ADBI Working Paper Series

The People's Republic of China's Financial Markets: Are They Deep and Liquid Enough for Renminbi Internationalization?

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No. 477
April 2014

Asian Development Bank Institute

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The draft of this paper benefited from discussions at the Asian Development Bank Institute workshops on "Currency Internationalization: Lessons and Prospects for the Renminbi." Comments from Barry Eichengreen, Masahiro Kawai, and Peter Morgan are gratefully acknowledged.

In this report, "$" refers to US dollars, unless otherwise stated.

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Suggested citation:

Cruz, P. C., Y. Gao, and L. L. Song. 2014. The People's Republic of China's Financial Markets: Are They Deep and Liquid Enough for Renminbi Internationalization? ADBI Working Paper 477. Tokyo: Asian Development Bank Institute. Available: http://www.adbi.org/working-paper/2014/04/30/6239.prc.financial.markets/

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Abstract

Domestic financial market development is a key determinant of a currency's international status, and financial depth and market liquidity are two essential attributes for an international currency. This paper discusses the status of the People's Republic of China's (PRC) financial markets and their depth and liquidity conditions. The paper also compares the PRC's financial markets with those in developed and emerging economies, contemporaneously and historically. The paper finds that the PRC's financial markets are not as deep and liquid as those in developed economies, and are much less so than those with international currencies. To support the internationalization of the renminbi, the PRC needs to remove several major obstacles to deepen its financial markets and improve their liquidity conditions.

JEL Classification: E4, E5

Contents

1. INTRODUCTION

Domestic financial market development is a key determinant of a currency's international status (Tavlas 1991; Chinn and Frankel 2007; Forbes 2009; IMF 2011). For a currency to be used internationally to settle cross-border and financial transactions, international traders and investors must have access to a wide array of financial assets denominated in that currency. To provide such access, that country must have broad, deep, and liquid financial markets. The pace of internationalization of the People's Republic China's (PRC) currency—the renminbi—will be closely related to its financial market development. Moreover, to be a reserve currency, the renminbi must be readily available with necessary abundance. A reserve currency must be a reliable store of value, with assets denominated in the currency being held by both the private sector as currency substitution and investment, and by the public sector as international reserves (Chinn and Frankel 2007).

There are three aspects of financial market development: breadth (availability of financial instruments and markets for various transaction purposes), depth (volume of financial instruments in the markets), and liquidity (ease of carrying out transactions for market participants). Without reasonably broad, deep, and liquid financial markets, the renminbi will not be creditably used in international transactions and not attractive to international investors. Institutional investors, including central banks, will not hold renminbi-denominated assets, if they cannot convert these assets easily when needed. Furthermore, international traders and investors will not be able to hedge their exchange rate risks. Similarly, three essential attributes for an international currency to be used in private, commercial, and financial transactions and held as official reserves are scale, stability, and liquidity (Eichengreen 2013). A currency holding stable values will help build users' confidence. Scale refers to international transactions between the country issuing the currency and the rest of the world, which is essentially linked to the breadth and depth of domestic financial markets.

Liquidity plays a central role in the functioning of financial markets, and is believed to improve resource allocation and information efficiency. One dimension of liquidity is referred to as funding liquidity, the availability of credit, or the ease with which institutions can borrow or take on leverage. Another dimension is market liquidity, or the ability of markets to absorb large transactions without much impact on prices. These two are connected and often mutually reinforcing. This is because abundant funding liquidity can finance trading positions that smooth price movements and make markets liquid. Relative abundance of the supply of a currency and assets denominated in that currency are also key aspects of a reserve currency. Without adequate liquidity, international investors and traders will not be able to settle their transactions efficiently, and as a result, it will be difficult for them to hold the currency-denominated assets as investments or international reserves. A wide array of assets with different yields, maturities, and risk levels are required to match the needs of different investors abroad. Therefore, liquidity is closely linked to financial market breadth and depth.

While there are few studies on the PRC's financial market breadth, depth, and liquidity from the perspective of currency internationalization, there is wide agreement that the PRC's financial markets are relatively shallow and underdeveloped, and need to develop further to support renminbi internationalization.[1] This paper discusses the status of the PRC's financial markets and their liquidity conditions, and compares them

[1] See, for example, Prasad and Ye (2012).

with those in other economies, contemporaneously and historically. The contemporaneous comparison compares the PRC with major developed economies issuing international currencies, as well as major emerging economies that are at a similar stage of development as the PRC.

The historical comparison looks at the PRC now and some developed economies in the past when they were at a similar level of development as the PRC is now and whose currencies are international now. Japan and Germany are chosen as the economies for historical comparison, because these two economies developed their financial markets rapidly and internationalized their currencies in the past 50 years. The Republic of Korea is also used for historical comparison as its currency is being internationalized. Comparisons with the United States (US) are included as a benchmark although the circumstances surrounding the development of the US dollar as a global currency are unique. Based on data from World Bank's World Development Indicators (WDI), the PRC's gross domestic product (GDP) per capita (purchasing power parity [PPP], current international dollars basis) of $9,233 in 2012 was at par with the US in 1977, Germany in 1980, Japan in 1981, and the Republic of Korea in 1992.[2] In addition, the Russian Federation in 2003 and Brazil in 2006 were at a similar level of GDP per capita (PPP, current international dollars).[3]

The time period of historical comparison can also be based at the time when the economies "internationalized" their currencies. The year that a currency is internationalized may be subject to interpretation. Frankel (2011) points to 1973 as the start of the rise of the deutsche mark and 1978 for the yen. Takagi (2009) identifies 1984 as the year Japan was forced to internationalize the yen with the signing of the agreement with the US. Kim and Suh (2009) show that the internationalization of the won is an ongoing process, with the start date difficult to pinpoint, and propose that 2001 can be used as an arbitrary benchmark with several liberalization measures approved within the period. The PRC's income level in 2012 is lower than Japan's in 1984 ($12,000) and the Republic of Korea's in 2001 ($18,000), but higher than Germany's in the early 1970s.[4]

While discussing the PRC's financial system, market structure, and characteristics, the paper also draws some implications for renminbi internationalization. The paper is organized as follows. Section 2 introduces the depth of the PRC's financial system. Section 3 discusses the PRC bond market and Section 4 is on the PRC stock market. Section 5 briefs foreign participation in the PRC's securities markets, and Section 6 provides an overview of the money market and some emerging markets in the PRC. Section 7 concludes by exploring the main obstacles to further deepening and development of the PRC's financial markets for renminbi internationalization.

[2] Data for Germany do not include the German Democratic Republic (East Germany) up to 1990; from 1991 onwards, data refers to the unified West and East Germany.

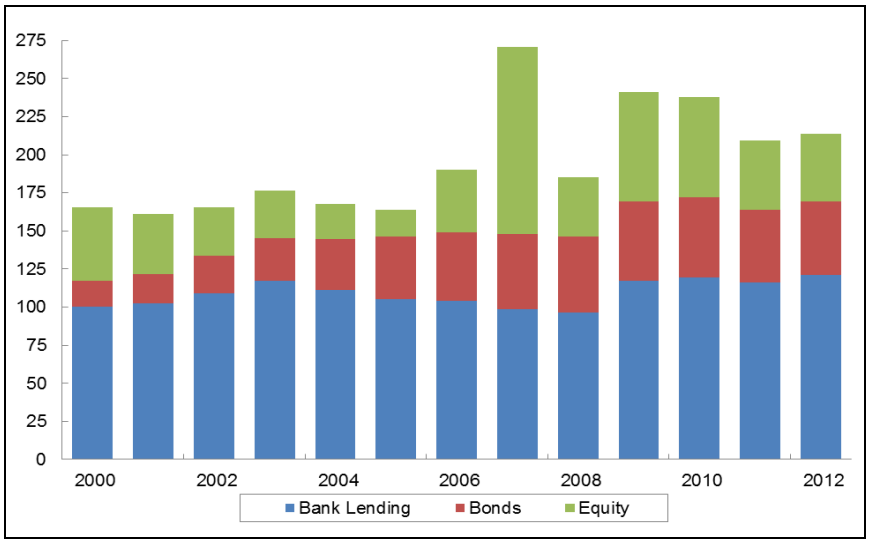
[3] All GDP per capita (PPP, current international dollars) figures from World Development Indicators (WDI), World Bank (accessed 17 October 2013).

[4] Data for GDP per capita for Germany at PPP, current international dollars, is not available prior to 1980. Using current US dollars, Germany's GDP per capita rose from $2,672 in 1970 to $4,884 in 1973 and $11,746 in 1980. Even for adjusting for PPP, GDP per capita of Germany in 1973 is clearly lower than the PRC's in 2012 using current international dollars.

2. THE PEOPLE'S REPUBLIC OF CHINA'S FINANCIAL SYSTEM AND ITS DEPTH[5]

Since the PRC opened up its economy in the late 1970s, the evolution of its financial system has been shaped by its institutional features. After more than 30 years of transformation, the PRC's financial depth, defined as the size of financial institutions and markets, has increased significantly. Yet it is still dominated by big state-owned commercial banks, and business funding is mainly provided by bank lending, with bond and equity markets not well developed. As of the end of 2012, banks provided 54% of total domestic financing, which exceeds equity and debt financing combined (Figure 1).[6] By maintaining low interest rates and directly allocating credit, the financial system has played a critical role in the PRC's growth. While relatively smaller than bank credit, equity and debt financing have grown significantly since 2000, yet the government has still maintained substantial controls, including entry to the capital markets. The decision by the recent Third Plenum of the Central Committee of the Communist Party of China in late 2013 to let the market play a decisive role in allocating resources, including capital, indicates that the authorities are determined to reform the financial system. As a result, the PRC's financial sector may start to transform again, much more significantly than it has in the past three decades (China Daily 2013).

Figure 1: Financial Depth—the People's Republic of China
(% of GDP)



GDP = gross domestic product.

Source: Authors' calculations using data from CEIC, https://www.ceicdata.com (accessed 24 June 2013); and Asian Bonds Online, http://asianbondsonline.adb.org (accessed 19 June 2013).

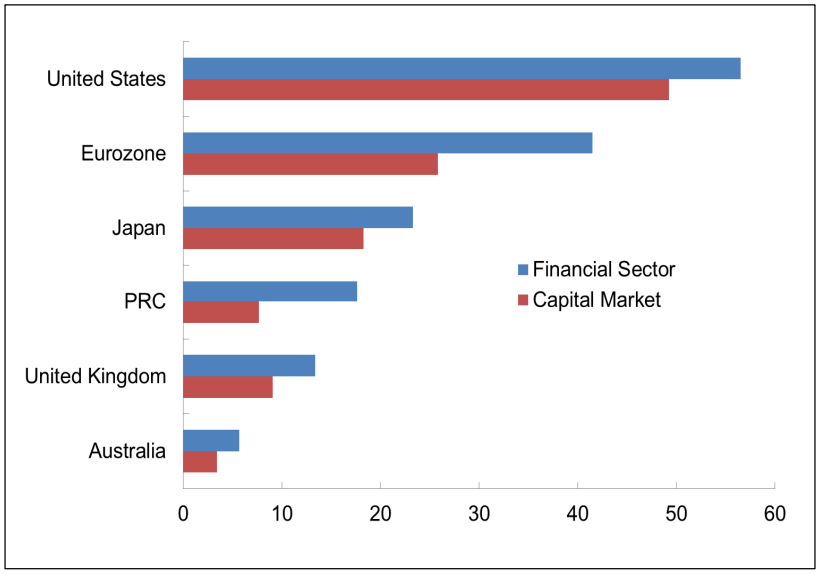
The absolute size of the PRC's financial system is already the fourth largest in the world, only after the US, the combined euro-financial systems, and Japan (Figure 2). Excluding bank lending, the size of capital markets is not as large, and is the world's fifth largest after the US, the eurozone, Japan, and the United Kingdom. The PRC's domestic financial system seems big enough to support an international currency.

[5] This section does not include money markets and other emerging financial markets in the discussion of the PRC's financial depth, because it is difficult to compare these markets internationally.

[6] The surge in stock market capitalization in 2007 was largely due to the rise in stock prices by 200% in that year.

While market size matters, confidence, convenience, ease, and costs should be more important for a currency to be accepted internationally. Compared with the size of the economy, the PRC's financial sector is deeper than some major emerging economies like Brazil, India, and Indonesia, but it is shallower than developed economies and such emerging economies as Thailand, South Africa, and Malaysia (Figure 3).

