**Executive summary:**

- The launch of Bond Connect Northbound provides overseas investors with a more efficient channel to invest in China’s onshore bond market, which is on the path to becoming the second largest bond market in the world.

- Key advantages of Bond Connect are offshore account opening, trade settlement and foreign exchange conversion, in addition to international trading platforms. No investment quota or lock-up period is imposed on investors.

- Market implications of Bond Connect could be significant in the medium term, as it could lead to the inclusion of China onshore bonds in major indices, increase foreign ownership of onshore Chinese bonds, converge onshore/offshore interest rates and foreign exchange curves and potentially revive the offshore RMB market.

- We believe China onshore bonds provide global investors with the potential to achieve attractive yields, greater diversification, lower foreign exchange and bond price volatility and deep trading liquidity.

- We believe the importance of China’s economy and the size of its onshore bond market make it crucial for international investors to assess the opportunities and options within this market.

**Introduction:**

As a new cross-border investment channel, Bond Connect, provides mutual market access for bond investors between Mainland China and Hong Kong, and more broadly, the international market. The People’s Bank of China (PBOC) and the Hong Kong Monetary Authority (HKMA) announced the agreement for this new initiative in May 2017 and the program officially commenced on 3rd July, 2017. At the current stage, only the Northbound Trading (overseas investors buying/selling China onshore bonds) is allowed.

In addition to QFII/RQFII/CIBM direct\(^1\). Bond Connect has provided a fourth channel for overseas investors to participate in China’s onshore bond market. It is also the channel that provides enhanced operational efficiency for overseas investors, especially regarding account opening and trade settlement. The launch of Bond Connect has opened the door for potential inclusion of China onshore bonds into major global bond indices, with initial actions expected by end-2017 or early-2018.

China’s stabilized currency and higher yield pick-up versus global peers have strongly increased international investors’ interest in the onshore bond market. As we wrote extensively in a report titled “The Opening of China’s Bond Markets: Opportunities for Global Investors” in July 2016, we believe China onshore bonds offer unique features and add an important diversifying element to global bond portfolios.

This paper provides an update on the recent developments in China’s bond market, compares the Bond Connect mechanism with the CIBM direct and offshore bond markets, discusses potential market implications and explores investment opportunities across China’s onshore and offshore bond markets. The appendix contains additional details concerning the China onshore bond market’s characteristics and trading mechanism.

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1. QFII refers to qualified foreign institutional investor scheme. RQFII refers to RMB qualified foreign institutional investor scheme. CIBM direct refers to the China interbank bond market scheme.
How does Bond Connect work?

Overview of Bond Connect

The Northbound Trading\(^2\) of Bond Connect provides an avenue for overseas institutions to invest in China onshore bonds through global trading platforms and settle in the offshore market. Under Bond Connect, investors send settlement instructions to the Hong Kong Central Moneymarkets Unit (CMU), which acts as the nominee holder of these securities and settles with onshore clearing houses\(^3\).

Overseas investors are not required to open an onshore account but instead are allocated a CMU account number for settlement process. Investors' beneficial ownership of onshore bonds is recognized by the PBOC, and CMU can provide certificates as proof of investors' bond holdings.

To buy and sell bonds, investors send a request for quote (RFQ) to selected participating onshore dealers on offshore trading platforms and lift/hit the most favourite price quote. The offshore trading platforms (currently Tradeweb and Bloomberg expected later) are connected with the onshore trading system CFETS\(^4\). After a trade is completed, CFETS sends trade information to the two onshore central securities depositories (CSD) - China Central Depository & Clearing Co. Ltd. (CCDC) and Shanghai Clearing House (SHCH)\(^5\).

The trade settlement cycle can be set at T+0, T+1 or T+2 and can be indicated when sending RFQ. However, the settlement method is currently different between SHCH and CCDC. Delivery versus payment (DVP) is achievable for trades settled in the Shanghai Clearing House, but CCDC currently can only deliver bonds after cash payment. The central bank is working on improvements to the Cross-Border Interbank Payment System (CIPS) and CCDC is expected to achieve DVP by end of 2017.

Funding currency can be either CNH or foreign currencies. Investors can choose to exchange foreign currencies to RMB using either the CNH or CNY\(^6\) exchange rate with offshore designated settlement banks. The repatriation currency should be the same as the funding currency. In other words, the type of exchange rate must be the same to get funds in and out under Bond Connect. In practice, the currency conversion rate is “CNH in - CNH out” or “CNY in - CNY out”, for example. Currency hedging can be conducted through “CFETS Direct Members” in Hong Kong. Hedging instruments such as currency forwards, currency swaps, cross currency swaps and currency options are available under Bond Connect. Interest rate hedging, however, is not yet available under Bond Connect.

