

# Introducing Foreign Strategic Investors And Net Interest Margins In Chinese Banks

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## ABSTRACT

*Introducing foreign strategic investors is a vital step in China's ownership reform of commercial banks. Using data from 81 commercial banks in China between 1995 and 2010, we investigate the effects of introducing foreign strategic investors and ownership structure on net interest margins. Three primary results emerge. First, introducing foreign strategic investors reduces net interest margins. Second, state-owned commercial banks have lower net interest margins than non-state-owned commercial banks. Third, we also find the effects of introducing foreign strategic investors on net interest margins in state-owned commercial banks are weaker than those in non-state-owned commercial banks. These results passed robustness tests.*

**Keywords:** Chinese Commercial Banks; Introducing Foreign Strategic Investors; Ownership Structure; Net Interest Margins

## INTRODUCTION

The banking system in China is the largest and most complex among the countries presently in transition from centrally planned to market-based economies (Lin & Zhang, 2009). However, this enormous system is far from being developed, being efficient, or having a high degree of market penetration. High non-performing loan ratio, low capital adequacy ratio, and low profitability characterize the banking industry of China (Firth et al., 2009; Fu & Heffernan, 2009; Berger, Hasan, & Zhou, 2009). To resolve these problems, China's government encourages domestic banks to introduce foreign strategic investors. Thus far, 41 of China's commercial banks have introduced foreign strategic investors by the end of 2010, an act that not only enriches capital level but also improves corporate governance in China's commercial banks. Introducing foreign strategic investors is not exclusive to China's commercial banks as it has also occurred in many other countries, especially in emerging market countries. In fact, this phenomenon has led to many related studies such as Unite and Sullivan (2003), Berger et al. (2005), Lin and Zhang (2009), and Sun, Harimaya, and Yamori (2013). These studies have mostly focused on the effects of introducing foreign strategic investors on bank performance and risk. The findings are mixed. This may be because privatization usually takes a long time to yield gains as more time may be required by management to overcome the organizational inertia and change the common characteristics of newly privatized firms (Otchere, 2005). Another possible reason is that bank performance measures are notoriously noisy, leading to less than robust results (Jia, 2009).<sup>1</sup>

Banks' intermediary role on the financial side of the economy is well known to involve borrowing and lending activities. As these essential banking activities entail financial costs and benefits, net interest margins is the difference between the lending interests and the borrowing costs (López-Espinosa, Moreno, & Gracia, 2011). In the perfect world of no market friction or transaction costs, deposit and lending rates are equal. Even so, intermediation costs and information asymmetries that result in agency costs create a difference between the interest rate paid to savers and the interest rate charged to borrowers, leading to the negative effects of financial intermediation (Beck &

<sup>1</sup> Similar to China, the data in the areas of nonperforming loans, return on assets, and return on equity are scarce and of poor quality. First, the "creative" or even fraudulent accounting numbers may appear as performance and risk to attract foreign strategic investors. Second, the writing-off of non-performing loans also impacts the data quality in the areas of non-performing loans, return on assets, and return on equity.

Hesse, 2009). Obviously, the lower the bank's net interest margins, the lower the social costs of financial intermediation will be (Maudos & Guevara, 2004). The high net interest margin is typically associated with a loss of efficiency in the financial system and thus it leads to distortions in the saving and investment patterns of relevant economic agents. In turn, a reduced level of saving and investment slows down economic growth and employment creation (López-Espinosa, Moreno, & Gracia, 2011). Introducing foreign strategic investors is a vital step in China's ownership reform of commercial banks. We expect that introducing foreign strategic investors will improve the bank's intermediary roles and decrease net interest margins. The high net interest margin in China is one of the motivating factors that we explore the effects of introducing foreign strategic investors on net interest margins.<sup>2</sup> The competition in the banking industry is becoming increasingly intense as a result of financial globalization. The profitability of commercial banks based on traditional intermediation activities is confronted by serious challenges. In this context, the development of non-interest activities becomes important (Allen & Santomero, 2001; Lepetit et al., 2008). However, the high net interest margins result in a lack of motivation and enthusiasm among managers of commercial banks to explore non-traditional activities. And this hinders business transformation and the development of non-traditional activities. According to relevant data from China's commercial banks between 1995 and 2010, the share of net interest income to net operating income was between 85% and 90% in some commercial banks, thus exceeding that of most Western countries (Lepetit et al., 2008; Demircuc-Kunt & Huizinga, 2010). Beyond all questions, this income structure faces serious challenges. Introducing foreign strategic investors is a vital step in China's ownership reform of commercial banks. We also expect that introducing foreign strategic investors will promote business transformation and decrease net interest margins.

Using China's data for the period from 1995 to 2010, we investigate the effects of introducing foreign strategic investors and ownership structure on net interest margins. First, we explore the effects of introducing foreign strategic investors on net interest margins. We find that introducing foreign strategic investors reduces net interest margins. This can be explained as follows. The foreign strategic investors are all well-known foreign financial institutions with mature financial management experience and technology as well as rich experience in financial product innovation, especially with respect to non-interest activities. This experience helps to increase non-interest income and promote business transformation, which undoubtedly decreases net interest margins (Lepetit et al., 2008; Nguyen, 2012). Moreover, introducing foreign strategic investors breaks the original ownership structure, promotes ownership diversification, and increases the private property right for China's commercial banks. This contributes to clarifying the ownership structure and improving the corporate governance, which may improve the intermediary role and reduce net interest margins. Second, we compare net interest margins of state-owned commercial banks and non-state-owned commercial banks. We find state-owned commercial banks have a lower net interest margins than non-state-owned commercial banks, which results from the social, agency, and political views of state ownership. The social view perceives state-owned commercial banks as institutions created by social welfare maximizing governments designed to cure market failures. The agency view shares the social theory concept that governments seek to maximize social welfare. Governments design public financial institutions to cure market failures under the agency view (Sapienza, 2004). Thus, state-owned commercial banks cannot charge a high net interest margins based on the social or agency view. The political view is based on the assumption that politicians are self-interested individuals who pursue their own personal, political, and economic objectives. Firth et al. (2009) suggested that state-owned commercial bank loans mostly flow to state-owned enterprises (SOEs) and that to meet the national macroeconomic regulations and control. Also, state-owned commercial banks tend to assign resources to the industry supported by the state. Thus, state-owned commercial banks cannot charge a high net interest margins for SOEs or their supported industry. Finally, we examine whether the effects of introducing foreign strategic investors on net interest margins are different in between state-owned commercial banks and non-state-owned commercial banks. We find the effects of introducing foreign strategic investors on net interest margins in state-owned commercial banks are weaker than those in non-state-owned commercial banks. This difference is a result of the following. The highly concentrated power from the concentrated ownership structure of state-owned commercial banks makes it difficult for external powers (i.e., foreign strategic investors) to play a significant role. Moreover, it is more difficult to reduce net interest margins in commercial banks with low net interest margins than in banks with high net interest margins.

