that it may lead to direct competitions and profit declines across local banks (Claessens et al., 2001, Bayraktar and Wang, 2004). Meanwhile, literature confirms the significant impact of ownership structure on bank profit efficiency (Grigorian et al., 2006). However, scant literature has addressed the specific effects of financial opening measures in China on its publicly listed banks with different ownership structures. This unresolved issue will impact the precision and pertinence of strategy management of stakeholder, highlighting the necessity of understanding these effects for more informed strategic decisions.

In this context, my study will try to fill this gap by revealing the differing influences

among these four bank categories and identifying the factors driving these varied reactions. To illustrate, my research conducts an event study using a datasets of stock price returns from 58 publicly listed banks in China and employ the Fama-French Three-Factor Model. The findings reveal an overall positive impact of the openness policy on the domestic banking sector in the A share market, reflecting market confidence in these regulatory changes. However, results in the H share market were found to be less significant. Additionally, the study identifies city commercial banks as exhibiting the largest positive response, followed by joint-stock and rural commercial banks. State-owned commercial banks also showed a positive reaction, but to a lesser extent. These findings may contribute to the academic discussion by providing empirical evidence on the effects of financial opening measures on bank profitability in China, both overall and across different ownership structures, and offer insights for stakeholders in making strategic decisions. For instance, policymakers can recognize the impact and challenge, thus they can formulate more targeted regulations to support the development of the banking sector. Domestic banks may formulate adaptive strategies to navigate the changing landscape and identify prospective fields for collaboration and partnership. Additionally, the results could also provide investment portfolio directions for foreign capital institutions as well as domestic and international investors.

The remainder of the paper proceeds as follows. Section 2 presents a brief literature review, providing an institutional background and existing researches on both financial opening effects on domestic bank performance and also Determinants of overseas mergers and acquisitions in the banking sector. Building upon this review, I derive my research questions and hypotheses. Section 3 outlines my methodology and data sources, followed by

the presentation and analysis of empirical findings in Section 4. Finally, section 5 discusses the implications of the findings for policymakers, bank operators, foreign capital institutions, as well as stock market investors.

## **2. Literature Review and Hypothesis Development**

### **2.1 Institutional Background**

Chinese publicly listed banks are categorized into state-owned commercial banks (SCBs), national joint-stock commercial banks (JCBs), city commercial banks (CCBs), and rural commercial banks (RCBs) based on their ownership structures, which likely influences their responses to regulatory changes (EY, 2024). Specifically, the variation in ownership influences decision-making processes and the propensity of these banks to engage in mergers and acquisitions with foreign capital. These distinctions are crucial for hypothesizing how regulatory changes impact each bank type differently, which is essential for evaluating the effects of financial opening measures on their profit efficiency. Additionally, given that publicly listed banks represent a significant portion of all commercial banks in China, their performance can be indicative of overall trends within the domestic banking industry. Regarding the various ownership structures of Chinese listed banks<sup>2</sup>, this paper also elaborates based on the comprehensive studies by Chen (2020) and Lin et al. (2009).

#### **2.1.1 6 Stated-Owned Commercial Banks (SCBs)**

Stated-owned commercial banks refer to the banks owned and controlled by the central government. They play a pivotal role in the banking sector, providing extensive wholesale and retail banking solutions nationwide. As of the end of 2023, the total assets of the 6 publicly listed stated-owned commercial banks amounted to RMB 185.11 trillion, accounting for 62.98% of all publicly listed banks (EY, 2024).

#### **2.1.2 10 National Joint-Stock Commercial Banks (JCBs)**

National Joint-Stock Commercial Banks refer to banks co-owned by governmental entities and private enterprises. They diverge from stated-owned commercial banks primarily in two regards. On one side, their asset scale is comparatively smaller. On the other side, the

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<sup>2</sup> Please refer to Appendix 1 for the list of specific bank names and trading markets.

ownership framework of these banks is characterized by greater diversity. Notably, the majority of joint-stock banks are managed by state-owned enterprises rather than being under direct control of the central government. In the end of 2023, the total assets of the 10 publicly listed joint-stock banks amounted to RMB 68.41 trillion, accounting for 23.28% of all publicly listed banks (EY, 2024).

### 2.1.3 29 City Commercial Banks (CCBs)

These banks are under the governance of provincial, municipal, or other regional governmental entities, as well as local state-owned enterprises. Their primary operational emphasis lies in fostering local economic growth and supporting small and medium-sized enterprises. By the end of 2023, the total assets of the 29 publicly listed city commercial banks amounted to RMB 33.18 trillion, accounting for 11.29% of all publicly listed banks (EY, 2024).

### 2.1.4 13 Rural Commercial Banks (RCBs)

These banks are originally derived from rural credit co-operatives that specifically work for rural population with low income. They share a similar ownership structure with city commercial banks. The main difference between them are locations and target clients. RCBs provide financial services support to rural areas and agriculture related business. Up to the end of 2023, the total assets of the 13 publicly listed rural commercial banks amounted to RMB 7.20 trillion, accounting for 2.45% of all publicly listed banks (EY, 2024).

## **2.2 Literature Review**

### 2.2.1 Using stock price return as a proxy of bank profit efficiency changes

The profit efficiency of a bank is a critical indicator of its financial health and overall profitability, reflecting how well a bank utilizes its resources to generate profit. In empirical research, stock price returns are often used as a proxy for measuring changes in profit



efficiency due to their responsiveness to market perceptions and expectations. Previous studies (Kirkwood et al., 2006, Ioannidis et al., 2008, Liadaki et al., 2010) have established a positive and robust correlation between stock price returns and profit efficiency. The rationale behind this approach is that stock prices quickly incorporate available information, including changes in regulations.

Analyzing stock price returns allows my research to gauge how investors perceive the impact of financial opening measures on the profitability of domestic banks with different ownership structures. This approach can measure the immediate and short-term effects of regulatory changes on bank performance, providing a timely and dynamic assessment that traditional financial metrics might not capture as quickly.

#### 2.2.2 The effect of Financial Opening Measures on the profit efficiency of domestic banks

The specific effects of financial opening measures in China on its publicly listed banks with different ownership structures have been scantily addressed in the existing literature. Although there is considerable researches on the general impact of foreign capital and bank entry on the profit efficiency of host country banks, these research often yields two distinct perspectives, a positive one and a pessimistic one.

