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HKEX 香港交易所

RESEARCH REPORT

# THE INCLUSION OF CHINA INTO GLOBAL BOND INDICES: CURRENT STATUS AND FUTURE DEVELOPMENT

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# SUMMARY

China's bond market has experienced a rapid expansion and become the third largest in the world. However, it is much under-represented in global bond indices, compared to the size of its economy and bond issuance. In recent years, China has taken a number of steps to reduce the entry barriers for foreign participation in its domestic bond market. In particular, the Bond Connect scheme was officially launched in July 2017, which has largely removed the entry barriers to China's bond market and eased restrictions on foreign investors' trading in the market. This has enhanced China's eligibility to meet the stringent criteria of widely-used global bond indices. However, certain operational issues remain constraints on foreign participation in China's bond market. These include the settlement arrangement in existing channels being not fully on delivery-versus-payment (DVP) basis, unclear taxation policy on foreign investment in bonds, the difficulty in repatriating funds, and the ability to hedge currency risk through liquid foreign exchange markets.

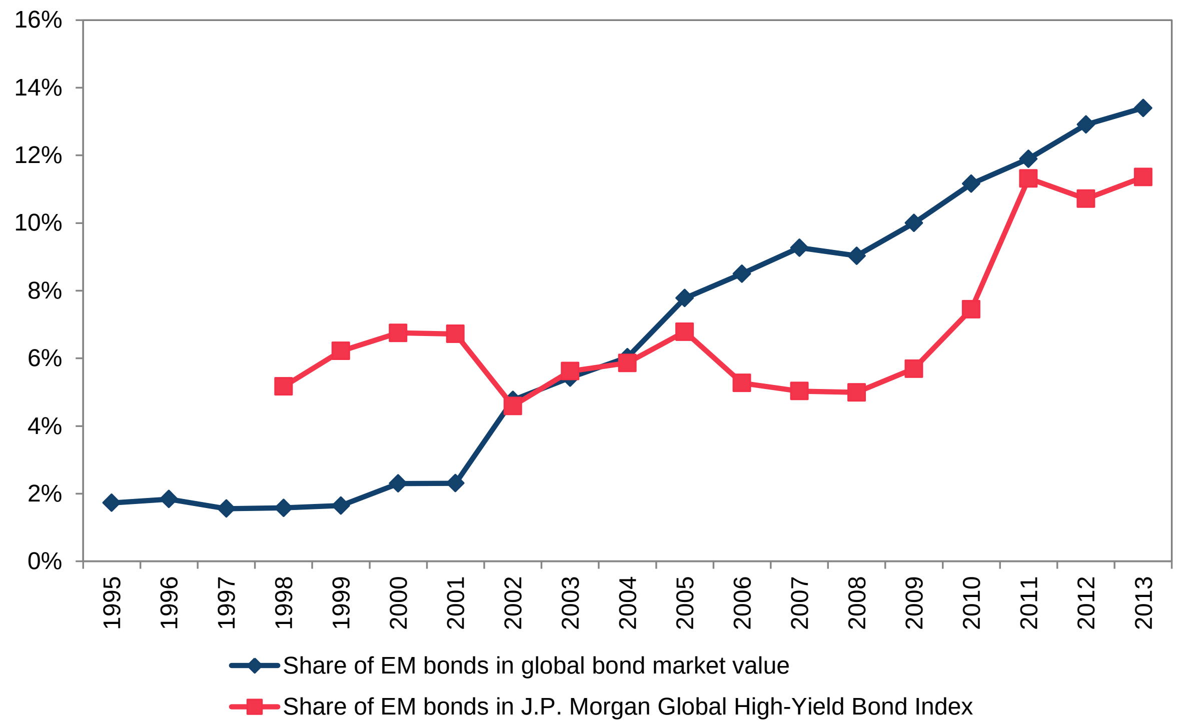
China's inclusion into widely-used global bond indices appears inevitable and the impact will be significant in the foreseeable future. Once China is admitted to and assigned larger weights in global bond indices, and more exchange traded funds (ETFs) tracking these global bond indices increase their holdings in China's bond sectors accordingly, the availability of hedging instruments would become important to reduce the sensitivity of China's domestic bond market to international market volatility. Moreover, maintaining a solid sovereign rating is essential for attracting global large institutional investors and for remaining included in global bond indices. Domestic financial deepening, including expanding the local investor base, deepening banking sectors and capital markets, and improving institutional environment, will help strengthen the domestic financial market and mitigate the adverse impact of global financial shocks on domestic asset prices.