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<sup>2</sup> Wu Qing, a researcher at the Council Development Research Center Finance Research Institute, found that the current environment for China's commercial banks is similar to that of the "3-6-3" principle of the US in the 1970s (i.e., the deposit interest rate was 3%, the loan interest rate was 6%, and the gap was 3%, which enabled banks to earn more profit and allowed bankers to play golf at 3 pm). Consequently, Wang Huaqing, discipline inspection commission secretary of CBRC, raised questions regarding net interest margins in the 2009 China's Banking Investigative Report and claimed that "net interest margins has remained at a higher level (2%-3%), and the traditional profitable mode based on net interest margins faces adjustment."

This paper makes two main contributions. First, this is one of the first studies to examine the effects of introducing foreign strategic investors on net interest margins. Second, we examine whether the effects of introducing foreign strategic investors on net interest margins are different for state-owned commercial banks than for non-state-owned commercial banks.

The remainder of this paper is structured as follows. Section 2 presents the research background. Section 3 reviews some of the extant literature. Section 4 presents our sample, models, and variables. Section 5 discusses the empirical results, and Section 6 concludes.

## **RESEARCH BACKGROUND**

### **Background of Introducing Foreign Strategic Investors**

Why were China's commercial banks so quick to introduce foreign strategic investors? This paper presents two reasons for such behavior. First, introducing foreign strategic investors is an inevitable stage in the ownership reform of China's banking industry. In addition, China's bank regulators encourage and promote foreign strategic investors.

#### *Bank Reform and Introducing Foreign Strategic Investors*

Banking system reform in China was put on the agenda in 1978. The initial reform measures focused on modifying the structure of China's banking system and building a "two-tier" banking system. This process resulted in four specialized state-owned banks that were created from the People's Bank of China: the Bank of China, the Agricultural Bank of China, the China Construction Bank, and the Industrial and Commercial Bank of China. These banks became known as the "Big Four." Once the four state-owned banks were formed, they initially worked in different sectors. The Bank of China specialized in the country's foreign exchange business, the Agricultural Bank of China specialized in the management of rural credit, the China Construction Bank specialized in the funding of the national infrastructural investments and managing and supervising the use of capital construction funds and the associated departments, and the Industrial and Commercial Bank of China specialized in operating the industrial and commercial credit of cities, thereby supporting production and technological innovation. Since the original development of the Big Four, a "two-tier" banking system formed by the People's Bank of China and the four state-owned banks has become established.

In December 1993, the State Council made a decision regarding the reform of the financial system which explicitly stated that the goal of the financial system reforms was to build a modern financial system that reflected the leadership of the central bank, the separation of policy-oriented finance and commercial finance, the domination of the state-owned commercial banks, and the coexistence of a variety of financial institutions. In 1994, the government established three specialized "policy" banks, the Agricultural Development Bank of China, the China Development Bank, and the Export-Import Bank of China, which undertook the policy-related business of the Big Four. By then, the Big Four had effectively become commercial banks, and China's banking industry had separated policy finance from commercial finance. To increase banking competitiveness, joint-stock commercial banks were formed between 1986 and 2009, including the Bank of Communications (first established in 1986), the China Bohai Bank, and 14 other joint-stock commercial banks. This process eliminated the monopoly that had been established by the Big Four. With the implementation of the Commercial Bank Law in 1995, urban and rural credit cooperatives began to merge, thus forming city commercial banks. The first city commercial bank, Shenzhen City Commercial Bank established on June 22, 1995, infused new blood into China's banking industry. City commercial banks were also joint-stock commercial banks, but they only conducted local business. With the reform of China's financial system, foreign banks in China also achieved a certain level of development. By the end of 2010, more than 30 foreign-owned banks or joint venture banks were registered in China; 80 banks from 26 countries and regions had 153 branches in China, and 205 banks from 48 countries and regions had established 252 offices in China.

Although China's banking industry has experienced a series of reforms, corporate governance in China's commercial banks has not improved. Many problems remain, including administrative intervention by the government, irrational allocation of resources, and issues related to the old regime and institutional issues. As a result, bank risks have become increasingly prominent, especially given the high non-performing loans ratio. China's banking industry has been described as "a time bomb." To resolve the issue of bank risk, the Ministry of Finance, in 1998, issued 270 billion Yuan (approximately 32.6 billion U.S. dollars) in special treasury bonds to add

to the capital of the Big Four. The state also set up four asset management companies, thus removing 1.4 trillion Yuan (approximately 169 billion U.S. dollars) in non-performing loans from the Big Four banks in 1999. Prior to 2003, Standard & Poor said that resolving the issue of non-performing loans in China's banking industry was impossible, as the development of China's banking industry had reached a critical juncture, and the government recognized the need to change the status of commercial banks by reforming the ownership of commercial banks. In 2003, the State Council of the People's Republic of China embarked on ownership reform, and in January 2004, the State Council of the People's Republic of China announced that ownership reform would be piloted in the Bank of China and the China Construction Bank. They further presented the overall objectives of the changes: to transform the two banks into modern joint-stock commercial banks with sufficient capital, strict internal controls, safe operations, higher efficiency, and better international competitiveness within three years. On August 26 and September 21, the Bank of China Ltd. and the China Construction Bank Corporation, respectively, were established, and two wholly state-owned commercial banks were restructured into truly modern commercial banks controlled by the state. In this stage of the reform, although the state-owned commercial banks had basic organizational structure, it was still in its infancy and lacked effective governance and control mechanisms. It was found that ownership reform of state-owned commercial banks that solely depended on the driving force within the system was not sufficient and that increased external pressure was needed. Therefore, introducing foreign strategic investors has become the main source for ownership reform in China's commercial banks.

December 11, 2006 was the fifth anniversary of China's accession to the World Trade Organization (WTO). According to China's WTO accession commitments, China's financial sector was required to be fully open to foreign financial institutions. In other words, business restrictions, geographical restrictions, and customer restrictions to foreign financial institutions would be canceled. Faced with the end of the transition period, there was not sufficient time for China's commercial banks to continue their reform. It was essential for the safety of China's banking system whether domestic commercial banks could improve their corporate governance structure, profitability and risk control ability, financial innovation, and international competitiveness in the short term. The grim situation of financial openness placed the reform of China's banking sector in a most critical and urgent period. However, this transition was slow because the development of China's banking sector was dependent only on incremental internal reform. In this context, introducing foreign strategic investors became a critical path in China's banking reform.

Introducing foreign strategic investors not only helped to optimize the ownership structure of the domestic commercial banks and improve the incentive and restraint mechanisms, operation and management mechanisms, and risk control mechanisms but also helped to enhance the image and international reputation of the domestic banking market and go public. More importantly, introducing foreign strategic investors can produce a reversed transmission which promotes the China's commercial banks to establish and improve the corporate governance.

#### *Encouragement and Promotion by Regulators and Introducing Foreign Strategic Investors*

The current situation indicates that China's commercial banks have made significant progress with respect to introducing foreign strategic investors. Four state-owned commercial banks, several joint-stock commercial banks and city commercial banks can successfully introduce foreign strategic investors. Furthermore, these banks all benefit from the vigorous encouragement and promotion of regulators and the relaxation of regulatory policy.

