



## Measure and Evaluation of Financial Openness in China

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### ABSTRACT

The key to China's economic openness is financial opening. Therefore, the correct measurement of China's financial openness is important for reform and opening up and the formulation and implementation of associated policies in China. This paper develops the indexes of financial openness to measure and evaluate financial opening level in China with the data from 2007 to 2013. The research results indicate that China's financial openness has reached a certain level at the current stage. Especially, a few of financial sectors have reached a relatively high openness level. On the whole, financial openness in China is in the middle level compared with the rest of the BRIC countries. However, China's financial openness is relatively low compared with the developed countries such as the Europe and the United States, showing that the degree of financial openness in China has yet to be further improved and enhanced.

**Keywords:** Financial Openness, Measure Indexes, Financial Market Openness, Capital and Financial Account Openness, Financial Service Trade Openness

**JEL Classifications:** F33, G28

### 1. INTRODUCTION

Financial development directly determines the efficiency of capital and resource allocation. At the same time, economic development requires corresponding financial services (Dou, 2007). Because there is a high correlation between finance and economy, financial reform and development is the core of a country's economic reform and development. Only the establishment of stable and efficient financial system can effectively promote economic development and improve economic efficiency (Lee, 2001).

The significance of a country's financial openness in the context of modern open economy is that it may not only greatly expand the space of the country's investment and financing choice and financial resource allocation, but also inspire the vitality and efficiency of the country's financial system, markets and institutions through competition in international financial markets. A sound and efficient financial system has to be open (Jeremy and Boyan 1990; Goldsmith 1969; King and Levine 1993). According to the research of McKinnon (1988) and Shaw (1988), developing countries have serious financial repression phenomena due to the lower degree of financial openness and financial liberalization.

Therefore, the core of financial deepening in China is to realize financial openness and liberalization.

The essence of a country's financial openness is to eliminate the government's restrictions on international capital flows and to open domestic financial markets and financial business to the foreign to comprehensively realize financial liberalization (Carmignani and Chowdhury 2005; Gurley and Shaw 1955; Robert and Lee 2000). A country's financial openness is reflected in both of breadth and depth. The breadth means to implement the opening of all financial sectors and not to make any restrictions on international capital flows in all financial sectors and items. As for the depth, it is to realize the full opening and liberalization of key financial sectors and financial projects.

A country's financial and capital account openness is the most important in all financial openness. In fact, the financial and capital accounts not only itself constitutes the important contents of financial openness, but also have direct and indirect contacts with almost all of financial sectors and businesses under modern open economy. Therefore, for developing countries such as China, the key to financial openness is to how to realize the openness

of financial and capital accounts to thereby drive entire financial industry opening to the outside world (Zhang, 2008).

China's financial industry has been gradually opening since China's reform and opening up. China's financial institutions have currently gone to the world, while main foreign financial institutions have conditionally provided financial services for China. China has not only realized free convertibility under current accounts, but also achieved a conditional convertibility under capital and financial accounts to eventually realize the goal of RMB internationalization. However, China's financial openness is still limited at the current stage compared with the developed countries, and some financial sectors have not actually opened to the foreign. Therefore, how to speed up China's financial openness to the outside world is one of the important issues of China's financial reform and development in the future (Zhang and Liu, 2007). However, financial openness will not only involve the finance itself, but also be closely related to economy development. It requires a strategic planning and layout for future financial openness, which need a clear knowledge and understanding of China's current financial openness. This paper tries to build a set of scientific indexes to measure and evaluate the degree of China's financial openness to provide theoretical reference to China's financial reform and opening-up in the future.

The measure and evaluation of financial openness is a challenging topic. How to accurately measure a country's financial openness will be a major problem facing theoretical circles because of the complexity of financial system and activities. The first problem is how to select the measure indexes of financial openness to cover all financial sectors and items. This is a very complex and difficult task. The second problem is the indicative degree of selected indexes, as some financial activities are difficult to be quantized. Again, even if these problems above can be solved, yet basic data comparability has to be faced. Because there are statistic differences of basic data between different countries, it can result in an inaccurate measure. In addition, the measure of a country's financial openness needs to use many indicators and their comprehensive value, which has to assign weights to each indicator. However, how to scientifically and reasonably determine the weights is still difficultly resolved (Zhang et al. 2007).

This paper will focus on the following issues. To begin with, paper discusses the building of measure indexes for China's financial openness. However, it is difficult to build reasonable measure indexes due to the wide areas of China's financial openness and China's special financial situation. It is also difficulty and key point in this paper (Lei and Zhao, 2008). Again, this paper gives an interpretation and comparative analysis of different measure results with foreign financial openness. The paper attempts to give a comparative illustration from the two aspects of vertical and lateral analysis to solve the problem of inconsistency and incomparability. The vertical analysis reveals the increasingly deepening problem of China's own financial openness, while the lateral analysis reveals the relative degree of openness of China's finance to the foreign.

For the sake of simplicity, the analysis and argument of this paper is based on the following assumptions. Generalized financial

openness is here defined to fully explore China's financial openness problems from a broader perspective. Secondly, static and dynamic indexes are here not distinguished strictly to simplify the construction of indexes. Finally, the categories of financial openness, financial internationalization and financial liberalization are not distinguished strictly to analyze main points. The article's structure arrangement is as follows. The second part gives a systematic review of related study literature. The third part is the building of financial openness indexes. The fourth part is results and discussions. The final part is conclusions.

