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# Key features of the Chinese bond market*

*Zsanett Sütő – Tamás Tóth*

*In the 21st century, China ranks among the global leaders based on quantitative factors, not only from a real economy perspective but also from a financial one. It is the largest exporter and one of the biggest economies in the world. Based on the IMF's decision, the Chinese currency will be included in the SDR basket containing the major currencies of the world. Currently, the world's third largest bond market is found in China. It is huge both in real economy and financial terms, and foreign investors are gradually being granted access to this market, at the pace and to the extent determined by Chinese regulators. The onshore bond market that has been opening up at an increasing pace recently and the offshore bond market that will mark its 10th anniversary next year may be uncharted territory for financial institutions. Entry to the market may be facilitated by gaining information about the characteristics of the market. This article presents the key features of the Chinese bond markets from both the issuer and the investor side, examining the individual market segments as well, and pointing out the opportunities and expected paths of development on the markets. In addition, we demonstrate how the Chinese bond markets fit into the political efforts targeting the achievement of global currency status for RMB.*

**Journal of Economic Literature (JEL) Classification:** F65, G15, O16

**Keywords:** China, bond market, dim sum, onshore market, renminbi

## 1. Introduction

Over the past 15 years, the Chinese bond market has expanded from practically nothing to the *third largest market in the world.* Despite this, the country's debt-to-GDP ratio can still be considered relatively low, as the growing indebtedness can be mostly seen in the mounting debt of the private sector. China had several reasons to consciously strive for the establishment and continuous development of its bond market. First, as most Chinese corporations still acquire funding by issuing shares and taking out bank loans, guiding companies to the bond market would *foster the diversification of the credit risk that has accumulated in the banking system.* Second,

* The views expressed in this paper are those of the author(s) and do not necessarily reflect the offical view of the Magyar Nemzeti Bank.

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the investments in infrastructure and construction which have (until now) been the engines of economic growth require further sources of finance (*Goldman 2015*).

The role of the Chinese renminbi in world market transactions has expanded drastically in the past 5 years. The Chinese currency has become the *second most widespread currency in trade finance,* and with respect to payment transactions it ranks among the top 5 (*Horváth–Teremi 2015*). The renminbi plays an increasingly important role in the foreign exchange reserves of central banks, which may be boosted further by the November 2015 decision of the IMF, pursuant to which *the Chinese renminbi will be included in the SDR basket*[1] from October 2016. *Hungary received RQFII quotas of RMB 50 billion in June 2015, which enabled Hungarian financial institutions to access Chinese onshore market investments (MNB press release, 27 June 2015).*

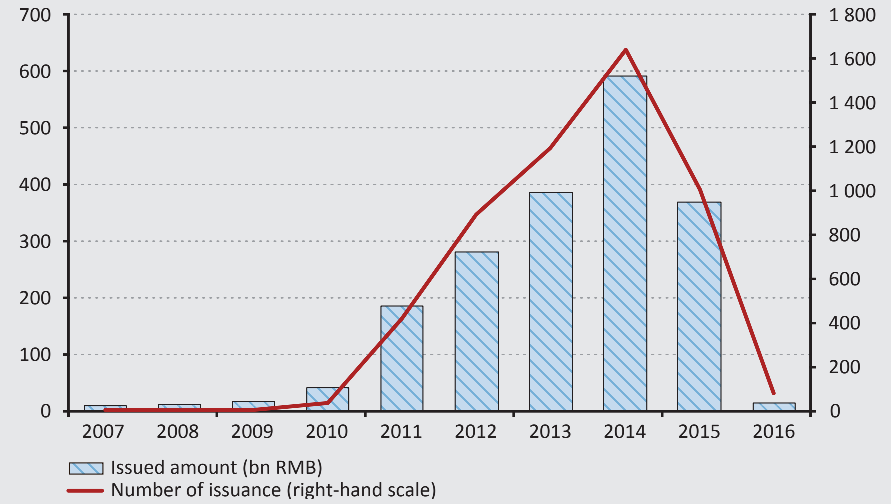
Due to the lack of the full convertibility of the Chinese currency and Chinese capital controls, two types of bond markets have emerged: *the onshore and the offshore markets.* Bonds denominated in onshore renminbi (CNY) and issued by foreign players on the onshore bond market are called panda bonds, while those issued on the Hong Kong offshore market by foreign participants and denominated in offshore renminbi (CNH) are called dim sum bonds. *Access to the former market is restricted,* although the Chinese authorities are seeking to loosen the constraints, while the latter is readily accessible for investors.

## 2. Dim sum bond market

The offshore renminbi (CNH) bond market, or dim sum market, was established in the second half of 2007, but the number of issues only jumped in late 2010. The establishment and development of the market was primarily *supported by the increasing role of the renminbi in external trade, the accumulation of renminbi deposits in Hong Kong, the growing renminbi financing and lending need of financial and non-financial institutions, as well as the efforts of the Chinese government aimed at promoting the renminbi.* Investors generally agreed that the *Chinese currency would continue to strengthen*, and thus non-residents showed increasing interest in renminbi investments. As access to the onshore bond market was highly restricted due to Chinese capital controls – although these restrictions later started to be relaxed – initially the alternative available for foreign investors was the offshore renminbi market. On both the issuer and the investor side, the popularity of the dim sum market was also enhanced by the *quite loose regulation*. In Hong Kong, basically any issuer can freely issue bonds denominated in offshore renminbi, and obtaining permission from the Chinese regulators is only necessary when the funds thus acquired are used on the onshore market.

[1] The SDR (Special Drawing Rights) is a settlement and reserve currency used by the IMF. The value of the SDR is determined based on the value of the currencies included in the SDR basket. The SDR basket includes the following currencies: the US dollar, the euro, the Japanese yen and the British pound, and, pursuant to the IMF's decision on 30 November 2015, from 1 October 2016 it will also include the Chinese renminbi.

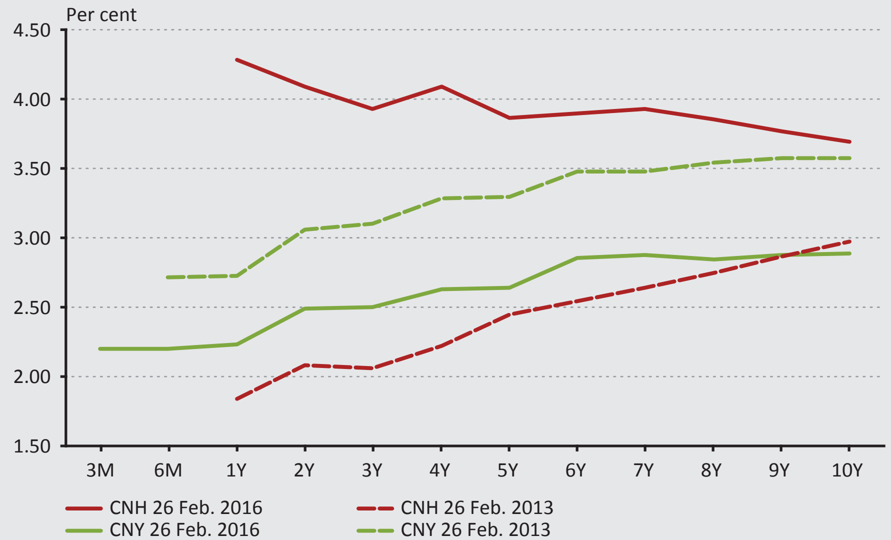
**Figure 1**
**Offshore renminbi issues**
*(CD and bond)*




*Source: Bloomberg, March 2016*

Until 2014, yields on the offshore market were well below those on the onshore market, and thus *obtaining funds was much cheaper on the offshore market.* This was exploited by both Chinese and international issuers in order to cut their interest

**Figure 2**
**Yield curve of CNY and CNH government securities**




*Source: Bloomberg, 26 February 2016*

expenses. The substantial difference in yields was principally attributable to the restricted access to the onshore market: despite the lower yields, investors who did not have access to the onshore market were willing to buy offshore bonds in order to profit from the expected strengthening of the Chinese currency.