The earliest policy regarding foreign financial institutions investing in China's commercial banks is the "Interim Provisions on Investment to Financial Institutions," released in 1994. The regulation, however, explicitly prohibits foreign financial institutions to invest in China's commercial banks. In practice, only the Asian Development Bank and the International Finance Corporation (IFC) were specifically approved by the People's Bank of China to invest in the China Everbright Bank and the Bank of Shanghai. This status continued until the end of 2001 when the limitation of foreign financial institutions investing in China's commercial banks was relaxed. However, foreign financial institutions must meet approval criteria, and the single financial institutional investment ratio may not exceed 15%, and all financial institutional investment ratios may not exceed 20%.

The China Banking Regulatory Commission (CBRC) was established in April 2003. The CBRC adjusted the regulatory strategy for foreign bank access to China's financial market, which transferred the focus of the opening to the outside world primarily by introducing foreign banks to open branches in China to promote business collaboration and equity cooperation between domestic commercial banks and foreign banks. On August 25, 2003, at a meeting of the heads of foreign banks in China, Liu Mingkang, Chairman of the CBRC, stated that China was encouraging foreign banks to become strategic investors or equity investors and thereby invest in China's



commercial banks. Since then, Liu has further stated that introducing foreign strategic investors can play a positive role in improving capital and corporate governance levels in China's commercial banks.

On December 8, 2003, the CBRC issued the "regulation for foreign financial institutions investing China's financial institutions," which cleared the eligibility conditions for foreign financial institutions investing in China's financial institutions in terms of asset size, capital adequacy, and profitability and increased the single financial institutional investment ratio from 15% to 20% and all financial institutional investment ratio from 20% to 25%. This adjustment allowed for the introduction of foreign strategic investors in Industrial Bank, Shenzhen Development Bank, and Bank of Communications.

In March 2004, the CBRC issued "regulatory guidelines concerning corporate governance reform in the Bank of China and the China Construction Bank," which promoted the reform of the Bank of China and the China Construction Bank and instituted specific requirements for the two pilot commercial banks to introduce foreign strategic investors. Since then, introduction of foreign strategic investors to the four state-owned commercial banks began.

In June 2004, at the Fifth Forum of city commercial banks, Tang Shuangning, vice-chairman of CBRC, stressed that the CBRC encourages city commercial banks to introduce foreign strategic investors and improve development level and market competitiveness based on existing resources, according to the rules of the market and the voluntary principle.

On September 8, 2004, at the 2004 International Investment Forum, Liu Mingkang affirmed the positive changes for foreign participation and said that newly built banks, such as Bohai Bank, also required the participation of experienced foreign strategic investors. One year later, the Standard Chartered Bank became the second largest shareholder in Bohai Bank, which became the first commercial bank to introduce foreign strategic investors at the establishment stage. According to the intention of the regulatory authorities, the introduction of foreign strategic investors was to use an equity exchange mechanism, management, and technology to promote internal reform in China's commercial banks and enhance the competitiveness of China's commercial banks.

On December 1, 2004, in a press conference held by the Information Office of the State Council, Liu Mingkang said that the purpose of introducing foreign strategic investors was not only to replenish capital but also to increase the benefits of cooperation effectiveness and synergy. Thus, the introduction of foreign investors would promote reform and enhance the international competitiveness of China's commercial banks.

On December 5, 2005, in a press conference held by the Information Office of the State Council, Liu Mingkang also stated that the CBRC encouraged state-owned commercial banks to introduce foreign equity to quickly enhance competitiveness to realize innovations for the systems and mechanisms and to gain advanced technology and experience from advanced foreign banks. CBRC provided a high evaluation and strong support for the introduction of foreign strategic investors to China's commercial banks through the guidance of this statement.

In April 2006, the CBRC revised and released the "corporate governance and regulatory guidelines for state-owned commercial banks" which stated that state-owned commercial banks should follow four principles and five criteria for introducing foreign strategic investors. The four principles included long-term holding, optimizing corporate governance, business cooperation, and increasing competitiveness. The five criteria included the following. First, the foreign financial institutional investment ratio cannot be less than 5% in principle because if the ratio were too low, foreign strategic investors would lack sufficient incentive to participate in strategic planning and business management. Second, the equity holding period was required to be more than three years to avoid foreign strategic investors degenerating into strategic speculators or financial investors. Third, foreign strategic investors should accredit the directors of China's commercial banks. Expert senior executives were also encouraged to involve management in China's commercial banks. Fourth, foreign strategic investors should have a rich financial management background, mature experience with management and technology in the financial industry, and a willingness to cooperate. Fifth, there should not be more than two foreign strategic investors in state-owned commercial banks to avoid interest conflicts and prevent monopolization of the market. The regulators developed stringent standards, reflecting the guiding ideology of "long-term cooperation, mutual benefit and win-win," which helps to protect the safety of the country's finances and the interests of state-owned commercial banks as well as to avoid the effects of introducing foreign strategic investors on the implementation of macroeconomic policy and the development of the country's financial industry.

To summarize, China's commercial banks cannot successfully introduce foreign strategic investors without the encouragement and promotion of regulators and the relaxation of regulatory policy.

### **The Current Situation**

The investment of foreign financial institutions in China's commercial banks began 10 years ago. In October 1996, the Asian Development Bank spent 19 million US dollars to purchase 92.222 million shares of the China Everbright Bank, which set the precedent for China's commercial bank absorbing foreign capital. However, the Asian Development Bank only held a 1.9% shareholding ratio, which looked more like a financial investment. In September 1999, the International Finance Corporation (IFC) invested 22 million US dollars in the Bank of Shanghai and owned 100 million shares, a 5% shareholding ratio, which began the introduction of foreign strategic investors in China's commercial banks. For over a decade, with China's accession to the WTO and China's banking industry undergoing ownership reform, the introduction of foreign strategic investors to China's commercial banks has rapidly increased. So far, 41 of China's commercial banks have introduced foreign strategic investors. Table A-1 lists the status of China's commercial banks that have introduced foreign strategic investors. The introduction of foreign strategic investors to China's commercial banks can be roughly divided into three stages.

The first stage was from 1996 to 2000. In this stage, only China Everbright Bank and the Bank of Shanghai introduced foreign strategic investors; the scale was small and the only foreign financial institutions were the Asian Development Bank and International Finance Corporation. Although foreign financial institutions stationed directors in China Everbright Bank and the Bank of Shanghai and had the right to speak, their investment ratio was low and their influence on corporate governance in China's commercial banks was small.