## 2. LITERATURE REVIEW

The existing researches may be divided into two broad categories. Some literatures build indexes to measure the degree of the openness of capital accounts and related financial areas and the liberalization of capital flows. Others build the indexes of the openness of financial markets and organizations and specific financial sector or business. Because of the diversity of research contents and methods, it is difficult to draw a common thing.

### 2.1. The Measure of Capital Account Openness

The higher degree of capital controls means the less openness of capital accounts. As a result, many literatures measure the openness of capital accounts from the side of capital controls, that is, to examine the coverage of a country's capital controls. Based on such idea, the IMF (1950) in Annual report on exchange arrangements and exchange restricts investigated capital account openness in different countries through "binary method" regarded by many scholars. The "binary method" simply divides capital flows into control and non-control, and then determines the degree of capital account openness according to the coverage of the controls. If a country implements controls for most of the capital items, it shows that the country's capital account openness is low (Jacques, 2004). Early research literatures mainly aimed at the control of capital outflows. Then, some of research literatures make a distinction between capital inflow control and capital outflow control. However, there still exists inconsistent measure problem. In addition, the "binary method" can only reflect the extreme polar of capital control or not, but it can't show the intensity of capital controls (Clark et al. 2012).

Some scholars put forward "multiple method" to make up for the disadvantages of the "dual method." The "multiple method" further subdivides several subclasses between capital controls and non-controls according to the intensity of capital controls to better describe the degree of capital controls. For example, some scholars divided capital controls into completely controls, moderate controls and non-controls. Some scholars divided capital controls into banning on capital flows, quantitative restrictions on capital flows, higher taxes on capital flows, lower taxes on capital flows and free capital flows. Some scholars try to build capital account liberalization indicators to measure financial openness through the correction of capital flow resistance. Some scholars use the proportion of unlimited capital transaction in capital trading to describe financial openness (Chinn and Ito, 2008; Jia, 2011).

Both dual and multiple methods only describe the scope and size of capital account openness, that is, can only reflect the breadth

of capital account openness but difficultly measure the integration degree of a country's capital trading and international capital trading. However, the latter has more substantive significance for many developing countries. Therefore, some scholars tried to measure the degree of capital account openness from the correlation and integration level of capital markets at home and abroad, for example, saving and investment correlation (Feldstein and Horioka, 1980), the correlation of domestic and abroad interest rate (Reisen and Yeches, 1993), the correlation of domestic and foreign stock market returns (Bekaert and Harvey, 1995), and so forth.

Inspired by the method of trade openness measure, some scholars use the proportion of a country's total capital flows (including capital inflows and outflows) in GDP to measure the capital and financial openness (Kraay, 1998; Lane and Milesi-Ferretti, 2006). The ratio of capitals to GDP may comprehensively reflect the change of a country's capital openness and have the advantages of easy calculation. However, because the ratio is affected by exchange rates, the comparison of different countries often causes a certain degree of deviation. Moreover, they cannot better reflect the differences between the openness of different capital accounts, too.

## 2.2. The Measure of the Openness of Financial Markets

The existing researches on stock market liberalization mainly use the "dual method" to discuss whether a country's stock market is opening to the outside world (Henry, 2006). The correlation degree of transnational securities is used to measure a country's stock market openness. It is consistency with the research of capital account liberalization.

Some scholars use the ratio of foreign investors' stock trading to total stock trading to reflect the country's capital market opening level (Edison and Warnock, 2001). The advantage of this method is easy to calculate, but it only measures the degree of controls of capital inflows. Moreover, as the capital inflows in stock markets account for only part of total capital inflows, so it is not enough to explain the overall situation of capital controls. In addition, because the role of capital markets in economy as a whole is limited for most developing countries, its openness level cannot fully reflect the level of a country's financial openness, or it is at least difficult to compare with developed countries.

The core of financial market openness is the openness of financial services trade. All the WTO members promise to open their financial markets to the foreign under the financial service agreement framework of GATS when they join the WTO. The higher level of commitment to open indicates the higher degree of financial openness (Mattoo, 2000; Pontiness, 2002). Although it is feasible in theory, some financial sectors are difficult to measure because of the huge range of financial service trade and the unavailability of relevant financial data. However, as the carrier and essence of financial market openness is financial service trade openness, so it has a very strong indicative and effectiveness if the systematic measure of financial market openness is implemented.

There are also some literatures to respectively discuss the openness of capital market, money market and foreign exchange market and

their relationship with economic development, while the others measure the openness of financial institutions, financial business (external financing ratio and the proportion of foreign bank in China) and financial service fields (including insurance, securities and banking). These studies come to some instructive conclusions and policy suggestions. However, because financial markets are complex, it is difficult to get a consistent and satisfying conclusion.

## 2.3. Comprehensive Measure for Financial Openness

Some scholars try to construct a set of comprehensive indexes (e.g. interest rate control, credit control, exchange control, financial industry entry, financial institution and capital market supervision) from financial preventive and routine supervision to measure financial openness to make up for the limitations of single measure index (Oriana et al., 2000). This approach solves the deficiency of single index. However, as some important points are hard to quantify, so it is still imperfect. Moreover, as this method more considers policy practice, so it is difficult to fully and truly reveal its essential contents and characteristics of financial openness due to different actual situation of every country.