In 2015, the pace of offshore market issues seemed to have stalled, which may have been due to various factors. The Chinese central bank took significant monetary easing measures, which may have contributed to the reduction of onshore interest rates, as a result of which the yield spread which was previously in favour of the offshore market vanished, and since the second half of 2015 yields have been lower on the onshore markets. This change may have also been influenced by the fact that due to the monetary policy of the Fed and expectations about the US interest rate trajectory, emerging markets, i.e. also China, showed signs of capital flight. Capital outflows from China were mainly observed on the offshore markets, which may have contributed to the reduction in offshore issues through the increasing yields. While rising yields exerted a negative effect on the issuer side, expectations about the renminbi's exchange rate developments may have done so on the investor side of the Chinese offshore bond market. Market expectations increasingly pointed towards depreciation of the renminbi. The sudden depreciation of the onshore yuan in August 2015, which could also be seen as a step towards determining the exchange rates on the basis of market developments, may have exacerbated investors' worries about an exchange rate weakening on the offshore market as well. Furthermore, additional regulatory measures may have also influenced the drop in the volume of offshore market issues. The Chinese authorities implemented several measures in 2015 and in early 2016 to open up the onshore bond markets even more to foreign participants. The expanding opportunities offered by the onshore market may have also influenced the dynamics of offshore market issues.

### 2.1. Characteristics of the market

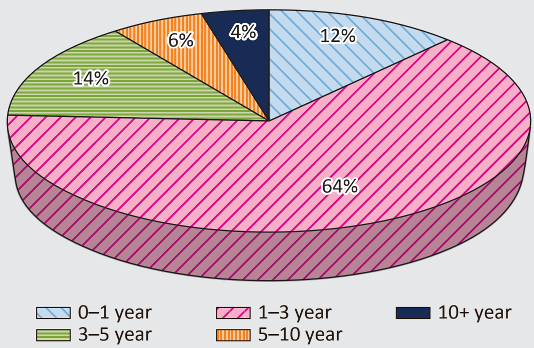
As of March 2016, the size of the offshore renminbi bond market is RMB 785 billion (approximately USD 120 billion). *Globally, this does not make it an exceptionally large market,* and it is in the same league with the Hungarian bond market. The real significance of the market is reflected by the fact that in the past 8 years more than 500 different issuers from 35 countries acquired funds on the dim sum market in the form of CDs (certificates of deposit) or traditional bonds.[2] In the early days of the market, CDs issued by financial institutions were the more frequent instruments, but the balance has increasingly shifted towards bonds. Since 2007 approximately half of all issues overall have been CDs and half have been bonds, while around 75 per cent of the products currently available on the market are bonds and 25 per cent are CDs.

[2] CDs (certificates of deposit) are debt instruments typically issued for short maturities by banks and other financial institutions. Bonds are debt instruments with maturities of over a year, issued by public sector issuers, financial and non-financial institutions and companies.

Since the establishment of the market in 2007, *more than 5,000 issues have occurred, with a total value of RMB 1.9 trillion (USD 290 billion).* The average issue size amounts to RMB 360 million, which falls short of the average on mature bond markets. Around 80 per cent of the CD and bond issuers have been rated by at least one of the three major agencies (S&P, Moody's, Fitch). *The vast majority of the issues were investment grade, although there were issuers that received a speculative grade rating* (mainly Chinese real estate development companies).

The offshore renminbi bond market is primarily concerned with shorter maturities. The maturity of the overwhelming majority of the bonds is 3 years or less at the time of issue, while CDs are typically issued with maturities of 1 year or less. In the case of bonds, the most frequent and most popular tenor, the so-called "sweet spot", is 3 years, which is mainly due to demand factors.

**Figure 3**
**Maturities of offshore bonds at the time of issue**




*Source: Based on data from Bloomberg (2016)*

### 2.2. Issuers

As the market matured, dim sum bond issuers became *increasingly heterogeneous*, both in terms of the type of issuers and their regional location. We can find everything from financial institutions through corporate issuers and government agencies to provinces, in fact, *in 2014 even sovereign issuers* entered the market (United Kingdom, Mongolia). Issuers may be motivated to enter the offshore renminbi bond market by several factors, depending on whether they are Chinese issuers or whether they are based elsewhere (*Fung et al. 2014*).

One of the important motivating factors may be considered a *political goal*: the Chinese government announced the policy of internationalising the renminbi in 2009. One of the largest issuers on the dim sum market is the Chinese state itself, which appears on the offshore market at regular intervals to *contribute to the development of the market and satisfy the needs of investors who are looking for a safe instrument denominated in offshore renminbi.* The largest state-owned policy banks are present on the market as issuers for similar reasons. Such banks include the China Development Bank and the Agricultural Development Bank.

The multinational corporations that *operate in China can hedge against their renminbi exposure by issuing bonds.* The offshore bond market is primarily enticing for those who would have more difficulty accessing funds on the onshore market.

Foreign banks may also be motivated to issue dim sum bonds *in order to meet client needs.* The acquired funds can be lent to primarily those corporate clients that operate in China but do not issue bonds themselves.

Although an increasing number of issuers are not Chinese-based, international or supranational actors, Chinese and Hong Kong issuers still dominate the market, with a combined share of almost 80 per cent. In addition to them, German, French, South Korean and Australian issuers and supranational institutions are represented on the market with relatively higher weight. Broken down by sectors, financial institutions dominate the market with their share of 55 per cent, even if CDs are left out of the analysis.

**Table 1**
**CNH bonds by sector (with the exception of CDs), RMB billion, March 2016**

| Country | Public sector | Financial sector | Non-financial companies | Sum |
|---|---|---|---|---|
| China | 103 | 167 | 72 | 342 |
| Hong Kong | 0 | 43 | 15 | 58 |
| South-Korean | 10 | 9 | 2 | 21 |
| Germany | 0 | 17 | 6 | 23 |
| France | 3 | 11 | 6 | 20 |
| Australia | 0 | 17 | 0 | 17 |
| Supranationals | 15 | 0 | 0 | 15 |
| Other | 10 | 48 | 14 | 72 |
| **Sum** | **141** | **312** | **115** | **568** |

*Source: Based on data from Bloomberg (2016)*

### 2.3. Investors

The demand side of the dim sum market is somewhat harder to analyse due to the limited access to data. Similar to issuers, investors also appear on the market for several reasons (*Wang et al. 2013*). First, *there are not many alternatives* for investing in offshore renminbi. There is practically no equity market, most of the savings are in bank deposits, and therefore investors looking for somewhat higher yields can only turn to the bond market. Second, *this is the market where foreign investors expecting the strengthening of the Chinese currency can most easily gain* renminbi exposure. Some central banks and other public institutions regard the dim sum market as the "*anteroom" to the onshore market* which offers relatively easier and more rapid access. Although they already enjoy unrestricted access to the onshore market, the operative procedures and preparing the necessary documentation may take a long time.