A key advantage of Bond Connect compared to other schemes is the simplified account opening process and much shorter approval turnaround time. Investors open a segregated account with CMU and send application forms to Bond Connect Co., Ltd. (BCCL) for onboarding. After BBCL verifies investor eligibility, application materials are sent to CFETS and PBOC. Upon completion of registration with the PBOC, a 21-digit CFETS ID is sent to investors. Trading can commence from that point onward.

Comparison of Bond Connect with CIBM Direct

Prior to the launch of Bond Connect, CIBM Direct was a major investment channel for overseas investors to invest in the China onshore bond market. For investors who have yet participated in either scheme, it is helpful to identify the key differences between Bond Connect and CIBM Direct. Put simply, under Bond Connect, account opening, trading and settlement can be conducted in the offshore market, whereas under CIBM Direct, the whole process is completed in the onshore market. Bond Connect provides a more centralized and systematic approach versus CIBM Direct where investors must rely heavily on onshore bond settlement agents. More importantly, Bond Connect enhances operational efficiency, simplifies the account opening process and shortens approval turnaround.

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2. The Southbound Trading of the Bond Connect has not been opened yet and there is no clear timeline at current juncture.
3. The onshore central securities depositories are the ultimate/direct depositories of onshore bonds and HK CMU serves as a secondary depository.
4. CFETS stands for China Foreign Exchange Trade System
5. CCDC is the agent settling China government bonds, local government bonds, PBOC bills, policy bank bonds, bank senior and capital bonds, enterprise bonds and bonds issued by government-supported institutions. SHCH is responsible for settlements of negotiable certificates of deposits, commercial paper, medium-term notes, private placement notes, project revenue notes, green bonds and bonds issued by non-bank financial institutions.
6. The CNY FX rate used in the offshore FX transactions under Bond Connect is also called “offshore CNY” rate.
In the table below, we outline key differences between the two channels.

**Figure 1: Bond Connect vs CIBM Direct**

<table>
<thead>
<tr>
<th></th>
<th>Bond Connect</th>
<th>CIBM direct</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Account opening</strong></td>
<td>Offshore account opening with CMU</td>
<td>Onshore account opening with CFETS/CCDC/SHCH</td>
</tr>
<tr>
<td><strong>Registration</strong></td>
<td>Registration with PBOC through BCCL</td>
<td>Registration with PBOC through settlement agent bank</td>
</tr>
<tr>
<td></td>
<td>Registration could be at company or product level</td>
<td>Registration needs to be at product level for fund managers</td>
</tr>
<tr>
<td><strong>Trading platform</strong></td>
<td>International trading platforms such as Tradeweb currently and Bloomberg expected at a later stage</td>
<td>OTC trading with agent bank who trades on investors' behalf on CFETS</td>
</tr>
<tr>
<td><strong>Investment quota</strong></td>
<td>No quota is imposed or needs to be indicated</td>
<td>No quota is imposed, but investment is subject to registered amount indicated by investors</td>
</tr>
<tr>
<td><strong>Trading &amp; hedging instruments</strong></td>
<td>Cash bonds in the primary and secondary market and FX derivatives</td>
<td>In addition to cash bonds and FX derivatives, interest rate derivatives are also allowed</td>
</tr>
<tr>
<td><strong>Settlement structure</strong></td>
<td>Offshore settlement via CMU</td>
<td>Onshore settlement directly with CCDC or SHCH</td>
</tr>
<tr>
<td></td>
<td>CMU acts as the nominee holder of the bonds and settles with CCDC or SHCH</td>
<td>Investors are the direct holders of the bonds</td>
</tr>
</tbody>
</table>

Source: Invesco as of 15th October 2017.

**Comparison of trading practice between the onshore and offshore bond markets**

As Bond Connect aims to bring investors across the border and link onshore and offshore markets, we believe it is beneficial for both onshore and offshore investors to understand the trading practices in the respective markets. This section highlights major differences between the onshore and offshore bond markets from a trading perspective.

**Trading platform**

*Onshore:* CFETS is the main trading platform. Instant communication applications such as QQ and WeChat are used by onshore dealers and investors to show trade axes and negotiate trades.

*Offshore:* Bloomberg is the main trading platform, although Reuters is also used by dealers. Trade information such as price, buy/sell axes and confirmation messages are recorded on Bloomberg.

**Daily turnover and ticket size**

*Onshore:* Daily turnover for government bonds is around RMB50 billion (USD7.6 billion), over RMB100 billion for bank CDs and around RMB200 billion for policy bank bonds, according to HSBC estimates. Bonds issued by corporates, such as medium-term notes, enterprise bonds and commercial paper record a trading volume of around RMB30-50 billion on a daily basis. The average ticket size is RMB30-100 million depending on the bond type and its respective trading liquidity. For Bond Connect investors, the minimum ticket size and increments have both been customized to RMB1 million.