Figure 2: Financial Sector and Capital Markets—Top Six
(2012, $ trillion)

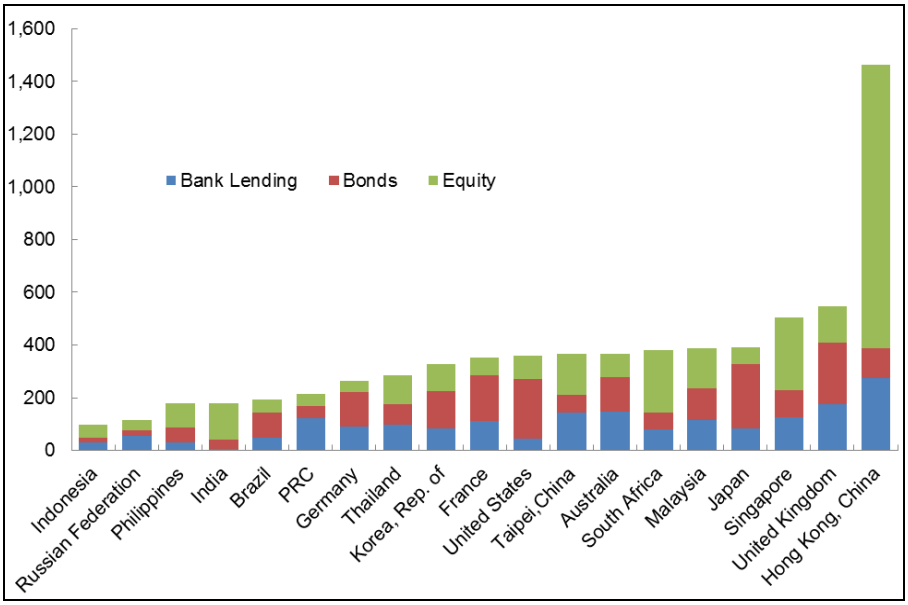


PRC = People's Republic of China.

Note: Capital market refers to the sum of stock market capitalization and bonds outstanding. Financial sector refers to the sum of capital market and bank lending.

Source: Authors' calculations using data from CEIC, https://www.ceicdata.com (accessed 24 June 2013); Asian Bonds Online, http://asianbondsonline.adb.org (accessed 19 June 2013); Bank for International Settlements, http://www.bis.org (accessed 24 June 2013); World Federation of Exchanges, http://www.world-exchanges.org/ (accessed 22 May 2013); and national sources.

Figure 3: Financial Depth, 2012
(% of GDP)

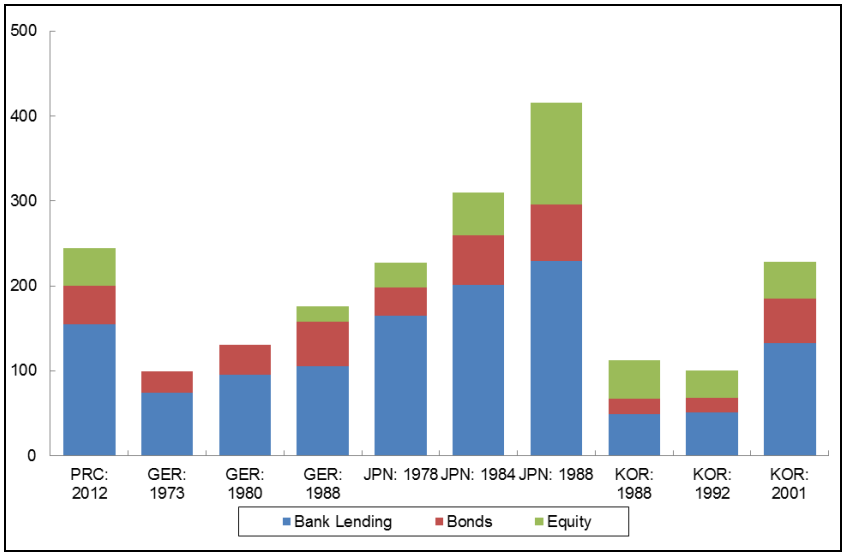


PRC = People's Republic of China.

Source: Authors' calculations using data from CEIC, https://www.ceicdata.com (accessed 24 June 2013); Asian Bonds Online, http://asianbondsonline.adb.org (accessed 19 June 2013); Bank for International Settlements, http://www.bis.org (accessed 24 June 2013); World Federation of Exchanges, http://www.world-exchanges.org/ (accessed 22 May 2013); and World Economic Outlook Database, International Monetary Fund, www.imf.org (accessed 22 May 2013).

Compared with developed countries at a similar stage of development, the PRC's financial sector in 2012 was deeper than Germany in the late 1980s and the Republic of Korea in the early 1990s (Figure 4). The PRC was on par with Japan in the early 1980s. However, if using the "currency internationalization" year as a benchmark, the PRC's financial sector was relatively larger compared to Germany in 1973, on par with the Republic of Korea in 2001, but lags behind Japan in 1984. Excluding bank lending, the PRC's capital markets, as a ratio to GDP, were smaller than Germany, Japan, and the Republic of Korea in the years when their currencies started to internationalize. Given that the economies need increasingly more financing now than decades ago due to globalization and specialization, the PRC's financial sector appears not deep enough to support currency internationalization yet. The financial sector is one of the few important sectors in the PRC that are not as open and liberalized as the rest of the economy. The shallow financial sector is a major obstacle to renminbi internationalization.

Figure 4: Financial Depth—Historical Comparison
(% of GDP)



PRC = People's Republic of China; GER = Germany; JPN = Japan; KOR = Republic of Korea.

Source: Authors' calculations using data from CEIC, https://www.ceicdata.com (accessed 5 November 2013); Asian Bonds Online, http://asianbondsonline.adb.org (accessed 5 November 2013); World Development Indicators, World Bank, http://data.worldbank.org/data-catalog/world-development-indicators (accessed 13 October 2013); and the Bank of Korea, http://ecos.bok.or.kr/EIndex_en.jsp (accessed 4 November 2013).

The PRC's financial sector is dominated by banks, with the share of bank lending in domestic financing the highest among major economies and higher than other emerging economies at a similar stage of development. Furthermore, central and local government agencies and large state-owned entities have maintained significant shareholdings and interests in most commercial banks (Martin 2012). While foreign investors have established a significant presence as strategic investors in the PRC's major financial firms, particularly commercial banks, foreign investments usually remain limited to 25% of the firm's total shares, and in most cases, do not play a management role (Herd, Pigott, and Hill 2010). Bank and public sector dominance may help currency internationalization in the short run, as banks facilitate the use of renminbi in trade settlements, and can also help channel foreign capital flows to the PRC economy through their vast networks. However, indirect financing through banks is more restrictive and expensive than direct financing through bonds and equities. Bonds and equities will be more attractive to foreign investors, and therefore capital markets are much more important to currency internationalization in the long run.

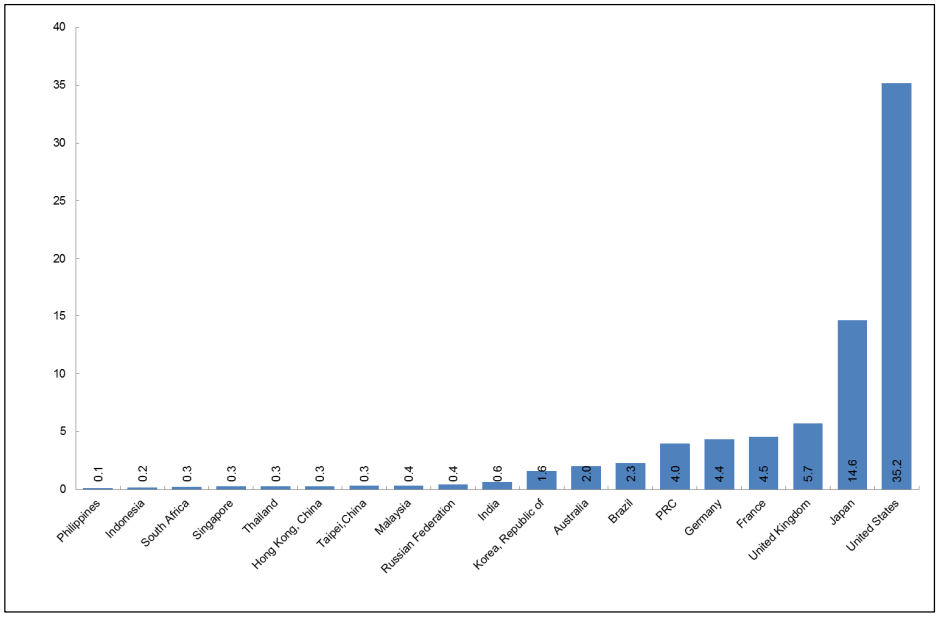
3. THE PEOPLE'S REPUBLIC OF CHINA'S BOND MARKET

In general, bond market development is more important for currency internationalization than the stock market. Given uncertain future earnings and the possibility of bankruptcy, equities are more risky, and therefore their prices more volatile than bonds. Moreover, the participation of the public sector (government and other public agencies) in the bond market, but usually not in the stock market, anchors the bond market by providing a variety of assets to suit different investor preferences, and extra liquidity to ease market trading. These factors are true for domestic and foreign investors. By offering cheaper financing, bonds are also attractive to issuers.

Since the 1990s the PRC's bond market has grown from being almost nonexistent to becoming one of the largest in the world. As the PRC is promoting renminbi internationalization while maintaining capital controls, an offshore renminbi-denominated bond market has also emerged. Yet, in the PRC the bond and equity markets were the same size in 2012, while international-currency issuing economies, such as the eurozone, Japan, and the US, bond markets are significantly larger than equity markets.

The domestic bond market grew by around 40% annually from 2002 to 2008, before slowing to less than 20% annually from 2009 to 2011. The PRC has developed a large and increasingly diverse bond market that includes both public and private debt. As of December 2012, the amount of outstanding local currency bonds reached CNY24.6 trillion ($4 trillion), which is about 48% of GDP. In dollar terms, the PRC's bond market is already the sixth largest in the world, yet still behind those economies with major international currencies (Figure 5). As a percentage to GDP, the PRC's bond market is modest, not only compared to those with international currencies, but also smaller than many emerging economies such as South Africa, Thailand, Brazil, and Malaysia (Figure 6).[7]

Figure 5: Bonds Outstanding, 2012
($ trillion)



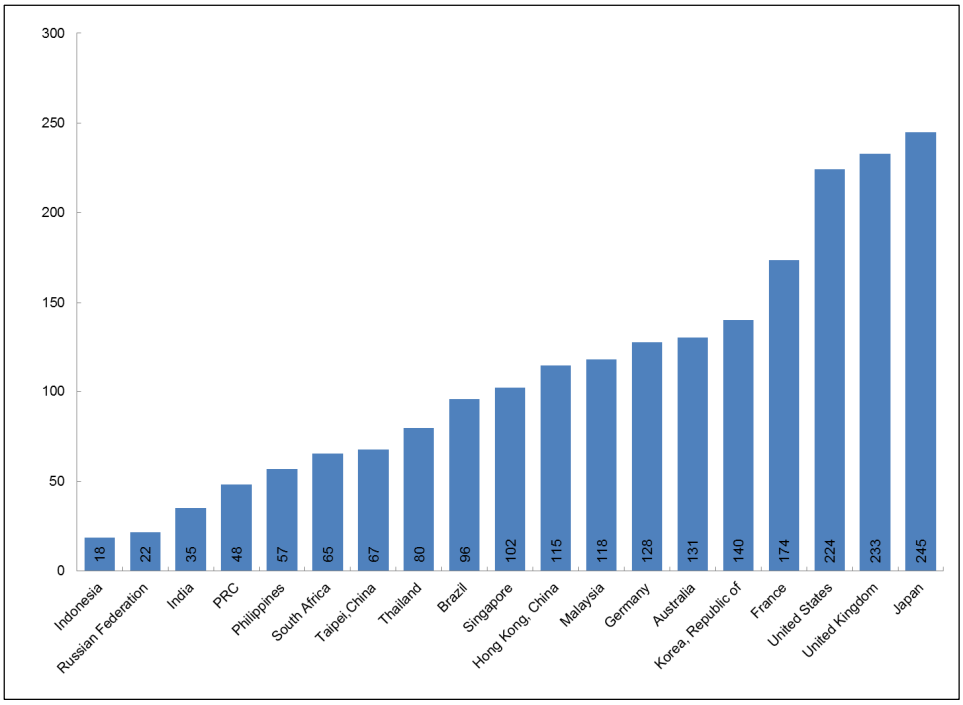
PRC = People's Republic of China.

Note: Outstanding bonds refers to the sum of local-currency and foreign-currency denominated bonds from Asian Bonds Online (PRC; Hong Kong, China; Indonesia; Republic of Korea; Malaysia; Philippines; Singapore; and Thailand), the sum of domestic and international debt securities from Bank for International Settlements (Brazil; India; Japan; and Taipei,China), or the total debt securities from Bank for International Settlements (Australia, France, Germany, Russian Federation, United Kingdom, and United States).

Source: Authors' calculations using data from Asian Bonds Online, http://asianbondsonline.adb.org (accessed (accessed 19 June 2013); and Bank for International Settlements, http://www.bis.org (accessed 24 June 2013).

[7] For the development of the PRC's bond market, see, for example, AFDC and ADB (2010) and Bae (2012). The bond market statistics used in this paper are from ADB (2013).