The investor base of short-term CDs is primarily made up of private bank and retail clients who hold the securities until maturity. Investors in longer-term, mostly fixed-rate bonds *not only include private banks but also insurance corporations, commercial banks, fund managers and foreign public institutions* (*Wang et al. 2013*). It can be stated that the so-called end-investors, i.e. institutional investors (real money) prefer bonds from issuers that have a rating from at least one international rating agency, and that are not new players on the capital market. Bonds issued by relatively new issuers without a rating are more likely to end up at private banks and commercial banks.

With respect to the geographical distribution of investors, it is perhaps not surprising that Asia and especially Hong Kong is the most dominant, with a share of about 70–80 per cent. The spread of international renminbi settlement centres or "hubs", however, is expected to bring about increased geographical diversification among investors. Yet investors were somewhat unnerved by the previously unprecedented volatility observed in 2015 (both in terms of the currency and the yields), and therefore some of them exited the market.

### 2.4. Liquidity

Taking into account the relatively small size of the market, the liquidity of the offshore renminbi bond market could be considered particularly favourable until mid-2015. The bid–offer yield spread of government bonds and corporate or bank bonds in the investment grade category was approximately *5–10 basis points*, while in the speculative grade category it was 20–40 basis points. The average size of the transactions was *RMB 5–10 million*, which was slightly lower than the average for other currencies. However, the rising yields and the increased volatility in 2015 undermined the liquidity of the market and widened the bid–offer yield spread.

## 3. Sovereign, agency, provincial and supranational issues on the dim sum and panda markets

*The largest sovereign issuer* in the dim sum market *is China*. The country appears at regular intervals on the offshore market too in order to promote and internationalise the renminbi, and to establish a benchmark yield curve made up of liquid bonds.

Apart from China, only three sovereign issuers have exploited the opportunities present in offshore renminbi financing since the establishment of the dim sum market in 2007. In cooperation with the Bank of China, HSBC and Standard Chartered Bank, the *United Kingdom* was the first to issue bonds in the amount of RMB 3 billion with a 3-year maturity and 2.7 per cent yield (*Tessa 2014*). The issue generated even stronger interest than expected: bids from the 85 investors, mostly private banks, amounted to RMB 5.8 billion, which enabled the issue of RMB 3 billion instead of the originally planned 2 billion and the acquisition of funds with yields approximately 20 basis points lower than anticipated. The amount received from the issue was included in the foreign exchange reserves of the United Kingdom, *thereby making a sort of gesture towards China, signalling that the country regards the renminbi as a reserve currency.*

In June 2015, *Mongolia* issued 3-year bonds denominated in offshore renminbi in the amount of RMB 1 billion with a 7.5 per cent yield (Borsuk, 2015). The high yield was warranted by the relatively low, speculative grade credit rating (B2/B+/B+) of the country, since investors expected a much higher premium in return for the higher credit risk. Although the issue was not as successful as the United Kingdom's, bids with a combined value of RMB 1.5 billion were received from 44 investors. More than 90 per cent of the bonds were bought by Asian investors, primarily fund managers and banks. Mongolia's primary objective with the issue was to *diversify its investor base*.

*The IFC (International Finance Corporation), a member of the World Bank Group,* is a trailblazer on the panda market: although it has had only two issues, it entered the onshore market as early as 2005 with a 10-year bond, which was followed by a 7-year bond in 2006 (*IFC 2005*). On the offshore renminbi market, however, it is a *regular issuer* offering both fixed-coupon bonds and short-term discount bonds. The corporation mainly finances the fight against climate change and investments supporting rural development. In addition, the IFC is *committed to bolstering and developing China's financial sector and the local capital market.*

*South Korea was the first sovereign issuer* on the onshore renminbi, i.e. *panda* market. In mid-December 2015, the country issued bonds in the amount of RMB 3 billion with a 3 per cent yield. There was huge demand for the bonds, and the transactions were concluded with a fivefold oversubscription. The issue was an important milestone in the history of both the panda market and Korean issuers: the primary objective of the sovereign issue was to gauge the appetite of investors, and since it was a resounding success, it *paved the way for other Korean issuers as well* which had previously acquired renminbi funds on the dim sum market.

*British Columbia* entered the panda bond market on 21 January 2016. The western Canadian province issued 3-year bonds with a combined value of RMB 3 billion at 2.95%. Prior to the onshore issue, the Canadian province issued RMB bonds on the offshore market, first in 2013 – making British Columbia the first to issue sovereign bonds on the offshore market – and then a second time in 2014. The first offshore bonds issued by British Columbia had a maturity of 1 year, and their value amounted to RMB 2.5 billion at 2.25%. In 2014, offshore RMB funds were acquired at 2.85% with a value of RMB 3 billion and a maturity of 2 years. The province shifted from issues on the offshore market to the onshore market after China designated Canada as the first North American renminbi centre in November 2014.[3]

Hungary entered the offshore bond market on 14 April 2016 by issuing bonds with a face value of 1 billion yuan and a maturity of 3 years. Investors showed keen interest in the Hungarian issue, which was attested by the 2.5-fold oversubscription. This contributed to the fact that the bonds were subscribed to at a coupon of 6.25%, 25 basis points lower than the original yield indication. The main organiser of the bond issue was the Bank of China (*ÁKK 2016*). The volume of the bond issue can be considered symbolic, but it signals the opening up towards new, Asian investors.