The positive perspective (Berger et al., 2009, Hasan et al., 2013) posits that foreign investment enhances the profit efficiency of domestic banks through spillover effects that include advanced operational concepts and technological improvements. Shen et al. (2009) further argue that such foreign penetration can significantly improve the profitability of local banks, attributing these gains to effective technology transfers from foreign investors. Luo et al. (2017) emphasize that exposure to foreign bank networks correlates with higher

profitability, efficiency, and non-interest income for domestic banks, suggesting substantial benefits from knowledge transfer. Additionally, Clarke et al. (2006) and Lyu et al. (2023) highlight that the involvement of foreign financial institutions increases the likelihood of small and medium-sized enterprises obtaining loans in emerging markets, attributed to superior screening technologies from these institutions and their information asymmetry in the early entry stage (Chen, 2017). This not only alleviates policy support loan pressure on local banks but also reduces their non-performing ratios, further boosting profitability.

Conversely, scholars holding a pessimistic view (Claessens et al., 2001, Bayraktar and Wang, 2004, Jeon et al., 2011) provided robust empirical evidence that increased foreign bank penetration leads to decreased profitability for host country banks due to intensified competition. Mian (2003), Sengupta (2007), and Berger et al. (2008) added that foreign banks often target large clients with transparent financial information, avoiding the small and medium enterprises that are typically non-performing customers of domestic banks, thereby exacerbating competition for high-quality corporate customers. Moreover, De Haas and Van (2014) along with Giannetti and Laeven (2012) highlight the risks associated with foreign banks transmitting external shocks to the host financial markets. This can lead to destabilization, as foreign subsidiaries might liquidate assets or increase loans to distressed parent banks during crises, which Allen et al. (2013) argue poses a significant threat to the stability of financial system in host countries and undermines the effectiveness of local economic policies, thus reduces the earning power of local banks.

In summary, while the introduction of foreign capital into banking sector could bring spillover effects, including technological and operational benefits, that enhance profit

efficiency of domestic banks, it also presents significant challenges, including increased competition and the potential destabilization for economic system which will ultimately compromise the sustainability of profitability within domestic banks.

### 2.2.3 Determinants of overseas mergers and acquisitions in the banking sector

The main content of the financial opening measures issued in January is to lift restrictions on foreign shareholding and increase the possibility of foreign acquisitions. This policy shift could not only alter the degree of foreign investment in domestic banks but might also trigger varying levels of strategic synergy or direct competition, depending on whether the local bank becomes a target for acquisition. Value in mergers and acquisitions is generated through the synergistic integration of the acquiring and target companies, as noted by Feldman et al. (2022). Researchers (Grigorian et al., 2006, Iannotta et al., 2007) observed that foreign ownership with controlling power leads to stronger strategic synergies, resulting in quicker and more significant spillover effects, thus enhancing the profit efficiency of target banks.

Regarding determinants of overseas mergers and acquisitions in the banking sector, from a macro perspective, existing literature confirms that active and open financial policies in host countries can attract foreign investment (Xie et al., 2017, Buch and DeLong, 2004). At the micro level, specific bank characteristics, including the geographical location and earning power, play crucial roles in determining their attractiveness for cross-border merger and acquisition activities (Lin et al., 2013, Williams and Liao, 2008, Caiazza et al., 2012, Chou and Shen, 2014, Xue, 2010). Specifically, prior studies support the ‘acquire to restructure’ hypothesis, suggesting that targets are often less efficient banks acquired with the goal of

restructuring to enhance their profitability. Geographically, foreign investors tend to favor banks located in highly open and economically central regions. This reflects a strategic preference for both ‘customer following’, where they follow the layout of existing multinational corporate clients, and ‘market seeking’, which focuses on accessible markets with high growth potential.

Given the scarce research addressing the impact of financial opening measures on domestic banks with different ownership structures, my study will propose an approach that acknowledges the macro-level objectives of these measures while also exploring, at a micro-level, how different types of domestic banks might attract foreign investments. My exploration aims to assess the potential for realizing strategic synergies or facing direct competition as a result.

### **2.3 Hypothesis Development**

First and foremost, the feasibility of the current financial opening measures is underscored by the robust economic growth in China and the regulatory environment these policies establish, which together make the Chinese market highly capable of attracting foreign investments. This context is further reinforced by the International Monetary Fund in its World Economic Outlook report issued this April. The IMF recognizes China's sustained higher-than-expected growth momentum last year, coupled with the stimulating effects of recent government policies (International Monetary Fund, 2024). Additionally, over the past two decades, as China has gradually opened its financial market, regulators and bank managers have accumulated significant experience and developed capabilities to manage the risks associated with foreign investments. This accumulated expertise enables China to

effectively control potential risks while attracting foreign investments to promote the development of the local banking industry. Therefore, I predict that this financial opening measures will achieve its original intention of promoting the development of the domestic banking industry, which would be confirmed by the positive response from the entire market participants.

Table 1 summarizes the operating indicators of the four types publicly listed banks and some foreign systemically important international bank as follows<sup>3</sup>. Notably, the proportion of loan to assets (LTA) for Chinese banks is significantly higher compared to foreign banks, while the cost to income ratio (C/I) is lower. This disparity may be attributed to the relatively limited range of banking products offered by Chinese banks, which allows for economies of scale in terms of cost. Additionally, the relatively lower yet comparable capital adequacy ratios (CAR) of Chinese banks indicate robust risk management and financial health, thereby attracting foreign capital by showcasing investment security and potential stable returns.

**Table 1: Several operating indicators of different types banks (unit: %)**

Bank	CAR	ROE	ROA	LTA	C/I	NII
SCBs	17.49	10.63	0.76	56.92	32.76	76.85
JCBs	13.41	9.14	0.68	55.66	31.32	69.56
CCBs	13.36	8.80	0.61	48.47	30.44	75.04
RCBs	14.32	9.47	0.78	52.62	35.29	80.15
China Listed Banks	15.80	9.82	0.68	55.57	32.18	75.40
Foreign Banks	17.77	10.12	0.66	37.41	60.60	55.89

Given their large asset scale and state ownership, state-owned banks (SCBs) are unlikely to form strategic synergies through substantial foreign investment in the short term. However, SCBs mainly serve large state-controlled enterprises, where foreign competition is minimal,

<sup>3</sup> The indicators of China banks are allocated from their annual reports while those of the foreign banks are derived from the average metrics of ten major banks in Europe and North America, including Bank of America, Citigroup, JPMorgan Chase, HSBC, Barclays, Standard Chartered, Deutsche Bank, Santander, and BNP Paribas (EY, 2024). The data is based on the end of fiscal year 2023.

thus maintaining their profitability. Besides, their close relationship with policymakers enables SCBs to develop strategies for collaboration with foreign banks in areas like venture capital for tech startups, using foreign expertise to mitigate non-performing loans and policy-based support loans. Meanwhile, the increased foreign presence in domestic market also offers SCBs more opportunities to learn from global operations, potentially enhancing their profitability from oversea branches. Thus, this paper anticipates that SCBs, representing nearly 63% of the market share among all publicly listed banks, will exhibit a positive response to the financial opening measures, bolstering the broader banking sector. Therefore, the proposed hypothesis is:

**H1:** The announcement of Financial Opening Measures enhances the profit efficiency of SCBs and the whole sector, thereby received a positive response by their equity market participants.

