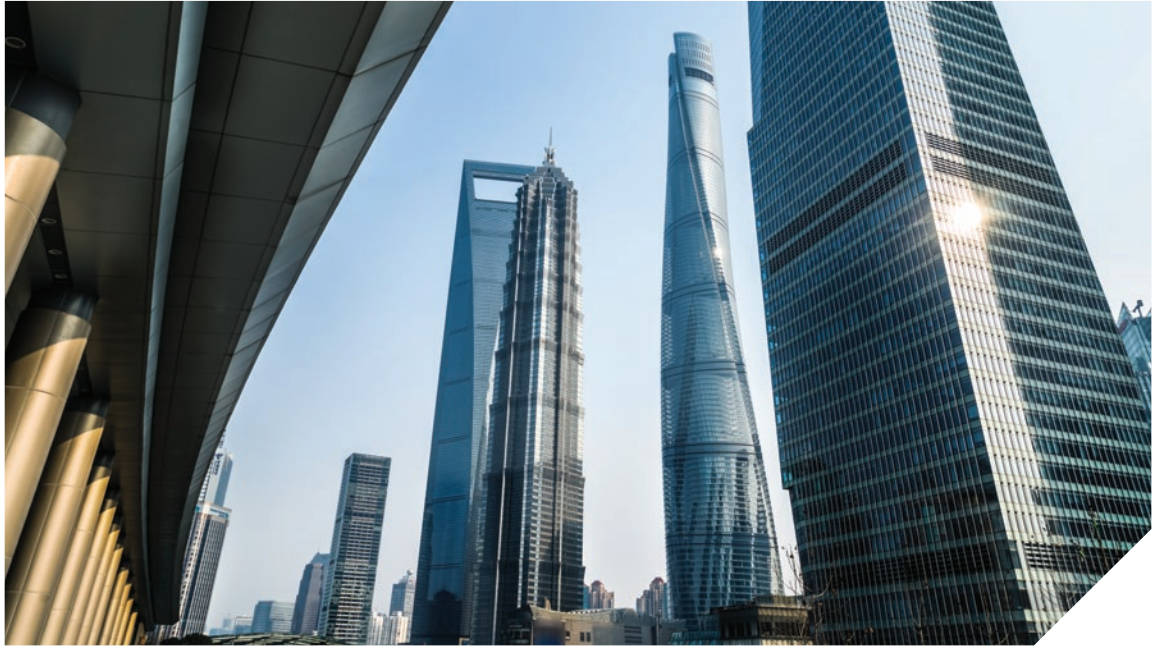




Invesco Fixed Income Investment Insights

Asian US dollar bond market: China's new "local" market

May, 2017



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The marketplace for the issuance and trading of US dollar-denominated bonds in Asia, the "Asian US dollar bond market," has long been dominated by the major developed economies of the region. But the structure of this market has transformed in recent years. While the predominant players were once countries such as South Korea and Hong Kong, they have now been largely surpassed in importance by mainland China.

In the last five years, mainland China has overtaken Asia's major developed countries as the region's largest source of investment in and issuer of Asian US dollar bonds. Mainland Chinese issuers now account for 47% of outstanding US dollar bonds in Asia ex-Japan, 60% of gross new supply and 72% of net new supply (new issuance minus maturing amount) (Figures 1 and 2). And while US and European investors once comprised half of the market's investor base, Asian investors now regularly take up the bulk of new US dollar issuance in the region, with much of the absorption attributed to China.

In some ways, Asia's US dollar bond market has become an extension of China's "local market." We believe this structural change has implications for investors. In particular, we believe the changing issuer and investor landscape, especially the sharp rise in Chinese investor demand, may have impacted the market's performance in recent years, particularly the market's overall lower levels of volatility and higher risk-adjusted returns compared to US and emerging market (EM) credit markets (Figures 7 and 11).



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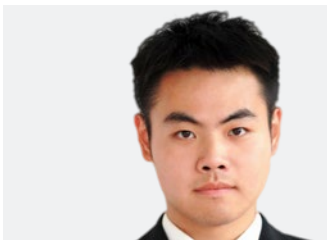
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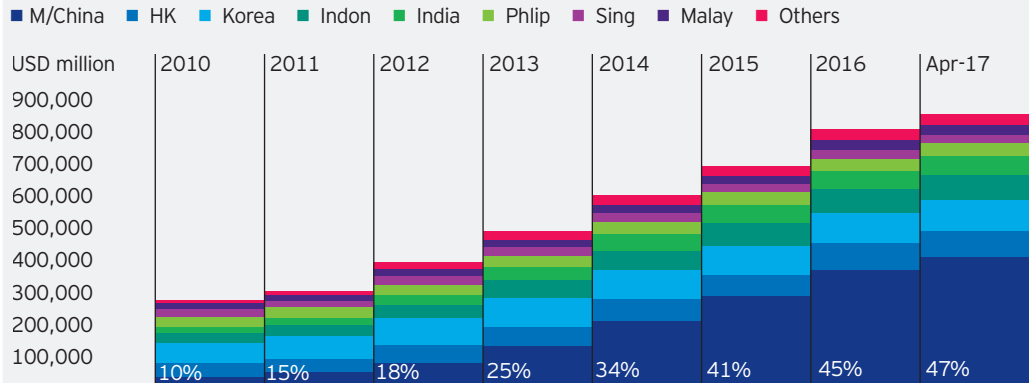


Rick Wen
Analyst

China has dominated Asian US dollar bond supply and demand

China's share of the Asian US dollar bond market in terms of value of bonds outstanding has grown sharply since 2010, as shown in Figure 1. China's share increased from only 10% in 2010 to 47% by the end of the first quarter of 2017. Including Hong Kong, Greater China now accounts for 57% of outstanding bonds in the Asian US dollar bond space.