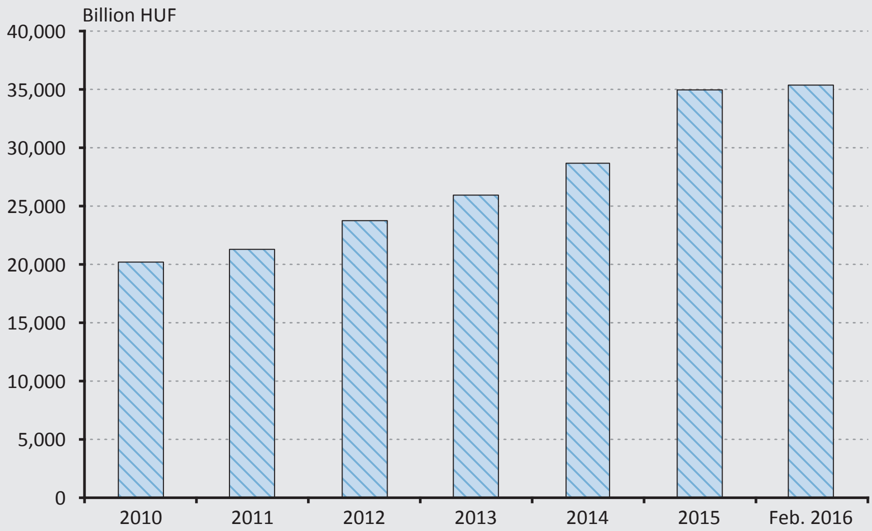
## 4. Onshore bond market

The onshore bond market has developed for a long time in seclusion from international investors. The first government bond was issued in 1950, and then there were no such issues between 1958 and 1981. The bond market was revitalised in 1981, and at that time only the primary market existed. Government bonds were distributed in an administrative process, and bonds were not tradable. In 1988, trading with bonds was permitted in certain cities, then in 1990 trading on the secondary market was restarted countrywide when stock exchange bond trading was authorised on the stock exchanges of Shanghai and Shenzhen. Thus, the secondary market first took off at the stock exchange, and then in 1997 the interbank bond market was established. The market maker system was introduced in 2001. The interbank bond market started to develop rapidly and took over the role of the leading bond market (*Bai et al. 2013*).

[3] Information on the bond issues by British Columbia was found on the website of British Columbia's provincial government.

Foreign players could first access stock market bond trading from 2002, after an appropriate authorisation procedure. The scope of bond market instruments started to be expanded around this time: first central bank bonds and then bonds issued by financial and non-financial corporations appeared on the market, and in 2005 the first panda bonds were issued. In 2010, in the spirit of the gradual opening up, access to the interbank bond market was granted to central banks, supranational institutions and sovereign wealth funds. The RMB clearing banks based in Hong Kong and Macau and banks engaged in offshore RMB settlements linked to trading activities were also allowed to enter the market at this time. From 2011 a predetermined group of foreign institutional investors were allowed to enter the onshore bond market using renminbi funds, in a quantitative quota system.

**Figure 4**
**Market value of the onshore RMB bond portfolio (RMB billion), 2010–2015**

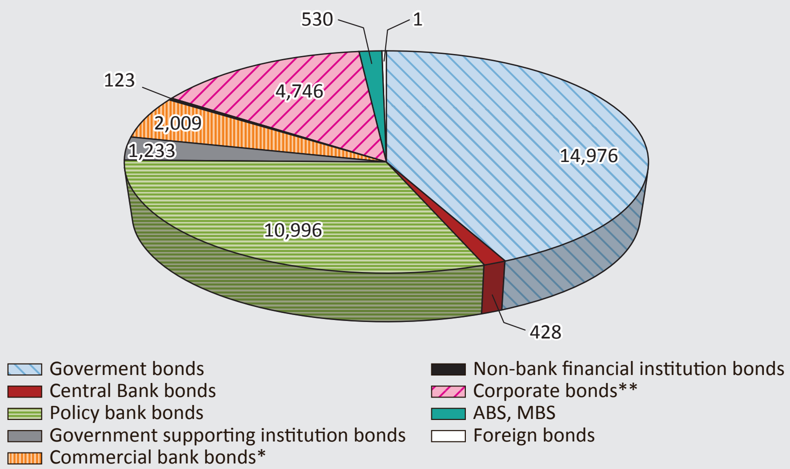



*Source: Based on data from CCDC (2016)*

### 4.1. Issuers and traded instruments

A wide range of instruments are available on the Chinese onshore market. Most of the bond portfolio is comprised of government bonds, which also include bonds issued by local governments. In addition, a substantial segment of the bond market consists of bonds issued by the three state-owned development banks (so-called policy banks). Up until 2013, the bonds issued by the Chinese central bank comprised a major portion of the existing bond portfolio and the trading on the secondary market, but they have lost their market share, possibly because there have been no issues since 2013 (*IMF 2015*). Commercial bank bonds consist of a large variety of instruments, including hybrid bonds. In addition to the issues by the public and financial sectors, the onshore market also offers bonds from the non-financial sector. Both state-owned enterprises and private sector companies are permitted to issue bonds. Currently, asset-backed securities and the panda bonds issued by foreign institutions only comprise an infinitesimal part of the market. The modest share of panda bonds may be mostly attributable to regulatory factors. In 2015, foreign financial institutions were also permitted to issue panda bonds, which – in addition to the inclusion of the renminbi in the SDR basket – may provide new momentum to the market.

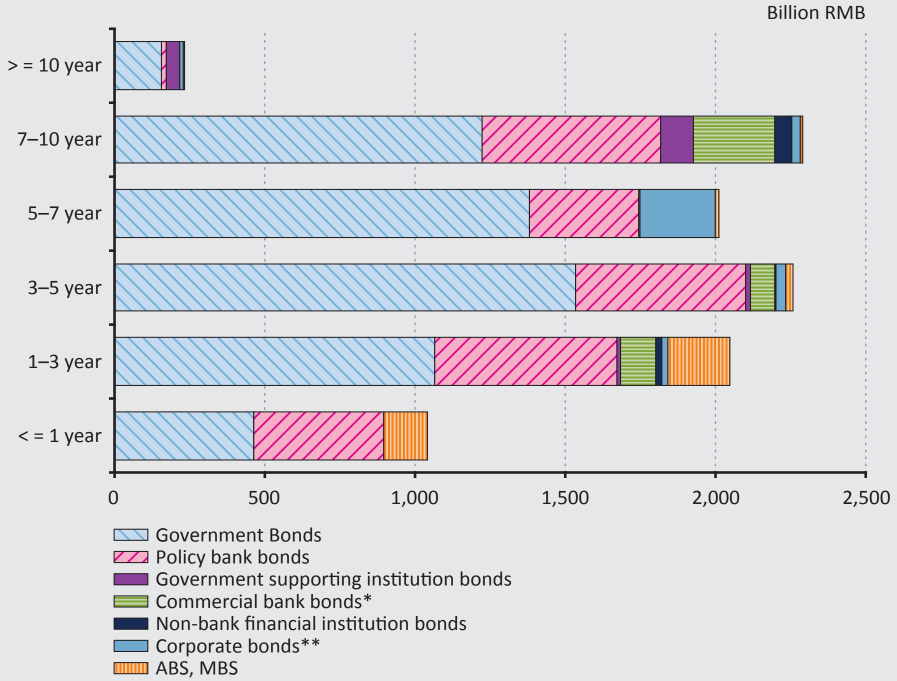
**Figure 5**
**Portfolio of onshore bond market instruments (RMB billion), December 2015**




** Also includes bonds marked as Tier 2 instruments in the CCDC statistics*
*** Also includes bonds marked as MTN and SME bonds in the CCDC statistics*
*Source: Based on data from CCDC (2016)*

From the perspective of the bond market's development, having an appropriate amount of securities at all investment horizons and having available instruments in as many maturity segments as possible are key aspects. Examining the onshore market from this angle, it can be stated that the issued amount can be typically considered even over the 1–10-year horizon, while in the segment with maturities of more than 10 years most of the issuers are sovereign players, and over the horizon shorter than 1 year the supply on the primary market is also lower.