In contrast, city commercial banks (CCBs) and rural commercial banks (RCBs) are predicted to have a high likelihood of forming strategic synergies through financial capital integration. According to the ‘acquire to restructure’ hypothesis, CCBs display the lowest ROE and ROA among bank types, indicating significant potential for improvement. Berger et al. (2009) suggested that foreign ownership could enhance profitability efficiency in Chinese domestic banks, especially smaller ones. RCB's smaller asset size provides foreign financial institution with limited funds the possibility of entering the Chinese market. Furthermore, below-average LTA ratios of CCBs and RCBs suggest a diversified business structure similar to that of foreign banks, which could facilitate rapid and effective strategic synergies. Additionally, CCBs and RCBs demonstrate smarter and higher asset pricing capabilities

compared to SCBs and JCBs, primarily due to their predominantly small-sized customer bases. Their stronger willingness to pay dividends, driven by more regional operations and more diversified ownership structures, makes them particularly attractive targets for foreign investments. However, RCBs, primarily situated in rural areas with less financial openness and a focus on agricultural business, are likely considered less appealing to foreign investors compared to CCBs.

Supporting data from the State Administration of Financial Supervision reveals that, as of the end of 2023, among 12 publicly listed banks with foreign investors among their top ten shareholders, only one is an SCB while the remainder are CCBs and RCBs. This suggests a trend that could see increased foreign shareholding in CCBs and RCBs following the lifting of foreign shareholding restrictions, potentially enhancing profitability through greater strategic synergies. Based on this analysis, the second hypothesis is formulated as follows:

**H2:** The announcement of Financial Opening Measures enhances the profit efficiency of CCBs and RCBs, thereby received a positive response by their equity market participants. Besides, the market response of CCBs was higher than that of RCBs.

In terms of the relationship between JCBs and foreign investments, it is anticipated that a complex dynamic of both competition and cooperation will emerge. JCBs, with their larger asset scales than CCBs and RCBs, are less likely for foreign investors to acquire a controlling stake (Berger et al., 2009). Additionally, JCBs operate with a broader business scope and wider branch distribution than CCBs and RCBs, which also makes rapid operational changes challenging. Moreover, compared to the other three types banks, the earning power of JCBs focuses more on non-interest business, which is also a competitive advantage of foreign

banks (Ran, 2021). This strategic similarity heightens the likelihood of direct competition under a low probability of merger and acquisition. Furthermore, the customer base of JCBs is more diverse and market-driven, lacking the substantial state-backed clientele that characterizes SCBs. This diversity makes JCBs more vulnerable to competition from foreign banks as well as CCBs and RCBs that have the opportunities to benefit from the direct spillover effects of foreign investment, that offer superior products and services.

However, JCBs enjoy more autonomy from government influence than SCBs, allowing greater flexibility in collaborating with foreign investments for profit-oriented operations. Some JCBs have already expanded into global banking, adopting strategies similar to SCBs. While complete foreign acquisition is unlikely, capital introduction pursuing financial synergies remains a viable strategy, albeit with limited immediate impact on profitability.

In conclusion, the low probability of majority stake acquisitions, the parallels in competition advantages, and the mobility in customer base suggest that direct competitive pressure will exceed the spillover effect introduced by financial openness measures to JCBs . Hence, JCBs need to leverage more resources, which will led to a consumption of profit, to counteract. Thus, the third hypothesis in this paper is:

**H3:** The announcement of Financial Opening Measures implies a reduce of profit of JCBs due to a direct competition, thereby received a negative effects response by their equity market participants in a short term.



### 3. Research Method

#### 3.1 Event Study method

Event Study method is provided by Eugene F. Fama based on a theory of random walks: in an efficient market the true expected return on any security is equal to its equilibrium expected value, which is, also the market's assessment of its expected value. Event Study method (Fama, 1976) is widely used to analyze the impact of a event on stock returns by analyzing the abnormal returns surrounding that event. Abnormal returns refer to the difference between the actual post-event returns and the expected returns that a security would have generated in the absence of that event. A significant and positive abnormal return shows that market investors believe that the event will be beneficial to the company value.

Table 2 shows the various time periods using the event study method as follows,

**Table 2: Time points of this event study**

<b>Time point</b>	<b>Date</b>	<b>Definition</b>
<b>The day of the Event</b>	January 25, 2024	The Actual Announcement Day ( T+0 )
<b>Event Horizon</b>	January 26, 2024 - February 2, 2024	Event Horizon is the period I believe the event has an effect on return. From previous research, it is observed that the selection of the event period is random and there is no strict requirement. Here, I choose event window from T+1 to T+10 <sup>4</sup> to compute the post event actual returns and to see the overall impact of the announcement on stock returns.
<b>Estimation Window</b>	July 3, 2023 - January 19, 2024	Estimation Window is the period around which no information relating to the event is released. It is like a benchmark from which the normal returns are calculated, that is, the returns that a security would have earned in the absence of such an event. Generally a period of 200 days before the event period is selected as the clean period. Hence, the estimation period selected in my study range from T-205 to T-5 before the event.

<sup>4</sup> Here refers to natural days. I will exclude non-trading days and only keep the data on trading days when processing the data later. Same to the data processing in estimation period.