Figure 1: Outstanding Asian US dollar bonds by geography

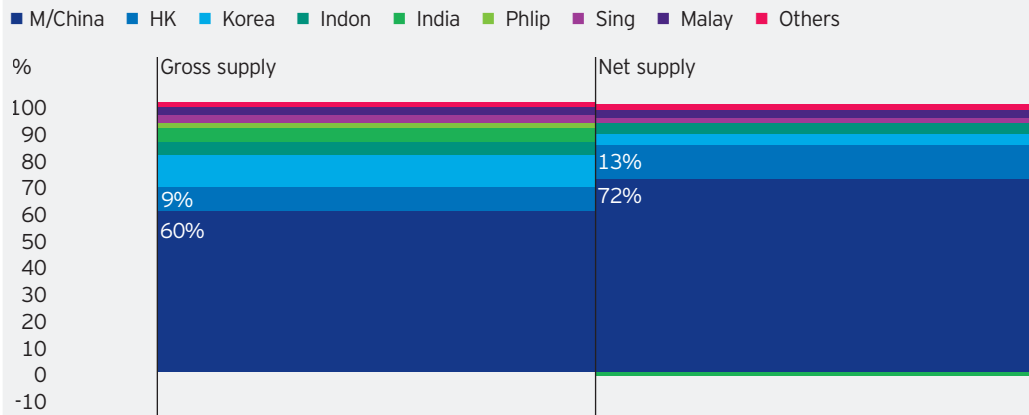


Source: HSBC, Bloomberg L.P., Invesco, data from Dec. 31, 2010 to April 12, 2017.

Note: M/China refers to mainland China. Percentage refers to the share of mainland Chinese issuers' outstanding US dollar bonds as a percent of total US dollar bonds in Asia ex-Japan.

Mainland Chinese issuers' share of new issuance has also experienced enormous growth since 2010. China's market share of the primary market jumped from 17% in 2010 to 60% as of the end of 2016 (Figure 2). Excluding new issuance for refinancing purposes, mainland China's share in net new supply was even higher, at 72% as of the end of 2016 (Figure 2). Combined with net new issuance out of Hong Kong, Greater China currently accounts for 85% of net new supply, with other Asian countries sharing the remaining 15% (Figure 2).

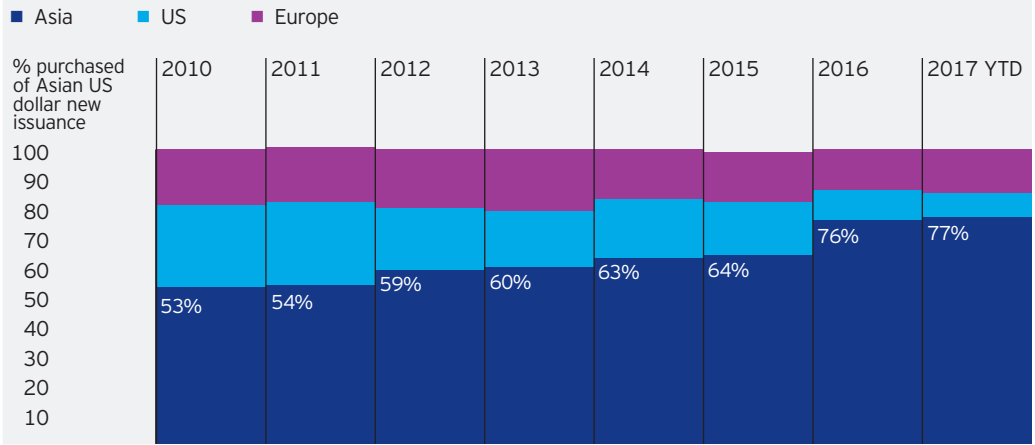
Figure 2: Asian US dollar bond new issuance by geography



Source: HSBC, Bloomberg L.P., Invesco, as of Dec. 31, 2016.

Chinese investors have also dominated the demand side of the market in recent years. Although detailed data on investors by geographic region are not available, we estimate the structural change in the investor base using other statistics. During the first quarter of 2017, we estimate that Asian investors purchased almost 80% of total new Asian US dollar bond issuance, with the rest going mainly to European and US investors. This compares to only 53% in 2010 (Figure 3). We believe a majority of this increase, especially after 2014, was driven by Chinese flows.