Some scholars try to build comprehensive indexes from capital account openness, financial sector openness and securities market openness and to endow different grade for different indicators (from open to closed) to obtain comprehensive grade level and financial openness index (Fratzscher and Bussiere, 2004; Mattoo, 2000). The results measured from this method are more believable compared with other methods. However, as the criterion of grade is given with certain subjectivity, so it is difficult to completely avoid measurement errors.

## 3. METHODOLOGY AND MEASURE INDEX

### 3.1. Methodology

It is important to scientifically choose measure indexes due to the wide scope of financial openness. As selected indexes should possess the characteristic of high indicating degree, strong comparability, simplicity and the availability of data, so this paper attempts to build multiple indexes. In addition, the paper also builds a composite index to make a comprehensive judgment.

The selection of indexes will be simple as far as possible. That is to say, the fewer indexes are used to measure financial openness level and the selection of specific indexes should be more simple and straightforward to avoid ambiguity and ambiguous situations. Similar indicative indices should be merged as much as possible. At the same time, each index should be quantified as much as possible, but a few qualitative indicators explaining the problem but non-quantizing have to be considered, too.

### 3.2. The Selection and Description of Measure Index

The paper, first of all, selects four first-class indexes such as financial market openness, financial services trade openness, financial business openness and capital and financial account openness according to the basic features of financial openness, and then sets several second-class indexes under each first-class index.

3.2.1. The degree of financial market openness

Financial markets include money market, securities market (stock and bond market), fund market, foreign exchange market and derivatives market. However, money market, securities market and foreign exchange market are particularly important from the perspective of the internationalization and openness of financial markets. Therefore, for the sake of simplicity, paper here selects three second-class indicators of monetary market openness, securities market openness and foreign exchange market development degree.

3.2.2. The degree of financial service trade openness

The measure of financial service trade openness involves a lot of complicated problems. For the sake of simplicity, the paper here selects three second-class indicators of financial service trade openness, foreign investment openness in financial service trade and commitment level for financial opening-up (CLFO) in financial service trade commitments table.

3.2.3. The degree of financial business and operation openness

The core of financial business is domestic financial institution financing in the foreign and the financial business of foreign financial institutions in home country. Therefore, the paper here selects four second-class indexes of foreign financial ratio, the tilt ratio of bank credit assets abroad, banking openness and insurance openness to reflect the degree of financial business liberalization.

3.2.4. The degree of capital and financial account openness

The measure of capital and financial account liberalization includes nominal openness and actual openness. Because it involves a wider range of contents, the paper here chooses four representative indexes such as short-term capital openness, long-term capital openness, saving-investment correlation, and the correlation of domestic and foreign interest rates (Table 1).

**Table 1: Measure indexes of financial openness**

Contents	Indexes	Computational formula	Illustration
The openness of financial markets	Money market openness	Net assets of central bank in the foreign/total assets of central bank	The greater the indicators, the higher the openness
	Securities market openness	Gross securities market value of foreign holdings/whole securities market value	The greater the indicators, the higher the openness
	Foreign exchange market development degree	Foreign currency assets of commercial bank holdings/Foreign currency assets of central bank holdings	The greater the index, the higher the development level
The openness of financial service trade	Financial service trade openness	(Financial services trade exports+financial service trade imports)/GDP	The greater the indicators, the higher the openness
	Foreign investment openness in financial service trade CLFO	Foreign direct investment in financial services industry/GDP $CLFO = \sum w_i R_i$ . Where, $w_i$ represents the weights of providing mode for financial services. $R_i$ represents the given value of committed mode level according to the hierarchy	The greater the indicators, the higher the openness The greater the indicators, the higher the openness
The openness of financial business and transaction	Foreign financial ratios	The total amount of foreign assets and liabilities/ GDP	The greater the indicators, the higher the openness
	Tilt ratio of bank credit assets abroad	Total foreign assets of banking system/total bank assets	The greater the indicators, the higher the openness
	Banking openness	Foreign bank assets in the domestic/total assets of domestic banking system	The greater the indicators, the higher the openness
	Insurance industry openness	Total assets of foreign insurance institutions in the domestic/total assets of domestic insurance institutions	The greater the indicators, the higher the openness
The openness of capital and financial accounts	Short-term capital openness	(International capital inflows+international capital outflows)/GDP	The greater the indicators, the higher the openness
	Long-term capital openness	(Direct investment accumulation+securities investment accumulation+other investment accumulation)/GDP	The greater the indicators, the higher the openness
	Saving-investment correlation	$(I/Y)_t = C(1) + C(2)(S/Y)_t + u_t$ . Where, $I/Y$ is domestic investment-output ratio. $S/Y$ is domestic savings-output ratio	If there is no relationship between $I/Y$ and $S/Y$ , it indicates no capital controls
	Correlation of domestic and foreign interest rates	$i_t = \theta(i_t^* + e_t^e) + (1-\theta)(r_t + \pi_t^e)$ . Where, the $i_t$ represents nominal domestic interest rate. The $i_t^*$ represents international interest rates of similar financial assets with the domestic. The $e_t^e$ represents the expected change rate of exchange rates. The $r_t$ represents domestic real interest rates. The $\pi_t^e$ represents expected domestic inflation rate	The $\theta$ is the index of openness degree measurement, and the more $\theta$ indicates the higher openness