### 3.2 Fama-French Three-Factor Model

This paper leverages the Fama-French Three-Factor Model to regress the normal return. This model is an extension of the Capital Asset Pricing Model (CAPM), incorporating the Efficient Market Hypothesis which posits that stock returns are influenced by overall market conditions. Besides the market factor, the Fama-French Three-Factor Model includes two additional risk factors: the size effect (SMB) and the value premium (HML), which address anomalies in the CAPM. The predicted returns are computed as follows:

$$ER_{it} = R_{ft} + \alpha_i + \beta_{1i} (R_{mt} - R_{ft}) + \beta_{2i} SMB + \beta_{3i} HML + \varepsilon_{it}$$

Where:

- $ER_{it}$  is the expected normal return of stock  $i$  on day  $t$
- $R_{ft}$  is the risk-free return of the market portfolio on day  $t$
- $R_{mt}$  is the return of the market portfolio on day  $t$
- $\alpha_i$  is the intercept term for stock  $i$
- $\beta_{1i}$ ,  $\beta_{2i}$ ,  $\beta_{3i}$  is the coefficients for the market return premium, size premium and value premium for stock  $i$ , respectively
- $\varepsilon_{it}$  is the residual error of stock  $i$  in day  $d$

## **4. Empirical Strategy**

The objective of this empirical study is to assess how market investors perceive the impact of the recent financial opening measures on the profit efficiency of the entire Chinese banking sector and its four types of banks with different ownership structures. Specifically, by calculating cumulative aggregate of abnormal return values at different time points, this study evaluates the accuracy of market expectations and investigates the extent and speed of reactions within the event horizon, as well as the different performances in A-share and H-share markets.

### **4.1 Data Collection and Description**

My datasets comprises panel data of 58 publicly listed Chinese banks spanning the fiscal year 2023 and 2024. The primary sources of this data include Yahoo Finance, a reputable international financial database which provides each bank stock, CSI 300 Index and Hang Seng China Enterprises Index a daily historical price datasets, and the 2023 annual reports of individual banks. Additionally, the accuracy of the data has been cross-verified using other sources such as the EY annual report about the publicly listed banks in China (EY, 2024).

Due to the dual-listing system in China, some of target observations are listed on both the A-share and H-share market, while others are listed only on one of them. Therefore, the regression approach will be conducted separately for each market. The market portfolio used in A-share market is the CSI 300 Index, compiled by China Securities Index Co., Ltd., comprises 300 relatively large and liquid stocks listed on the Shanghai and Shenzhen Stock Exchanges. It is one of the representative indices of the A-share market. The market portfolio leveraged in H-share market is the Hang Seng China Enterprises Index (HSCEI), compiled by

the Hong Kong Stock Exchange, which includes stocks of Mainland Chinese companies listed on the Hong Kong Stock Exchange.

Regarding the risk-free rate, given the short-term nature of the event study period in this paper, the one-year Chinese Government Bond Interest Rate and Hong Kong one-year bond yields are more appropriate as they better reflect the relevant risk-free rate over a similar time horizon in A-share and H-share markets correspondingly.

As for the SMB factor and HML factor used in Fama-French Three Factors Model, this paper took the daily data of Asia Pacific ex Japan 3 Factors, in which Hong Kong is included, from the Fama-French Data Library as factors in H-share. Since there were no access to the individual factors data based on Chinese mainland stock market, which can be used in A-share, this research took a reference to manual calculation methods leveraged in previous literature (Hu et al., 2019, Bai et al., 2017), used the 42 publicly listed banks on A-share market as a sample datasets and manually calculated the corresponding SMB and HML factors. The book value and market value for each bank are based on the year-end data of 2023 from Yahoo Finance and their annual reports. Table 3 describes variables and data sources as follows,

**Table 3: Description of Variables and Data Sources**

<b>Variables</b>	<b>Computation</b>	<b>Description</b>	<b>Data Source</b>
$R_{it}$	$R_{it}=(P_{it}-P_{it-1})/P_{it-1}$	$R_{it}$ is the return of stock $i$ on day $t$ , $P_{it}$ is the closing price of stock $i$ on day $t$ , and $P_{it-1}$ is that on the previous trading day $t-1$	Yahoo Finance
$R_{ft}$	$R_{ft}=R_{f-annual}/365$	A share: One-year Chinese Government Bond Interest Rate H share: Hong Kong one-year bond yields	China Foreign Exchange Trade System (2024) & Investing.com (2024)

$R_{mt}$	$R_{mt}=(P_t-P_{t-1})/P_{t-1}$	A-share: $P_t$ is the closing price of CSI 300 Index on day t, and $P_{t-1}$ is that on the previous trading day t-1 H-share: $P_t$ represents the closing price of HSCEI on day t, and $P_{t-1}$ is that on the previous trading day t-1	Yahoo Finance
SMB	$SMB=(S/H+S/M+S/L)/3-(B/H+B/M+B/L)/3$	Size premium (small minus big) Size= $\ln$ (market capitalization)	A-share: Bank Market capitalization retrieved from Yahoo Finance <sup>5</sup> , Owner equity retrieved from individual banks annual reports H-share: Kenneth R. French Database
HML	$HML=(S/H+B/H)/2-(S/L+B/L)/2$	Value premium (high minus low) Book-to-market ratio= Owner equity/market capitalization	A-share: Bank Market capitalization retrieved from Yahoo Finance, Owner equity retrieved from individual banks annual reports H-share: Kenneth R. French Database

## 4.2 Data Analysis

### 4.2.1 Calculations of SMB and HML

This paper refers to the factor construction method proposed by Fama and French (1993) and the detailed factor calculation methods provided by Kenneth R. French's Data Library (French, 2024). The specific approach is: first, sort the bank stocks by their total market value, and divide the first 33% of the sample into a large-scale group (B), the second 33% into a middle-scale group (M), and the rest a small-scale group (S). Then divide all stocks into three groups according to their book-to-market ratios, with the first 33% being a high book-to-market ratio group (H), the second 33% being a middle book-to-market ratio group

<sup>5</sup> The Market capitalization of Postal Savings Bank and Chongqing Rural Commercial Bank at the end of 2023 are missing via Yahoo Finance. We calculated the corresponding data based on their stock market closing prices on December 29, 2023 (the last trading day) multiply by outstanding shares reported in their annual reports.

(M), and the rest a low book-to-market ratio group (L). Finally, after combining the banks, here get nine groups. These include combinations such as small-scale low book-to-market ratio (S/L), small-scale high book-to-market ratio (S/H), and others corresponding to different combinations of size and book-to-market ratios<sup>6</sup>. Then, according to the factor construction method, the daily SMB and HML factors for A share market from July 3, 2023 to February 2, 2024 are gained.