Figure 3: Investor breakdown by geography

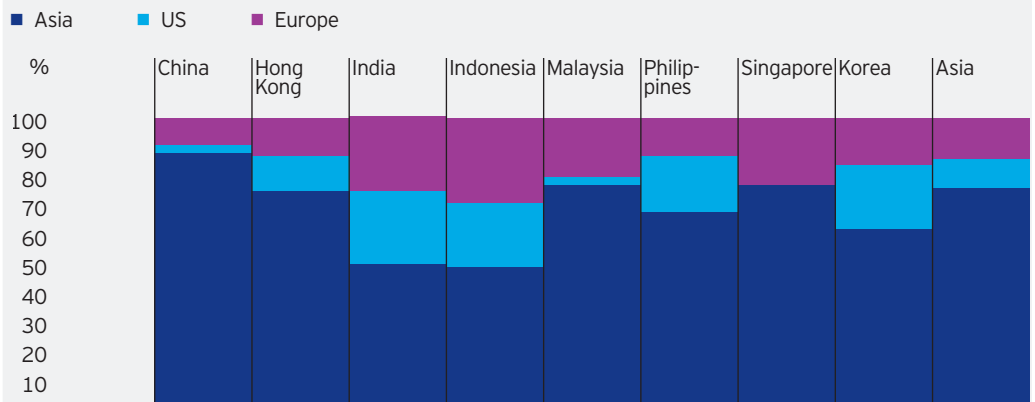


Source: BoA Merrill Lynch, Bloomberg L.P., data from Dec. 31, 2010 to March 8, 2017.

Investor demand varies by region

Where have these flows tended to go? Figure 4 shows the different investment preferences among Asian, US and European investors since 2016. As shown in Figure 4, European and US investors were the major buyers of bonds issued by India and Indonesia, and to a lesser extent, Korea and the Philippines. Bonds issued by mainland China, Hong Kong, Malaysia and Singapore, however, have enjoyed very strong support from their respective local investors.

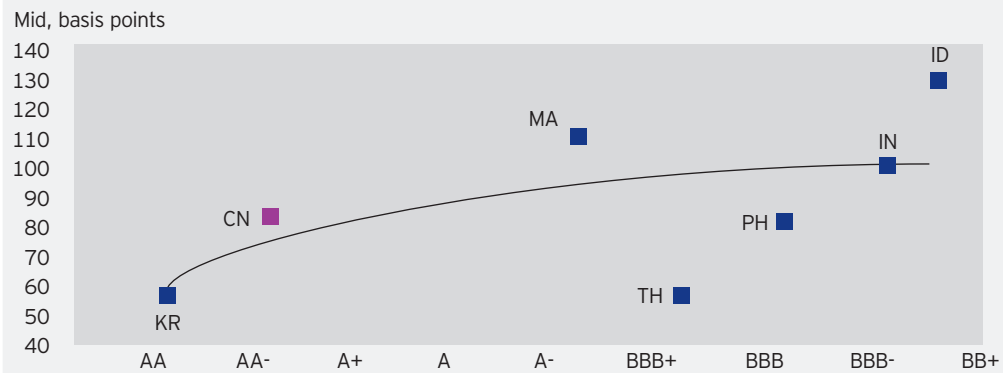
Figure 4: Regional investment in new issuance of selected countries (2016 to 2017 YTD)



Source: BofA Merrill Lynch, Bloomberg L.P., data from Jan. 1, 2016 to March 8, 2017.

We attribute strong Asian demand for Chinese US dollar bonds to familiarity with Chinese issuers, lower volatilities of Chinese bonds' total returns (Figure 8), their higher rating-adjusted yields compared to Asian peers (Figure 5) and the lower risk weighting assigned by Chinese banks to Chinese bank bonds.

Figure 5: Asian sovereign credit default swap prices versus their respective ratings



Source: Moody's, Standard and Poor's, Bloomberg L.P., Invesco, as of April 28, 2017. Sovereign credit default swap prices are used as a proxy for individual countries' credit risk pricing. Average ratings of Moody's and Standard and Poor's are used. KR is South Korea, CN is China, MA is Malaysia, TH is Thailand, PH is the Philippines, IN is India, ID is Indonesia.

We estimate that Chinese banks have been among the largest Chinese investors in offshore bonds, followed by corporates, asset managers and securities firms (Figure 7). This is partly due to Chinese banks' recent accumulation of foreign currency deposits and because their foreign fund deployment has not been subject to official capital controls.

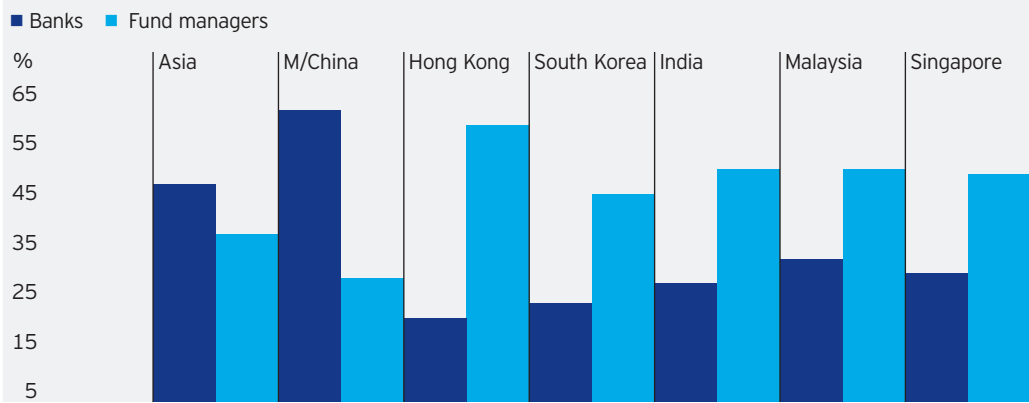
Figure 6: Typical Chinese investors in Asian US dollar bond market