Figure 6: Bonds Outstanding, 2012
(% of GDP)



PRC = People's Republic of China.

Note: Outstanding bonds refer to sum of local-currency and foreign-currency denominated bonds from Asian Bonds Online (PRC; Hong Kong, China; Indonesia; Republic of Korea; Malaysia; Philippines; Singapore; and Thailand), sum of domestic and international debt securities from BIS (Brazil; India; Japan; and Taipei,China), or total debt securities from BIS (Australia, France, Germany, Russian Federation, United Kingdom, and United States).

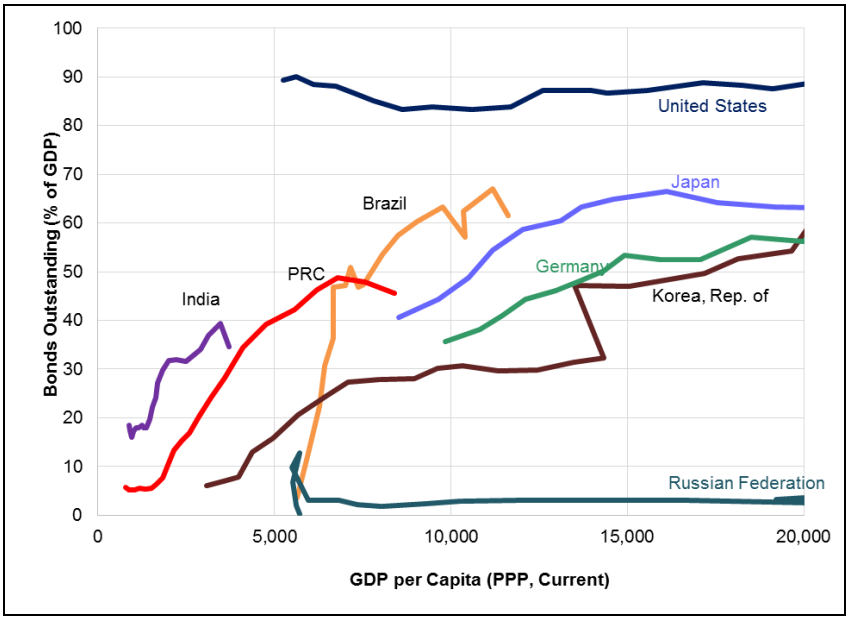
Source: Authors' calculations using data from Asian Bonds Online, http://asianbondsonline.adb.org (accessed (accessed 19 June 2013); Bank for International Settlements, http://www.bis.org (accessed 24 June 2013); and World Economic Outlook Database, International Monetary Fund, www.imf.org (accessed 22 May 2013).

The depth of the PRC's bond market is similar to that of economies at similar levels of income, such as Japan in 1981 and Brazil in 2006 (Figure 7), but deeper than in the Republic of Korea. Yet, if the currency internationalization year benchmarks are used, the PRC's bond market as a ratio to GDP is much smaller than that of Japan in 1984 and the Republic of Korea in 2001, though bigger than Germany's in 1973. The US bond market was more advanced, even in the earlier years of its economic development, with the bond market at about 40% of GDP in the early 1930s. While the development of the PRC's bond market is comparable to its stage of economic development, the scale hasn't reached the depth of when Japan and the Republic of Korea started their currency internationalization. This suggests that the PRC's bond market has some way to go before it can support renminbi internationalization.

The government plays a large role in the PRC's domestic bond market. 73% of outstanding local currency bonds are government issued, amounting to $2.77 trillion in 2012. The remaining 27% ($1.0 trillion) are corporate bonds, which are also dominated by state-owned companies, defined as majority-owned by the government. Government bonds include treasury bonds (issued by the Ministry of Finance), central bank bonds issued by the People's Bank of China (PBC), and policy bank bonds (issued by three state-owned policy banks and fully guaranteed by the central

government).[8] About a third of bonds outstanding are treasury bonds ($1.3 trillion), while another third are policy bank bonds ($1.26 trillion). Central bank bonds were relatively small at $215 billion at the end 2012.

Figure 7: Bonds Outstanding and GDP per Capita



GDP = gross domestic product, PPP = purchasing power parity, PRC = People's Republic of China.

Note: For the United States, outstanding liabilities of corporations, the financial sector, and federal, state, and local governments are based on Flow of Funds data from 1970 to 1987.

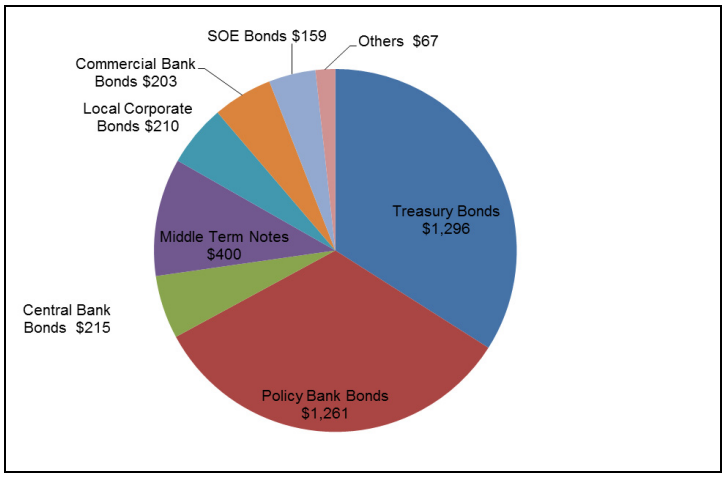
Source: Authors' calculations using data from Asian Bonds Online, http://asianbondsonline.adb.org (accessed 5 November 2013); Bank of Korea, http://ecos.bok.or.kr/EIndex_en.jsp (accessed 4 November 2013); CEIC, https://www.ceicdata.com (accessed 5 November 2013); United States Federal Reserve Board, http://www.federalreserve.gov/ (accessed 15 November 2013); and World Development Indicators, World Bank, http://data.worldbank.org/ (accessed 13 October 2013).

The corporate bond market, on the other hand, can be seen as an extension of the lending activities by commercial banks that dominate the corporate bond market. In 2012, corporate bonds were mainly composed of middle-term notes ($400 billion), local corporate bonds, commercial bank bonds, state-owned enterprises (SOE) bonds, and others (Figure 8).[9] The role of the government in the corporate bond market is significant as the biggest issuers are SOEs and big commercial banks that are also majority owned by the government, despite the fact they are listed in the stock markets in the PRC and Hong Kong, China.

[8] The three policy banks, the China Development Bank (CDB), the Export-Import Bank of China (CEXIM), and the Agricultural Development Bank of China (ADBC), were created to raise funds and support specific sectors such as infrastructure (CDB), agriculture (ADBC), and exports (CEXIM).

[9] Middle-term notes (MTNs) are issued by non-financial corporations in the interbank bond market with maturities ranging from 2 to 10 years. Issuance requirements for MTNs are less rigid compared to other bonds (AFDC and ADB 2010).

Figure 8: Composition of Local Currency Bonds Outstanding, 2012—the People's Republic of China
($)

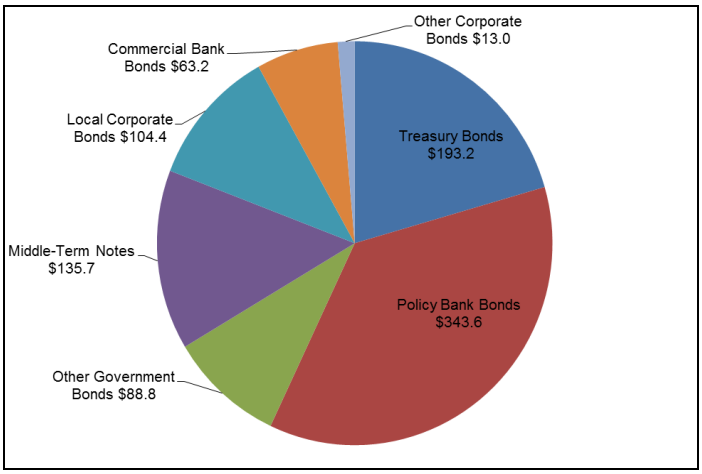


SOE = state-owned enterprises.

Source: ADB (2013).

There are signs that corporate bonds are expanding faster than government bonds as the share of treasury and policy bank bonds in total bond issuance has fallen to 57% in 2012 from more than 80% in 2010 (Figure 9). The PRC's $937 billion bond issuance in 2012 was the fifth largest in the world, after the US, France, Japan, and Germany (Figure 10), but the issuance of corporate bonds in these 5 economies is usually larger than that of government bonds. From an almost negligible level in 2004, corporate bond issuance accounted for 36% of the total bond issuance, reaching $336 billion in 2012. Yet, a small number of issuers dominate the PRC's corporate bond market with the top 30 issuers accounting for 60% of the market. As in bonds outstanding, state-owned companies dominate corporate bond issuance. Only seven of the top 30 corporate issuers are not government owned, and all seven are banks (ADB 2013).

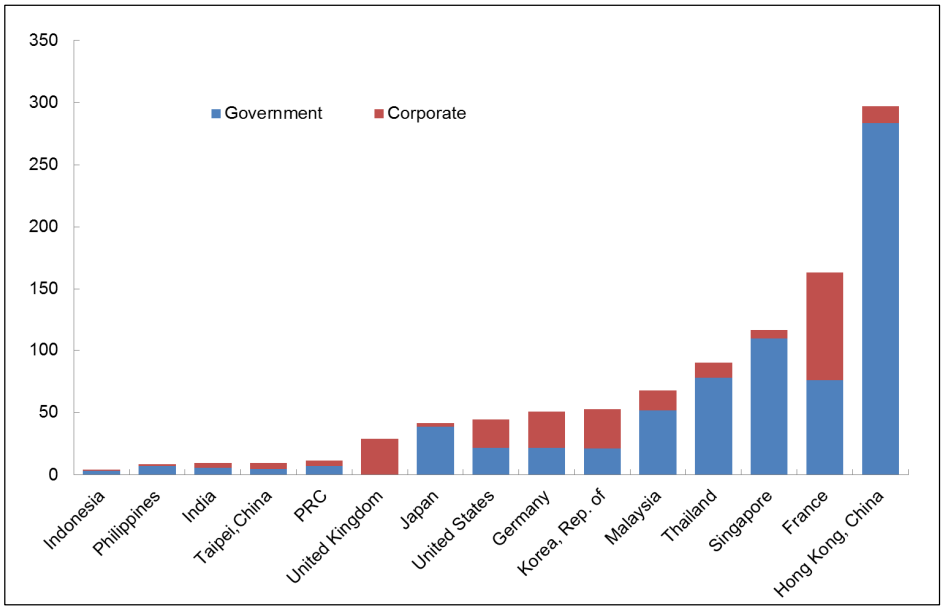
Figure 9: Composition of Local Currency Bonds Issuance, 2012—the People's Republic of China
($)



PRC = People's Republic of China.

Source: ChinaBond, http://www.chinabond.com.cn/ (accessed 27 June 2013).

Figure 10: Government and Corporate Bonds Issuance, 2012
(% of GDP)



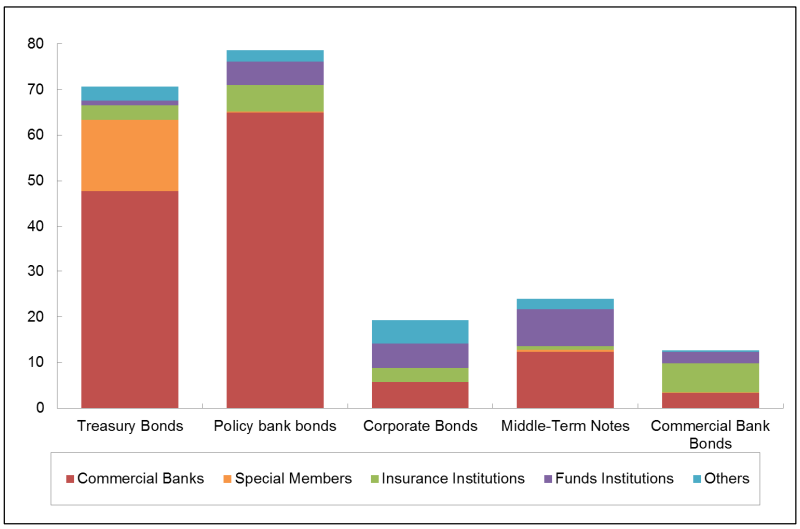
PRC = People's Republic of China.

Source: Authors' calculations using data from CEIC, https://www.ceicdata.com (accessed 5 November 2013); Asian Bonds Online, http://asianbondsonline.adb.org (accessed 19 June 2013); Bank for International Settlements, http://www.bis.org (accessed 24 June 2013); and World Economic Outlook Database, International Monetary Fund, www.imf.org (accessed 22 May 2013).