The second stage was from 2001 to 2003. At the end of 2001, China formally joined the World Trade Organization. In the face of increasing competition, China's commercial banks started to seek cooperation with foreign strategic investors to enhance their competitiveness; foreign financial institutions also hoped for an entry point into China's financial market through cooperation with China's commercial banks. Due to the liberalization of policy, foreign strategic investors have extended investment from city commercial banks through China's banking system to joint-stock banks, for example, Shanghai Pudong Development Bank, China Industrial Bank, Ping An Bank, China Minsheng Bank, Bank of Dalian, Bank of Nanjing, and Shenzhen city commercial banks have sequentially introduced foreign strategic investors. The foreign strategic investors' investment ratio has also significantly improved. The Industrial Bank introduced three foreign strategic investors with a total of 24.98% shareholding ratio, close to the regulatory limit. The increased shareholding ratio enhanced their right to speak and their influence on China's commercial banks.

The third stage is from 2004 until now. CBRC was established in April 2003 and formulated many policies which promoted the introduction of foreign strategic investors to China's commercial banks. In this stage, a total of 32 China's commercial banks introduced foreign strategic investors, including four state-owned commercial banks that occupied an important position in the China's financial system, 6 joint-stock commercial banks, and 22 city or rural commercial banks. Only four state-owned commercial banks have introduced more than 10 billion US dollars in foreign equity, which exceeds the total foreign equity participation in China's commercial banks from 1996 to 2003. At this stage, the most representative case is the investment of Newbridge into Shenzhen Development Bank, which is regarded as a milestone between China's commercial banks and foreign financial institutions.

### **LITERATURE**

Banking has increasingly become more globalized, which has been driven by deregulation, advances in communications and technology, and more general economic integration. In particular, foreign bank presence has increased sharply in the last few decades, a phenomenon that has led to many studies concerning foreign bank presence, especially studies concerning the comparison between foreign banks and domestic banks. Sturm and Williams (2004), in their study of banks in Australia between 1988 and 2000, found that new foreign banks are more input efficient than domestic banks, mainly due to their superior scale efficiency. Zajc (2006) found that foreign banks are less cost efficient than domestic banks in a study of six CEE nations between 1995 and 2000. Havrylchuk (2006), in a study of banks in Poland between 1997 and 2001, found that foreign banks were more efficient than domestic-owned banks. Sensarma (2006) found that foreign banks were the worst performers compared to state owned and private domestic banks in India from 1986 to 2000. Chen and Liao (2011), using data on banking sectors from 70 countries between 1992 and 2006, found foreign banks to be more profitable than domestic banks when

they operate in a host country whose banking sector is less competitive and when the parent bank in the home country is highly profitable. More studies are presented in a paper by Claessens and Horen (2012), as they summarize the extant studies regarding the comparison between foreign banks and domestic banks. However, they found the results to be mixed. A total of 15 studies found that foreign banks performed better than domestic banks on all performance measures, while nine studies found worse or no statistically significant difference on all measures. The other studies are ambiguous: on some measures foreign banks perform better than domestic banks, on others worse or equal.

Our purpose is to examine the effects of introducing foreign strategic investors on net interest margins. To the best of our knowledge, there has been no attempt to explore this issue. The existing studies similar to our study have primarily focused on the effects of introducing foreign strategic investors or foreign ownership presence on bank performance, risk, and efficiency. Shleifer and Vishny (1999) found that foreign strategic investors can provide more supervision, management, and motivational power for the shareholder to take action and thereby improve value. Unite and Sullivan (2003) found that increases in the percentage of ownership by foreign investors in domestic banks cause an increase in the operating expenses and a decrease in the non-interest income in Philippine banks. Martinez-Peria and Mody (2004) investigated the impact of foreign bank participation and concentration on bank spreads in a sample of developing Latin American countries during the late 1990s. They found that greater participation of foreign banks has a cascading effect on the banking system, thereby lowering spreads and costs. Abel and Siklos (2004) found that strategic partnerships contribute positively to enhancing bank sector stability in Hungary's banking sector. Poghosyan (2005), using data from 11 Central and Eastern European countries, found that foreign bank participation does not have any significant impact on interest margins. Clarke, Crivelli, and Cull (2005) found that increased foreign ownership coincided with more, not less, lending outside of Buenos Aires in the Argentine banking sector during the 1990s. Bonin, Hasan, and Wachtel (2005a), using the largest banks in six relatively advanced countries, supported the hypotheses that foreign-owned banks are most efficient and government-owned banks are least efficient, and they also confirmed the importance of attracting a strategic foreign owner during the privatization process. Bonin, Hasan, and Wachtel (2005b), using an unbalanced panel consisting of 225 banks and 856 observations from 1996 to 2000, found that both foreign ownership and the participation of international institutional investors has a significant positive effects on cost and profit efficiency. Fries and Taci (2005), using data from 15 European transition nations from 1994 to 2001, found that privatized banks with a majority of foreign ownership are the most efficient and those with domestic ownership are the least efficient. Berger, Clarke, Cull, Klapper, and Udell (2005), using data from Argentina in the 1990s, found that banks that underwent foreign acquisition experienced some possible short-term performance deterioration in both the ROE and cost efficiency and more favorable long-term benefits for costs/total assets and nonperformance loans/total loans. Okuda and Rungsomboon (2006), using panel data from 28 banks in Thailand between 1990 and 2002, found that the foreign acquisition of domestic banks reduced the costs associated with fee-based businesses and improved their operational efficiency. Lensink, Meesters, and Naaborg (2008), using a sample of 2095 commercial banks in 105 countries for the years 1998 to 2003, found that foreign ownership negatively affects bank efficiency, which is less pronounced in countries with good governance. García-Herrero, Gavilá, and Santabárbara (2009) found that foreign equity did not have an impact on profitability and pre-provision profit in Chinese banks for the period 1997 to 2004. Berger, Hasan, and Zhou (2009) found that minority foreign owners may increase bank efficiency and that minority foreign ownership of the Big Four will likely improve performance significantly in China. Lin and Zhang (2009), using a panel of Chinese banks between 1997 and 2004, explored the relationship between bank ownership reform and performance. They found that banks undergoing a foreign acquisition record better pre-event performance and little performance change in either the short or the long term. Gulamhussen and Guerreiro (2009) found that foreign equity reduces both total costs and operating costs, while foreign board membership reduces domestic bank dependence on revenues from traditional areas of business and enhances the potential for generating revenues from non-traditional areas of business in Portugal. Cornett, Guo, Khaksari, and Tehranian (2010), using international data from 1989 through 2004, found that foreign ownership was insignificant with respect to operating cash flow performance and that banks with foreign ownership generally held more core capital compared to purely domestic banks. Sun, Harimaya, and Yamori (2013) investigated the effect of strategic investors on bank efficiency in the context of regional economic development and suggested that strategic investors significantly increase efficiency in Chinese city commercial banks, while the effect of strategic investors on the efficiency of Chinese city commercial banks is negatively correlated with the level of regional economic development.

In this paper, we examine the effects of introducing foreign strategic investors and ownership structure on net interest margins. Our paper contributes to the existing literature in three ways. First, it adds to the literature concerning the effects of introducing foreign strategic investors on commercial banks by using data from China.

Second, this is one of the first studies to explore the effects of introducing foreign strategic investors on net interest margins. Third, this study also explores whether ownership structure moderates the effects of introducing foreign strategic investors on net interest margins.