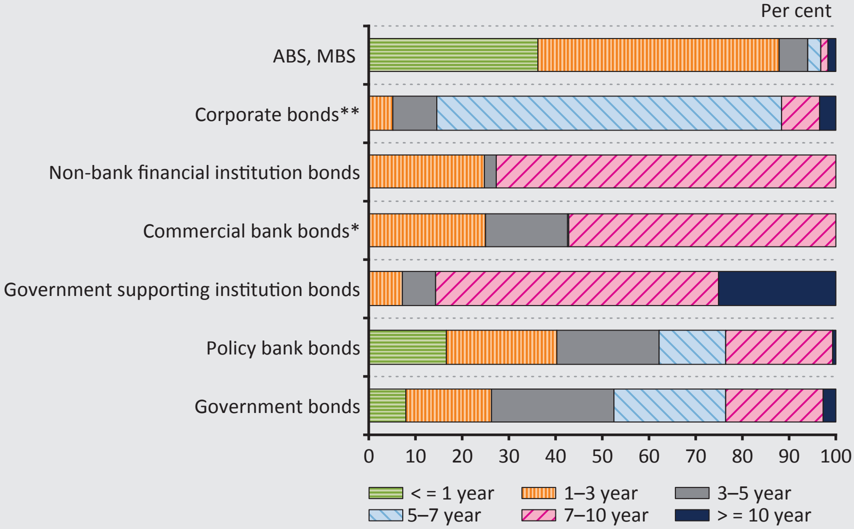
**Figure 6**
**Onshore market bond issues by maturities (RMB billion), 2015**




** Also includes bonds marked as Tier 2 instruments in the CCDC statistics*
*** Also includes bonds marked as MTN and SME bonds in the CCDC statistics*
*Source: Based on data from CCDC (2016)*

The Chinese state and the development banks play a dominant role in developing the bond market. These issuers are represented at all maturities with considerable issues. Examining the individual bond market instruments based on their typical maturities, the following can be stated. ABSs and MBSs are typically short-term bonds (mainly with maturities of up to 3 years). The majority of corporate bonds offer a medium-term investment (5–7 years), while commercial banks and other financial institutions typically issue longer-term bonds (with maturities over 7 years).

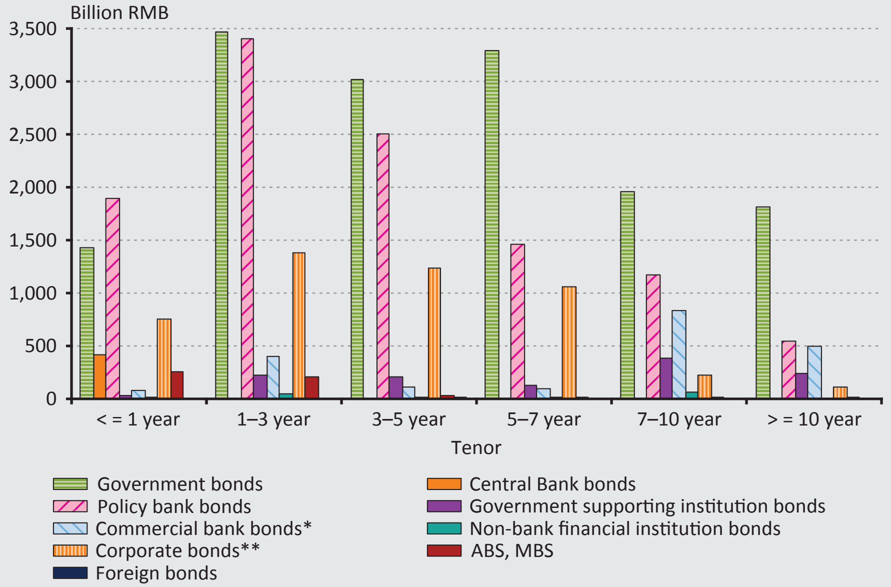
**Figure 7**
**Typical maturities of the different bond types, onshore bond issues in 2015**




** Also includes bonds marked as Tier 2 instruments in the CCDC statistics*
*** Also includes bonds marked as MTN and SME bonds in the CCDC statistics*
*Source: Based on data from CCDC (2016)*

Examining the opportunities offered by the secondary market, it can be stated that the dominant segment comprises bonds with maturities of 1–3 years, while a substantial amount of bonds is available in the 5–7-year and the 3–5-year segments as well. The largest amount of securities available at these maturities are government securities and bonds issued by state-owned development banks. In the case of the private sector, the largest supply is in the 1–3-year segment. For investors looking for a long-term investment it must be pointed out that in the segment with maturities over 7 years, bonds issued by commercial banks may offer the best investment alternative to public sector issues. For investors looking for a short-term investment (e.g. money market funds) it should be noted that in the segment of the secondary market with maturities shorter than 1 year the largest supply is in the bonds issued by state-owned development banks.

**Figure 8**
**Portfolio of bonds available in the individual maturity segments (RMB billion), December 2015**




** Also includes bonds marked as Tier 2 instruments in the CCDC statistics*
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*Source: Based on data from CCDC (2016)*

### *4.1.1. Corporate bond market*

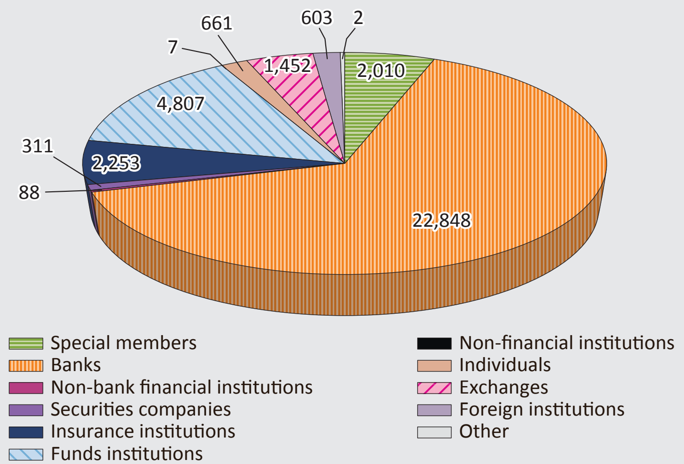
Developing the Chinese corporate bond market is a priority for the Chinese authorities. Currently, bank financing plays a central role in corporate finance, but the acquisition of funds from the bond market may provide a sort of protection in the case of potential banking system problems (e.g. system-wide increase in lending risks, rise in the NPL ratio).

The two major segments on the corporate bond market are bonds issued by state-owned enterprises and medium-term notes (MTN) offered by non-state-owned corporations. Most of the corporate bonds were issued on the offshore market and denominated in USD (*BIS 2014*). Onshore corporate bond issues have recently gained renewed momentum, which may have been due to the decreasing onshore interest rates, and this means a cheaper source of finance for companies when compared to offshore financing. One of the notable characteristics of onshore corporate issues is that issuers must be rated by Chinese credit rating agencies. The rating practice of these agencies is peculiar insofar as it includes a grade (AAA+) above the AAA rating – which is usually the best one on other markets – awarded to a handful of larger Chinese corporations. It should be noted that the local rating agencies gave an AAA rating to 77% of the issuers on the corporate bond market (*BNP 2015a*).