#### **4.2.2 Analyze the abnormal return**

##### **1) Abnormal Return**

The Abnormal Return (AR) for a bank stock  $i$  on day  $t$  is calculated as follows:

$$AR_{it} = R_{it} - ER_{it}$$

Where:

- $R_{it}$  is the actual post-event return of a stock  $i$  on day  $t$
- $ER_{it}$  is the expected normal return a stock  $i$  on the same event day  $t$

##### **2) Aggregate of Abnormal Return**

The Aggregate Abnormal Return (AAR) for a bank category on day  $t$  is calculated as follows, where  $N$  is the number of banks in the specific category:

$$AAR_t = 1/N * \sum_{i=1}^N AR_{it}$$

##### **3) Cumulative Aggregate of Abnormal Return**

The Cumulative Average Abnormal Return (CAAR) for a bank category on event horizon is calculated as follows, where  $n$  is the number of days through the event horizon:

$$CAAR = \sum_{t=1}^n AAR_t$$

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<sup>6</sup> The specific grouping is shown in Appendix 2

By using the event study function in Stata, this paper reached out the CAARs and P-values for the whole publicly listed banks in A and H share markets and that of each ownership structure categories corresponding. Besides the event horizon, my research also includes the CAARs of the event day and the day after the event day to observe the response speed of different banks. What's more, the additional CAARs of the period between the estimation period and event day can be used to check the possibility of event leakage. The regression results are as follow,

**Table 4: Results of CAARs for different categories in A and H share markets**

In this table, my research reports the results of the CAAR values and p-values (in parentheses) for the whole sector and different categories of Chinese publicly listed banks in A-share and H-share markets, based on an employment of the Fama-French Three-Factor Model and Event Study method. The dependent variable is the cumulative average abnormal return (CAAR). The independent variables include the market factor, the size factor, and the value factor. The CAAR values are calculated for various event windows. \* ,\*\* , and \*\*\* denote statistical significance at the 10%, 5% and 1% levels, respectively.

Category	CAAR[1,6]	CAAR[-3,-1]	CAAR[0,0]	CAAR[1,1]
<b>A share</b>				
The whole listed banks	2.8890%*** (0.0000)	0.8300%*** (0.0011)	0.4244%*** (0.0037)	2.0482%*** (0.0000)
SCBs	1.6274%* (0.0778)	1.0375% (0.1114)	0.2389% (0.5239)	2.2836%*** (0.0000)
JCBs	3.1319%*** (0.0001)	1.0084%* (0.0617)	0.2815% (0.3638)	1.7220%*** (0.0000)
CCBs	3.4592%*** (0.0000)	0.8315%** (0.0380)	0.6740%*** (0.0038)	2.4399%*** (0.0000)
RCBs	2.4493%*** (0.0008)	0.5376% (0.2902)	0.2390% (0.4150)	1.5316%*** (0.0000)
<b>H share</b>				
The whole listed banks	0.6979% (0.4335)	0.4419% (0.4830)	1.4103%*** (0.0002)	0.2541% (0.4848)
SCBs	1.4927%* (0.0906)	0.7136% (0.2512)	0.6895%* (0.0559)	0.6064%* (0.0922)
JCBs	0.0230%	0.5368%	1.4925%***	0.7313%

	(0.9856)	(0.5499)	(0.0045)	(0.1596)
CCBs	0.6984%	0.4534%	1.8897%***	-0.2458%
	(0.6481)	(0.6752)	(0.0029)	(0.6940)
RCBs	0.4845%	-0.1678%	0.5584%	0.8750%
	(0.8739)	(0.9381)	(0.6543)	(0.4831)



## 5. Results and Interpretation

As shown in Table 4, the event horizon CAAR of 2.8890% (CAAR[1,6]) with a significant p-value less than 1% indicates that the overall market performance in A shares supports the first hypothesis that the announcement of financial opening measures enhances the profit efficiency of the Chinese domestic banking industry, receiving a positive response from equity market participants. For the whole publicly listed banking sector, the CAARs on the event day (CAAR[0,0]) and the day after the event (CAAR[1,1]) are 0.4244% and 2.0482%, respectively, reflecting that the announcement issued after market close on January 25, 2024, caused a delayed market reaction the next day. The significant CAARs on the next day (CAAR[1,1]) across all categories demonstrate a rapid and positive response from market investors. The positive and significant CAARs three days before the event (CAAR[-3,-1]) suggest some market participants might have anticipated the announcement and responded to it in advance.

Compared to the A-share market, the H-share market shows insignificant results for CAAR[1,6] across all categories except SCBs, which have a significant CAAR of 1.4927%, due to their higher international reputation. The lower activity and liquidity in the H-share market for JCBs, CCBs, and RCBs, combined with a majority of international investors, who are less sensitive to changes in Chinese regulations and markets compared to A-share investors, explain these differences. On the event day (CAAR[0,0]), positive and significant responses in the H-share market, except for RCBs, align partially with the first hypothesis due to the timing of the announcement, the Hong Kong stock market closes at 4 PM, and the event occurred just before the market closed. However, the lack of sustained reaction in the

H-share market suggests the A-share market, with its higher trading activity and liquidity, provides a more accurate reflection of the event impact. Therefore, this paper will primarily focus on results from the A-share market to interpret.

**Table 5: Results of CAARs for SCBs in A share market**

Category	CAAR[1,6]	CAAR[-3,-1]	CAAR[0,0]	CAAR[1,1]
<b>A share</b>				
SCBs	1.6274%* (0.0778)	1.0375% (0.1114)	0.2389% (0.5239)	2.2836%*** (0.0000)

The results of SCBs present an initial strong reaction followed by a correction. On the day after the event, SCBs show a positive and significant CAAR of 2.2836%, indicating a strong initial market reaction. This could be due to the perception that SCBs, closely linked with the government, may interpret and leverage policies more effectively to improve profit efficiency, such as through partnerships with foreign financial institutions to reduce the non-performing ratio in some policy-based fields, for instance, technology start-ups. Besides, the continued influx of foreign capital into China will also be seen as a recognition of its banking industry, that will also enhance the international image of SCBs, which are the main players in this market and have already started global operations. However, the CAAR for 1-6 days after the event (CAAR[1,6]) is 1.6274%, lower than the initial reaction, suggesting a possible negative adjustment in the 2 to 6 days after the event. This adjustment reflects the concern of investors, considering the large size of SCBs and the lower likelihood of foreign capital integration compared to other bank types, the policy benefit enjoyed by SCBs rely more on the improvement of the profitability of the entire banking industry, which is a long-term process.