**SAMPLE, METHODS, AND VARIABLES**

**Sample**

We use income statements and balance sheets from 1995 to 2010 for China’s commercial banks from the Fitch IBCA/Bureau van Dijk’s Bank Scope database, the information of ownership and introducing foreign strategic investors from the China’s Banking Regulatory Commission, banks’ public reports, and financial magazines. We start with the complete sample of banks (174 commercial banks in China) in Bank Scope database. However, we end with a smaller sample (81 of China’s commercial banks) after we apply some selection criteria. First, we delete foreign banks, central banks, savings banks, policy-type banks, and rural commercial banks. Second, we delete banks for which less than three consecutive years of observations are available. Third, we exclude observations that are missing values for each considered variable. Fourth, we exclude observations for which the values of some variables are abnormal. Ultimately, our final data set consists of 81 banks, thus generating a total of 401 bank-year observations (due to missing values for NIM3 and NIM4, the number of commercial banks is 81 and 78, respectively; the number of observations is 366 and 341, respectively). Table 1 shows the distribution of the observations. Our sample contains 4 state-owned commercial banks with 33 observations and 77 non-state-owned commercial banks with 368 observations. Of the 81 sample commercial banks, 34 commercial banks with 149 observations have introduced foreign strategic investors. Table 2 presents the descriptive statistics for all of the variables. Table 3 provides averages of the main variables separately for observations that belong to state-owned commercial banks and the others, as well as observations that have introduced foreign strategic investors and the others. Observations that belong to state-owned commercial banks show statistically significant lower net interest margins than the others. Observations that have introduced foreign strategic investors show statistically significant lower net interest margins than the others.

**Table 1: Summary Statistics for Banks and Observations**

<b>Bank</b>	<b>All</b>	<b>SCB</b>	<b>NON-SCB</b>	<b>FSI</b>	<b>UN-FSI</b>
Banks	81	4	77	34	47
Obs.	401	33	368	149	252

Note: See Table 4 for the variable definitions and measurements for SCB and FSI. UN-SCB refers to those banks or observations that do not belong to state-owned commercial banks. UN-FSI refers to those banks or observations that have not introduced foreign strategic investors.

**Table 2: Summary of Descriptive Statistics**

<b>Variables</b>	<b>Obs.</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
NIM1	401	0.0246	0.0077	0.0037	0.0533
NIM2	401	0.0296	0.0099	0.0042	0.0742
NIM3	366	0.0300	0.0104	0.0048	0.0783
NIM4	341	0.0421	0.0143	0.0021	0.0979
SCB	401	0.0823	0.2752	0	1
FSI	401	0.3716	0.4838	0	1
SIZE	401	9.3817	2.1688	0.6565	14.5246
NNII	401	0.1220	0.1124	-0.3422	0.6931
COST	401	0.4123	0.1271	0.1968	1.6987
LIQUITY	401	0.2427	0.0906	0.0394	0.6574
LOAN	401	0.5474	0.0896	0.1886	0.8428
EQUITY	401	0.0528	0.0302	0.0371	0.3135
NPL	401	0.0425	0.0589	0.0000	0.4186

Note: See Table 4 for variable definitions and measurements.



Table 3: Summary of Main Variables by Independent Variables

Variables	Statistics	SCB	UN-SCB	T-Statistic	FSI	Un-FSI	T-Statistic
NIM1	Mean	0.0235	0.0247	-3.8713***	0.0231	0.0255	-4.5217***
	Obs.	33	368		149	252	
NIM2	Mean	0.0287	0.0297	-3.2351***	0.0272	0.0310	-3.1495***
	Obs.	33	368		149	252	
NIM3	Mean	0.0288	0.0301	-2.3892**	0.0270	0.0319	-3.3109***
	Obs.	30	336		143	223	
NIM4	Mean	0.0411	0.0422	-2.1272**	0.0387	0.0442	-3.1237***
	Obs.	33	308		134	207	

Note: See Table 4 for the variable definitions and measurements for NIM1, NIM2, NIM3, NIM4, SCB, and FSI. UN-SCB refers to those observations that do not belong to state-owned commercial banks. UN-FSI refers to those observations that have not introduced foreign strategic investors. T-statistics were used to test the hypothesis that the means for the groups are significantly different from each other.

**Models**

To investigate the effects of introducing foreign strategic investors and ownership structure on net interest margins, we specify the following models.

$$Dependent\ variables = Constant + b_1*FSI + b_2*SCB + b_3*SIZE + b_4*NNII + b_5*COST + b_6*LIQUITY + b_7*LOAN + b_8*EQUITY + b_9*NPL + b_{10}*YEAR + Error\ Term. \tag{Model\ 1}$$

In additional, to explore whether the effects of introducing foreign strategic investors on net interest margins are different in between state-owned commercial banks and non-state-owned commercial banks, we add the interaction variables between introducing foreign strategic investors and ownership structure to model (1) to establish model (2).

$$Dependent\ variables = Constant + b_1*FSI + b_2*SCB + b_3*FSI*SCB + b_4*SIZE + b_5*NNII + b_6*COST + b_7*LIQUITY + b_8*LOAN + b_9*EQUITY + b_{10}*NPL + b_{11}*YEAR + Error\ Term. \tag{Model\ 2}$$

The variables in models (1) and (2) are defined in Section 4.3, and the error terms in models (1) and (2) are the disturbance terms. In model (2), the effects of introducing foreign strategic investors and ownership structure on net interest margins are dependent on not only the main effects but also the interactive effects. In the following section, we discuss the definition and measurement of each variable used in models (1) and (2).

**Variables**

*Net Interest Margins*

To insure that our results are robust, we calculate four ratios as proxies for net interest margins, including NIM1, NIM2, NIM3, and NIM4. These four variables have been used in many studies (Saunders & Schumacher, 2000; Carbo & Rodriguez, 2007; Maudos & Solís, 2009). NIM1 is the ratio of net interest income to total assets. NIM2 is the ratio of net interest income to total earning assets. NIM3 is the difference between the ratio of interest income to average earning assets and the ratio of interest expenses to average interest-bearing liabilities. NIM4 is the difference between the ratio of interest income to gross loans and the ratio of interest expenses to customer deposits.

*Introducing Foreign Strategic Investors and Ownership Structure*

Introducing foreign strategic investors (FSI) captures the precise moment when banks introduce foreign strategic investors. FSI equals 1 beginning in the year when a bank introduced foreign strategic investors and equals 0 prior to the bank’s change and for banks that do not undergo a change. Ownership structure (SCB), which captures the bank nature, equal 1 for the state-owned commercial banks for all time periods and equals 0 otherwise.

*Other Control Variables*

First, we include the following variables to control for the effects of individual bank characteristics. SIZE, the natural logarithm of total assets, captures the bank’s size effect. NNII, the ratio of non-interest income to gross revenues, captures the bank’s business orientation. COST, the ratio of cost to income, captures the bank’s operational efficiency. LIQUITY, the ratio of liquid assets to the sum of deposits and short-term funding, captures the bank’s liquidity. LOAN, the ratio of gross loans to total assets, reflects the traditional business scale. EQUITY,

the ratio of total equity to total assets, reflects the capital level. NPL, the ratio of non-performance loans to gross loans, reflects the credit risk.