### 4.2. Investors

Non-Chinese residents currently have restricted access to the onshore bond market. This is also reflected by the investor side of the bond market. The proportion of foreign investors is at present negligible, hovering around 1.5–2%. Most of Chinese onshore bonds are held by commercial banks. The major holders of the existing bond portfolio include Chinese fund managers and insurance corporations as well. Of the former, the role of money market funds has increased in the past 10 years, as by 2015, 35% of all the assets managed by investment funds were in money market funds. The internationalisation of the renminbi is expected to attract the interest of international fund managers as well, and for them, similar to their Chinese peers, the bonds issued by development banks may be the most alluring (*BNP 2015*).

**Figure 9**
**Onshore bond market investors by market share (RMB billion), December 2015**

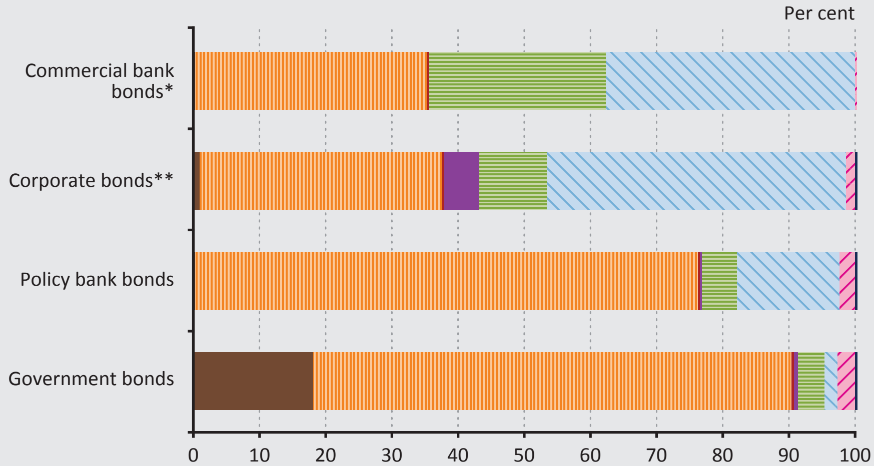



*Source: Based on data from CCDC (2016)*

Examining the segments of the onshore bond market it can be stated that banks, although they are among the major holders in the case of all instruments, mainly hold substantial shares of over 50% in government securities and bonds issued by state-owned development banks. The holdings of commercial banks on the market for government securities is so substantial that they almost crowd out the other participants from the world's seventh largest government bond market.

However, in the case of private sector issues, the largest investors are Chinese fund managers, as they hold the bulk of corporate bonds. In addition, they are present on the market for commercial bank bonds as investors with a weight similar to commercial banks. Brokerage firms principally appear as investors on the corporate bond market. The share of foreign investors is the largest on the market for government securities, but it is still negligible relative to the size of the market.

**Figure 10**
**Investors of the major onshore bond types, December 2015**




** Also includes bonds marked as Tier 2 instruments in the CCDC statistics*
*** Also includes bonds marked as MTN and SME bonds in the CCDC statistics*
*Source: Based on data from CCDC (2016)*

### 4.3. Liquidity

By virtue of being larger and offering more issues, the onshore market is more liquid than the offshore market. Nevertheless, the markets for the different types of bonds have different liquidities, and in the case of certain bond types increasing secondary market liquidity may represent the next step in market development.

Almost three quarters of the trading volume on the secondary bond market can be linked to commercial banks, and in addition to these institutions, the trading activity of fund managers and brokerage firms can be considered significant.

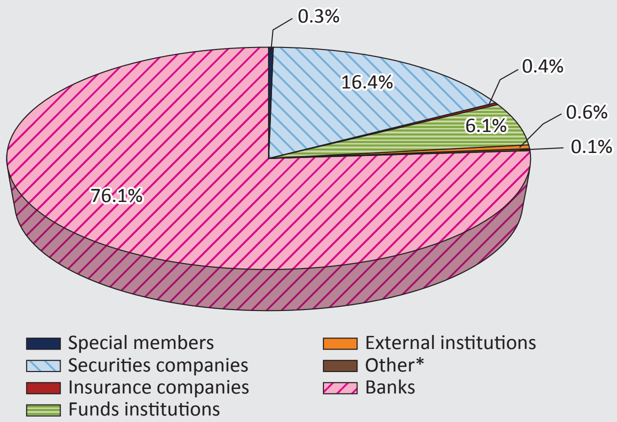
Examining the instruments traded, it can be stated that the bonds issued by development banks are the most liquid: transactions in these securities comprise more than 50% of bond market trading. In addition to these, government bonds and corporate bonds are among the most liquid instruments.

The study by *Ma and Yao* (*2016*) identifies several factors behind the higher secondary market liquidity of development bank bonds as compared to government securities. Development bank bonds are quasi-sovereign issues, and issuers also attest greater significance to capital market needs. In the case of the bonds issued by development banks, issues are more frequent, which increases the availability of so-called on-the-run issues which can be considered more liquid in general. Furthermore, a larger share of development bank issues is concentrated on the short end of the yield curve, which also points towards higher liquidity. Additionally, development bank bond issues include more bond types than government bonds. Finally, the authors also cite taxation as a factor in the lower liquidity of government bonds: the interest income from government bonds is exempt from taxation, while price appreciation gains are taxed, which encourages bondholders to hold government bonds until maturity.

In their study, the economists of the New York Fed (*Bai et al. 2013*) examine the secondary market liquidity of government securities and find that although bonds are traded on a daily basis, trading activity is not yet as intense as to enable price developments to reflect the most up-to-date information in line with the efficient market hypothesis. Examining the relationship between the individual characteristics of bonds and their secondary market liquidity, the authors find that issues with higher coupon rates, larger issue sizes, longer maturities and more recent issuance can be characterised by higher secondary market liquidity.

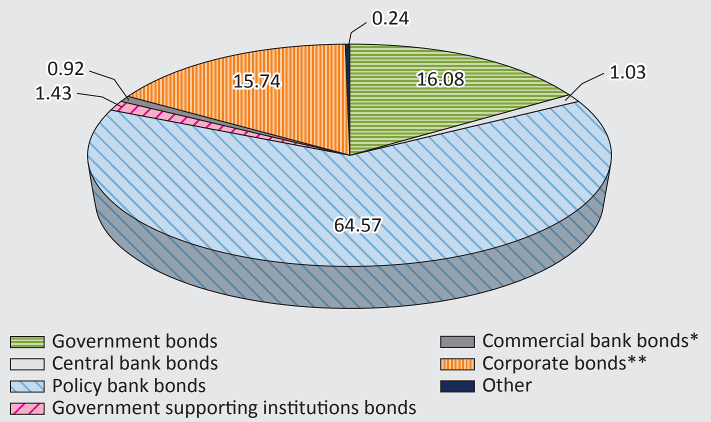
The typical transaction size on the market for government securities and development bank bonds is between RMB 10 and 100 million, while the typical bid–offer spread is between 1 and 10 basis points. The average daily volume of secondary market trading on the market for government securities with maturities

**Figure 1**
**Key players on the onshore bond market by trading volume, December 2015**




*Source: Based on data from CCDC (2016)*

**Figure 12**
**Distribution of onshore bond market trading by bond types, December 2015**




** Also includes bonds classified as Tier 2 instruments in the CCDC statistics*
*** Also includes bonds classified as MTN and SME bonds in the CCDC statistics*
*Source: Based on data from CCDC (2016)*

of less than a year is RMB 10–20 billion, while on the market for government bonds and development bank bonds it is RMB 20–30 billion (*Liu–Pihlman 2015*).