**Table 6: Results of CAARs for CCBs and RCBs in A share market**

Category	CAAR[1,6]	CAAR[-3,-1]	CAAR[0,0]	CAAR[1,1]
<b>A share</b>				
CCBs	3.4592%*** (0.0000)	0.8315%** (0.0380)	0.6740%*** (0.0038)	2.4399%*** (0.0000)
RCBs	2.4493%*** (0.0008)	0.5376% (0.2902)	0.2390% (0.4150)	1.5316%*** (0.0000)

Both CCBs and RCBs display positive and significant CAARs during the event horizon, and that of CCBs is the highest, which supporting the second hypothesis that the announcement of Financial Opening Measures enhances the profit efficiency of CCBs and RCBs, thereby received a positive response by their equity market participants, and the market response of CCBs was higher than that of RCBs. CCBs exhibit a leading CAARs of 3.4592% (CAAR[1,6]) and 2.4399% (CAAR[1,1]), while RCBs present significant CAARs of 2.4493% and 1.5316%, which both indicate a quick respond from the investors. The high market response for CCBs is likely due to their location in provincial capitals, diversified equity distribution, and existing foreign equity, making them attractive for foreign investment. The rational of a positive reaction for RCBs may include the existing the foreign equity and smallest asset sizes which makes it easy for foreign capital to gain control to exercise spillover effect. Additionally, the positive pre-event CAAR (CAAR[-3,-1]) of 0.8315% and the significant CAAR on the event day (CAAR[0,0]) of 0.6740% indicate that investors in CCBs anticipated the regulatory changes and reacted accordingly.

**Table 7: Results of CAARs for JCBs in A share market**

Category	CAAR[1,6]	CAAR[-3,-1]	CAAR[0,0]	CAAR[1,1]
<b>A share</b>				
JCBs	3.1319%*** (0.0001)	1.0084%* (0.0617)	0.2815% (0.3638)	1.7220%*** (0.0000)

The positive and second-ranked event horizon CAAR of 3.1319% (CAAR[1,6]) for JCBs refutes the third hypothesis that financial opening measures would reduce JCBs' profits due to increased competition. The market response indicates that investors believe foreign capital participation in domestic market will positively impact JCBs' profit efficiency. Unlike CCBs and RCBs, many JCBs have already established or are expanding their global operations, which investors expect will help them adapt to international business models and enhance economies of scale. Furthermore, the similarity in profit structures is viewed positively, as it may accelerate learning from foreign counterparts and increase acquisition prospects, enhancing the international image and investment value of JCBs. The highest pre-event CAAR of 1.0084% (CAAR[-3,-1]) suggests that JCBs' global operations and flexible information transmission make their investors more sensitive to regulatory changes, allowing them to anticipate trends and react accordingly. In conclusion, market investors believe that the spillover effects and enhanced international value brought by foreign capital, even not a majority stake, can expand JCBs' profit channels, ultimately enhancing their profit efficiency.

## 6. Discussion and Conclusion

My study investigates the impact of the recent financial opening measures announced by the China Financial Supervision Administration on the stock price returns of domestic publicly listed banks with different ownership structures. By employing an event study methodology and Fama-French Three-Factor Model, I analyzed the abnormal returns of 58 publicly listed banks, segmented into state-owned banks (SCBs), joint-stock banks (JCBs), city commercial banks (CCBs), and rural commercial banks (RCBs), to understand how these regulatory changes influence market behavior to their profit efficiency.

My findings reveal several insights. Firstly, the overall performance in the A-share market supports the first hypothesis (H1) that the announcement of financial opening measures enhances the profit efficiency of the Chinese domestic banking industry. All types banks exhibit significant and positive cumulative aggregate of abnormal returns on the day after the event, indicating market confidence in the potential benefits of these policy changes. Secondly, while SCBs show significant positive CAARs on the event day, the CAARs over the event horizon decrease, reflecting a more cautious long-term outlook. This suggests that investors recognize SCBs' strategic advantages due to their global operations and governmental ties but also understand that their profitability improvement relies on broader industry enhancements. Thirdly, the positive CAARs for CCBs and RCBs during the event horizon support the second hypothesis (H2), with market expectations that these banks will benefit substantially from foreign capital due to their smaller size, diversified equity distribution, and higher growth potential. CCBs are particularly attractive to foreign investors, likely due to their urban locations and existing foreign equity presence. Fourthly, the positive

CAARs for JCBs refute the third hypothesis (H3), indicating that market investors believe foreign capital will positively impact their profit efficiency despite potential competition. This is attributed to their existing global operations, higher information transmission flexibility, and anticipated spillover effects from foreign investment. Lastly, the H-share market results are insignificant due to the low liquidity of domestic bank stocks, except for SCBs, and its international investors who may not fully understand the Chinese market. In contrast, the A-share market, with higher trading activity and greater sensitivity to regulatory changes, more accurately reflects the impact of the event.

The outcomes of this research can be leveraged by stakeholders, including policymakers, domestic bank operators, foreign capital managers, and stock market investors.

From the perspective of policymakers, this research results validate the effectiveness of the financial openness measures. The positive and rapid responses from market participants reflect support and confidence in it. Policymakers can leverage this sentiment to maximize the impact by promoting the financial opening measures internationally to attract more foreign institutions. Additionally, supporting regulations can contain measures streamlining approval processes and facilitating information exchange between foreign investors and domestic banks, thus reducing information asymmetry and accelerating the implementation of the policy benefits. Furthermore, policymakers may engage with key stakeholders, including financial institutions, investors, and industry experts, to gather feedback and refine policies. Thus, they can develop tailored advancement policies based on the feedback and responses from different types of banks, for instance, offering more opportunities for city commercial banks (CCBs) to engage with potential foreign investors. Besides, regulators

should also implement robust risk management frameworks to monitor and mitigate the adverse effects of increased foreign participation. This includes addressing potential risks such as unfair competition and risk transmission. I suggest a continuous evaluation mechanisms be established to enable timely adjustments based on real-time data and market conditions. Last but not least, it is also important for regulators to strengthen their capabilities, such as gaining an ongoing understanding of international financial markets, political situations, and merger and acquisition trends.