### 3.3. Composite Index

A composite index will be given for a comparative analysis. Assuming that CI represents composite index and  $I_{ji}$  is specific index in the second column in Table 1. The  $j$  indicates the  $j_{th}$  index in the first column in Table 1 and  $k_j$  is the weights of corresponding categories. The  $i$  represents the  $i_{th}$  index in specific indexes in the second column in Table 1 and  $\lambda_{ji}$  is the weights of corresponding categories. Hence, the following formula can be got:

$$CI = \sum_{j=1}^4 \kappa_j \sum_{i=1}^n \lambda_{ji} I_{ji}$$

## 4. RESULTS AND DISCUSSION

### 4.1. Vertical Comparison

The paper here measures China's financial openness from 2007 to 2012 (partly 2013) owing to lack of data. Money market openness except 2012 show an increasing trend from 73.24 in 2007 to 85.14 in 2013 for a net increase of 16.25% since 2007 (Table 2). It can be clearly found from Figure 1 that currency market openness has shown a stable growth since 2007. It could be related to currency market reform in recent years in China. However, securities market and foreign exchange market has been in a relatively stable state, respectively. The reason may be that China has always attached great importance to the reform and development of the securities market and the foreign exchange market since the reform and opening up. Although they are not still developed at this stage, their reforms will difficultly have a qualitative leap under current conditions. This will bring new challenges for future reform.

As China's commitment level to open to the foreign countries has completed the promise of transition period by 2007 in terms of financial service trade openness, so it always remains openness at 0.69 and has little change since 2007. At the same time, The openness of foreign financial service trade show a slightly growth trend from 0.007 in 2007 to 0.026 in 2012, increasing 2.71% during the period, but there was a trend of decline in 2009 (Table 2). It can be found from above measure results that, the financial service trade opening

in China has been always cautious to maintain domestic financial security. However, overall financial service trade openness has significant fluctuations. As is shown in Figure 2 that, comprehensive openness of financial service trade show a suddenly rising from 0.06 in 2007 to 0.32 in 2008, but it has been shown a continuous declining since 2008 and later started to pick up until 2011. Obviously, China's financial service trade openness to the outside world is still in the state of chaos. Therefore, China has still to take substantial measures for reform and opening up in the future. It is also the key problem that must be solved by China in the future.

Figure 1: Changes in financial market openness

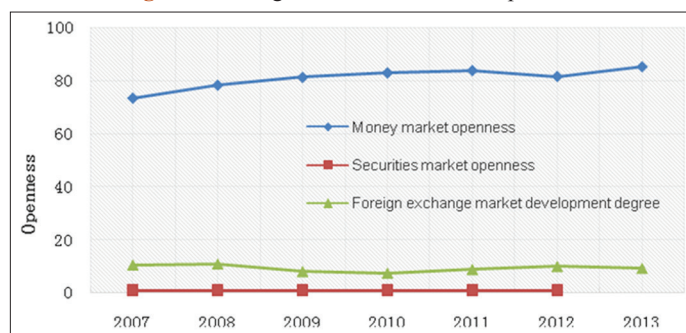


Figure 2: Changes in the openness of financial service trade

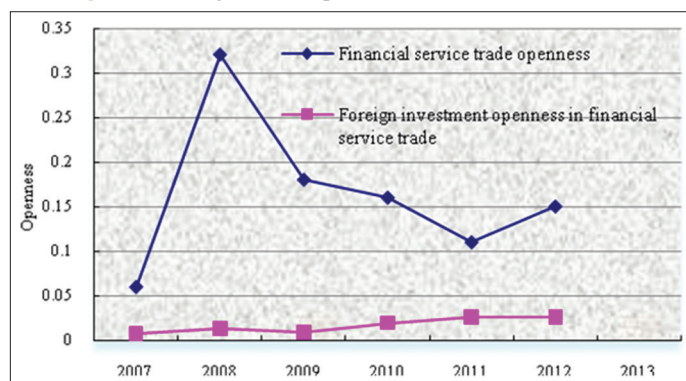


Table 2: Change in China's financial openness

Contents	Indexes	2007	2008	2009	2010	2011	2012	2013
The openness of financial markets	Money market openness	73.24	78.13	81.12	82.81	83.71	81.47	85.14
	Securities market openness	78	66	74	83	67	69	-
	Foreign exchange market development degree	10.38	10.77	7.83	7.15	8.62	9.78	9.08
The openness of financial service trade	Financial service trade openness	0.06	0.32	0.18	0.16	0.11	0.15	-
	Foreign investment openness in financial service trade	0.007	0.013	0.009	0.019	0.026	0.026	-
The openness of financial business and transaction	CLFO	0.69 <sup>a</sup>	0.69 <sup>a</sup>	0.69 <sup>a</sup>	0.69 <sup>a</sup>	0.69 <sup>a</sup>	0.69 <sup>a</sup>	0.69 <sup>a</sup>
	Foreign financial ratios	-	8.74	6.99	6.40	6.76	7.45	8.22
	Tilt ratio of bank credit assets abroad	-	3.48	2.20	1.93	2.13	2.15	1.89
	Banking openness	-	1.87	1.59	1.84	1.94	1.72	1.89
The openness of capital and financial accounts	Insurance industry openness	4.35	4.56	5.05	5.19	5.03	4.71	4.20
	Short-term capital openness	24.22	20.61	18.77	21.38	23.77	24.14	-
	Long-term capital openness	34.00	33.04	29.86	28.46	23.06	21.11	-
	Saving-investment correlation	0.92 <sup>b</sup>	0.92 <sup>b</sup>	0.92 <sup>b</sup>	0.92 <sup>b</sup>	0.92 <sup>b</sup>	0.92 <sup>b</sup>	-
	Correlation of domestic and foreign interest rates	-0.2285	-0.0193	0.2095	-0.5590	-0.0978	0.2492	-
Composite index <sup>c</sup>		5.99	5.79	5.57	5.69	5.44	5.45	-

<sup>a</sup>The data is quoted from the Table 3 in the measurement of China's financial market access and national treatment commitment level, Journal of Financial Studies 3, 2008. (in Chinese).