*Offshore:* Given the nature of the over-the-counter (OTC) market, no official statistics on overall market trading volume is available for the offshore market. For liquid bonds of large issue sizes, individual dealers can reach over USD100 million in trading volume on a relatively active day. The average single ticket size is up to USD30 million for investment grade bonds and USD5 million for high yield bonds without having a noticeable market impact. The minimum trade size is usually USD200,000 in increments of USD1,000.

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7. We choose China interbank bond market to represent onshore market and Asian USD bond market to represent offshore market.
Trading hours
Onshore: 9:00 am - 12:00 pm, 1:30 pm - 4:30 pm, China standard time. Bond Connect trading days coincide with those in the CIBM market.

Offshore: The OTC is a 24-hour market. Trading volume and liquidity are better during Asian business hours (usually 8:30am - 6:30pm). However, investment grade bonds' trading volume is lower when there is no active US treasury trading in Japan or during US public holidays.

Market drivers
Onshore: Bond market performance is mainly driven by domestic factors. Interbank liquidity condition, PBOC’s monetary stance, market expectation on growth and inflation and investors’ position and allocation demand all impact onshore bond movements.

Offshore: In the offshore USD bond market, bond performance is impacted by US treasury move, risk sentiment, and supply and demand dynamics. In the CNH bond market, in addition to the factors above, the market expectation on USDCNH drives funding costs and therefore bond performance.

How has the response to Bond Connect been so far?

International investors have shown strong interest in Bond Connect since the announcement of the scheme. However, market response reflected by trading flows through Bond Connect has been divergent among institutional investors. Investors previously tapped the onshore bond market or set up infrastructure, have recorded relatively large-sized inflows. The flows have mainly concentrated on government bonds and NCDs (Figure 2). Tax-free features of government bonds and high yields of NCDs with short tenor have driven these inflows.

Figure 2: Onshore bond holdings of foreign investors

The response from large international institutions, on the other hand, has been more lukewarm than the original market expectation. The following factors could partially explain the relatively slow pace. For some global trustees and asset owners, the involvement of CMU as part of the settlement process may not meet their technical definition or understanding of DVP (delivery vs payment). In addition, it may take months or years for some institutional asset owners’ committees or board of
directors to revise investment guidelines or constitutions before the investment in a new market can be officially approved. From regulators' perspective, this new investment channel also takes time to be officially recognized and approved for use with funds registered or regulated in certain jurisdictions, especially when CCDC has yet to be able to achieve DVP. The inability of multi-account allocation on CFETS may have also deterred large institutional investors from inputting large-size trades due to operational inefficiencies and potential compliance issues.

However, authorities in both Mainland China and Hong Kong are working together with counterparties in other jurisdictions to address these technical obstacles and clear the way for international investors to get more involved in China's onshore bond market. For example, DVP on CCDC is expected to be achieved by end-2017, and the cross-border payment system upgrade is also under consideration.

**Why do global investors need to participate in China's onshore market?**

In addition to the reasons widely discussed why it is important to get involved in China's onshore bond market, such as its sheer size and higher yields, we have also identified a few unique features presented by this market. If managed properly, we believe China's onshore bonds provide global investors a potentially attractive option to diversify portfolio risks and enhance risk-adjusted returns.

**Low correlations with global bonds**

The low correlations of China onshore bonds with bonds in other markets offer global investors a market to diversify investment risks and reduce portfolio volatility. As shown in Figure 3, China onshore bonds' historical correlation with bonds in the US, Europe and emerging markets ranged between 0 and 0.2. Its correlation with global high yield market is particularly low, which is -0.06 with EUR high yield bond and 0.02 with US high yield. This indicates significant diversification benefits for a global bond portfolio if China onshore bonds are included, especially in a market environment where global assets have tended to move in tandem with general market risk sentiments.

**Higher yields than major markets' government bonds**

A key factor which has been driving foreign investors' demand for China onshore bonds, especially rates bonds and certificate of deposits (CDs), is their much higher yield compared to bonds in other major local currency markets. As shown in Figure 4, both China onshore and offshore RMB-denominated government bonds are trading over 100bps wider than government bonds issued by US, Singapore and South Korea. Compared to Germany and Japan government bond yields, whose front end are still trading in the negative territory, China government bonds offer 300-400bp yield pickup.