In relation to the Chinese onshore market for government securities, it should be noted that although in terms of its size it is the seventh largest market globally, it lags behind the world's leading bond markets in some respects. First, secondary market activity is substantially more subdued, which is probably due to the dominance of buy-and-hold investors (*Income Partners 2014*). Second, the proportion of international investors is low. However, the Chinese efforts aimed at the internationalisation of the renminbi are expected to bring about changes in this. The appearance of foreign institutional investors on the Chinese onshore market may also be supported by the fact that in early 2016 the Chinese authorities considerably loosened the rules regulating their entry to the market. This may offer further opportunities to Hungarian institutional investors as well.

### 4.4. Market infrastructure and regulation

The onshore bond market can be accessed without restrictions by Chinese residents, while among foreign investors access has only been granted to central banks, sovereign wealth funds and supranational institutions. Other participants wishing to enter the onshore bond market are faced with various quantitative restrictions. Therefore, foreign investors are relatively new on the onshore market, and in view of the administrative requirements still in place despite the gradual elimination of restrictions, it can be often easier for them to enter the market by cooperating with a domestic institution.

On the primary market, Chinese bonds are sold within the framework of an auction or book building. Government securities, central bank bonds and development bank bonds are issued at auctions, while in the case of the rest of the bonds book building is undertaken (*Liao 2011*).

The secondary market trading of Chinese bonds happens on the stock exchange and on the off-exchange market. The latter can be divided into two segments: the interbank and the OTC markets. (While the OTC market is sometimes used as a synonym for the interbank market, in Chinese bond market parlance the OTC market means the segment of the off-exchange market where non-financial institutions participate (secondary OTC market), and the interbank market is the segment of the off-exchange market that can only be accessed by banks (primary OTC market).) Trading on the onshore market is carried out on the stock exchanges of Shanghai and Shenzhen.

A major portion of the trading in Chinese bonds (more than 90%) is carried out on the interbank market, to which, for a long time, only Chinese banks had access. Thus, financial institutions with access only to stock exchange trading were at a disadvantage compared to those financial institutions that accessed the interbank market as well. The fact that access is provided to the interbank market demonstrates the relaxation of bond market regulations, and the partial opening-up of the bond market (and thus the capital account as well). This may also support the efforts aimed at the internationalisation of the RMB, as it enables access to a wider range of RMB-denominated bonds for a wider range of investors.

In addition to the Chinese investors, access to the interbank market was first granted to central banks, sovereign wealth funds and supranational institutions. For other foreign financial institutions, access to the Chinese bond market is possible by acquiring the QFII (Qualified Foreign Institutional Investor) or RQFII (Renminbi Qualified Foreign Institutional Investor) status and the relevant quotas (see Section 4.6.2 for more on QFII and RQFII status).

Bond market trading was launched on the Shanghai stock exchange in 1990, and then in 1997 the interbank bond market was established by banning commercial banks from trading bonds on the stock exchange. In a similar fashion, foreign participants with QFII status were initially allowed to trade bonds on the stock exchange, and then in 2012 they were permitted to invest on the interbank market. Investors with RQFII status gained access to the interbank bond market in 2013 (*FTSE 2015*).

On the interbank market, banks and institutional investors are allowed to trade (including central banks, the institutions holding QFII and RQFII quotas, sovereign wealth funds and supranational institutions), and in addition to bonds, repo and forward transactions are also available. On the non-interbank segment of the off-exchange market, commercial banks act as market makers in government bonds for private individuals and non-financial institutions (companies). On the stock exchange, banks and private individuals are allowed to trade, and in addition to government securities and corporate bonds, repo and bond futures transactions are available (*Li 2015*).

The regulation and oversight of the onshore bond market's interbank segment is performed by the People's Bank of China (PBC). Bond trading is carried out through the CFETS system, while the settlement of the bond transactions is implemented by the China Central Depository and Clearing Co. (CCDC) or the Shanghai Clearing House (SCH) (*Li 2015*). Stock exchange bond trading is overseen by the China Securities Regulatory Commission (CSRC). All four regulatory bodies take part in the regulation and oversight of the panda bond market. Panda bonds are only available on the interbank market.

### 4.5. Role of the Chinese onshore bond market in the internationalisation of the renminbi

The internationalisation of the renminbi is fostered by its use as a settlement currency in international commercial relations as well as its inclusion in the SDR basket. The internationalisation of the Chinese currency assumes the widespread use of the renminbi. This goal can be achieved if as many international participants as possible hold renminbi instruments, including renminbi-denominated bonds. These may be either offshore or onshore instruments. Therefore, the 2007 establishment of the offshore bond market was a step towards the internationalisation of the renminbi. Opening up a larger a segment of the onshore bond market for more and more non-Chinese investors may also strengthen the global role of the renminbi. Steps to this effect have already been taken, but not all market segments are accessible for non-Chinese investors. In addition, there are quantitative restrictions that limit the bond market share of non-Chinese investors. The gradual elimination of the restrictions and gradual opening-up of the market may help the renminbi in becoming a global currency.

According to *Ma and Yao* (*2016*), in addition to the regulation, monetary policy may also foster the Chinese bond market's support for the internationalisation of the renminbi. Currently, more than 60 per cent of onshore market bonds are held by commercial banks. Banks' bond market share and demand for bonds is explained by the RRR rate. In order to meet the reserve requirements, Chinese banks create permanent, substantial demand for Chinese onshore bonds. With the reduction of the RRR[4] rate, a considerable portion of the bond market supply would become freely available, as in the context of a lower RRR rate the bond market demand of

[4] RRR = reserve requirement ratio, the reserve ratio of commercial banks required by central banks. Through the RRR rate, the central bank can influence the amount of free liquidity available in the banking system (among other things).

commercial banks would be weaker, which would allow non-Chinese investors to gain ground.

The extent to which Chinese bond markets can support the internationalisation of the renminbi depends not only on the Chinese regulations but also on other factors influencing the demand generated by international investors. Three key factors are mentioned (*Luk–Chen 2015*) which may boost the demand of foreign investors on the Chinese onshore bond market: China's credit rating has improved significantly in recent years (according to the S&P's rating, it is currently in the AA- category), Chinese bonds offer higher yields than other large, mature bond markets, and the low correlation of the renminbi instruments with the bond markets of developed countries provides a diversification advantage for international portfolio managers. According to JP Morgan's analysis, between 2005 and 2015 the correlation coefficients of the US, Japanese and German bond markets calculated on the basis of the yields offered by the 10-year government bonds were extremely high, ranging above 80%. By contrast, yields on the Chinese and US long-term bonds showed a correlation of only 12%, while Chinese and German 10-year government securities showed 8%, and the correlation with the Japanese market was negative (–9%).