Entities	Purpose	Significance	Capital control
Banks	Deployment of US dollar deposits - by both headquarters and overseas branches	High	No
	Deployment of proceeds from US dollar bond issuance/IPO - by both headquarters and overseas branches	High	No
	Investment return for asset management products - for both onshore and offshore clients	Medium	Yes
Insurers	Deployment of proceeds from US dollar bond issuance/IPO	Medium	No
	Investment for products sold in offshore market	Medium	No
	Strategic overseas investment allocation	Low	Yes
Corporates	Deployment of proceeds from US dollar bond issuance/IPO	High	No
	Temporary placement of funds yet to be invested/ repatriated	Medium	No
SWFs	Strategic asset allocation into US dollar fixed income market	Medium	No
Asset managers	Investments according to mandates - by mandates given by Chinese institutions	High	Yes
	- by inflows into their Asian bond funds	Medium	No
Securities firms	Deployment of offshore funds	High	No
	Investment under QDII/RQDII schemes	Medium	Yes
	Cross border investment schemes (e.g. total return swaps)	Low	No

Source: Invesco estimates. SWFs are sovereign wealth funds. QDII and RQDII are official overseas investment schemes including certain restrictions and quotas. For illustrative purposes only.

The favorable risk-weighting of senior Chinese bank bonds has particularly supported bank demand for the bonds of other Chinese banks. Senior Chinese bank bonds face only 25% of the capital charge that Chinese banks typically apply to corporate or non-Chinese bonds.¹ As shown in Figure 7, since 2016, Chinese banks have accounted for the purchase of around 35-60% of bonds issued by other Chinese banks, large corporates and local government financing vehicles in the primary market. Among Chinese asset managers, bank wealth management products and brokers, we believe Chinese high yield US dollar bonds have been more attractive, since they have been less available in the onshore market.

Figure 7: Banks and fund managers' participation in Asian financial bond new issues (2016-2017 YTD)

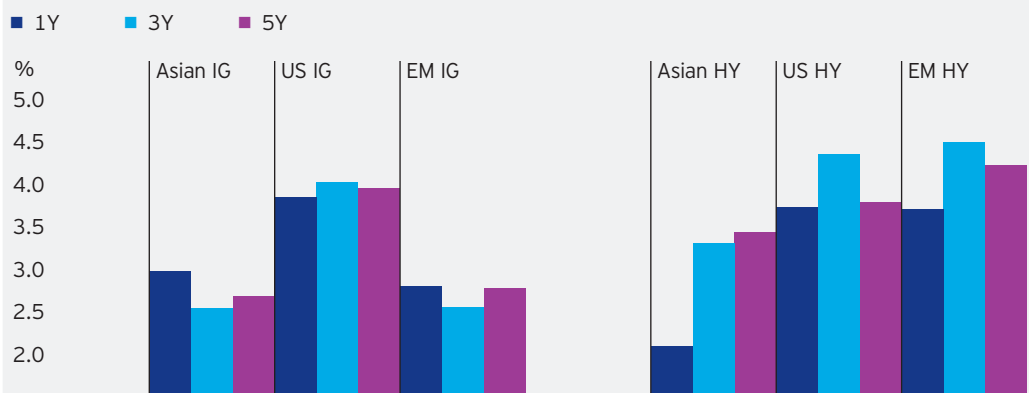


Source: HSBC, Invesco, Bloomberg, as of May 10, 2017.

Chinese participation may have helped lower market volatility and supported returns

China's rising share of the Asian US dollar bond market investor base has coincided with a decline in the volatility of the market in the last five years (Figure 8). Greater stability may be due to the reduced impact of global events on the Asian market, as the share of US and European participants has shrunk. Steady Chinese demand, despite rising new issue volume, likely reinforced this dynamic.

Figure 8: Total return volatility comparison across markets



Source: Bloomberg L.P., Invesco calculations, data from April 7, 2012 to April 7, 2017.