Similar to other local currency markets in the world, investing in China onshore bonds introduces currency risk. However, as discussed below, we think this risk remains relatively limited. RMB exchange rate volatility has been significantly lower than major developed market and emerging market currencies. As RMB has been strengthening against USD since the start of 2017, many international investors have chosen not to hedge the FX risks while investing in China onshore bonds. Even with FX risk fully hedged (using 12 month onshore forward, for example), 1-year China government bond still offers a yield 70bp higher than 1yr US Treasury bill. If 3-month forward is used, the yield pickup could reach over 170bp.

8. Rates bonds include China central and local government bonds, PBOC bills and policy bank bonds.
**Figure 3: Low correlation of RMB bonds with other global bond assets**

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</thead>
<tbody>
<tr>
<td>Represented by</td>
<td>ChinaBond Composite Total Return Index</td>
<td>HSBC Offshore RMB Bond IG Corporate Bond Index</td>
<td>Bloomberg USD High Yield Corporate Bond Index</td>
<td>EMBI Global Diversified Index</td>
<td>Bloomberg USD Investment Grade</td>
<td>US HY</td>
<td>EM external sovereign bonds</td>
<td>EM local currency government bonds</td>
<td>EM external Corporate Bonds</td>
<td>EUR European IG Corporate Bonds</td>
<td>EUR European HY Corporate Bonds</td>
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<td>Onshore RMB bonds</td>
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<td></td>
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<tr>
<td>Offshore RMB IG</td>
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<td></td>
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<td>Offshore RMB HY</td>
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<td>1.00</td>
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<td></td>
<td></td>
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<tr>
<td>US Treasury bonds</td>
<td>0.17</td>
<td>0.00</td>
<td>-0.08</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Developed countries government bonds</td>
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<td>0.10</td>
<td>0.04</td>
<td>0.60</td>
<td>1.00</td>
<td></td>
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<td>US IG Corporate bonds</td>
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<td>0.25</td>
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<td>0.83</td>
<td>0.63</td>
<td>1.00</td>
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<tr>
<td>US HY</td>
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<td>0.42</td>
<td>-0.18</td>
<td>-0.05</td>
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<td>1.00</td>
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<tr>
<td>EM external sovereign bonds</td>
<td>0.15</td>
<td>0.29</td>
<td>0.31</td>
<td>0.11</td>
<td>0.24</td>
<td>0.42</td>
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<td>EM local currency government bonds</td>
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<td>0.12</td>
<td>0.09</td>
<td>0.31</td>
<td>0.32</td>
<td>0.47</td>
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<td>0.73</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EM external corporate bonds</td>
<td>0.10</td>
<td>0.44</td>
<td>0.49</td>
<td>0.07</td>
<td>0.21</td>
<td>0.46</td>
<td>0.73</td>
<td>0.88</td>
<td>0.62</td>
<td>1.00</td>
<td></td>
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<tr>
<td>EUR European IG corporate bonds</td>
<td>0.09</td>
<td>0.27</td>
<td>0.27</td>
<td>0.43</td>
<td>0.31</td>
<td>0.64</td>
<td>0.36</td>
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<td>0.52</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>EUR European HY Corporate Bonds</td>
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<td>0.33</td>
<td>0.41</td>
<td>-0.31</td>
<td>-0.09</td>
<td>0.08</td>
<td>0.74</td>
<td>0.52</td>
<td>0.29</td>
<td>0.65</td>
<td>0.44</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: Bloomberg L.P., Invesco.
Lower exchange rate and bond volatility

Together with the absolute bond yield, currency volatility and outlook play a vital role as well for local currency bond investors. To many investors’ surprise, despite the recent volatility of RMB, the currency has enjoyed the lowest volatility among global currencies (Figure 5). This implies lower foreign exchange risk than other local currencies for bond investors.

Although RMB exchange rate volatility may increase from the current level as China moves towards a less managed currency regime, in the near future RMB stability is still considered a very high priority for Chinese policymakers. This can be evidenced by the remarks of National Financial Work Conference held in July 2017, which emphasized a “gradual pace” on RMB internationalization and capital account opening.
Figure 5: Low volatility of RMB vs other currencies

In addition to the low currency volatility, total return of RMB bonds have also experienced lower volatility over the past six years compared to bonds in the other markets. From 2011 to 2016, annualized volatility of China’s onshore bonds was 1.4%, versus 2.4% for European investment grade, 3.3% for US investment grade, 5.5% for global bonds and 12.5% for US treasuries (Figure 6). RMB bond volatility level is expected to increase in the near future, as China’s policymakers continue to make efforts to lower leverage level in the financial system especially in the interbank market. However, the onshore RMB bond market is still likely to be less vulnerable to external shocks compared to other markets. This is because China’s central bank, the PBOC, has demonstrated in the past its dominant impact on the onshore bond market, even when the external market environment is unfavorable. This monetary policy independence has also been helped by the relatively closed capital accounts.
Figure 6: Lower volatility of RMB bonds vs international peers

![Figure 6: Lower volatility of RMB bonds vs international peers](image)


**Deep liquidity compared to global peers**

Assessing liquidity is essential for investors before deciding whether to tap a new market. Contrary to many investors’ perceptions, liquidity of China’s bond market is comparable if not better than those of some major developed and emerging market countries.