The study by the Finnish central bank (*Ma–Yao 2016*) examines the conditions for the internationalisation of the Chinese bond market, especially the government securities market. The study also points out the role of the exchange rate. The authors attempt to determine the conditions that would enable the currently seventh largest government securities market in the world to become the third largest globally. The study concludes that in terms of size, convergence with the US government securities market until 2020 is not a realistic scenario. However, it may be a realistic goal to catch up with the bond markets of Japan, the United Kingdom or the European Union. Assuming a 5 per cent average annual growth rate for the 10 largest government bond markets (except for the Chinese) and a 10 per cent annual growth rate for the Chinese government securities market, and assuming that the renminbi will appreciate 1.5 per cent against the USD annually, the size of the Chinese government securities market may double by 2020 compared to its size in 2015. This would make the government securities market the third largest in the world, but according to the projections, the existing bond portfolio would amount to a third of the Japanese market and 16 per cent of the US market. Based on the claims of the study, one might ask how these figures would change if the renminbi weakened. Since the end of 2015 the renminbi's exchange rate has been volatile and it has depreciated considerably against the USD, although it remained relatively stable compared to the newly introduced CFETS index.[5] The exchange rate may be

[5] An index introduced by the Chinese authorities in December 2015. Its value reflects the exchange rate of the onshore renminbi based on the trade figures for China's 13 largest trading partners. The index is published by the China Foreign Exchange Trade System (CFETS) at intervals not previously determined.

a risk factor that could materially influence the interest of international investors in the Chinese bond market, and thus it may also impact the role of the Chinese currency in international financial transactions.

Yet the study is not pessimistic with regard to the chances of the Chinese bond market. Examining the volume of trading on the bond market in an international context, the authors find that development bank bonds, the volume of trading of which on the secondary market is double that of the government securities, may contribute to the strengthening of the renminbi's international role. Nonetheless, the authors also point out that the development of the secondary market for government bonds and increasing market liquidity should be key aspects, since a liquid secondary government securities market is necessary for the establishment of reliable bond market benchmarks that may facilitate the appropriate pricing of other instruments and thus boost the demand for them.

### 4.6. Opportunities for foreign investors on the onshore market

#### *4.6.1. Central banks*

Central banks enjoy a special status with Chinese authorities, and they are *considered key investors* on the onshore market. This is because one of the goals of the government to promote the Chinese currency is to make the renminbi a global reserve currency in central bank reserves.

If foreign central banks wish to invest on the onshore market, they have two options to do so. They can either enter the market *directly* after submitting a registration form to the Chinese central bank, or they can gain exposure in onshore Chinese bonds *indirectly*, through the Bank for International Settlements (BIS), which is similar to an open-end investment fund created for central banks. Until July 2015, foreign central banks were also required to hold the pre-authorised quotas if they wanted to enter the onshore market, but this was abolished by the Chinese central bank, which simplified the investment process. Central banks can choose whether they wish the Chinese central bank or a commercial bank active on the Chinese interbank bond market to act as a *trading and settlement agent* for them. The task of the trading agent is to conclude and record the transaction in the trading system (CFETS), which is then transferred to the clearing system (CCDC/SCH). The task of the settlement agent is to compare the details of the transactions concluded with the data in the trading system, to record them in the clearing system and to perform the money and securities transfers. The central banks investing in the investment fund of the BIS actually invest on the Chinese onshore market *at the expense of the quota allocated to the BIS.* The fund invests the collected capital in line with predetermined policies, and charges a fee for its services. This option is primarily used central banks which are only beginning to familiarise themselves with the Chinese bond market, but wish to gain exposure in their reserves.

*4.6.2. Foreign institutional investors*

Financial institutions can enter the Chinese onshore bond market under two different programmes. In both cases they can gain access to securities on the stock exchange and on the interbank market as well (and may trade shares in addition to bonds).

Access can be gained by securing QFII or RQFII status. The basic difference between the two options is that while QFII status can be requested by any foreign bank or institutional investor (insurance corporations, brokerage firms, fund managers), only offshore renminbi centres (typically countries) receive quotas from the Chinese central bank within the framework of the RQFII programme. Institutions that wish to enter the market as investors can indicate their intention to invest at the expense of this quota. Entering the onshore bond market at the expense of the RQFII quota has been possible since 2011. In view of the fact that Hungary has RQFII quotas for Hungarian financial institutions, RQFII status may present a new opportunity for entering the Chinese securities market.

The QFII quotas are set in USD, while the RQFII quotas are set in RMB. Investors with QFII status transfer USD to the onshore market, then convert it to renminbi and carry out investments with that. Investors with RQFII status gain exposure on the onshore market by utilising their offshore renminbi. The latter programme basically helps to channel back to the onshore market the renminbi accumulated on the offshore market. Meanwhile, the goal of the former scheme is also to generate capital inflows, but in foreign currency that is converted to renminbi on the onshore market. The heightened fears at the turn of 2015 and 2016 due to the capital flight from China and the efforts to enhance the likelihood of the inclusion of the Chinese bond market in the benchmark index followed by large international fund managers may have contributed to the fact that in early 2016 several measures were taken to relax the rules regulating the entry to the onshore bond market. As a first step, the maximum amount of investment permitted to investors with QFII status was raised from USD 1 billion to 5 billion, after which the PBC enabled a larger group of financial institutional investors to enter the interbank bond market through Chinese commercial banks. At this time not only the scope of investors was expanded, the administrative conditions were also relaxed (*PBC 2016*).

Investors can enter the Chinese onshore securities market through a custodian bank (which is also authorised for clearing in the case of bond market investment). The bank obtains the necessary permissions and performs the required registration at the competent Chinese authorities on behalf of the foreign institutional investors. In order to gain access to the onshore bond market, institutional investors must fulfil several conditions, for example that in the three years prior to the investment on the onshore market, the competent regulatory authority should not impose a penalty on them for infringing on the laws governing bond market activity or other regulations (*PBC 2016*). For those applying for QFII or RQFII and quotas and fulfilling the criteria, the central bank had previously set a fixed quota, but since early 2016 fund managers can enter the Chinese market based not on a fixed quota but on a percentage of the wealth managed by them. This requires authorisation from not only the central bank but also from the State Administration of Foreign Exchange (SAFE). In addition, stock exchange trading is only permitted with an authorisation from the China Securities and Regulatory Commission (CSRC). When the necessary permits are obtained, an account is opened, then transactions can start through commercial banks authorised for trading on the bond market and through brokerage firms on the stock exchange. Although the process may seem complicated at first, investors can basically enter the market in a one-stop-shop system, through the appropriate commercial banks.

## 5. Summary

The article presented the onshore and offshore segments of the Chinese bond market, analysing in detail both the supply and the demand side, the scope of available instruments, the bond market regulations and the basic characteristics of the markets. Examining the bond market in the context of the Chinese policy focusing on the internationalisation of the RMB, it can be stated that this political effort may point towards a higher proportion of foreign investors on the Chinese bond market.

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