Managers of different types of banks may draw inspiration from this analysis and combine them with market sentiment to formulate appropriate policies to address the opportunities and challenges brought by foreign capital. For SCBs, they can identify opportunities for continuous cooperation and learning with foreign capital from the positive regression results, especially in their non-performing loan sector and global operational experience. However, the decline in cumulative abnormal returns towards the end of the event horizon also indicates concerns from investors about SCBs' ability to absorb spillover effects and transform them into their own profitability due to the inefficiency in information transmission caused by their large institutional hierarchy. In view of this, I suggest that SCBs actively seek support from regulatory authorities to obtain policy and resource preferences. SCBs may adopt a pilot approach by selecting specific regions and industries to initially cooperate with foreign capital to gain a communication among technology, talent and management experience. For instance, establishing special purpose financial institutions through joint ventures between SCBs' subsidiaries and foreign investors to provide financial support for technology start-ups in innovative cities. Similarly, this approach could be carried

on in overseas branches. Once the beachhead market is successful, it can be promoted throughout the entire bank to absorb the spillover effects and transform them into profitability.

For the managers of other three types banks, the positive and significant market reaction indicates the high expectations from investors for enhancing profitability through this regulation adjustment. In this context, the managers of these banks, like SCBs, should actively maintain communication with stakeholders. They may consider their own business structures, internationalization levels and degrees of financial openness in their regions to proactively select suitable foreign institutions and seek support from local regulators for introducing foreign capital. During strategic collaboration with foreign entities, CCBs and RCBs may leverage their smaller asset scale and flexibility of decision-making to innovate financial products tailored to local customers by adopting foreign expertise and utilizing introduced capital as well as international networks. For example, CCBs in eastern coastal cities can develop digital financial products for customers engaged in import-export trade, catering to their domestic and international settlement and financing needs based on cash flow characteristics. Meanwhile, RCBs can partner with international institutions experienced in green finance to develop sustainable financial products, attracting environmentally conscious investors and clients. In terms of JCBs, they can utilize their existing overseas networks to seek for cooperation with foreign capital to provide cross-border financial services, such as syndicate loan for large clients, further enhancing customer stability. Besides, these banks can also leverage the global platforms of foreign institutions to introduce and promote their own brands to enhance international recognition, particularly in



terms of H-share liquidity, ultimately increasing their value. However, it is better for all participators to prioritize risk management during the cooperation with foreign capital. Essential measures include scrutinizing collaboration or merger and acquisition contract terms to avoid legal disputes, and staying sensitive to policy changes to guard against legal and compliance risks. Additionally, managers should be aware of loopholes that could allow foreign investors to withdraw capital during crises, transferring risks to the host banks. Other challenges include cultural conflicts and foreign exchange fluctuations. Therefore, CCBs, RCBs and JCBs may establish robust due diligence procedures, strengthen internal audits, and develop comprehensive risk mitigation strategies to ensure smooth and secure integration of foreign capital.

Finally, concerning the dual dynamics of cooperation and competition with foreign capital that JCBs will encounter, this paper proposes two additional recommendations. For cooperation, it is important to implement firewalls to prevent the unintended technology and knowledge spillover, especially since the likelihood of majority foreign ownership is low. This would help protect their competitive advantages and proprietary information during international collaborations. For competition, JCB managers may take proactive measures. They can develop new financial products and services to meet diverse market needs, strengthen customer relationship management to stabilize the client base, and leverage their asset scale to raise the investment in technology for enhanced service efficiency. Additionally, optimizing operational processes to reduce costs and improve profitability will strengthen their competitive edge, particularly in pricing strategies.

This research also offers several points that can be leveraged by foreign capital managers.

Firstly, the overall positive and rapid market response provides potential investors with confidence in the regulatory framework and market prospects. Secondly, the performance of different types of banks offers clear directions for selecting investment targets. Strategic investors might focus on the smaller, more flexible CCBs and RCBs, while those seeking financial synergies could prioritize JCBs. Foreign entities with strong risk management capabilities in specific product areas could collaborate with SCBs to quickly gain market share. Additionally, leveraging the global presence of SCBs and JCBs can enhance service levels and depth for existing international clients. Besides, foreign capital managers can also optimize their investment strategies by understanding the nuanced reactions of the Chinese banking sector to regulatory changes. This knowledge allows for precise alignment with banks that demonstrate strong responsiveness to policy shifts. Engaging in joint ventures or partnerships with Chinese banks provides valuable insights into local market dynamics and regulatory environments, fostering more informed and strategic market entry and expansion. Additionally, they should also manage cultural conflicts that may arise during collaborations and implement measures to prevent unintended knowledge spillover.

Stock market investors can gain tips from this research to optimize their investment strategies. In a whole, the positive market response enhances confidence in the Chinese banking sector, indicating potential good returns on banking stocks post-regulation changes. In terms of specific targets, the performance differences among various types of banks provide clear investment directions. CCBs and RCBs may have higher growth potential due to their agility in adapting to new regulations and attracting foreign capital. JCBs, with their global operations and financial synergy potential, also offer high and stable investment

opportunities. SCBs have strategic advantages in large projects, policy-driven financial services and international networking, making them suitable for long-term investments.

Given the current global investment climate, characterized by economic sluggishness in major economies, and a slowdown in cross-border banking investments (Tulqin o'g'li and Qodirov, 2024, Evemy et al., 2024, Brana et al., 2024), participators and stakeholders face significant economic and regulatory challenges, including navigating uncertain economic conditions, adapting to evolving regulatory environments, and addressing the reduced availability of international capital. In response to these challenges, the Chinese government implements this financial openness measures, aiming to attract more foreign investment and leverage its benefits to bolster economic growth. My study focuses on the effectiveness of these measures and interpret the market reactions by carrying on an event study in the publicly listed bank sector.

In conclusion, this research fills a gap in the literature on the responses of varied ownership types of banks to the announcement of financial opening measures in China. By providing insights into how different banks react to these measures, my research offer advice for stakeholders to navigate the evolving landscape of financial openness effectively, capitalize on emerging opportunities, and mitigate associated risks. However, I acknowledge certain limitations in my research. For instance, the data covers only a limited period before and after the event window, and the model I used considers only a few risk factors, which may not fully capture the complex market environment. Additionally, my study focuses solely on publicly listed banks, thus not encompassing the entire banking industry. Furthermore, I primarily examine the feedback from the host country market, rather than

including foreign investors whose attitudes also affect the perceived effectiveness of financial opening measures. I hope future scholars can expand the time span and range of the datasets and explore the responses of systemically important financial institutions from abroad to these financial opening measures, integrating their findings with my results for a more holistic conclusion.