In China, together with government bonds, bonds issued by policy banks (such as China Development Bank, Export-Import Bank of China and Agricultural Bank of China) are considered as “rates bonds”. This is due to their full government backing and 0% risk weight, i.e. no capital consumption, for banks holding these bonds. The bid-offer spread is 1-2bp for on-the-run rates bonds up to RMB100m (USD15m) and 3-5bp for bonds off the run, as observed by HSBC.

The turnover ratio of China rates bonds’ liquidity is comparable to many local currency bond markets and China corporate bond trading liquidity has already been considerably higher than that of global peers (Figure 7).
Figure 7: Quarterly turnover ratio of government and corporate bonds

Note: China* includes policy bank bonds, which are considered as central government risk and traded as rates products.

What are the market implications of Bond Connect?

As the Bond Connect program continues to fine-tune its trading and settlement process, foreign investor participation in China’s onshore bond market is expected to accelerate in the next one to two years. The rising foreign investment will likely be led by active managers first and followed by passive index trackers at a later stage. These cross-border fund flows under Bond Connect could have significant implications for both the onshore and offshore markets.

Potential index inclusion

Major index providers have made announcements to add China onshore bonds into their extended or new indices, but not yet to their flagship indices, which are followed by funds with a much larger scale of assets under management. Some of the barriers to major index inclusions include (1) accessibility to all types of investors (2) concerns over capital controls and (3) index followers’ readiness and willingness to participate in this market. Despite these barriers, continued efforts by authorities are likely to bring further progress of major index inclusion in the next one to two years. However, given the sheer size of China’s onshore bond market and its potential weight, a relatively longer phase-in period is expected for China compared to the process for smaller markets. We estimate that related inflows could ultimately reach USD200-400bn from fund managers globally. This estimate is based on the potential weight of China onshore bonds in the indices and expected size of assets tracking these indices.
Potential for increased foreign ownership

China’s bond market is the third largest in the world, with over USD9.5 trillion in outstanding amount (Figure 8). It is also noteworthy that the China onshore bond market has also recorded a growth rate significantly higher than other markets. If the current growth rate (39% y-o-y as of FY16) is continued, China is likely to have the world’s second largest bond market in the next one to two years.

Despite the market size and strong growth rate, foreign investors’ presence in China’s onshore bond market remains low. Foreign holdings only account for 4.3% of government bonds and less than 2% of overall onshore bonds in China. If we take the lower end of global local bond markets’ foreign ownership as a base for estimates (Figure 9), China would see an additional USD200bn in inflows if foreign investors held 10% of its government bonds. A 10% foreign ownership in China’s overall onshore bonds would indicate potential foreign holdings of USD940bn, compared to around USD150bn currently.

Figure 8: China’s domestic bond market is the third largest in the world

Source: BIS, Invesco, as of end March 2017.
Potential for interest rate arbitrage and lower rates volatility

As Bond Connect gains momentum with more sizeable flows, arbitrage trades between onshore and offshore interest rates are expected when there are significant pricing gaps. Although CNY and CNH are the same currency, their funding costs are driven by different factors which lead to pricing gaps between these two markets.

Onshore front-end rates are mainly driven by interbank liquidity condition, which itself is impacted by (1) PBOC’s liquidity operations and market guidance (2) seasonal liquidity needs by banks (3) regulatory factors and (4) market leverage level.

Offshore funding costs, on the other hand, are mainly influenced by international market expectation on RMB exchange rate, as reflected by forward points and cross currency swaps. In addition, major Chinese commercial banks’ occasional large-sized transactions in the CNH market in the past had also impacted this market’s funding level.

Under current market conditions, short-tenor onshore bonds provide attractive premium over offshore RMB and USD bonds. As shown in Figure 10, 3-month bank CDs onshore offers an annualized yield of 4.3-4.4%, which provides 60-70bp pick up versus the offshore RMB bond market. Compared to the USD market, onshore 3-month CD yield is still around 200bp higher than
its USD equivalent even after the FX risk is fully hedged. This explains why the recent bond inflows into China onshore bond market have been strong and focusing on banks’ CDs. We expect to see more arbitrage flows in the future when the pricing gap between onshore and offshore market is higher than trading costs. This indicates potential smoothing effect of rates volatility provided by these cross-border bond flows, although the amount is still relatively small at the initial stage.