Asia IG: The BofA Merrill Lynch Asian Dollar Investment Grade Index

US IG: The BofA Merrill Lynch US Corporate Constrained Index

EM IG: The BofA Merrill Lynch High Grade Emerging Markets Corporate Plus Index

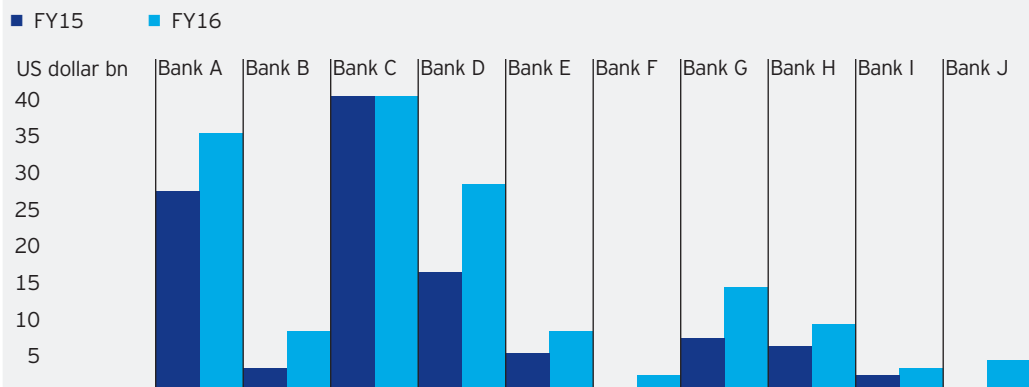
Asia HY: The BofA Merrill Lynch Asian Dollar High Yield Corporate Index

US HY: The BofA Merrill Lynch US High Yield Index

EM HY: The BofA Merrill Lynch High Yield Emerging Markets Corporate Plus Index

Because there is no consistent, reliable data series to track and capture China's capital flows into the offshore bond market, we use Chinese banks' on-balance sheet bond investment volume as a proxy. As shown in Figure 9, total US dollar bond holdings of the major listed Chinese banks reached USD222 billion as of the end 2016, a nearly 40% increase compared to 2015.

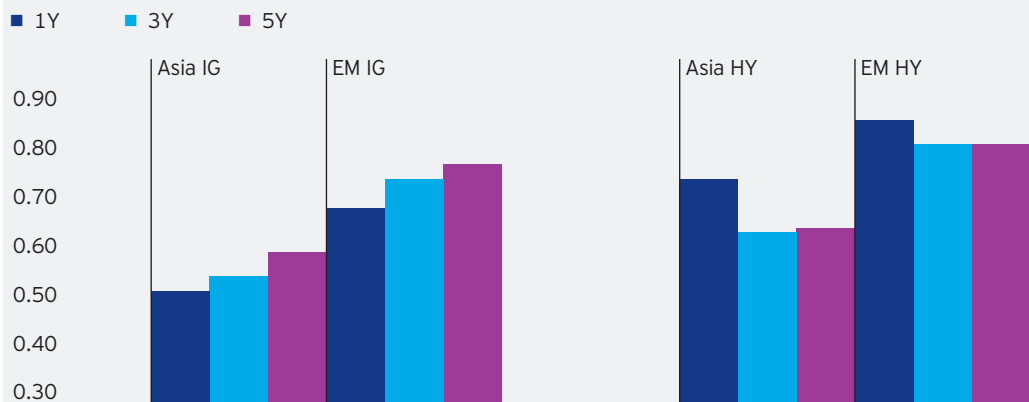
Figure 9: Estimated major listed Chinese banks' on-balance sheet holdings of US dollar bonds



Source: Banks' annual reports, Invesco calculations and estimates, as of Dec. 31, 2016.

The Asian US dollar bond market may have also been supported by a discernable change in Asian investors' investment approach. We have recently observed a tendency for Asian investors to be more total return driven than benchmark oriented, meaning that any pullback in US Treasury or credit spreads has often been viewed as a buying opportunity. This was demonstrated recently in the aftermath of the market volatility caused by Brexit and after the US election. We believe this dynamic may have helped the Asian US dollar bond market maintain a lower correlation to US credit markets than EM peers, despite Asia's much tighter spreads (Figure 10).

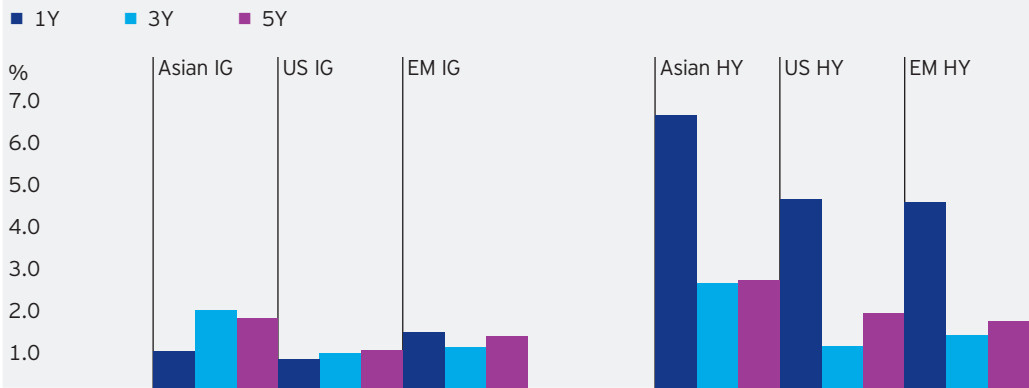
Figure 10: Excess return correlation with US comparables



Source: BofA Merrill Lynch indices, Bloomberg L.P., Invesco calculations, data from April 7, 2012 to April 7, 2017.
 Asia IG: The BofA Merrill Lynch Asian Dollar Investment Grade Index
 EM IG: The BofA Merrill Lynch High Grade Emerging Markets Corporate Plus Index
 Asia HY: The BofA Merrill Lynch Asian Dollar High Yield Corporate Index
 EM HY: The BofA Merrill Lynch High Yield Emerging Markets Corporate Plus Index

Asia's US dollar denominated investment grade and high yield markets also achieved higher risk-adjusted returns compared to US and emerging credit markets over the past five years (Figure 11). This performance may be attributed to the Asian US dollar bond market's lower default rate over the period compared to other regions and steady and rising local (especially Chinese) demand which, we believe, has supported asset prices.²

Figure 11: Risk-adjusted return comparison across markets (2012-2017 YTD)



Source: BofA Merrill Lynch indices, Bloomberg, Invesco calculations, data from April 7, 2012 to April 7, 2017.