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## Appendix:

### 1: Publicly Listed Banks in China, the name, the stock symbol and stock exchange (2024)

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#### 6 Stated-Owned Commercial Banks (SCBs)

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- Industrial and Commercial Bank of China (ICBC, A+H)
  - China Construction Bank (CCB, A+H)
  - Agricultural Bank of China (ABC, A+H)
  - Bank of China (BOC, A+H)
  - Bank of Communications (BOCOM, A+H)
  - Postal Savings Bank of China (PSBC, A+H)
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#### 10 National Joint-Stock Commercial Banks (JCBs)

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- China Merchants Bank (CMB, A+H)
  - Industrial Bank (IB, A)
  - Shanghai Pudong Development Bank (SPDB, A)
  - China Minsheng Bank (CMBC, A+H)
  - China CITIC Bank (CITIC, A+H)
  - China Everbright Bank (CEB, A+H)
  - Ping An Bank (PAB, A)
  - Huaxia Bank (HX, A)
  - China Bohai Bank (CBHB, H)
  - China Zheshang Bank (CZB, A+H)
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#### 29 City Commercial Banks (CCBs)

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- Bank of Beijing (BOB, A)
  - Bank of Gansu (BGS, H)
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- Bank of Shanghai (BSH, A)
  - Bank of Jiangsu (BJS, A)
  - Bank of Ningbo (BONB, A)
  - Bank of Nanjing (BONJ, A)
  - Huishang Bank (HSB, H)
  - Shengjing Bank (SJB, H)
  - Harbin Bank (HRB, H)
  - Bank of Hangzhou (BHZ, A)
  - Bank of Guiyang (BGY, A)
  - Bank of Zhengzhou (BZZ, A+H)
  - Bank of Tianjin (BTJ, H)
  - Bank of Chengdu (BOCD, A)
  - Zhongyuan Bank (ZYB,H)
  - Bank of Chongqing (BCQ, A+H)
  - Bank of Qingdao (BQD, A+H)
  - Bank of Changsha (BOCS, A)
  - Jiangxi Bank (JXB, H)
  - Bank of Jiujiang (BJJ, H)
  - Bank of Xi'an (BOXA, A)
  - Luzhou Bank (LZB, H)
  - Jinshang Bank (JSB, H)
  - Bank of Suzhou (BSZ, A)
  - Bank of Guizhou (BGZ, H)
  - Weihai City Commercial Bank (WHCCB, H)
  - Xiamen Bank (XMB, A)
  - Qilu Bank (QLB, A)
  - Bank of Lanzhou (BLZ, A)
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### **13 Rural Commercial Banks (RCBs)**

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- Chongqing Rural Commercial Bank (CQRCB, A+H)
  - Guangzhou Rural Commercial Bank (GRCB, H)
  - Zijin Rural Commercial Bank (ZJRCB, A)
  - Changshu Rural Commercial Bank (CSRCB, A)
  - Wuxi Rural Commercial Bank (WXRCB, A)
  - Jiangyin Rural Commercial Bank (JYRCB, A)
  - Rural Commercial Bank of Zhangjiagang (ZJGRCB, A)
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- Suzhou Rural Commercial Bank (SZRCB, A)
- Jilin Jiutai Rural Commercial Bank (JTRCB, H)
- Qingdao Rural Commercial Bank (QRCB, A)
- Shanghai Rural Commercial Bank (SRCB, A)
- Dongguan Rural Commercial Bank (DRCB, H)
- Ruifeng Rural Commercial Bank (RRCB, A)

## 2: Publicly Listed Banks Combination Group for A share market

Combination name	Bank name	Book value (RMB Billion)	Market value (RMB Billion)	BM ratio
B/H	China Minsheng Bank	637.8	152.69	4.18
	Shanghai Pudong Development Bank	732.88	194.31	3.77
	China Everbright Bank	554.79	161.35	3.44
	China CITIC Bank	734.68	230.15	3.19
	China Construction Bank	3172.07	1080	2.94
B/M	Bank of Communications	1099.45	380.47	2.89
	Postal Savings Bank of China	956.62	344.98	2.77
	Ping An Bank	472.33	182.22	2.59
	Bank of China	2756.82	1070	2.58
	Industrial Bank	807.72	336.75	2.4
B/L	Industrial and Commercial Bank of China	3776.59	1590	2.38
	Agricultural Bank of China	2896.87	1250	2.32
	China Merchants Bank	1085.73	687.53	1.58
	Bank of Ningbo	202.21	132.8	1.52
M/H	Huaxia Bank	321.76	89.44	3.6
	Bank of Beijing	328.23	95.78	3.43
	Bank of Guiyang	63.53	18.79	3.38
	China Zheshang Bank	189.58	65.17	2.91
	Bank of Shanghai	239.05	84.81	2.82
M/M	Chongqing Rural Commercial Bank	123.5	46.34	2.67
	Bank of Changsha	68.32	27.43	2.49
	Bank of Chongqing	59.3	24.18	2.45
	Bank of Nanjing	172.59	76.34	2.26
	Bank of Jiangsu	259.12	122.77	2.11
M/L	Shanghai Rural Commercial Bank	116.36	55.36	2.1
	Bank of Suzhou	47.67	23.69	2.01
	Bank of Hangzhou	111.29	59.36	1.87
	Bank of Chengdu	71.32	42.94	1.66

	Bank of Zhengzhou	54.31	15.74	3.45
	Bank of Qingdao	39.94	14.77	2.7
S/H	Qingdao Rural Commercial Bank	39.05	14.56	2.68
	Xiamen Bank	30.51	13.38	2.28
	Qilu Bank	41.82	18.41	2.27
	Luzhou Bank	33.28	14.81	2.25
	Suzhou Rural Commercial Bank	15.8	7.5	2.11
S/M	Bank of Xi'an	30.93	14.8	2.09
	Jiangyin Rural Commercial Bank	16.08	7.71	2.09
	Rural Commercial Bank of Zhangjiagang	17.21	8.42	2.04
	Zijin Rural Commercial Bank	18.47	9.26	1.99
S/L	Wuxi Rural Commercial Bank	21.2	10.86	1.95
	Ruifeng Rural Commercial Bank	16.87	9.71	1.74
	Changshu Rural Commercial Bank	27.13	17.51	1.55