## 1. THE TREND OF INTERNATIONAL PORTFOLIO IN EM BOND MARKETS

### 1.1 The increasing share of EM bonds in global portfolio

The landscape of global investment in bonds has grown considerably over the past 15 years, with increasing flow into emerging markets (EMs). Gross capital flows to EMs have grown rapidly since the early 2000s and quintupled by 2013, leading to a significant growth in the share of EM bonds in the global capital market (see Figure 1).

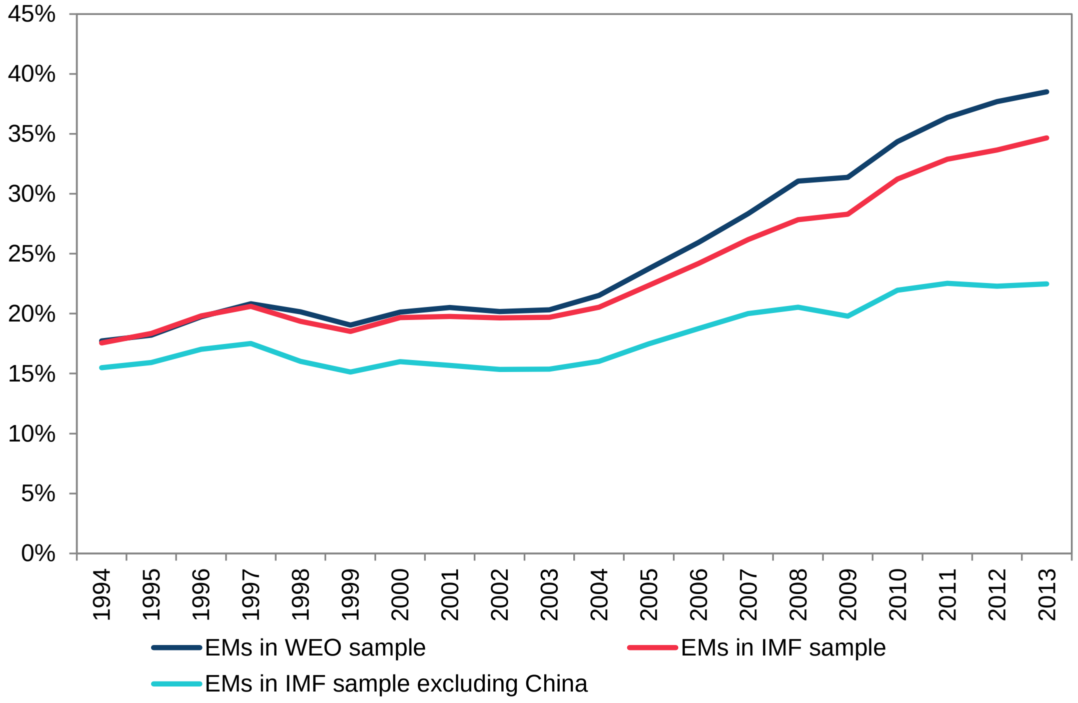
**Figure 1. The share of EM bonds in global bond market value and index (1995 - 2013)**




Source: International Monetary Fund (IMF), *Global Financial Stability Report — Moving from Liquidity to Growth-Driven Markets*, April 2014 (IMF GFSR 2014).

The sharp rise of EM bonds in global investors' bond portfolios is mainly supported by EMs' growing importance in the world economy (see Figure 2), as well as their increasingly globalised financial markets. After the 1997 Asian financial crisis, many EMs had undergone significant improvement in their economic fundamentals, reflected by the fact that a large number of EMs are rated as "investment grade" based on their low-level government debt.