Asia IG: The BofA Merrill Lynch Asian Dollar Investment Grade Index

US IG: The BofA Merrill Lynch US Corporate Constrained Index

EM IG: The BofA Merrill Lynch High Grade Emerging Markets Corporate Plus Index

Asia HY: The BofA Merrill Lynch Asian Dollar High Yield Corporate Index

US HY: The BofA Merrill Lynch US High Yield Index

EM HY: The BofA Merrill Lynch High Yield Emerging Markets Corporate Plus Index

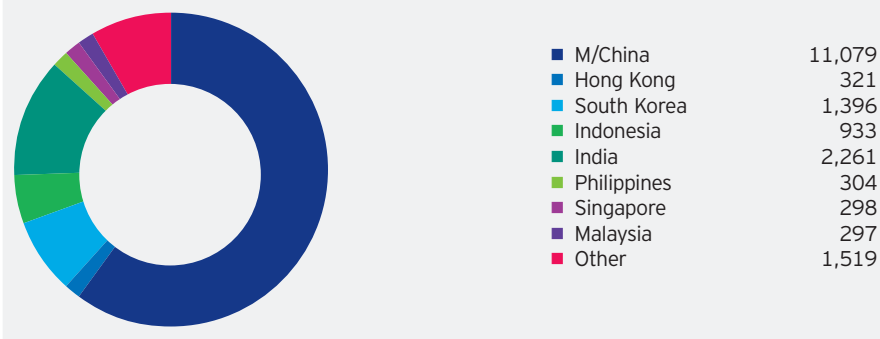
What is behind the market's structural change?

We believe the dramatic structural change that has taken place in the Asian US dollar bond market has been driven by several factors, some of which are likely to have a lasting impact:

Economic scale

We think the rising presence of Chinese issuers and investors in Asian US dollar bond market is consistent with China's growing economic importance in the region. As shown in Figure 12, China's nominal gross domestic product (GDP) totaled USD11 trillion in 2016, accounting for around 60% of Asia ex-Japan's overall GDP. Therefore, it is not surprising to see Chinese issuers and investors represent the greatest share of the Asian dollar bond market. We believe China's nominal GDP will consistently grow in the high single digits in the foreseeable future, and, therefore, expect the country's market share of the regional bond market to similarly grow.

Figure 12: Nominal GDP by country in Asia ex-Japan (US dollar bn)

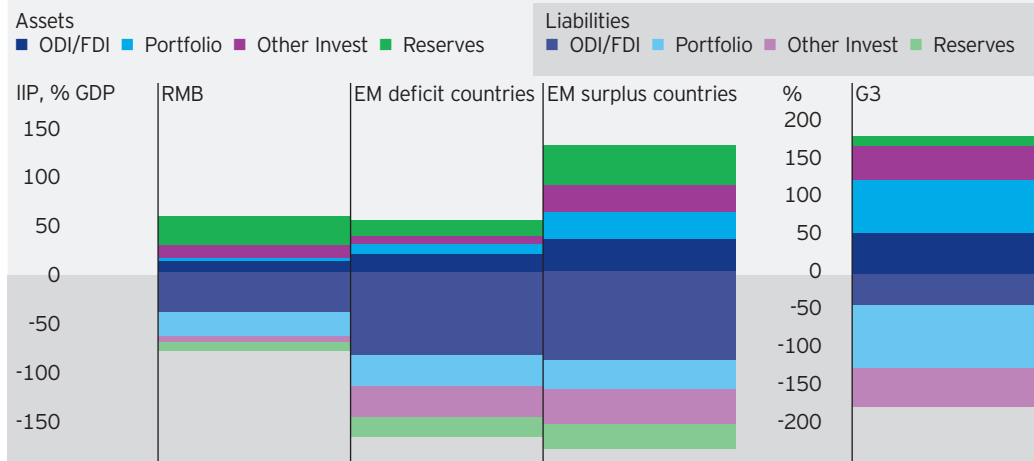


Source: HSBC, Bloomberg, Invesco calculations, data as of Dec. 31, 2016.

Chinese overseas asset diversification likely to grow

From a diversification perspective, we believe the current rapid expansion in China's offshore investment is likely to be just the beginning. China's foreign assets (excluding foreign exchange reserves) are still significantly lower compared to many major developed countries, even emerging market economies, in terms of share of GDP. At around 3% of GDP, China's portfolio investment compares to around 30% of GDP for EM surplus countries and as much as 70% for the major developed economies of the US, Europe and Japan (G3) (Figure 13). Considering the massive size of China's economy, if China's overseas portfolio investment reaches even 20% of nominal GDP over a 20-year period, we estimate this could mean over USD100 billion in offshore investment per year.