**Figure 10: 3-month bank CD yield comparison across the markets**

<table>
<thead>
<tr>
<th>%</th>
<th>Big 4 banks' 3-month CD offering yield (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RMB</td>
</tr>
<tr>
<td>Onshore CNY</td>
<td>4.0</td>
</tr>
<tr>
<td>Offshore CNH</td>
<td>3.0</td>
</tr>
<tr>
<td>Offshore USD</td>
<td>2.0</td>
</tr>
<tr>
<td>3m Libor</td>
<td>1.5</td>
</tr>
</tbody>
</table>


- Onshore CNY - RMB column refers to yield of CDs denominated in RMB in the onshore CNY bond market; USD column refers to yield of CDs after hedging the CNY exchange rate risk using onshore 3-month USDCNY forward.
- Offshore CNY - RMB column refers to yield of CDs denominated in RMB in the offshore CNH bond market; USD column refers to yield of CDs after hedging the CNH exchange rate risk using offshore 3-month USDCNH forward.
- Offshore USD - USD column refers to yield of CDs denominated in USD in the offshore USD bond market

Source: Bloomberg, Invesco, as of 16th October 2017

**Potential for onshore and offshore FX curve convergence**

Under Bond Connect, investors have the flexibility to choose either USDCNY or USDCNH for spot and forward FX transactions. This means that whenever there is notable divergence between onshore and offshore RMB spot rates and forward curves, investors can pick the more favorable rate and thus narrow the pricing gap. However, given that the initial flows could remain relatively limited compared to the onshore FX market size, USD-CN is more likely following the trend led by USDCNY in the near future. It is interesting to note that onshore and offshore exchange rates and implied yields have been converging since mid-2017 (Figure 11).
Potential for more diversified issuer base

As Bond Connect brings in more overseas investors, we expect to see more involvement of international issuers as well. Since the launch of Bond Connect, there have been rising panda bond issuances by overseas institutions. In addition to foreign banks, foreign sovereign entities, such as Hungary and Poland, have also started to tap China’s onshore bond market for RMB bond issuances. From issuers’ perspective, Bond Connect brings in investors who are more familiar with foreign issuing entities’ credit fundamentals. From investors’ perspective, rising issuances from foreign entities especially those with international ratings help widen investment scopes.

Potential for CNH market revival

An unexpected positive effect from the launch of Bond Connect is the resurgent activities in the CNH bond market. Since 3Q 2017, CNH bond primary market has started to see rising new issues. This is after two years of market inactiveness especially in the primary market. The restored market and household confidence on RMB exchange rate helps boost sentiment as well. As trading volume under Bond Connect starts to rise, demand for CNH as a currency is to increase correspondingly. In our view, rising cross-border bond trading activities under Bond Connect are expected to further revive the offshore RMB market, in both fixed income and foreign exchange.

Source: Bloomberg, Invesco, as of 16th October 2017

9. Panda bonds refer to RMB-denominated bonds issued in China onshore bond market by non-residents.
Relative value analysis of the three Chinese bond markets

Many investors have historically taken a relatively isolated approach to analyze China’s three bond markets, which are onshore RMB, offshore RMB and offshore USD bond markets, respectively. Given the lack of knowledge and access of market on the other side of the border, onshore investors tend to focus on the onshore RMB bond market whereas offshore investors pay most attention to the offshore bond market only. The further opening of China’s onshore bond market provides a channel for investors to potentially arbitrage across all three markets. Issuers are also expected to tap the market with lowest all-in yields after considering FX factors. Therefore, there is room for yields across the three markets to converge.

USD bond investors may use FX hedging to improve RMB yields through hedging income generated from offshore RMB (CNH) forwards to hedge USD exposure into RMB. This income can be significant when interest rates in the CNH market spike.

Figure 12: Annualized RMB hedging cost/income p.a.

Note: Offshore CNH 12-month forward is used for currency hedging. The calculation formula is: (CNH 12 month forward outright/ CNH spot -1)*100%.

Although all three Chinese bond markets provide exposure to the RMB and, to some degree, share a common issuer base, yields offered by the three markets can vary significantly because they are driven by different market trading mechanisms. The onshore market is driven primarily by the PBOC’s monetary policy whereas the offshore market is also impacted by US rates and foreign exchange moves. In addition, onshore and offshore investors’ different perceptions and pricing of credit risks also contribute to the pricing gap. The “top down” approach shows that the RMB hedged China USD-denominated bond market has recently offered the highest return among the three markets (Figure 13).
Figure 13: Yield comparison among the three Chinese bond markets