Bond investors are not diverse either, as commercial banks hold most of the bonds, though insurance companies hold most of the commercial bank bonds. For government bonds, commercial banks hold 75.6% of outstanding volume; special members hold 10.5%, with the remaining 13.9% held by insurance and fund institutions, and "others" (Figure 11).[10] Of the total government bonds, foreign banks hold 1.1%. Ownership is more diverse for corporate bonds: commercial banks hold 38.3%, fund institutions 28.5%, insurance companies 18.4%, and "others" 13.9%. Since most of the commercial banks are government owned, the government is in effect lending to itself and its projects through the issuance of bonds.

[10] Special members include the PBC, MoF, policy banks, the Shanghai and Shenzhen Stock Exchanges, and other government regulatory and financial institutions. "Others" include exchanges, credit cooperative banks, securities companies, non-bank financial institutions, non-financial institutions, and individuals.

Figure 11: Investor Profile of Bond Holders—the People's Republic of China, 2012
(CNY million)



Source: Authors' calculations using data from ChinaBond, http://www.chinabond.com.cn/ (accessed 27 June 2013).

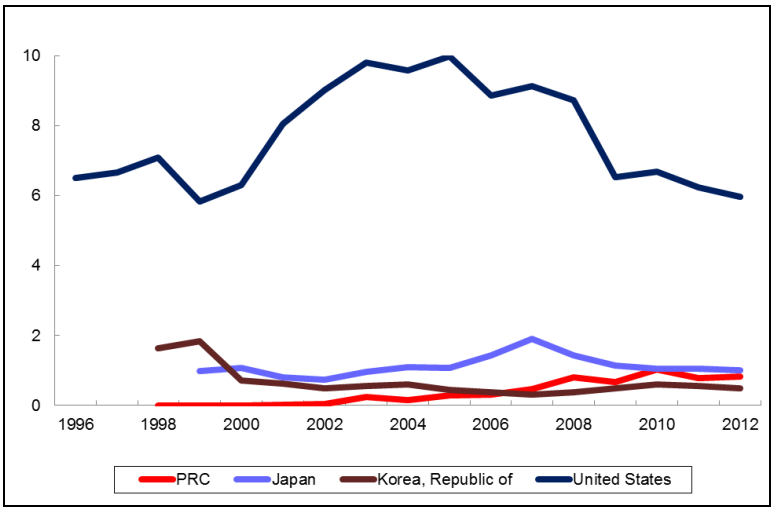
The disproportionate dominance of the public sector in the domestic bond market—in terms of outstanding amount and issuance—may actually help renminbi internationalization in the short term. This is because public sector bonds are safer due to explicit or implicit guarantees from the government. Public sector bonds are also less diverse due to having fewer issuers than corporate bonds. Given the PRC's weaker bond market infrastructure, particularly lacking in creditable rating agencies, public sector bonds are more attractive to foreign investors, and foreign central banks tend to hold such bonds as foreign exchange reserves. However, there is a limit for the public sector to issue bonds, and without corporate bonds, the development of the PRC's domestic bond market would be constrained. A key to increasing the use of the renminbi internationally is to facilitate the holding of renminbi-denominated assets by foreign investors, and deepening and broadening of the PRC's corporate bond market is essential in creating these assets.

Although increasing since 2000, trading at the PRC's bond market is not as active as in developed economies.[11] Based on the limited data from other countries, bond market turnover in the PRC is much lower than in the US (Figure 12). The lower level can be explained by the less diversified investor profile, as well as the dominance of commercial banks in the bond markets. Yet, the current level of bond market turnover in the PRC is also lower than, but not far from, the levels of Japan and the Republic of Korea in the earlier years when they started to internationalize their currencies. The

[11] The PRC's domestic bonds are traded mainly in the interbank bond market (or the over-the-counter [OTC] market) and the exchange market. Regulated by the PBC, the OTC market is the main market where more than 90% of bond transactions occur. It is quota-driven where major institutional investors trade bonds; mainly treasury bonds, policy bank bonds, MTNs, and commercial bank bonds. The OTC market is transparent as bond transactions are registered and settled centrally (www.chinabond.com.cn). The exchange market, on the other hand, is regulated by the China Securities Regulatory Commission (CSRC). Listed company corporate bonds are traded in the exchange market where small- and medium-sized institutional investors and individuals trade bonds through the concentrated matchmaking method. Until July 2012, qualified foreign institutional investors (QFII) were only allowed access to the smaller exchange market.

commercial banks dominated the bond markets in Japan and the Republic of Korea in the 1990s.

Figure 12: Bond Market Turnover Ratio



PRC = People's Republic of China.

Notes: Annual US market turnover ratio is the sum of treasuries, municipal bonds, corporate debt, agency mortgage-backed securities (MBS), non-agency MBS, asset-backed securities, and federal agency securities, while market turnover ratios for the PRC, Japan, and the Republic of Korea refer to the sum of government and corporate bonds. Data started in 1999 for Japan and 1998 for the Republic of of Korea and the PRC .

Source: Authors' calculations using data from the Securities Industry and Financial Markets Association, http://www.sifma.org/ (accessed 10 January 2014); and Asian Bonds Online, http://asianbondsonline.adb.org (accessed 19 June 2013).

The PRC's government bond turnover ratio, at 2.7 in 2012, was lower than that of the economies with international currencies, though on par or higher compared to other developing economies (Table 1). The turnover for US government bonds was the highest in 2012 reflecting a highly liquid market. The turnovers for other developed economies (including the Republic of Korea) exceed outstanding volumes by more than 300%. The turnover ratio for the PRC corporate bonds, however, was higher than that of government bonds, as well as those in developed economies, including the US with large and liquid corporate bond markets. Compared to government bonds, corporate bonds are more diverse in terms of maturity, coupon, default risk, and bond covenants. This diversity tends to lead to corporate bonds being held until maturity, leading to low turnover ratios.[12] Government bonds, on the other hand, have much more standardized instruments available, leading to easier trades.

The high turnover for corporate bonds in the PRC does not necessarily mean that the market is liquid. Similar to the investor profile for bond holdings, commercial banks and funds institutions dominate the market for corporate bonds. The corporate bond market, serving mainly as an extension of the commercial banks' lending activities, might become active as banks extend loans. The turnover volume might be inflated as it is used as one of the criteria for the PBC to annually evaluate banks. In addition, it is possible that the corporate bond market turnover may also be inflated by banks to

[12] An exception to this low turnover for corporate bonds is the mortgage-backed securities (MBS) in the US. Figures from the Securities Industry and Financial Markets Association (SIFMA) show that with an outstanding amount of $8.2 trillion and turnover of $70.7 trillion, the turnover ratio was 8.7 in 2012. MBS are guaranteed explicitly or implicitly by the US government through the nationalized mortgage firms (Vickery and Wright 2013).

circumvent regulations and supervision. Some banks and brokerage firms use bond trades to shift bonds from their balance sheets and to hide the bonds from the scrutiny of regulators trying to control the surge in domestic credit.[13] The government has recently launched investigations on certain bond-trading activities that heighten the risks in the fast growing debt market.

Table 1: Government and Corporate Bond Turnover, 2012

Economy	Government			Corporate		
	Amount outstanding ($ billion)	Turnover ($ billion)	Turnover ratio	Amount outstanding ($ billion)	Turnover ($ billion)	Turnover ratio
China, People's Rep. of	2,725	7,356	2.70	1,176	4,329	3.68
NIEs						
Hong Kong, China	93	679	7.29	83	51	0.61
Korea, Rep. of	538	2,216	4.12	833	500	0.60
Singapore	115	267	2.33	178	-	-
Taipei,China	167	60	0.36	89	64	0.72
ASEAN-4						
Indonesia	87	106	1.22	19	9	0.45
Malaysia	192	476	2.48	127	53	0.41
Philippines	78	154	1.97	18	-	-
Thailand	214	622	2.91	55	13	0.24
BRICS						
Brazil	1,436	-	-	857	-	-
Russian Federation	436	-	-	157	-	-
India	641	1,736	2.71	227	127	0.56
China, People's Rep. of	2,725	7,356	2.70	1,176	4,329	3.68
South Africa	251	-	-	100	-	-
Developed Economies						
Australia	493	1,820	3.69	798	613	0.77
France	1,781	-	-	2,484	-	-
Germany	2,121	6,902	3.25	2,100	-	-
Japan	11,537	55,040	4.77	1,079	356	0.33
United States	10,921	130,774	11.97	9,088	4,214	0.46
United Kingdom	2,139	7,876	3.68	3,459	-	-

ASEAN = Association of Southeast Asian Nations; BRICS = Brazil, Russian Federation, India, People's Republic of China, and South Africa; NIEs = newly industrialized economies.

Notes: Turnover ratio is computed by dividing the annual turnover by the amount outstanding.

For the United States: Government refers to treasuries. Other government-related bonds include municipal bonds (turnover ratio of 0.7). Corporate refers to corporate debt. Mortgage-related securities have a turnover ratio of 8.7 (outstanding amount of $8.2 trillion and turnover of $70.7 trillion). Other corporate-related bonds have a lower turnover ratio: asset-backed securities (0.2) and federal agency securities (1.2).

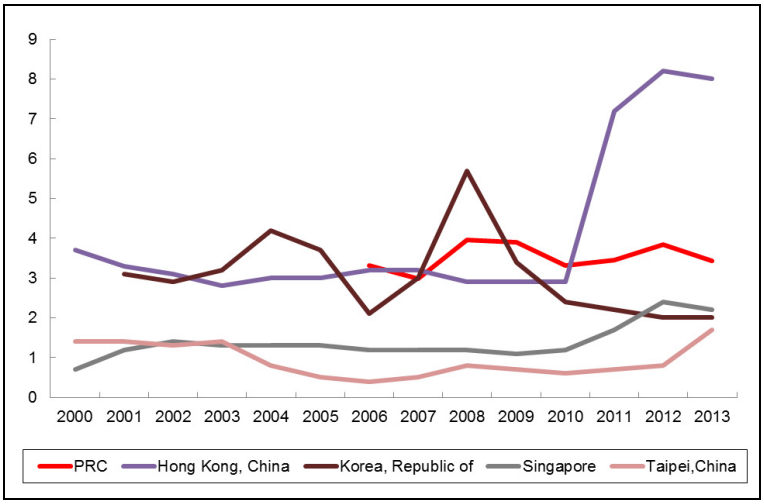
Source: Authors' calculations using data from CEIC, https://www.ceicdata.com (accessed 5 November 2013); Asian Bonds Online, http://asianbondsonline.adb.org (accessed 19 June 2013); Bank for International Settlements, http://www.bis.org (accessed 24 June 2013); Securities Industry and Financial Markets Association, http://www.sifma.org/ (accessed 10 January 2014); Australian Financial Market Association http://www.afma.com.au (accessed 18 June 2013); Gre Tai Securities Market, http://www.gretai.org.tw/ (accessed 27 June 2013); and Germany Finance Agency, http://www.deutsche-finanzagentur.de/ (accessed 18 June 2013).

Liquidity in secondary bond markets is better captured by bid–ask spreads. The PRC's bid–ask spread for 10-year government bond yields was relatively stable at 4 basis points, higher compared to most developed economies but on par with most emerging

[13] See news reports, such as Wei (2013).

economies (Figures 13a–13d). The higher bid-ask spreads reflect the lower level of liquidity of the PRC's secondary government bond market than those in more developed bond markets, which implies that the current level of liquidity in the PRC's bond market may not be attractive to active foreign investors. However, introducing more institutional investors, both domestic and foreign, should enhance liquidity and therefore help renminbi internationalization.

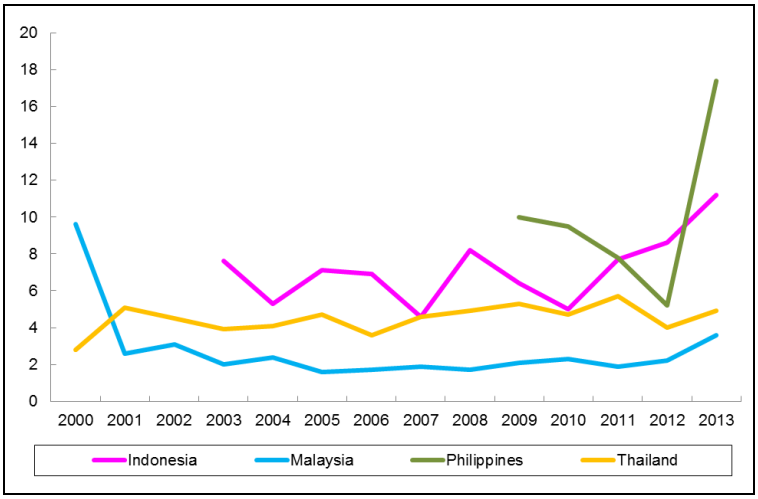
Figure 13a: Bid–Ask Spreads of Generic 10-Year Government Bond Yields—the PRC and NIEs
(basis points)



PRC = People's Republic of China; NIE = newly industrialized economy.