Figure 13: Portfolio and other investment as a percent of GDP



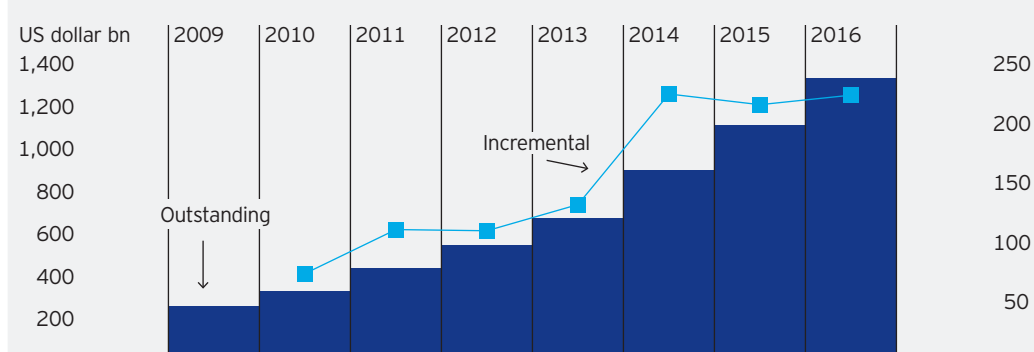
Source: HSBC, CEIC, IMF, data as of Dec. 23, 2016. IIP is international investment position.

Asset and liability management

We have observed that Chinese banks and corporates have actively turned to Asian bonds (mainly Chinese dollar-denominated bonds) to manage their assets and liabilities. Since 2014, Chinese corporates have fueled a huge jump in outward direct investment (ODI), totaling some USD200 billion per year (Figure 14). This has been partly fueled by better acquisition/investment opportunities overseas, as viewed by some corporates, and partly due to Chinese policy markers’ “one-belt, one-road” initiative, China’s government initiative to significantly expand trade and infrastructure development and business opportunities broadly across Asia, Europe and Africa.

We believe that some of these funds have not yet been fully disbursed for planned projects, and that some portion of planned ODI funds may be currently deposited in Hong Kong. This, together with unrepatriated funds from exporters and proceeds from corporate initial public offerings and bond issuance, have contributed to the sharp rise in Hong Kong’s foreign exchange deposits since the end of 2013 (an increase of USD214 billion, or 58% over the period) (Figure 15).

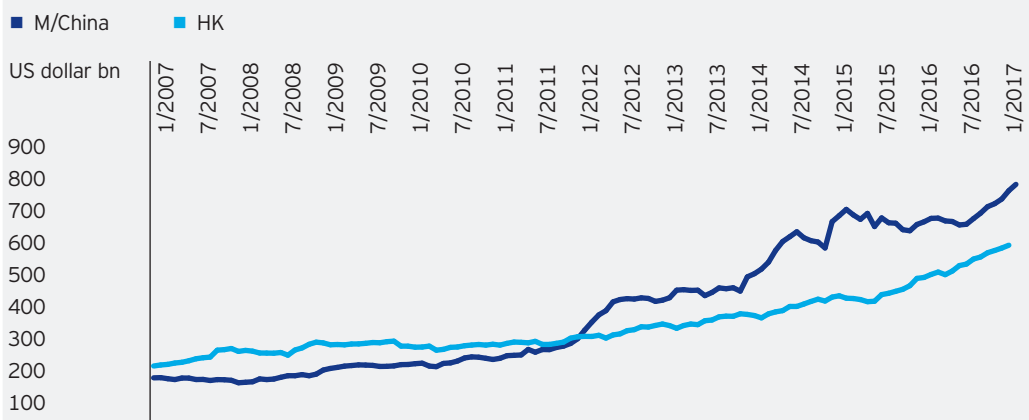
Figure 14: China’s outward direct investment



Source: CEIC, Invesco, data from Dec. 31, 2009 to Dec. 31, 2016.

Chinese banks’ foreign currency deposits have been increasing at an even faster pace. As shown in Figure 15, Chinese banks’ foreign exchange deposits have increased by USD334 billion, or 76%, since end of 2013. Because Chinese banks can freely deploy these funds in the offshore bond market without capital controls or quota limits, most of these funds have found their way to the Asian dollar bond market, especially to Chinese investment grade bonds. We believe this helps explain why the Asian US dollar bond market has been so resilient despite the huge surge in new issue supply over this period.