<sup>b</sup>Because of difficult acquisition of monthly data, the data are calculated from 2007-2012 data and every year is the same. The 0.92 is the value of C (2), reflecting the correlation of savings and investment due to its binary regression. <sup>c</sup>For the sake of simplicity, we here take  $\lambda_{11}=1/3$  ( $i=1, 2, 3$ ),  $\lambda_{21}=1/3$  ( $i=1, 2, 3$ ),  $\lambda_{31}=1/3$  ( $i=1, 2, 3, 4$ ),  $\lambda_{41}=0.15$ ,  $\lambda_{42}=0.15$ ,  $\lambda_{43}=0.35$ ,  $\lambda_{44}=0.35$ ,  $k_1=0.05$ ,  $k_2=0.45$ ,  $k_3=0.3$  and  $k_4=0.2$ , respectively. <sup>d</sup>The ratio data are all a percentage ratio, CLFO: Commitment level for financial opening-up

Some interesting phenomena can be found in Figure 3. Foreign financial ratio shows the shape of U curve. It may be related to international financial recession after 2007. China's foreign assets and liabilities had a downward trend because of international financial and economic recession after 2007. Because international financial and economic situation has begun to have some improvements after 2010, China's foreign assets and liabilities began to rise, too. The trend of change in the tilt ratio of bank credit assets abroad is similar to foreign financial ratios, but it has been in a relatively stable state since 2010. As is shown in Figure 3 that banking and insurance openness has been in a relatively stable state since 2007, but it has shown a slight decline since 2010. This indicates that China's financial institution opening level to the outside world is low in recent years and China has thereby to take substantive steps to promote its reform and opening up.

The degree of savings-investment correlation reflecting capital and financial account openness in 2007 was 0.92. It indicates that there is a strong correlation between China's investment and savings, showing that China's financial openness is still limited and China's financial markets have not organic integration with international financial markets. The correlation of domestic and foreign interest rates is below 0.25 in most of the years, suggesting that link between domestic interest rate and foreign interest rate is not high. This may be related to China's more strict restrictions on capital flows (especially short-term capital flows) (Table 2).

Long-term capital openness has been in a declining state since 2007. This indicates that the introduction of long-term capitals has a slowing growth trend and a large amount of foreign capital introduction in early reform and opening up is turning to selective introduction of foreign capitals with a higher quality at the present stage. Although the speed of foreign capital introduction begun to slow, its quality was improved. Different from long-term capital flows, short-term capital flows show an unstable state. This may be related to the strict management of Chinese monetary authorities on international hot money. In fact, the RMB has been chased by international hot money because of strong appreciation expectation of the RMB in the past years. However, China's monetary authorities have been strictly to manage short-term capital flows through various means for the sake of financial security. Although short-term capital flows show faster growth after 2009, they have apparently started to stabilize after 2011 (Figure 4). In addition, with respect to composite index, China's financial openness has remained stable state since 2007 (Table 2).

**4.2. Lateral Comparison**

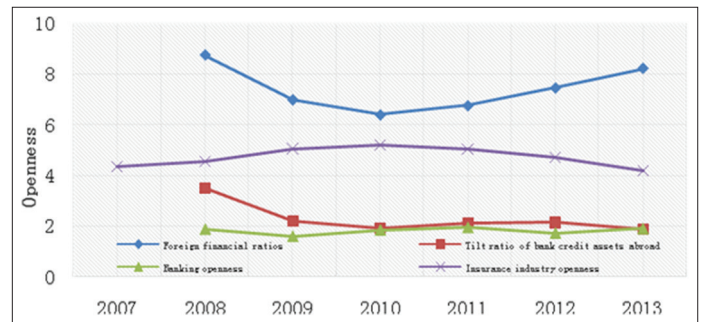
The level of China's monetary market openness is not only higher than that of Brazil and Russia, but also is higher than that of the United States and Japan. It shows that the foreign assets of China's central bank holdings are very high. It may be closely related to China's massive foreign exchange reserves. However, the development degree of China's foreign exchange markets is not only less than that of Japan, but also is not as much as that of Brazil (Table 3).

China's financial service trade openness ranks behind eight countries and is roughly the same as that of Japan and the Russia.

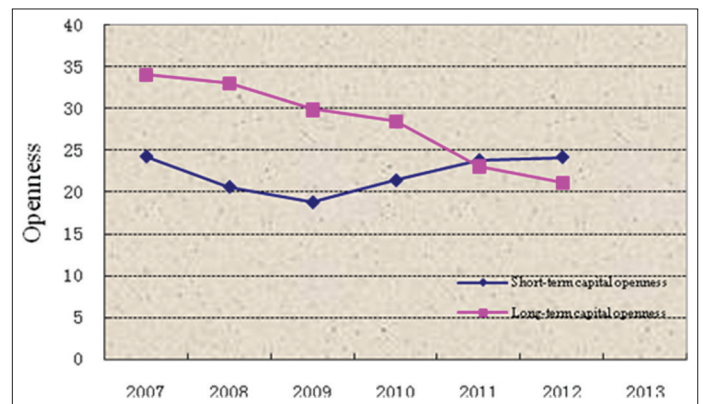
On the foreign capital openness of financial service trade, China is in the bottom of all countries except Japan. China's CLFO-up for international community is only higher than that of Russia but slightly lower than that of Brazil and India. However, it is significantly lower than that of developed countries such as America, Europe and Japan (Figure 5).