Source: Authors' calculations using data from Bloomberg L. P, http://www.bloomberg.com/ (accessed 29 January 2014).

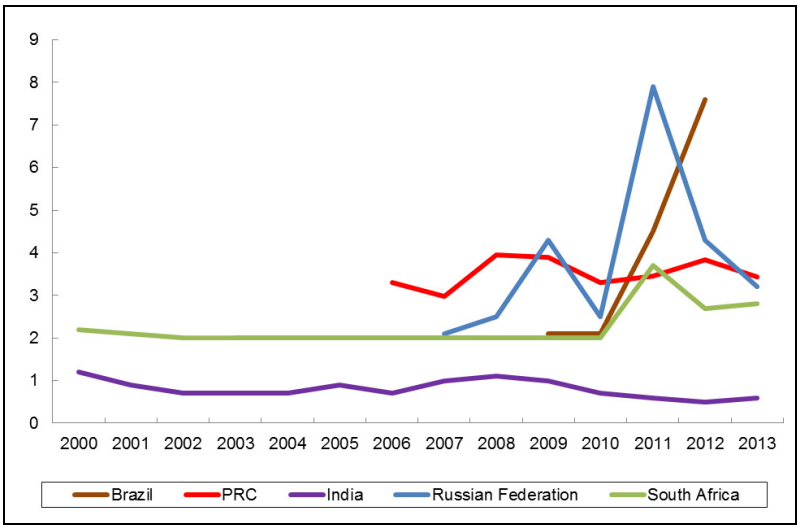
Figure 13b: Bid-Ask Spreads of Generic 10-Year Government Bond Yields—ASEAN-4
(basis points)



ASEAN = Association of Southeast Asian Nations.

Source: Authors' calculations using data from Bloomberg L.P. http://www.bloomberg.com/ (accessed 29 January 2014).

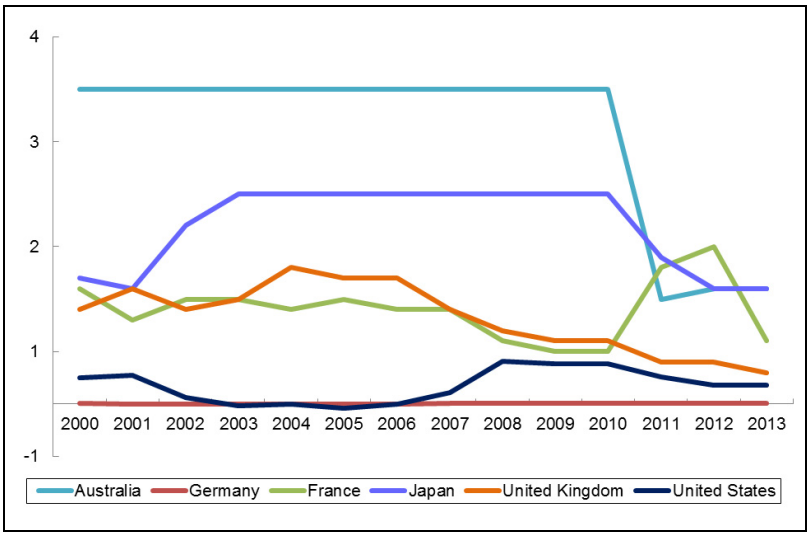
Figure 13c: Bid-Ask Spreads of Generic 10-Year Government Bond Yields—BRICS
(basis points)



BRICS = Brazil, Russian Federation, India, PRC, and South Africa; PRC = People's Republic of China.

Source: Authors' calculations using data from Bloomberg L. P. http://www.bloomberg.com/ (accessed 29 January 2014).

Figure 13d: Bid-Ask Spreads of Generic 10-Year Government Bond Yields—Developed Economies
(basis points)

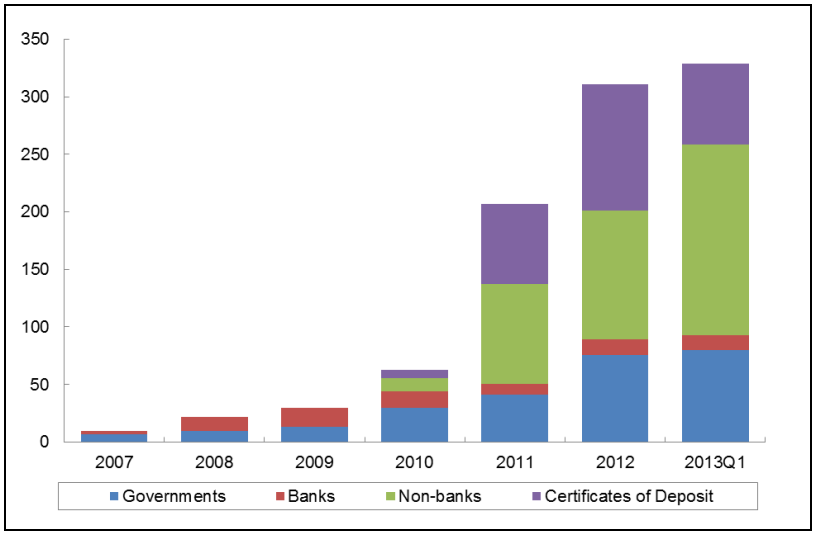


Source: Authors' calculations using data from Bloomberg L.P. http://www.bloomberg.com/ (accessed 29 January 2014).

In addition to the domestic bond market, an offshore bond market has also emerged as the PRC started to internationalize its currency. In 2003, offshore renminbi bonds appeared in Hong Kong, China with the formation of offshore settlement infrastructure and personal renminbi banking services. In June 2007, PRC-based financial institutions were officially allowed to issue renminbi bonds in Hong Kong, China. With bonds offerings relatively small (averaging CNY2 billion) and with short maturities (2.4 years on average), these offshore renminbi bonds were commonly called "dim sum bonds".

To distinguish them from the onshore bond market with a code of CNY (yuan), dim sum bonds were assigned the CNH code.[14] The China Development Bank, the biggest of the PRC's three policy banks, issued the first CNH bond worth CNY5 billion with a tenor of 2 years. For the first 4 years, the growth of the offshore bond market was relatively slow even after the PRC's Ministry of Finance entered the market in October 2009. From CNY10 billion in 2007, outstanding CNH bonds were only CNY30 billion in the second quarter of 2010 (Figure 14).

Figure 14: Dim Sum Bonds (CNH) Outstanding, by Issuer
(CNY billion)



Note: Governments include policy banks of the People's Republic of China, such as the China Development Bank.

Source: Hong Kong Monetary Authority, http://www.hkma.gov.hk/ (accessed 1 August 2013).

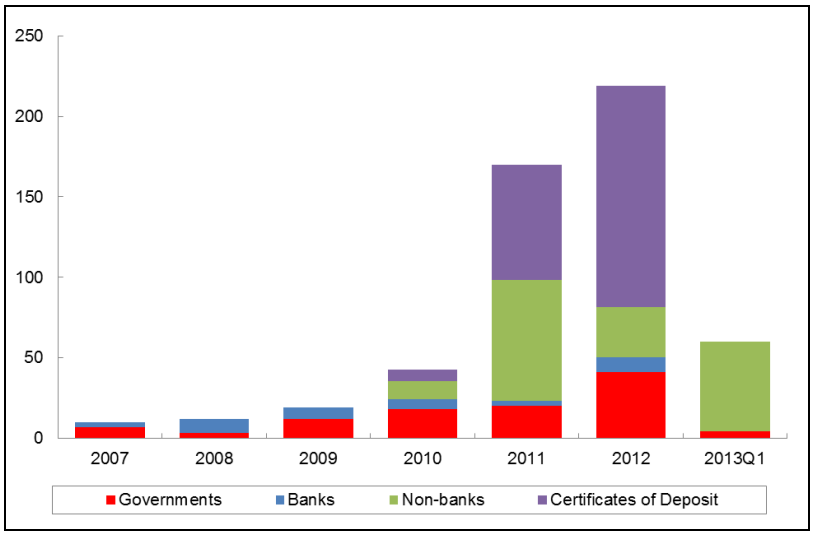
Several measures were introduced in 2010 to liberalize and expand the CNH market. In February 2010, non-financial corporations were allowed to issue CNH bonds. Certificates of deposit (CDs) were also introduced wherein all participating banks in Hong Kong, China could issue CDs without prior approval. As short-term debt products, CDs provide additional liquidity and trading activities to the CNH market. In July 2010, major deregulatory measures such as the removal of restrictions on issuer, investor, or amount of bond issuance were introduced. Corporations were also allowed to freely convert renminbi and transfer funds between accounts. These measures pushed off-shore bond issuances to CNY42.7 billion in the second-half of 2010, larger than the total amount of issuances since 2007. The total outstanding reached CNY62.6 billion by the end of 2010.

Since then, the offshore bond market expanded with total issuances reaching CNY170 billion in 2011 and CNY219 billion in 2012 (Figure 15). Non-bank corporations accounted for 44% of issuances in 2011 while CDs accounted for 42%. In 2012, CDs accounted for 62% of issuances while official institutions (mainly the PRC's Ministry of Finance and policy banks) accounted for 18% of issuances. In the first quarter of 2013, issuances amounted to CNY60 billion with CNY55.5 billion (92%) issued by non-bank corporations. This pushed the size of the CNH market to CNY330 billion in March 2013. Yet, most issuers are from the PRC and Hong Kong, China. While the amount of

[14] For details of the PRC offshore bond markets, see, for example, Fung, Ko, and Yau (2012) and Craig et al. (2013).

dim sum bonds launched by companies with headquarters outside the PRC and Hong Kong, China reached CNY42.5 billion in 2012, up by 40% from a year earlier (HKMA 2013), it was less than 20% of the total amount of dim sum bonds issued that year.

Figure 15: Dim Sum Bonds (CNH) Issuance, by Issuer
(CNY billion)



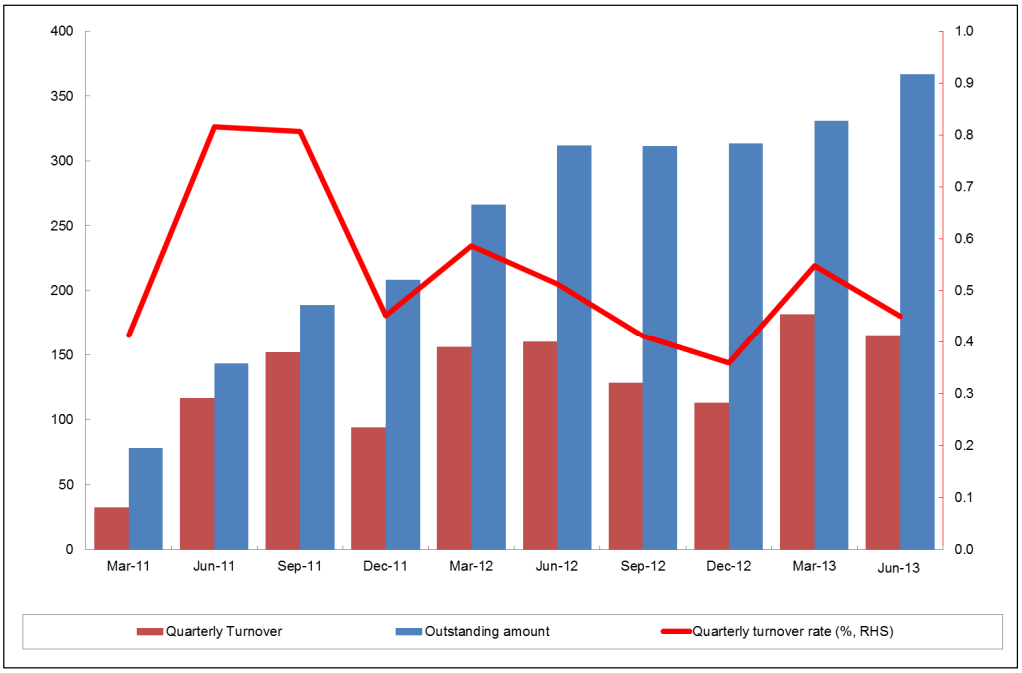
Note: Governments include policy banks of the People's Republic of China such as the China Development Bank.

Source: Hong Kong Monetary Authority. http://www.hkma.gov.hk/ (accessed 1 August 2013).

The CNH bond market, dominated by non-bank corporate bonds, is more liquid than the domestic corporate bond market (Figure 16). In mid-2011 the quarterly turnover was CNY117 billion, 0.8 times of the CNY143 billion outstanding in the secondary market. The quarterly turnover increased to CNY155 billion in the first two quarters of 2012 before dropping to CNY121 billion in the second half. In the first half of 2013, the quarterly turnover grew to an average of CNY173 billion. With the rapid increase in the outstanding amount of dim sum bonds, the quarterly turnover ratio was 0.5 in the first half of 2013.