<table>
<thead>
<tr>
<th></th>
<th>IG Corporate Bond Yield</th>
<th>HY Corporate Bond Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onshore RMB bonds</td>
<td>4.75</td>
<td>5.02</td>
</tr>
<tr>
<td>Offshore RMB (i.e. Dim Sum)</td>
<td>4.61</td>
<td>4.93</td>
</tr>
<tr>
<td>USD bonds (hedged into CNH using 12M forward contracts)</td>
<td>5.39</td>
<td>8.18</td>
</tr>
</tbody>
</table>

Source: Bloomberg L.P., Invesco, CFETS, HSBC, Bank of America Merrill Lynch. Data as of 23 Oct 2017

Notes:
1. The onshore high quality corporate bond yield is represented by the 3-year MTN AAA (locally rated) bond yield.
2. The offshore high quality corporate bond yield is represented by HSBC Offshore RMB Investment Grade Corporate Credit Index
3. The onshore high yield corporate bond yield is represented by the 2-year MTN AA (locally rated) bond yield.
4. Offshore high yield corporate bond yield is represented by HSBC Offshore RMB High Yield & Non-rated Corporate Credit Index
5. USD high quality corporate bond yield is represented by The BofA Merrill Lynch Asian Dollar Investment Grade Corporate China Issuers Index 6. USD high yield corporate bond yield is represented by The BofA Merrill Lynch Asian Dollar High Yield Corporate China issuers Index

Conclusion

As China is on its way to become the second largest bond market in the world, the launch of Bond Connect provides overseas investors a more efficient way to participate in this fast-growing and increasingly important bond market.

Compared to the other existing schemes, Bond Connect enables overseas investors to trade through international platforms, settle in the offshore market and enjoy both CNY and CNH exchange rates at choice without the constraints of investment quota or capital lock-up period.

The smoother operation linking onshore and offshore markets also raises the prospects of potential global major index inclusion of China onshore bonds and higher foreign ownership. With increasing cross border investment flows, we expect to see narrowing gaps between onshore and offshore interest rates and FX curves.

We believe China’s onshore bonds provide international investors with relatively attractive yields and the benefits of portfolio diversification, lower volatility and deep liquidity. While uncertainties and risks certainly remain, the importance of the Chinese fixed income market makes it crucial for global investors to understand and evaluate fully their options for gaining exposure to it.
Appendix

Overview of China onshore bond markets

Size and Growth of Onshore Market
The Chinese onshore bond market registered an average of 20% growth over the past 10 years, with outstanding bonds amounting to RMB64 trillion (USD9.7 trillion) at the end 2016 (Figure 14). Policy bank bonds, central government bonds and local government bonds were the largest three components, accounting for 19%, 19% and 17%, respectively.

Figure 14: Size of China onshore bond market

Source: Wind, Invesco, as of December 31, 2016. Others include, among other securities, private placements, government sponsored entity bonds, asset-backed securities, convertible bonds and RMB-denominated bonds issued by non-Chinese issuers and sold in mainland China (“panda bonds”).

Types of Markets, Bonds and Regulators in Onshore Market
There are two bond trading markets in China (interbank (CIBM) and exchanges) with different regulators for different types of bonds. As shown in Figure 15, most bonds are traded in the interbank market. The PBOC and the National Association of Financial Market Institutional Investors (NAFMII) are the major regulators for the interbank market. The National Development and Reform Commission (NDRC) is in charge of enterprise bond and SME collective bond issuance approval. China Securities Regulatory Commission (CSRC) regulates exchange market where corporate bonds and convertible bonds are traded.
Central and local government bonds, enterprise bonds and SME collective bonds\textsuperscript{10} can be traded in both the interbank and exchange markets, while corporate bonds regulated by CSRC can only be traded on the exchange market. However, onshore brokers can serve as a bridge between the two markets. As brokers have accounts in both interbank and exchange market, they can transfer bonds between the two markets and thus help investors who have access to only one of the markets to get bonds in the other market.

Among bonds traded in the interbank market, China government bonds, policy bank bonds and banks’ CDs have demonstrated the best trading liquidity, followed by medium-term notes issued by corporates (Figure.16).

\textsuperscript{10} Enterprise bonds are bonds issued by companies regulated by the NDRC, which are mainly central and local government owned enterprises. SME collective bonds are bonds issued by a group of small and medium-sized enterprises.
### Onshore Market Investor Base

Prior to the recent opening of the onshore market to additional investor types, major bond investors in the onshore market included Chinese commercial banks, mutual funds and insurance companies (Figure 17). Investors have shown different appetites for different types of bonds. Commercial banks hold the majority of government bonds, policy bank bonds and bank senior papers, which is hardly surprising since the risk weighting of central government bonds and policy bank bonds is 0% and 25% for the commercial bank bonds. This indicates minimal capital consumption and much higher risk weight-adjusted return. It is also interesting to note that international investors' holding of China government bonds has increased from 3.9% at end-2016 to 4.3% at end-August 2017.