China's foreign financial ratio is not only lower than that of the BRIC countries such as Brazil, India and Russia, but also is lower than that of developed countries. The level of a country's foreign financial assets and liabilities is important indexes for financial openness. However, China's foreign financial ratio is obviously lower, showing that China's financial openness level is still low

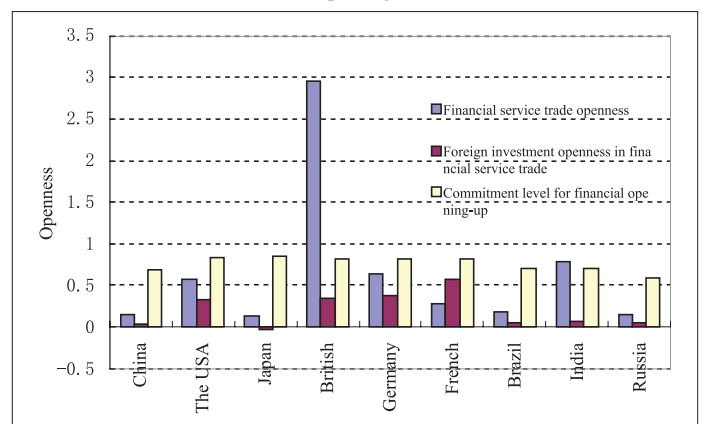
**Figure 3:** Change in the openness of financial business and transaction



**Figure 4:** Change in long- and short-term capital openness



**Figure 5:** Comparison of financial service trade openness, foreign investment openness in FST and commitment level for financial opening



**Table 3: The comparison of financial openness for different countries in 2012**

Contents	Indexes	China	The United States	Japan	British	Germany	French	Brazil	India	Russia
The openness of financial markets	Money market openness	81.47	1.40	3.34	-	-	-	65.16	-	10.85
The openness of financial service trade	Financial service trade openness	0.15	0.58	0.13	2.96	0.64	0.28	0.18	0.79	0.15
	Foreign investment openness in financial service trade	0.026	0.328	-0.030	0.337	0.371	0.574	0.042	0.073	0.042
The openness of financial business and transaction	CLFO	0.690 <sup>a</sup>	0.841 <sup>a</sup>	0.855 <sup>a</sup>	0.823 <sup>a</sup>	0.814 <sup>a</sup>	0.810 <sup>a</sup>	0.697 <sup>a</sup>	0.702 <sup>a</sup>	0.595 <sup>a</sup>
	Foreign financial ratios	8.96 <sup>b</sup>	96.46 <sup>b</sup>	55.11 <sup>b</sup>	390.54 <sup>b</sup>	162.49 <sup>b</sup>	200.35 <sup>b</sup>	13.06 <sup>b</sup>	21.93 <sup>b</sup>	31.48 <sup>b</sup>
	Tilt ratio of bank credit assets abroad	2.15	0.65 <sup>c</sup>	0.31	52.62	-	-	2.55	-	-
	Banking openness	1.72	16.8 <sup>d</sup>	3.76	-	-	-	-	6.21	-
	Long-term capital openness	0.052 <sup>e</sup>	0.044 <sup>e</sup>	-	0.069 <sup>e</sup>	-	-0.019 <sup>e</sup>	-0.078 <sup>e</sup>	-0.033 <sup>e</sup>	-0.010 <sup>e</sup>
	Composite index <sup>f</sup>	0.288	0.583	0.318	1.37	0.61	0.555	0.300	0.522	0.262

<sup>a</sup>The data is quoted from Table 3 in the measurement of China's financial market access and national treatment commitment level, Journal of Financial Studies 3, 2008. (In Chinese).  
<sup>b</sup>Because foreign assets data are not available, it is here expressed only in the debt/GDP. Therefore, it is slightly different the related data in Table 2. <sup>c</sup>Basic data is quoted from <http://www.federalreserve.gov/releases/z1/20120308/z1r-5.pdf>, March 8, 2012. <sup>d</sup>Structure and Share Data for the U.S. Offices of Foreign Banking Organizations, statistical release, Board of Governors of the Federal Reserve System, September 30, 2011. <sup>e</sup>Because the account is not subdivided into short-term and long-term, it is expressed in capital account/GDP. Therefore, the measured data for China are inconsistent with the corresponding data in Table 3 in measurement diameter. <sup>f</sup>Due to the inconsistency of measure caliber and lack of data, paper here uses the composite index of financial service trade openness instead of the overall index and takes  $\lambda_{2i}=1/3$  ( $i=1, 2, 3$ ). <sup>g</sup>The ratio data are all a percentage ratio, CLFO: Commitment level for financial opening-up

and there is a big gap with developed countries (Figure 6). The tilt ratio of bank credit assets abroad in China is only higher than that of Japan but lower than that of Brazil, and there is a large gap with the UK in measured three countries. China's banking openness is also lower than that of Japan, India and the United States (Table 3). Therefore, China's financial liberalization degree, in general, is relatively low.