Compared to other more mature offshore bond markets, the PRC's dim sum bond market is shallow and less liquid. Demand for CNH bonds is driven primarily by high yields and the expectation of renminbi appreciation. With yields currently falling, on-going concerns of the PRC's economic slowdown, and anticipated tightening of global liquidity, demand for dim sum bonds has waned. One of the problems facing the PRC's offshore bond market development is the weak demand for dim sum bonds from long-term investors such as central banks. Barclays Research (2012) reported that dim sum bonds were mainly bought by private banks (35%), asset managers (30%), and banks (23%). Insurance companies bought the remaining 8% and others 4%.

Figure 16: Dim Sum Bonds (CNH) Outstanding and Quarterly Turnover
(CNY billion)



RHS = right-hand scale.

Note: Turnover rate is computed by dividing the quarterly turnover value by the outstanding amount. Data refer to renminbi-denominated Central Moneymarkets Unit (CMU) Issues in the secondary market (Remaining tenor).

Source: Authrors' calculations using data from the Hong Kong Monetary Authority, http://www.hkma.gov.hk/ (accessed 1 August 2013).

With Hong Kong, China as the first offshore renminbi trading center, Taipei,China is likely to be the second trading center given the economic and financial links between the two economies. In August 2012, the monetary authorities from the PRC and Taipei,China signed a memorandum on *Currency Clearing Cooperation Across the Straits*, in which the two parties agreed to establish an across straits currency clearing mechanism, paving the way for a currency clearing system to help facilitate trade and investment. Singapore is likely to become another offshore center with a renminbi clearing bank authorized in February 2013. With its strategic location, Singapore can serve as a hub for renminbi transactions in Southeast Asia. London is hoping to be the first renminbi trading center outside Asia. In April 2012, the first dim sum bond outside Asia was issued by HSBC in London with CNY2 billion worth of bonds and a maturity of three years.

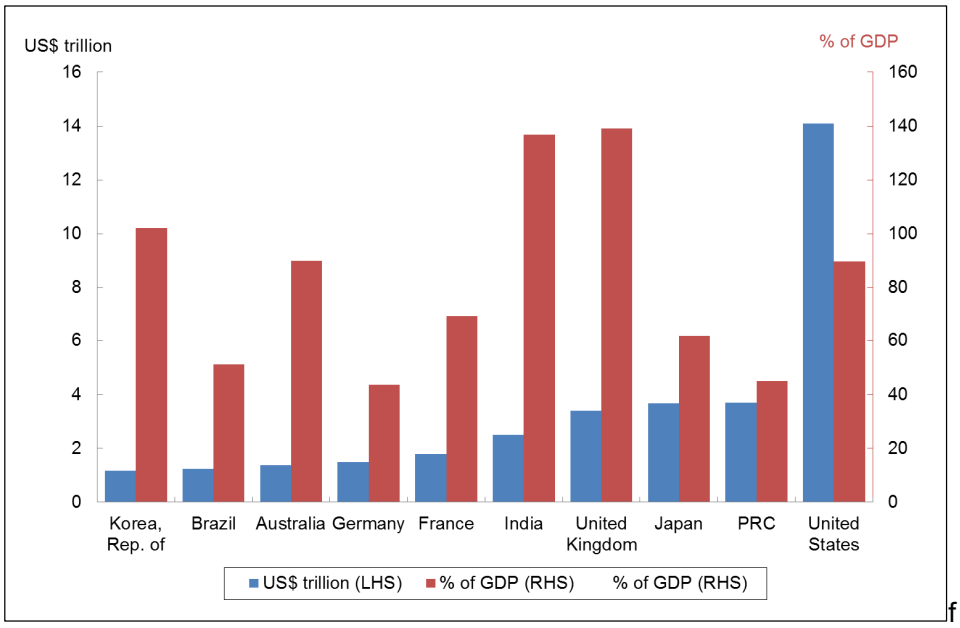
The offshore bond market helps facilitate the international use of renminbi by offering convenience and confidence (Cheung 2013). The offshore market allows foreign investors to invest in renminbi-denominated bonds without dealing with law and regulation in the PRC. It also channels offshore renminbi back to the PRC, increasing the acceptance of renminbi overseas. Yet, there were substantial unexplained arbitrage opportunities between the offshore and onshore bond markets, implying that the offshore market does not function as a close substitute to the domestic bond market (Craig et al. 2013). This highlights the important role of capital account liberalization in renminbi internationalization.

4. THE PEOPLE'S REPUBLIC OF CHINA'S STOCK MARKET

The PRC's stock market started in the early 1990s with the establishment of the Shanghai and Shenzhen Stock Exchanges. Since then, it has grown substantially in terms of issuances, participation, turnover, and liquidity. While modest as a ratio to GDP, the PRC's stock market in absolute size is the second largest in the world (Figure 17), which would provide a significant class of assets for foreign investors if they were allowed access. Yet, similar to the bond market, it is highly regulated and foreign participation is limited, which hamper its development as well as its supporting role in renminbi internationalization.

There are three types of shares issued in the PRC's stock market: the normal domestic A share, B share traded in foreign currency domestically, and the Hong Kong dollar-denominated H share issued in the Hong Kong, China market. The peak of A share issuances appeared in 2010, 1 year after the PRC's stimulus plan in the wake of the 2008–2009 global financial crisis, when the initial public offering was greatly encouraged to finance investment and thus promote domestic demand. The capital raised from A share issuances reached as high as CNY887 billion, which pushed the total share issuances to a record high of CNY1.2 trillion in 2010 (Figure 18). Higher issuing prices in 2007 due to peaked stock prices pushed the issuance amount to unusually high levels. The peak of H share issuances was in 2006, before the global financial crisis, where CNY313 billion was raised and H shares contributed 73% of the total capital raised. The accumulation of the number of shares issued took a leap forward after 2005, with the annual issuance increasing more than fivefold from 0.6 trillion shares to 3.2 trillion shares in 2012.

Figure 17: Stock Market Capitalization, 2012

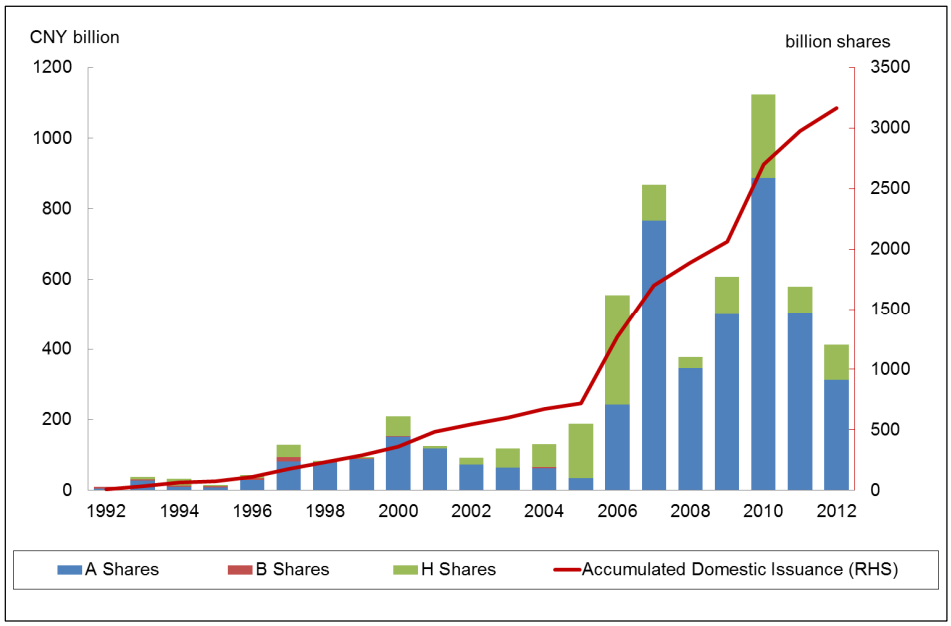


f

PRC = People's Republic of China, LHS = left-hand scale, RHS = right-hand scale.

Source: Authors' calculations using data from CEIC, https://www.ceicdata.com (accessed 24 June 2013); and World Federation of Exchanges, http://www.world-exchanges.org/ (accessed 22 May 2013).

Figure 18: Stock Market Capital Raised and Share Issuance—the People's Republic of China

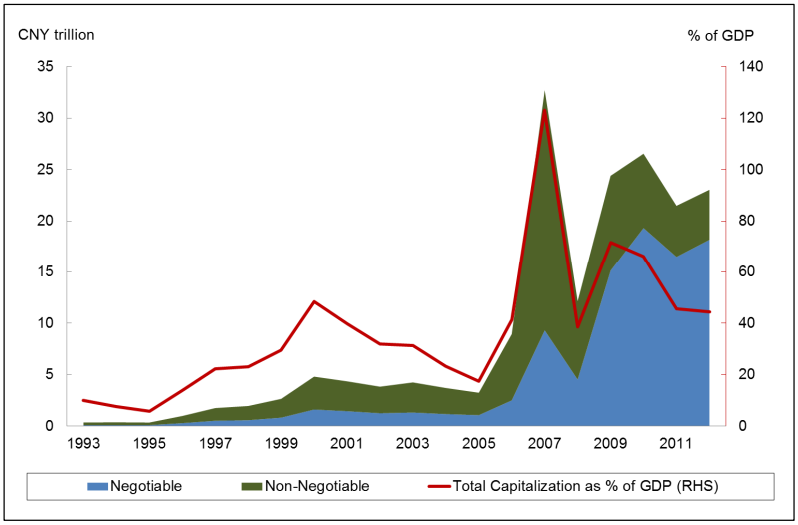


PRC = People's Republic of China, RHS = right-hand scale.

Source: PRC Securities and Future Statistical Yearbook (2012).

Stock market capitalization peaked in 2007 as the PRC stock prices reached record levels (Figure 19). Stock market capitalization of CNY32.7 trillion was 123% of GDP in 2007, which tripled from a year earlier. By 2012, this ratio dropped to 44.4%, close to the level in 2006. The PRC's stock market capitalization can be divided into negotiable shares and non-negotiable shares. Negotiable shares are the normal exchange tradable shares, while non-negotiable shares are state-owned non-tradable shares. There was a structural shift after the global financial crisis, with the proportion of the capitalization of non-negotiable shares falling from 63% in 2008 to 38% in 2009, and further to 21% in 2012. This suggests that the market capitalization of the state-owned non-negotiable shares decreased sharply from its peak of 88% of GDP in 2007 to just 9.4% in 2012. This is partly due to the fall of stock prices and partly due to non-negotiable shares becoming negotiable shares after a freeze of a few years.

Figure 19: Stock Market Capitalization—the People's Republic of China



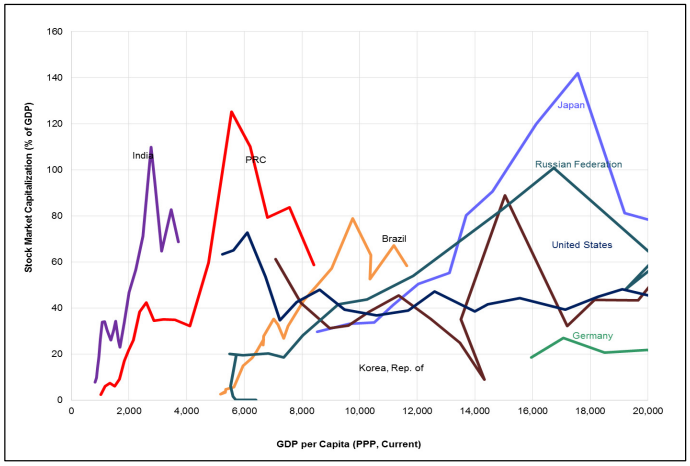
GDP = gross domestic product, PRC = People's Republic of China, RHS = right-hand scale.

Source: PRC Securities and Future Statistical Yearbook (2012).

Compared to other economies at a similar level of development, such as Japan in the early 1980s, the Republic of Korea in the early 1990s, the Russian Federation in 2003, and Brazil in 2006, the PRC's stock market capitalization is larger (Figure 20). The PRC's stock market as a ratio to GDP is close to the scale of that of Japan and the Republic of Korea when they started to internationalize their currencies. Market capitalization in both countries had a rapid ascent after they opened their financial markets, though varied along with the business cycles. This suggests that stock markets and currency internationalization may support each other. Yet, currency internationalization may also have links to the asset bubble in Japan in the late 1980s, when stock market capitalization reached a peak of 142% of GDP.

The sizable stock market is attractive to foreign investors and may boost the international use of the renminbi. The A-share market is mostly closed to foreign investment, and this is the reason A shares are sometimes called the world's last great untapped stock market. With the capital account gradually being liberalized, foreign investors would hold more renminbi in order to invest in the PRC's stock market. However, the co-existence of A and H shares of dual-listed companies, denominated in renminbi and Hong Kong dollars respectively, might hamper investment in PRC stocks. Due to the differences in the market characteristics of the stock markets of the PRC and Hong Kong, China—such as different market environments, different groups of investors, and the inconvertibility between A and H shares—the A-share and H-share prices of the same company usually diverge. The spread between them persists, with A shares trading at a premium before mid-2010, and at a discount recently. To facilitate investment in PRC stocks, it might be necessary to have H shares denominated in renminbi.