Local mutual funds were the major investors in enterprise bonds and medium term notes, as these bonds typically offer higher yields and can be pledged for leverage. Mutual funds and insurance companies held 67% and 17% respectively of bank capital securities such as bank subordinated bonds.

Foreign investors mainly held central government bonds (53% of their holdings), policy bank bonds (33% of their holdings) and banks’ CDs (9% of their holdings), but their overall market share remains small at less than 2%.

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**Figure 16: Trading liquidity of various types of bonds**

<table>
<thead>
<tr>
<th>Products</th>
<th>Liquidity</th>
<th>Daily Turnover (RMB)</th>
<th>Average Ticket Size (RMB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Government bond</td>
<td><img src="image" alt="Liquidity" /></td>
<td>54 bio</td>
<td>30 - 100 mio</td>
</tr>
<tr>
<td>Policy Bank Bond</td>
<td><img src="image" alt="Liquidity" /></td>
<td>200 bio</td>
<td>50 - 100 mio</td>
</tr>
<tr>
<td>Local Government Bond</td>
<td><img src="image" alt="Liquidity" /></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PboC Bill</td>
<td><img src="image" alt="Liquidity" /></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Negotiable Certificate Of Deposite</td>
<td><img src="image" alt="Liquidity" /></td>
<td>127 bio</td>
<td>50 - 100 mio</td>
</tr>
<tr>
<td>Mid-term Note</td>
<td><img src="image" alt="Liquidity" /></td>
<td>45 bio</td>
<td>50 - 100 mio</td>
</tr>
<tr>
<td>Enterprise Bond</td>
<td><img src="image" alt="Liquidity" /></td>
<td>35 bio</td>
<td>100 mio</td>
</tr>
<tr>
<td>Commercial Paper</td>
<td><img src="image" alt="Liquidity" /></td>
<td>35 bio</td>
<td>100 mio</td>
</tr>
<tr>
<td>Government Supported Agency Debt</td>
<td><img src="image" alt="Liquidity" /></td>
<td>-</td>
<td>30 - 50 mio</td>
</tr>
<tr>
<td>Asset Backed Securities</td>
<td><img src="image" alt="Liquidity" /></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Commercial Bank Note</td>
<td><img src="image" alt="Liquidity" /></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Private Placement Note</td>
<td><img src="image" alt="Liquidity" /></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: CCDC, SCH, HSBC; as of September 2017.

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Credit Rating Distribution in the Onshore Market

Unlike international bond markets, Chinese onshore credit bond ratings are significantly biased towards the upside. 64% of rated credit bonds are at AAA and 36% are rated in the AA category (Figure 18). This is also partly driven by the fact that higher-rated issuers (mostly state-owned enterprises (SOEs)) tend to issue larger amounts compared to lower rated companies. From the number of issuers, Figure 19 shows that 40% of rated issuers are at the AAA level, with AA+ and AA issuers accounting for 29% and 29%, respectively.

The discrepancy between local and international ratings is hardly surprising and, in fact, has been the norm for many local currency bond markets. For example, in Japan and India, local rating firms have assigned AAA to issuers whose international ratings are A and BBB.

In China's case, given that the sovereign rating by Moody's & S&P is at A+, all mainland Chinese issuers' ratings are capped at this level. However, in the onshore market, local rating agencies see many central SOEs have minimal credit risks and assigned them AAA ratings. This rating bias has created difficulties for international investors seeking to differentiate credit profiles of issuers and properly price credit risk. Therefore, overseas investors lacking strong credit research capabilities for the onshore market have generally limited their investments to central SOE bonds and rates products.
Figure 18: Credit rating distribution by outstanding amount

Source: Wind, Invesco, as of 23 Oct 2017. (Note: above percentages are of rated bonds)

Figure 19: Credit rating distribution by number of issuers

Source: Wind, Invesco, as of 23 Oct 2017. (Note: above percentages are of rated bonds)
Investment Performance and Term Structure of the Onshore Bond Market

The onshore bond market recorded a significant correction since end-2016, with bond yields moving higher sharply. Credit spreads, however, recouped most of the widening since mid-2017 on the back of risk appetite recovery. More notably, the 10-year China government bond yield rose by around 100bp from the historical low level recorded in 3Q 2016 (Figure 20 and Figure 21). Term structure of Chinese onshore bonds (Figure 22) shows that the policy bank bond and the credit bond yield curves are steep compared with Chinese government bonds.

Figure 20: China government bond historical performance

Figure 21: Credit spread of China 5yr enterprise bonds


Figure 22: Term structure of onshore bonds

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