China's long-term capital openness is second only to that of Brazil but significantly higher than that of India and Russia in the four BRIC countries. It shows that China's long-term capital opening has reached a relatively high level (Table 3). In addition, with respect to composite index, the level of financial openness in China is only slightly higher than that of Russia and is more close to that of Brazil and Japan, but is significantly lower than that of India and the developed countries (Figure 7).

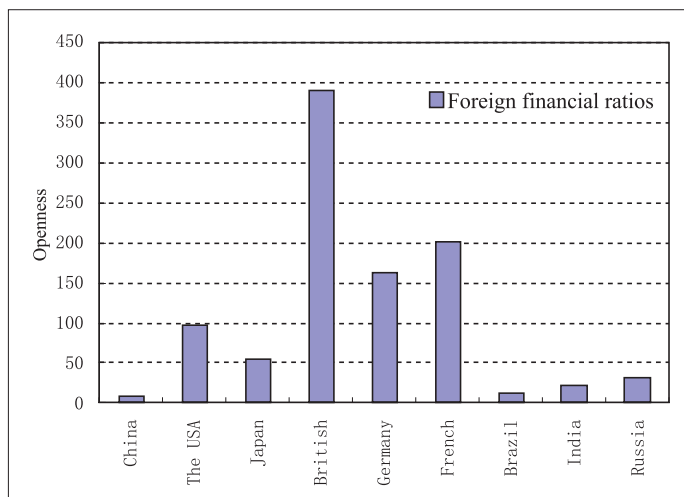
### 5. POLICY RECOMMENDATIONS

#### 5.1. Financial Reform Oriented to Internationalization

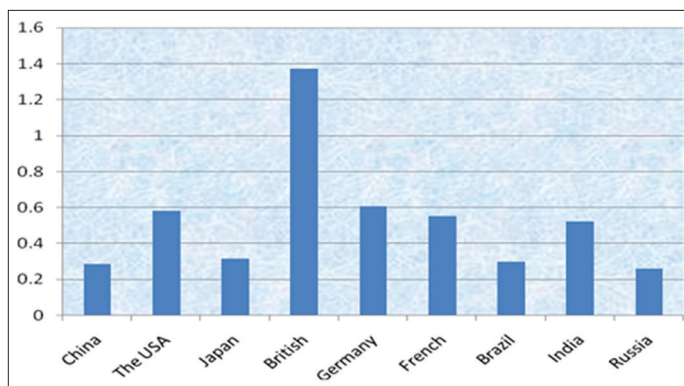
China's finance is inevitable integration with international finance under the background of economic liberalization and internationalization. However, China's finance at the present stage is still in the initial phase of development, and financial operation has not realized marketization and fully opening. Although China has actively absorbed beneficial elements in developed financial system in recent years, the openness, diversity and competition of financial system are still insufficient compared with developed countries, which results in the lack of vitality and low efficiency. Therefore, China should actively draw lessons of successful experience in financial reform and development from developed countries, and fundamentally reform and improve China's financial system oriented to internationalization and opening in the future.

China should actively learn from the successful experience of bank-oriented financial system and focus on the diversified and

**Figure 6: Openness of foreign financial ratios**



**Figure 7: Change in composite index for different countries**



competitive development of financial institutions to form a new relation between modern banks and firms to solve enterprise's financing difficulties and reduce financing costs and risks. At the same time, China should foster and expand direct financing channels to adapt to the diversification of business development.

The key to financial management in China is currently to reduce strict government management and abolish unreasonable regulations to regulate financial institutions and financial markets by the means of legislation and economy. In fact, China's modern financial management mode based on the Basel agreement has been applied, but a market-oriented and opening financial system has still not formed. China should speed up the construction of modern financial management system to fully meet the requirements of the financial openness.

### **5.2. Modern Financial Market Construction with Moderate Competition and Efficiency**

There are two outstanding problems in China's financial market development at the present stage. To begin with, the development of financial markets in China is not sound, and some financial markets have not formed or do not actually play a role. Secondly, domestic financial markets difficultly integrate with international financial markets, restricting financial opening to the foreign and financial internationalization development. Therefore, how to build a moderate competition and effective system of modern financial markets will be the core of China's financial reform and internationalization in the future.

Modern financial market system construction should follow the principle of gradual change. To begin with, China should gradually improve domestic financial markets and financial instruments, including monetary market, capital market, foreign exchange market, derivatives market and so forth. On the specific implementation, China should adopt adaptive reform and development mode to guard against financial market development beyond the realistic requirement of economic development and institutional supply glut. When competitive financial markets have formed, China can realize the integration of domestic financial markets with international financial markets completely to prevent the negative impacts of improper financial liberalization.

### **5.3. Gradually Financial Openness and Internationalization in the Context of Financial Security**

The risks of financial reform are bigger than that of the others because of its core status in economy. Therefore, financial openness and internationalization must be on the premise and basis of financial security. The root cause of a country's financial crisis is its excessive financial openness and liberalization transcending the reality of the domestic finance from the perspective of the experience of foreign financial crisis. Especially, a variety of reasons, for example, the lagged reform of interest rate and exchange rate markets coupled with backward financial management means and experience, caused the financial crisis. As a result, China's financial openness and internationalization should adopt gradual opening-up strategy, but cannot transcend the reality of China's financial development.