Figure 20: Stock Market Capitalization and GDP per Capita

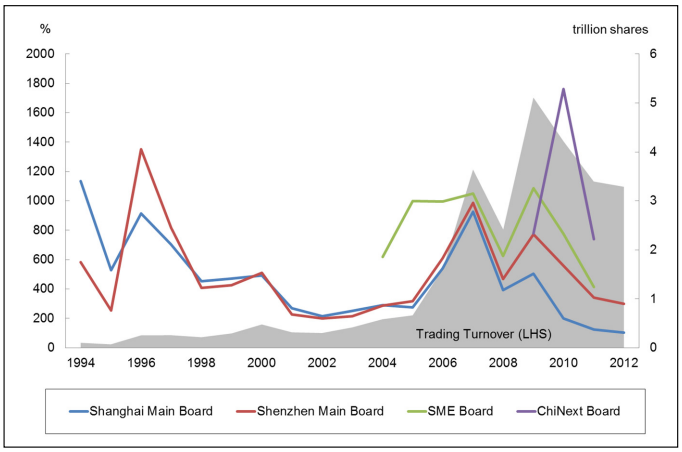


GDP = gross domestic product, PPP = purchasing power parity, PRC = People's Republic of China.

Source: Authors' calculations using data from CEIC, https://www.ceicdata.com (accessed 5 November 2013); United States Securities and Exchange Commission Annual Report, http://www.sec.gov/ (accessed 23 January 2014); and World Development Indicators, World Bank, http://data.worldbank.org/ (accessed 13 October 2013).

The turnover ratio of the PRC's stock market is among the highest in the world. Before the 2008–2009 global financial crisis, the turnover ratios of the two main boards in the Shanghai and Shenzhen Stock Exchanges were fluctuating from as low as 2, to nearly 10 in 2007. As share prices fell from their highest levels, share trading slowed significantly and the turnover ratio declined, with the turnover ratio in the Shanghai mainboard reaching 1.25 in 2011 and 1.02 in 2012 (Figure 21). In contrast, the setup of the Small and Medium Enterprises Board and later the Growth Enterprise Market ChiNext Board, both based in the Shenzhen Stock Exchange, raised the turnover of the Shenzhen Stock Exchange because the two are much more active; especially the ChiNext Board, which reached a record high turnover ratio of 18 in 2011.

Figure 21: Stock Market Turnover Ratio—the People's Republic of China
(%)



LHS = left-hand scale, PRC = People's Republic of China, SME = small and medium enterprise.

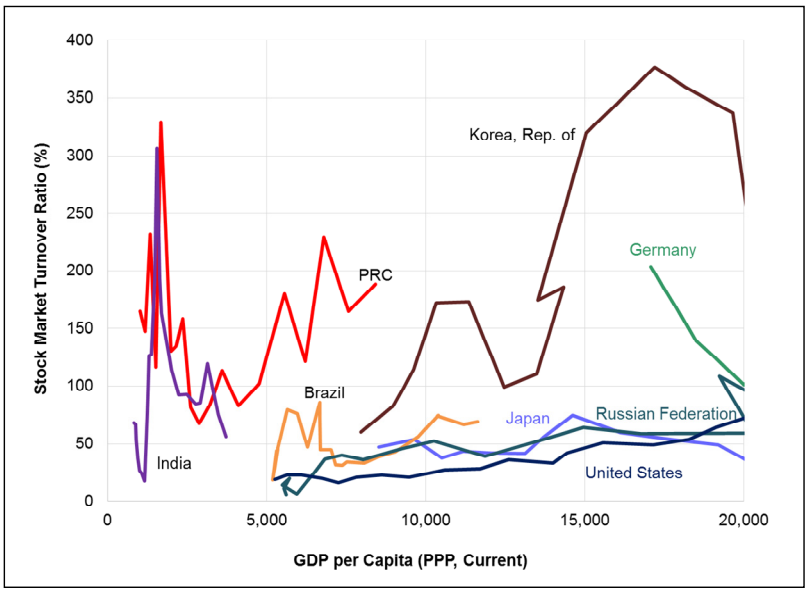
Source: PRC Securities and Future Statistical Yearbook (2012).

Comparisons with other countries' stock market turnovers yield inconclusive results. Stock market turnover data is available from the World Bank's *World Development*

Indicators as far back as 1989. During that year, Germany had the highest turnover rate which was twice as much as in other countries. After the PRC's stock market was re-opened in 1992, turnover rates were always among the highest in the world (Figure 22). The high turnover does not mean high liquidity, as the stock markets are heavily regulated with numerous entry barriers. The PRC's stock turnover rate is similar to that of the Republic of Korea in 1992, which had a similar level of GDP per capita as the PRC now. It should be noted that turnover rates peaked for the Republic of Korea in 2000 (as the Republic of Korea started to internationalize its currency in 2001). From 1989 to 2012, turnover rates for Japan were usually the lowest among the 7 economies considered.

Compared to the bond market, the PRC's stock market is more active and more liquid, and the participation of retail investors is higher. Yet, the stock market is still regulated heavily by the authorities, particularly the approval of share issuances. Before 2000, the PRC adopted a quota system to share issuances in the stock market. A company had to obtain a certain amount of share quotas from the authorities before it was allowed to apply for a public listing or an increase in its shares. The new system after 2000, in principle, allows any company to apply for public listing, and once the China Securities Regulatory Commission (CSRC) approves its application, the company can go ahead with a listing. While it is an improvement over the previous quota system, there is still too much government planning, intervention, and regulation in the present approval-based system. To some extent, the authorities appear to use new listings to regulate share prices. When market conditions worsen, the authorities do not approve new listings; when share prices rise too fast, more new listings are approved. To facilitate renminbi internationalization, the authorities need to relax control over the stock market. The recent decision to move to a registration-based system in share issuances is a step in the right direction.

Figure 22: Stock Market Turnover and GDP per Capita



GDP =gross domestic product; PRC = People's Republic of China, PPP = purchasing power parity.

Note: United States data is based on New York Stock Exchange data from 1970 to 1987.

Sources: Authors' calculations using data from CEIC, https://www.ceicdata.com (accessed 5 November 2013); Haver Analytics, http://www.haver.com/ (accessed 22 January 2014); United States Securities and Exchange Commission Annual Report, http://www.sec.gov/ (accessed 23 January 2014); and *World Development Indicators*, World Bank, http://data.worldbank.org/ (accessed 13 October 2013).

5. FOREIGN PARTICIPATION IN THE PEOPLE'S REPUBLIC OF CHINA'S SECURITIES MARKETS

To fulfill its function as a store of value and a medium of exchange, an international currency requires foreign participation in the domestic financial markets. Increasing foreign participation is therefore an important step in currency internationalization (Chinn and Frankel 2007). International experience shows that foreign participation can also boost the growth of the domestic securities markets and enhance liquidity.[15] Yet, foreign ownership of PRC securities remains negligible. Since 2002, the PRC has launched three programs to facilitate the participation of foreign investors in its securities markets. The qualified foreign institutional investor (QFII) program, introduced in 2002, aims to give foreigners limited access to the renminbi-denominated securities markets. QFIIs are allowed to invest in stocks (B shares excluded) and exchange traded treasury bonds, convertible bonds, corporate bonds, and funds approved by the CSRC. As for bond investments, QFIIs were only allowed access to the much smaller and restricted exchange market where only around 10% of transactions occurred. It was only in July 2012 that the CSRC opened the interbank bond market to QFIIs. As of mid-2013, there were 207 qualified foreign institutional investors with an approved quota of $43.5 billion, less than 1% of the entire bond market. In comparison, foreign ownership of local currency bonds was around 30% for Indonesia and Malaysia; 15% for Thailand; 10% for Japan; and 10% for the Republic of Korea (ADB 2013). In July 2013, quotas placed under the QFII program were increased to $150 billion from $80 billion.

Launched in 2010, the second program is a pilot program to allow access to the interbank bond market by foreign central banks or monetary authorities; clearing banks for renminbi business in Macao, China and Hong Kong, China; and overseas participating banks for renminbi settlement of cross-border trade. These three types of financial institutions are allowed to use renminbi to invest in the interbank bond markets. This program was later expanded to the third program.

The third program, renminbi qualified foreign institutional investors (RQFII), is also a pilot one, allowing qualified investors to invest in the PRC securities markets using renminbi from the offshore markets. As a measure to strengthen the position of Hong Kong, China as a major international financial center and support renminbi internationalization, it was started in late 2011 with an initial quota of CNY20 billion for RQFIIs to channel renminbi funds raised in Hong Kong, China to invest in the PRC securities markets. RQFII holders may issue public or private funds or other investment products using their RQFII quotas. The new regulation released in March 2013 does not restrict the investments of RQFII funds, though the initial regulations stipulated that bonds had to consist of at least 80% of the fund's asset. The RQFII program has also been extended to Taipei,China, Singapore, and London, as these cities joined the renminbi settlement program. As of mid-2013, there were 30 RQFIIs with approved quotas of CNY104.9 billion.

In all three programs, foreign access to the securities markets is still strictly regulated. Liquidity is also hampered by concerns of foreign investors on the ease of repatriating profits from their investments. While the PRC's bond and stock markets have developed quickly since the 1990s and become sizable markets in the world, the PRC

[15] Caruana (2011) and Cassola and Porter (2011) find that interbank treasury and policy bank bond yields deviate from efficient pricing of shorter maturities, although they are relatively the most efficient in terms of pricing. They suggest that introduction of foreign participants, including central banks, in the interbank bond market may improve bond market liquidity.

lacks active and liquid secondary markets and foreign investments in domestic securities needed for vibrant and efficient markets in support of renminbi internationalization.

6. THE PEOPLE'S REPUBLIC OF CHINA'S MONEY MARKET AND OTHER EMERGING MARKETS

The PRC's financial system is evolving rapidly with new financial instruments being created and new markets emerging. New instruments and markets have broadened and deepened the PRC's financial markets, reducing transaction costs and making the markets more efficient. Moreover, they help accelerate renminbi internationalization by creating a vibrant and efficient market foundation.

Money market development is important to renminbi internationalization. In addition to satisfying short-term financing needs of the economy, the money market is a market of liquidity and can greatly enhance liquidity in the financial system. Liquidity is stored in the money market by investing in money market instruments, and liquidity can also be bought by issuing money market instruments. Therefore money market development is necessary for an international currency which relies on a liquid and efficient financial market.

The PRC's money market is developing fast, undergoing fundamental changes, and has become much more active in recent years. The money market mainly relies on secondary markets like bond repurchases and on an uncollateralized basis like interbank lending because of the lack of primary market tools (Table 2). Unlike bank interest rates, yields in the money market are not regulated but determined by market forces. Currently, central bank bills play the role of treasury bills as the PRC's treasuries are dominated by medium- and long-term bonds. The peak of central bank bill issuance of CNY996 billion was in March 2007, when the PBC sterilized the record high foreign exchange inflows early that year. Unlike in the US, commercial papers (CP) only play a small role in the PRC's money market, even after including promissory notes from financial institutions. As an alternative instrument under the dominance of indirect finance from commercial banks, bank acceptance (BA, mostly eligible bills) also plays an important role in the PRC's money market. The total issuance of BA rose from CNY6 trillion in 2007 to CNY21 trillion in 2013, contributing around 90% of the basic instruments issued that year.

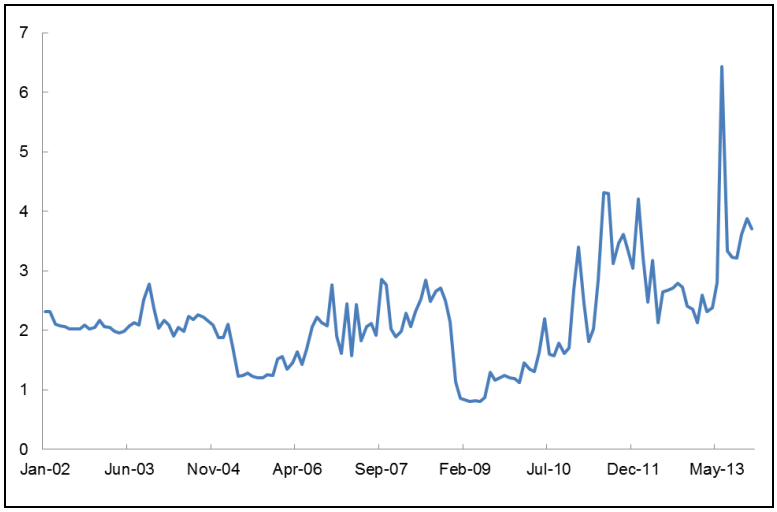
Table 2: Basic Indicators of the Money Market—the People's Republic of China

	Issuance (CNY billion)		Outstanding Balance (CNY trillion)		Turnover (CNY trillion)	
	2007	2013	2007	2013	2007	2013
Central bank bill	4,072.13	536.20	3.66	0.55	9.21	1.06
Treasury bill	226.15	228.78	NA	NA	NA	NA
Commercial paper[1]	493.91	1,885.60	0.32	1.38	1.34	1.70
Bank acceptance	5,867.63	21,267.10[2]	2.44	9.00[2]	15.97[3]	21.30
Discount	-	-	1.21	1.96		35.30[2]
Bond repo	-	-	0.76	2.60	44.07	151.98
Interbank lending	-	-	0.13	0.00	10.65	33.29

NA = not applicable.
[1]270 to 360 days included
[2]estimated by the authors
[3]bank acceptance and discount.
Sources: Central Depository and Clearing Co. Ltd. Monthly Statistics; Shanghai Clearing House Monthly Statistics; People's Bank of China Monetary Policy Execution Report; China Financial Yearbook.