Second, to control time-specific effects, we include YEAR dummy variables: Y1995, Y1996, Y1997, Y1998, Y1999, Y2000, Y2001, Y2002, Y2003, Y2004, Y2005, Y2006, Y2007, Y2008, Y2009, and Y2010. Each dummy variable equals 1 if the observation refers to the corresponding year and 0 otherwise.<sup>3</sup>

**Table 4: Variable Definitions**

Symbol	Definition
NIM1	The ratio of net interest income to total assets.
NIM2	The ratio of net interest income to total earning assets
NIM3	The difference between the ratio of interest income to average earning assets and the ratio of interest expenses to average interest-bearing liabilities
NIM4	The difference between the ratio of interest income to gross loans and the ratio of interest expenses to customer deposits
FSI	Dummy variables, equal to 1 beginning in the year when a bank introduced foreign strategic investors and 0 prior to the bank’s change and for banks that do not undergo a change
SCB	Dummy variables, equal to 1 for state-owned commercial banks for all time periods and zero otherwise
SIZE	The natural logarithm of total assets
NNII	The ratio of non-interest income to gross revenues
COST	The ratio of total cost to income
LIQUITY	The ratio of liquid assets to the sum of deposits and short-term funding
LOANS	The ratio of gross loans to total assets
EQUITY	The ratio of total equity to total assets
NPL	The ratio of non-performance loans to gross loans
YEAR	Dummy variables, each dummy variable equal to 1 if the observation refers to the corresponding year and 0 otherwise

**EMPIRICAL RESULTS**

**The Effects of Introducing Foreign Strategic Investors and Ownership Structure on Net Interest Margins**

Table 5 presents the OLS regression estimates for model (1) with NIM1, NIM2, NIM3, and NIM4 as the dependent variables.

FSI in the four columns are all statistically significant at the 1%, 1%, 1%, 5% levels, respectively, and have negative coefficients, indicating that introducing foreign strategic investors reduces net interest margins. These reductions are primarily due to the following reasons. First, the foreign strategic investors are all well-known foreign financial institutions that have mature financial management experience and technology as well as substantial experience in innovative financial products, especially with respect to non-interest activities. According to the strategic cooperation agreement between China’s commercial banks and foreign strategic investors, China’s commercial banks require foreign strategic investors to provide technology support in their advanced areas. For example, Bank of America has provided strategic assistance to China Construction Bank with respect to credit cards, independent bank accounts, global financial services, and information technology areas; American Express has cooperated with the Industrial and Commercial Bank of China in areas related to bank card business; Bank of Scotland has cooperated with the Bank of China in credit card and personal property insurance areas. These measures promote business transformation and increase non-interest income in China’s commercial banks. The increase in non-interest income will undoubtedly decrease net interest margins (Lepetit et al., 2008; Nguyen, 2012). Moreover, introducing foreign strategic investors breaks the original ownership structure and promotes ownership diversification while increasing the private property rights in China’s commercial banks. This diversification contributes to clarifying the ownership structure and improving the corporate governance because introducing foreign strategic investors perfects the corporate governance mechanism by allowing foreign directors to participate in corporate governance in China’s commercial banks. Such as the Bank of America appointed one director to the board of directors of the China Construction Bank; the Bank of Scotland appointed one director to the board of directors in the Bank of China; and the Internationale Nederlanden Group appointed two directors to the board of directors, who now act as vice president and president assistant, at the Bank of Beijing. Based on the standards of foreign strategic investors, foreign strategic investors have rich financial management backgrounds and mature financial management experience. So, introducing foreign strategic investors can reduce growth due to “insider

<sup>3</sup> To avoid collinearity in the data, the Y1995 dummy variable was not used.

control.” In short, introducing foreign strategic investors can improve corporate governance in China’s commercial banks, which may improve the intermediary role and reduce net interest margins. Therefore, it can be concluded that introducing foreign strategic investors decreases net interest margins in China’s commercial banks.

SCB in the four columns are all statistically significant at the 1%, 5%, 5%, 10% levels, respectively, and have negative coefficients, indicating that state-owned commercial banks have lower net interest margins compared with non-state-owned commercial banks. These results can be explained as follows. Although state-owned commercial banks demonstrate low cooperative governance, which may reduce the intermediary role and keep high net interest margins. But based on social, agency, and political views of state ownership, state-owned commercial banks could not charge a high net interest margins. The social view perceives state-owned commercial banks as institutions created by social welfare to maximize the government’s ability to cure market failures. According to this view, non-state-owned commercial banks and state-owned commercial banks differ because the first maximize profits while the latter maximize broader social objectives. Thus, according to the social view, because the objective of state-owned commercial banks should be to channel resources to socially profitable projects, state-owned commercial banks cannot charge high net interest margins. The agency view shares the same social theory that governments seek to maximize social welfare, governments design public financial institutions to cure market failures (Sapienza, 2004). Thus, state-owned commercial banks cannot charge high net interest margins based on the agency view. The political view is based on the assumption that politicians are self-interested individuals who pursue their own personal, political, and economic objectives. For example, Firth et al. (2009) suggested that loans of state-owned commercial banks should mostly flow to state-owned enterprises (SOEs). Moreover, to meet the national macroeconomic regulations, state-owned commercial banks tend to assign resources to the industry supported by the state. Thus, state-owned commercial banks cannot charge high net interest margins for SOEs or for their supported industry based on the political view.

In this paper, we do not discuss the control variables because they are not the focus of this research. Additional results concerning the control variables are presented in the relevant tables.

**Table 5: Effects of Introducing Foreign Strategic Investors and Ownership Structure**

<b>Variables</b>	<b>NIM1</b>	<b>NIM2</b>	<b>NIM3</b>	<b>NIM4</b>
CONS	0.0337*** (3.9443)	0.0390*** (2.9249)	0.0394** (2.5578)	0.0711*** (4.1005)
FSI	-0.0017*** (-2.7205)	-0.0033*** (-3.4215)	-0.0039*** (-3.3903)	-0.0032** (-2.1667)
SCB	-0.0051*** (-3.2190)	-0.0057** (-2.3551)	-0.0058** (-2.2768)	-0.0065* (-1.6840)
SIZE	-0.0007 (-1.4172)	-0.0010 (-1.1676)	-0.0008 (-0.9918)	-0.0024 (-1.0963)
NNII	-0.0233*** (-6.9686)	-0.0304*** (-6.3810)	-0.0315*** (-5.5193)	-0.0098*** (-3.4749)
COST	-0.0196*** (-3.3960)	-0.0224*** (-3.0386)	-0.0259** (-2.0561)	-0.0420*** (-2.8900)
LIQUITY	0.0021 (0.5032)	0.0037 (0.5661)	0.0043 (0.5299)	0.0161 (0.6823)
LOAN	0.0325*** (4.7649)	0.0330*** (3.5671)	0.0335*** (3.0987)	0.0173*** (3.2366)
EQUITY	0.0342 (0.9271)	0.0376 (0.7067)	0.0228 (0.6638)	0.0664 (0.5438)
NPL	-0.0021 (-0.1989)	-0.0039 (-0.2827)	-0.0122 (-1.0678)	-0.0008 (-0.0328)
YEAR	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.6049	0.5276	0.4581	0.4031
N	401	401	366	341
Clustering level	Bank	Bank	Bank	Bank

Note: we estimate all regressions using OLS. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively; T statistics (in parentheses) are corrected for heteroskedasticity following White’s (1980) methodology. See Table 4 for the variable definitions and measurements.