Because the market-oriented formation mechanism of RMB exchange rate is not yet mature at this stage, the range of exchange rate floating is limited. Therefore, China should strengthen the management of international capital flows (especially short-term capital flows) and implement conditional openness for them to

create favorable conditions for interest rate marketization, financial market and financial system reform. At the same time, China should strengthen financial cooperation with international society and developed countries to provide solid guarantee for financial security from system and macro environment.

### **5.4. Comprehensive Openness of Financial Industries through the Marketization of Interest Rate and Exchange Rate**

Interest rate and exchange rate are the most important macroeconomic variables under the condition of open economy. First of all, the marketization of interest rate is the basic requirements and conditions of realizing the market-oriented allocation of financial resources. If interest rate do not realize the marketization, the marketization of financial resources allocation is not possible.

Secondly, there is a close relationship between exchange rate and interest rate. Therefore, the market-oriented reform of RMB interest rate and exchange rate as a whole must be considered. Of course, the reform should focus firstly on the marketization of interest rate. In fact, market-oriented financial system has initially formed after decades of reform and development. Especially, the status of the shortage of funds has changed. Therefore, the basic conditions for the market-oriented reform of the interest rate have already possessed. The key now is how to promote market-oriented interest rate reform in an all-round way.

China should synchronously promote the market-oriented reform of RMB exchange rate to give full play to the role of market mechanism in the RMB exchange rate formation, too. Once the market-oriented reform of RMB interest rate and exchange rate is successfully realized, financial industry openness to the outside world and financial internationalization is logically achieved.

### **5.5. Gradual Openness of Capital and Financial Accounts in the Line with RMB Internationalization**

To realize the internationalization of the RMB is the ultimate goal of RMB exchange rate system reform. The RMB at present has achieved freely convertibility under current accounts and conditional convertibility under capital and financial accounts. Because the RMB exchange rate formation mechanism is not still perfect at this stage, there are the greater risks of finance and exchange rate if blindly to implement the RMB's full convertibility under capital and financial accounts. However, China may gradually relax restrictions on capital and financial accounts according to the reality of financial and economic development. Once the conditions are ripe, China may realize full convertibility under the capital and financial accounts.

The focus of the reform is currently to improve the mechanism of RMB exchange rate formation and management and appropriately to expand the floating range of RMB exchange rate to change the situation of excessive management but insufficient floating. At the same time, China should speed up the construction of domestic foreign exchange market and international financial center and actively use the Hong Kong's international financial center



window to vigorously carry out the RMB settlement business to gain experience for RMB internationalization.

### 5.6. Financial Service Trade Liberalization in the Context of Free Trade Zone

Financial service trade liberalization is the inevitable request and ultimate goal of financial openness and internationalization. As the financial service trade liberalization contains huge financial risks, so China should not blindly pursue it. However, some financial liberalization items can be carried out in free trade zone in the first place to accumulate experience to finally comprehensive practice again when conditions are ripe. At present, China has already approved to establish a high-level comprehensive free trade zone in Shanghai and other regions, and some financial businesses have been granted within the free trade zone on a trial basis. Therefore, firms may make full use of the conditions of the free trade zone in business pilot to actively promote financial service trade liberalization to create experience and conditions for comprehensive financial service trade liberalization in the future.

### 5.7. Financial Institution Internationalization through the Strategy of “Leading-into” and “Going-out”

“Leading-into” and “Going-out” is indispensable two aspects for China’s financial openness. For a long time, China lays more emphasis on domestic financial market openness to foreign countries (i.e. “Leading-into”), but makes little of domestic financial institutions into foreign financial markets (i.e. “Go-out”). In fact, both are equally important in financial openness and internationalization. Especially, domestic financial institutions into foreign financial markets are beneficial to accelerate the integration pace of domestic and international financial markets to improve domestic financial performance. Of course, both “Leading-into” and “Going-out” must follow the operation rules of financial markets. The key point of financial reform and opening up at this stage is to give national treatment to foreign financial institutions to create fair competitive opportunities for domestic and foreign financial institutions.

## 6. CONCLUSIONS

China’s financial openness has reached a certain level. Especially, a few of financial sectors have reached a relatively high level. Financial openness in China has been in average level compared with other three BRIC countries. However, it is relatively low compared with developed countries such as the Europe and the United States, showing that the degree of financial openness in China has yet to be further enhanced. Although the strength of financial openness to the outside world is larger in the transition period entering the WTO, it seems to be slower in recent years. Change in many financial indexes is insignificant and some indexes appeared repetition according to this paper’s measure results, showing that China’s financial openness is at the lower stage and has still a long way to go.

Most of China’s financial sectors have allowed foreign financial institutions to enter to varying degree. However, the business of foreign financial institutions in some financial sectors is limited. Many financial service sectors prohibit foreign capitals to enter. In addition, China’s control on short-term capitals is strict. Although

it is beneficial to the short-term stabilization of domestic financial markets, it reduces the competitiveness and efficiency of domestic financial markets. It is not conducive to China’s financial market development in the long run.

This paper only analyzes change in China’s financial openness with the data from 2007 to 2013 due to the difficulty of data acquisition. However, China’s finance has been in a relatively stable state since 2007. If new data can be obtained, then more meaningful results and conclusions will be acquired. In addition, there are too little comparable countries owing to lack of data and the problem of inconsistent statistical caliber in international comparative analysis. As a result, the lateral comparison in this paper is just a preliminary conclusion.

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