**Figure 2. The share of EMs in global gross domestic product (GDP) (1994 - 2013)**

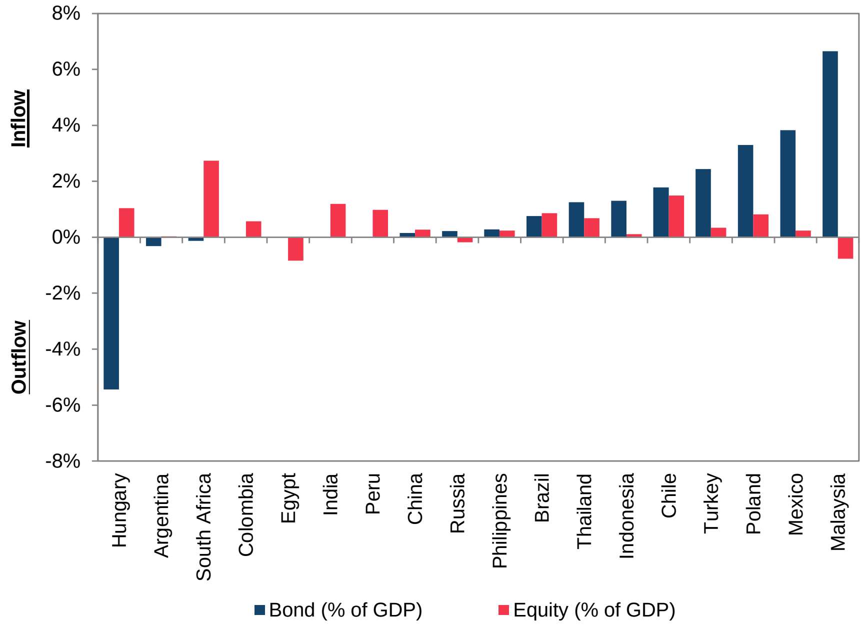



Note: EMs in WEO sample are classified as such in the World Economic Outlook (WEO) database; EMs in IMF sample are classified as such in the IMF database.

Source: IMF GFSR 2014.

After the 2008 global financial crisis, the bond market in EMs have become more important, even higher than the equity sector, in global investments (see Figure 3). This is due largely to the search for high-yield amid a low interest rate environment where central banks in major developed countries have been extensively deploying expansionary monetary policies to stimulate their economic growth.

**Figure 3. Average annual gross portfolio inflows/outflows to/from EMs for the period 2009 - 2013**




Source: IMF GFSR 2014.

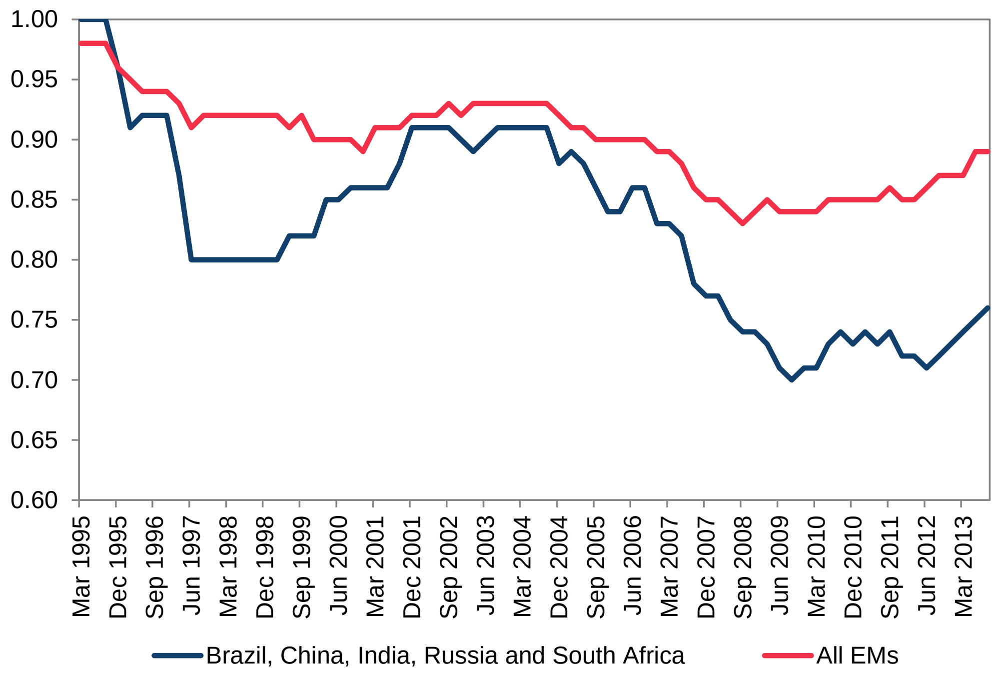
## 1.2 EMs' debt issuance shifting from hard currency to local currency

The increase in foreign holdings of EM bonds is also driven by the trend that EM bond issuers shifted their debt financing from hard currencies to local currencies. Local-currency debt financing has considerably expanded in recent years.