**Further Analysis**

Ownership structure serves as a foundation that determines corporate governance mechanisms and behavioral choices. In our sample, there are both state-owned and non-state-owned commercial banks. State-owned

commercial banks are controlled by the state and include the “Big Four,” the Bank of China, the Agricultural Bank of China, the China Construction Bank, and the Industrial and Commercial Bank of China. Non-state-owned commercial banks include joint-equity commercial banks and city-level commercial banks. Joint-equity commercial banks, approved by the People’s Bank of China, develop their financial businesses nationwide. By the end of 2010, there were 14 joint-equity commercial banks in China.<sup>4</sup> The predecessors of city-level commercial banks are the urban credit cooperatives, whose ownership structure reflects a certain regionalism and were established in the 1980s. By the end of 2010, there were more than 130 city-level commercial banks in China. Compared with non-state-owned commercial banks, the state-owned commercial banks differ in many aspects. For instance, because of their policy, history, system, and environment, among other factors, their corporate governance mechanisms are different in terms of ownership and management authority concentration. Consequently, because their business orientations are also different, government intervention would lead state-owned commercial banks to consider political and social factors over economic factors. Therefore, we question whether the ownership structure moderates the relationship between foreign strategic investors and net interest margins. To explore this question, we use model (2) to conduct the following analysis.

Table 6 presents the OLS regression estimates for model (2) with NIM1, NIM2, NIM3, and NIM4 as the dependent variables. In this section, we focus on the interaction variables between introducing foreign strategic investors and ownership structure. The FSI\*SCB in four columns are all statistically significant (at the 1%, 5%, 5%, 10% levels, respectively) and have positive coefficients, indicating that the effects of introducing foreign strategic investors on net interest margins are weaker in state-owned commercial banks than those in non-state-owned commercial banks. These are mainly due to the following reasons. First, the highly concentrated power within the ownership structure of state-owned commercial banks makes it difficult for external powers (i.e., foreign strategic investors) to play significant roles. Second, it is more difficult to reduce net interest margins in commercial banks with low net interest margins than in banks with high net interest margins. As suggested by Lin and Zhang (2009), it is more difficult to improve the performance of better banks than to improve the performance of worse banks.

**Table 6: Interactive Effects Between Introducing Foreign Strategic Investors and Ownership Structure**

Variables	NIM1	NIM2	NIM3	NIM4
CONS	0.0338*** (3.8527)	0.0400*** (2.8292)	0.0400** (2.4194)	0.0739*** (4.0842)
FSI	-0.0015*** (-2.6456)	-0.0032*** (-3.1341)	-0.0036*** (-3.3142)	-0.0031** (-2.1521)
SCB	-0.0049*** (-3.0160)	-0.0055** (-2.3341)	-0.0055** (-2.2568)	-0.0062* (-1.6831)
FSI *SCB	0.0024*** (3.4443)	0.0041** (2.2363)	0.0049** (2.2193)	0.0042* (1.8098)
SIZE	-0.0009 (-1.5237)	-0.0013 (-1.5204)	-0.0012 (-1.3671)	-0.0029 (-1.4466)
NNII	-0.0219*** (-6.5292)	-0.0280*** (-5.7281)	-0.0285*** (-4.8617)	-0.0085*** (-3.2740)
COST	-0.0192*** (-3.4711)	-0.0210*** (-2.9380)	-0.0230** (-1.8226)	-0.0395*** (-2.7938)
LIQUITY	0.0031 (0.7471)	0.0052 (0.7968)	0.0061 (0.7393)	0.0170 (0.7968)
LOAN	0.0347*** (4.8274)	0.0372*** (3.6805)	0.0385*** (3.3013)	0.0204*** (3.4545)
EQUITY	0.0319 (1.0189)	0.0305 (1.4732)	0.0145 (0.4212)	0.0575 (1.4069)
NPL	-0.0017 (-0.1709)	-0.0027 (-0.2273)	-0.0099 (-1.0111)	0.0011 (0.0516)
YEAR	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.7396	0.6137	0.5391	0.4976
N	401	401	366	341
Clustering level	Bank	Bank	Bank	Bank

Note: we estimate all regressions using OLS. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively; T statistics (in parentheses) are corrected for heteroskedasticity following White’s (1980) methodology. See Table 4 for the variable definitions and measurements.

<sup>4</sup> These banks included the Bank of Communications (first established in 1986), China Bohai Bank, China CITIC Bank, China Everbright Bank, China Merchants Bank, China Minsheng Banking, Evergrowing Bank, China Guangfa Bank, Hua Xia Bank, Industrial Bank, Shanghai Pudong Development Bank, Shenzhen Development Bank, Ping An Bank, and China Zheshang Bank.

## **Robustness Tests**

To guarantee the robustness of our empirical results, we conduct robustness tests with different types of analyses. First, we delete the samples from periods before China joined the WTO and retest the empirical results. Second, we adjust the measure of introducing foreign strategic investors and retest the empirical results. Third, we integrate the lagged value of net interest margins into models (1) and (2) and retest the empirical results. The robustness tests confirm our main findings in Tables 5 and 6, thus indicating that our results are robust (due to the length of this paper, we don't present the results of robustness tests here. If you need these tables, please contact us without hesitation.).

### *Adjust the Sample Period*

Our sample periods span the years before and after China joined the WTO in 2001. The Chinese financial markets before China joined the WTO are characterized as closed monopolistic entities. China's accession into the WTO has several important implications for China's commercial banks. First, joining the WTO allows many foreign banks to enter China's banking industry, which helps improve China's banking system. Second, joining the WTO promotes competition in China's banking industry. Third, after joining the WTO, China's banking sector must adhere to the rules of international banking management and accept the Basel agreement as the standard for international banking supervision principles. These changes promote best practices with respect to risk management, thereby strengthening internal control and improving information disclosure. Therefore, to avoid the confounding effects of different sample periods, we delete the sample periods (i.e., years 1995 to 2001) before China joined the WTO and rerun the empirical tests based on models (1) and (2) above. The results confirm our main findings as discussed above.