Figure 15: Foreign exchange deposits held by banks in mainland China and Hong Kong

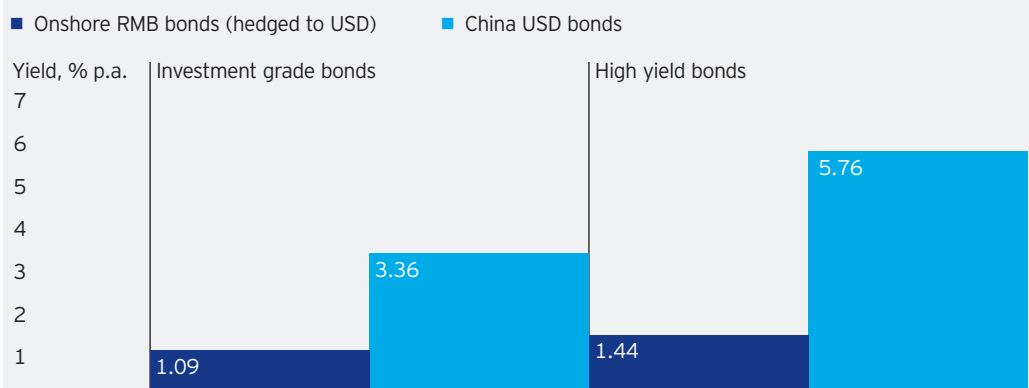


Source: CEIC, Invesco, data from Jan. 31, 2007 to Feb. 28, 2017.

Relative value has drawn Chinese investment

Besides helping with balance sheet management, the Asian US dollar bond market has represented attractive relative value versus China’s local bond market, given similar credit quality, in our view. As of March 13, 2017, offshore Chinese US dollar investment grade bonds offered a 2.3 percentage point pick-up in US dollar terms over onshore investment grade Chinese bonds; high yield bonds offered a 4.3 percentage point pick-up (Figure 16).

Figure 16: Yield differential between Chinese onshore and offshore bonds



Source: Bloomberg L.P., Invesco, data as of March 13, 2017. Onshore RMB bonds: Investment grade bonds - China onshore interbank 3-year MTN AAA bond yield. High yield bonds - China onshore interbank 2-year MTN AA bond yield. The 12 month CNH forward hedging cost was 3.29% on March 13, 2017. China USD bonds: Investment grade bonds - BofA Merrill Lynch Asian Dollar Investment Grade Corporate China Issuers Index, duration was 4.46 as of March 13, 2017. High yield bonds - BofA Merrill Lynch Asian Dollar High Yield Corporate China Issuers Index, duration was 2.27 as of March 13, 2017.

Looking ahead - how is China’s role in the Asian US dollar bond market likely to evolve?

We expect China’s participation to grow due to a number of factors:

Growth in overseas activity and allocation

New bond issuance: As banks increase their overseas presence and corporates pursue more offshore investment opportunities, we expect their demand for foreign currency funding to continue. This trend would likely be reinforced if China further tightens capital controls, which, we believe, would lead to increased US dollar bond issuance.

Asian US dollar market provides access to funding with limited policy or regulatory uncertainty

The Asian US dollar bond market has been relatively insulated from bond issuance restrictions due to regulatory or policy changes. For example, while Chinese property developers were recently banned from issuing bonds onshore, the offshore US dollar bond market has remained open to them. In addition, some corporates in the onshore bond market face certain leverage restrictions, whereas in the offshore market, as long as issuers are able to demonstrate a certain level of demand, they may issue bonds without being subject to mandatory leverage requirements. Due to this greater flexibility, onshore issuers are likely to continue to seek offshore funding.

Strong investor interest

For Chinese investors, the offshore US dollar bond market provides access to high quality bonds with attractive yields that are not available onshore. In addition, the offshore market offers good liquidity, more detailed and transparent issuer disclosure requirements than are often available onshore and an international ratings system and legal framework (Asian offshore bonds are typically rated by Standard and Poor's, Moody's and Fitch and fall under mainly UK and Hong Kong securities law).

Yield differential to remain in foreseeable future

Because Chinese investors in the offshore and onshore markets often analyze and price credit risk differently and each market's risk-free rate is based on different instruments, we expect the yield gap between the two markets to persist in the near term. In addition, as China and the US begin pursuing tighter monetary policies, we expect the China-US interest rate differential to remain relatively stable, lending stability to currency hedging income.³

What are the challenges and risks facing investors?

1. Due to China's growing dominance of the Asian US dollar bond market, the investor base has consequently become less diversified. This means China-specific events may have a greater impact on the market going forward, such as Chinese regulatory changes or fiscal or monetary policy changes that may affect investment flows.
2. Policy or economic changes in the Asian region could affect default rates and investment flows.
3. Regional geopolitical risks, for example, related to the Korean peninsula, could impact asset prices.

At Invesco Fixed Income, we believe navigating the rapidly expanding Asian US dollar bond market requires specialized investment capabilities. In particular, China's growing involvement increasingly requires deep local knowledge of the linkages between China's onshore and offshore markets. At Invesco Fixed Income, we apply both fundamental and technical analysis across the region and these markets. By interpreting local economic developments, along with regional policies and their implications, we seek to understand currency, rates and credit markets to help identify potential market drivers and opportunities.

1 Source: China Banking Regulatory Commission, June 7, 2012.

2 Source: Moody's, data from Feb. 28, 2012 to Feb. 15, 2017.

3 Hedging income yield = (12-month USD/CNH forward rate)/(USD/CNH spot rate) - 1, where USD is US dollar and CNH is the Chinese yuan traded in Hong Kong. If an investor buys an US dollar denominated bond which is immediately hedged to CNH using a 1-year USD/CNH forward, the investor may earn a hedging income yield, or extra income in yuan terms.

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