The turnover of the PRC's money market grew tenfold in the past 10 years, from CNY22.3 trillion in 2003 to CNY253 trillion in 2013, with interbank lending, bank acceptance and discount, and bond repurchase contributing the most. The rapid expansion of interbank lending and bond repo was triggered by the launch of one-day repo in January 2006 and the sharp rise of overnight interbank lending from 2007 as many non-bank financial institutions rely on the money market for financing. The launch of the fiscal stimulus after the collapse of Lehman Brothers in 2008 led to a surge in credit in 2009 and 2010, and resulted in a significant expansion of the money market. The active money market is also related to "shadow banking activities", which often need wholesale financing to support via the money market. While exhibiting some seasonal patterns, the money market rates have been rising in the past few years, as the demand for liquidity is increasing (Figure 23).

Figure 23: The People's Republic of China Overnight Interbank Rate
(%, weighted monthly average)



Source: Haver Analytics, http://www.haver.com/ (accessed 22 January 2014).

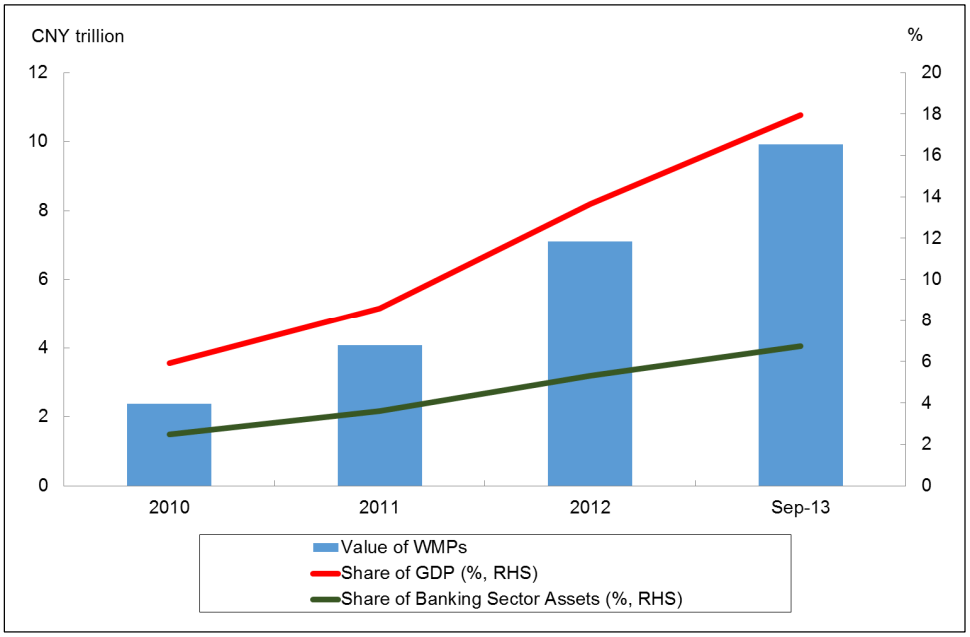
As in the capital market, foreign participation in the PRC's money market is also limited. Currently, 38 foreign banks have joined the National Association of Financial Market Institutional Investors. They are qualified to trade in the interbank bond and money markets and authorized to underwrite central bank bills, treasury bills, and later commercial papers. The main impediment for foreign participation in the PRC's interbank money market is the lack of a "recycling mechanism" of the offshore renminbi, since the repatriation of the renminbi in the Hong Kong, China market back to the mainland needs approval from the regulatory authorities on a case by case basis. According to the PBC, the renminbi used to invest in the interbank market should be those from central bank currency swaps, cross-border trade, and investment settlement.

Many new instruments are being introduced to manage liquidity, maturity, and risks, as well as to boost returns. Some instruments are also aimed to circumvent regulations, interest rate controls, and regulatory requirements. Below is a brief discussion of two of these new instruments—wealth management products (WMPs) and interest rate derivatives—that have increased liquidity in the financial markets and contributed to the development of the PRC's financial sector.

The PRC's commercial banks started to offer WMPs to clients in 2005, sometimes jointly with trust companies. WMPs usually invest in securities, properties, loans to new

start-ups and other firms with limited access to formal financing channels and other financial products, such as trust funds. Not subject to deposit rate regulations, WMPs offer higher yields than deposits, and usually are short term, which is why WMPs became popular from the onset and took off after 2010. By offering higher returns, a WMP is a de facto liberalization of interest rates. WMPs are thought to be the main part of the PRC's shadow banking system.[16] While some WMPs are on the bank's balance sheet, WMPs are not as strictly regulated as deposits and lack transparency. Their investments concentrate in properties and other high-risk assets, and therefore increase systemic risk of the financial system. Official statistics show that WMPs rose from about CNY2 trillion in 2010 to more than CNY10 trillion in late 2013 (Figure 24), alarming authorities because of their exposure to the property market.[17] Falling property prices and stalling transactions could bring significant risks, including maturity mismatch, liquidity, and solvency to WMPs.

Figure 24: Wealth Management Products—the People's Republic of China



GDP = gross domestic product, PRC = People's Republic of China, RHS = right-hand scale, WMP = wealth management product.

Source: Authors' calculations using data from CEIC, https://www.ceicdata.com (accessed 23 January 2014).

The PRC's interest rate derivative market includes bond forwards, interest rate swaps, and forward interest rate agreements (Table 3). While bond forwards were the main products before 2009, the trading turnover of interest swaps increased sixfold to CNY2.9 trillion at the end of 2012, from CNY461.64 billion in 2009. Besides, the average size of the swap agreements also rose steadily from CNY114 million to CNY139 million. Although the National Association of Financial Institutional Investors announced a plan of issuing interest rate options at the end of 2010, it is still under

[16] Financial Stability Board (2011) defines the shadow banking system as: "the subset of non-bank credit intermediation where there are (i) developments that increase systemic risk (in particular maturity/liquidity transformation, imperfect credit risk transfer and/or leverage), and/or (ii) indications of regulatory arbitrage that is undermining the benefits of financial regulation".

[17] Market estimates of WMPs are much higher. For example, Sang's (2013) estimate of CNY13 trillion in mid-2013 was about 24% of the PRC's GDP and 9% of the total assets of the PRC's banking sector.

discussion, and so is re-launching interest rate futures. The authorities are cautious toward the derivative markets, and it is expected the scale of the PRC's interest rate derivative markets should still be limited compared with other markets in the near future.

Table 3: Summary of Interest Rate Derivatives

	Bond Forwards		Forward IR Agreements		IR Swap	
	Trading amount (deals)	Turnover (CNY billion)[1]	Trading amount (deals)	Nominal principle (CNY billion)	Trading amount (deals)	Nominal principle (CNY billion)
2006	398	66.45	-	-	103	35.57
2007	1,238	251.81	14	1.05	1,978	218.69
2008	1,327	500.55	137	11.36	4,040	412.15
2009	1,599	655.64	27	6.00	4,044	461.64
2010	967	318.34	20	3.35	11,643	1,500.34
2011	436	103.01	3	0.30	20,202	2,675.96
2012	56	16.61	3	0.20	20,945	2,902.14

IR = interest rate.
[1]From 2009, the turnover of bond forwards was calculated by the amount of settlement.
Source: People's Bank of China (2012).

7. CONCLUSION

This paper discussed the status of the PRC's financial markets, including the offshore bond markets, and their liquidity conditions, and compared them with other developed and emerging economies, contemporaneously and historically. The PRC's financial markets have grown rapidly since the 1990s, with financial depth and liquidity increasing tremendously. The PRC's financial depth is similar to that of other economies, such as Japan, the Republic of Korea, Brazil, and the Russian Federation when they were at a similar level of economic development as the PRC is now. However, the PRC's financial markets are not as deep and liquid as they were in Germany, Japan, and the Republic of Korea when they started to internationalize their currencies, and are shallow and much less liquid compared to the current levels of financial depth and liquidity in these economies with international currencies. Particularly, capital market development lags far behind the international-currency economies, contemporaneously and historically.

The paper also finds that the PRC's financial market is still reliant on the banking system, with the bond market serving as a mere extension of bank lending activities. The financial system lacks transparency that would allow foreign investors to hold a substantial amount of renminbi-denominated assets. The involvement of the government in the financial market is unclear and complicated through interweaving ownership of state-owned banks and state-owned enterprises that dominate the financial sector.

To support renminbi internationalization, the PRC's financial markets have to be further developed and strengthened. From the market perspective, the PRC's authorities need to further deregulate the financial sector and ensure financial stability. To further deepen the financial markets and develop market liquidity, several major obstacles relevant to renminbi internationalization need to be overcome. The authorities seem determined to remove some of these major obstacles in the coming years, as the Third Plenum decided that the market would play a decisive role in resource allocation.

Regulated interest rates, particularly deposit rates, are hampering financial market development. Market-determined interest rates may be one of most important pre-conditions for a well-functioning and developed financial market. The PRC's deposit

rates are still subject to ceilings over benchmark rates set by the authorities, despite steady progress of interest rate liberalization in favor of a market-driven system in recent years. The PBC removed the lending rate floor in July 2013, which makes the benchmark lending rate no longer binding, though banks had already been able to charge higher interest rates against the benchmark rates. Allowing banks to set their own lending rates is an important step toward interest rate liberalization and will help reduce financing costs. Yet, without deregulated deposit rates, other interest rates would still be tied to the deposit rates and markets have a limited role in determining interest rates. The authorities have argued that it is essential to have a proper deposit rate pricing mechanism and a deposit insurance scheme in place before the liberalization of deposit rates.

Controls over entry to the capital market remain a major hurdle for further developing market liquidity in the PRC. The stock and bond issuing processes in the PRC have been relaxed dramatically in the past 20 years. In the 1990s and early 2000s, the central government had an annual plan with quotas for initial public offerings and bond issuances, allocating to provinces and sectors. The quota system was abolished in 2000. The first amendment of the Securities Law in late 2005 stipulates securities issuances are subject to approval by the CSRC, which is a ministry-level unit directly under the State Council. The approval process could last several years, and the authorities have also adjusted the approval process to suit market conditions. This has distorted the supply and demand and artificially inflated valuations of new security offerings. The decisions by the Third Plenum promised to turn the current approval-based system of security offerings into a “registration-based” one, thus finally removing the stumbling block.

Restricted entry of private and foreign capital to the financial sector also hinders financial deepening and market liquidity development in the PRC. The banking sector is dominated by major state-owned commercial banks, despite the fact they are listed in the stock exchanges in the PRC and Hong Kong, China. Moreover, foreign financial institutions have had limited market access and domestic institutions are protected from foreign competition. With the state playing a dominating role in the financial sector, the degree of competition in the PRC’s financial sector has been low and does not support market development. The recent decision allowing qualified private capital ventures to set up small and medium banks is an encouraging sign of further opening up of the financial sector.

In addition to regulated interest rates, restricted access to capital markets and entry barriers to the financial sector, heavily managed exchange rates, the administrative nature of financial regulation and supervision, and interventions by the authorities in financial institutions and markets also limit financial deepening and development of market liquidity. As a “strategic” sector, the financial sector is subject to many controls and interventions by the authorities, and market forces have not been able to play a critical role. Financial deepening and market liquidity suffers because these controls and interventions distort incentives and prices, as well as the supply of and demand for financial instruments.

Future progress of the PRC’s financial markets will increasingly depend on broader economic reforms. The PRC authorities have recently decided that the market should play a decisive role in resource allocation, and as such, market forces should be allowed to determine financial prices, such as interest rates, exchange rates, and bond yields. Private and foreign capital will be encouraged to enter strategic sectors, including financial services, and the arrival of new entrants will bring more competition, and thus greater efficiency and innovation. These will greatly deepen the financial markets and enhance market liquidity. The new round of economic reforms in the

coming years is expected to build a solid market foundation for renminbi internationalization.

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