### *Adjusted the Measures of FSI*

The research by Berger et al. (2005) and Lin and Zhang (2009) define the variables for introducing foreign strategic investors differently. The FSI is equal to 1 starting the second year after a bank introduces foreign strategic investors, observations in the year of and the year following the change are deleted, and the FSI is equal to 0 prior to any change and for those banks that did not undergo a change. The purpose of this treatment is to mitigate noise associated with the change in ownership. Therefore, to ensure the robustness of our results, we also delete the observations in the year of and the year following the change and retest the empirical results by using models (1) and (2). The results confirm our main findings as discussed above.

### *Adjusted Model*

In some studies, such as those by Carbó and Rodríguez (2007) and Maudos and Solís (2009), net interest margins shows inertia over time because the banks must match the random deposit supply function and the random demand of lending and non-traditional activities across periods; thus, the current values of the margin may be determined by their previous values. Accordingly, they adopt a model containing the lagged value of the dependent variable in the independent variables. To ensure the robustness of our results, we also integrate the lagged value of net interest margins into models (1) and (2), and we retest the empirical results. The results confirm the findings discussed above.

## **CONCLUSIONS**

Since 2003, China's banking sector has experienced an extraordinary ownership reform process. Reviewing ownership reform process, introducing foreign strategic investors as the main method of ownership reform plays an important role in China's commercial banks, as it not only enriches capital level, but it also introduces advanced technologies and management experience and improves corporate governance in China's commercial banks. Therefore, to determine the effects of introducing foreign strategic investors on China's commercial banks, this paper adopts a special perspective-net interest margins. Using data from 81 commercial banks from 1995 to 2010, we explore the effects of introducing foreign strategic investors and ownership structure on net interest margins and find the following robust results.

First, introducing foreign strategic investors reduces net interest margins. This is mainly because foreign strategic investors help to increase non-interest income and promote business transformation, which undoubtedly



decreases net interest margins (Lepetit et al., 2008; Nguyen, 2012). Moreover, introducing foreign strategic investors clarifies the ownership structure, improves corporate governance, and increases non-interest business. Second, state-owned commercial banks have lower net interest margins than non-state-owned commercial banks mainly because of the social, agency, and political views of state ownership. Third, we find that the effects of introducing foreign strategic investors on net interest margins in state-owned commercial banks are weaker than those in non-state-owned commercial banks. This is mainly due to the highly concentrated power from the concentrated ownership structure and the low net interest margins in state-owned commercial banks.

Exploring these issues would provide not only strong evidence of the benefits of introducing foreign strategic investors but also provide some suggestions for transforming the business and reducing net interest margins of China's commercial banks. This paper makes two main contributions. First, this is one of the first studies to examine the effects of introducing foreign strategic investors on net interest margins. Second, we also examine whether the effects of introducing foreign strategic investors on net interest margins are different in state-owned commercial banks than in non-state-owned commercial banks.

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**APPENDIX**

**Table A-1: The Status of China's Commercial Banks Introducing Foreign Strategic Investors**

<b>Commercial Banks</b>	<b>Time</b>	<b>The Main Foreign Strategic Investors And Its Ratio</b>
The Industrial and Commercial Bank of China	2006	The Goldman Sachs (6.05%) The Allianz Group (2.36%)
The China Construction Bank	2005	The American Express Company (0.47%) The Bank of America (9.00%) The Temasek (5.10%)
The Bank of China	2005	The Royal Bank of Scotland (10.00%) The Singapore Asian financial holding company (5.00%) The Swiss Bank Corporation (1.61%) The Asian Development Bank (0.24%)
The Agricultural Bank of China	2010	The Morgan Stanley
The Bank of Communications	2004	The Hong Kong and Shanghai Banking Corporation (19.90%)
The China Everbright Bank	1996	The Asian Development Bank (1.90%)
The China Minsheng Banking Corp. Ltd	2003	The Temasek (1.3%) The International Finance corporation (1.22%)
The Industrial Bank	2003	The Hang Seng Bank (15.98) Tetrad Ventures Pte. Ltd. (5.00%) The International Finance corporation (4.00%)
The Shanghai Pudong Development Bank	2003	The Citigroup (5.00%)
The Guangdong Development Bank	2006	The Citigroup (20.00%)
The Shenzhen development bank	2004	The Newbridge Capital (17.89%)
The China CITIC Bank	2006	The Banco Bilbao Vizcaya Argentaria SA (4.83%)
The Hua Xia Bank	2005	The Deutsche Bank (13.98%) The Bangkok Bank (6.88%)
The China Bohai Bank	2005	The Standard Chartered Bank (19.99)
The Bank of Beijing	2005	The ING Group NV (19.99) The International Finance Corporation (5.00%)
The Bank of Shanghai	1998	The International Finance Corporation (5.00%)
The Bank of Xi'an	2004	The Bank of Nova Scotia (2.50%) The International Finance Corporation (2.50%)
The Qilu Bank	2004	The Commonwealth Bank of Australia
The Bank of Hangzhou	2005	The Commonwealth Bank of Australia (19.92%) The Asian Development Bank (5.00%)
The Bank of Nanjing	2001	The International Finance Corporation (15.00%) The Bank of Paris(12.60)
The Bank of Ningbo	2006	The Oversea-Chinese Banking Corp (12.20%)
The Evergrowing Bank	2008	The United Overseas Bank (15.38%)
The Bank of Chengdu	2007	Hong Leong Bank Berhad (19.99%)
The Ping An Bank	2003	The Hong Kong and Shanghai Banking Corporation (27.00%)
The Bank of Jilin	2010	The Hana Bank (18.00%)
The Bank of Qingdao	2007	The Intesa Sanpaolo (20.00%) The Los Hill Financial Group Holding Company (4.98%)
The Xiamen Bank	2009	The Fubon Bank (Hong Kong) Co., Ltd. (19.99%)
The Bank of Yingkou	2008	The Malaysia Chang International Securities Bank Group (19.99%)
The Deyang Bank	2009	The International Finance Corporation (15.00%)
The Yantai Bank	2008	The Hang Seng bank (20.00%) The Wing Lung Bank (4.99%)
Bank of Tianjin	2005	The Australia and New Zealand Bank (20.00%)
The Nanchong City Commercial Bank	2005	The German Investment and Development Co., LTD (10.00%) The German Savings Bank International Development Fund (3.30%)
The Shanghai Rural Commercial Bank	2006	The Australia and New Zealand Bank (19.90%)
The Hangzhou United Bank	2006	The ING Vysya Bank (10.00%) The International Finance Corporation (5.00%)
The Bank of Dalian	2003	Ann China investment (10.00%)
The Shenzhen city commercial bank	2003	The Bank of East Asia (15.00%)
The Changsha city commercial bank	2004	The International Finance Corporation (20.00%)
The Jinan City Commercial Bank	2004	The Commonwealth Bank of Australia (10.68%)
The Bank Of Chongqing	2006	The Daxin group (17.00%) The Carlyle group (7.99%)
The Tianjin Binhai Rural Commercial bank	2008	The International Finance Corporation (10.00%)
The Ningxia bank	2010	The Bocc investment co., LTD (11.00%)

Source: These materials are collected from the banks' public reports and from financial magazines.

**NOTES**