The EMs hard-currency bonds[1] had been a dominant asset class for decades. Owing to the weakness of the domestic bond markets, issuers in most emerging countries were not able to issue bonds in their own currency or in the domestic market, but had to issue bonds in currencies of the developed economies or in the international market. The benefit of doing so is that EM issuers can gain access to more liquid international capital to overcome the capital shortage caused by the underdevelopment of their domestic markets. However, this resulted in the problem of currency mismatch and increased the vulnerability of EMs.

In the last decade, this trend has changed substantially. The progress made by emerging markets toward financial deepening and stronger financial institutions make the EM domestic markets more liquid with a larger domestic investor base. Therefore, many emerging countries began to shift from issuing bonds in hard currencies to domestic debt in local currencies to avoid excessive external debts (see Figure 4). The local sovereign market has been growing much more rapidly than the traditional hard-currency market for government bonds (see Figure 5). In 2000, local-currency debt accounted for roughly 55% of outstanding tradable debt in EMs. By 2013, the share of EM local-currency debt jumped to 83% of total outstanding EM debt[2]. By 2015, EMs' total local-currency debt rose to US$15 trillion, constituting 87.2% of their total debts[3].

**Figure 4. The reliance on hard currencies of EM bonds issued in international markets (Mar 1995 – Sep 2013)**




Note: The measure presented in the chart is the one used in IMF GFSR 2014, which is a number in the range of 0 to 1. The larger the number, the more reliance on hard currencies. The chart presents the simple average across countries.

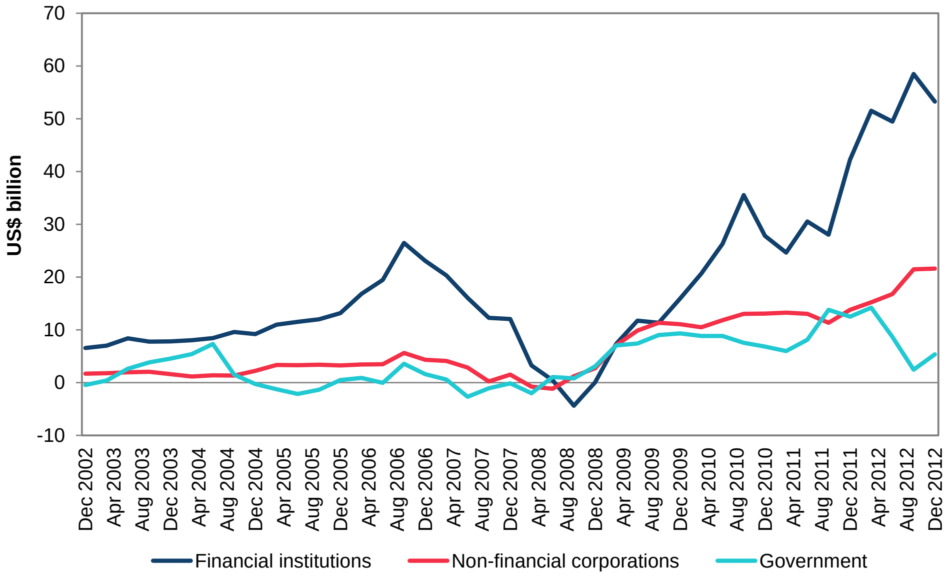
Source: IMF GFSR 2014.

1 Hard-currency bonds refer to bonds denominated in US dollar (USD), Euro, British pound or Japanese yen (JPY).

2 Source: *Emerging markets local currency debt and foreign investors*, The World Bank, 20 November 2014.

3 Source: *Development of local currency bond markets*, IMF, 14 December 2016.

**Figure 5. Net EM bonds issued in international markets* by issuer type (2002 - 2012)**




* These are debt issued by former and current EMs based on the nationality of the issuers, including debt issued by foreign subsidiaries of issuers headquartered in EM economies (sample as defined in the source).

Source: IMF GFSR 2014.

## 1.3 EMs' debt issuance highly concentrated in a few countries

EM local-currency debt issuance is highly concentrated in only a few countries. According to the World Bank[4], the ten largest issuer countries accounted for 81% of the local-currency government debt of EMs in terms of outstanding amount as of December 2013. Among which, China, Brazil and India were the top three, accounting for an aggregate of over 50%. (See Table 1.)

**Table 1. Top 10 largest EM government debt issuers in local currency by outstanding amount (as of Dec 2013)**

| Country by rank (Dec 2013) | Outstanding amount (US$ billion) | | As % of GDP | | As % of total EMs' local-currency bonds |
|---|---|---|---|---|---|
| | Dec 2000 | Dec 2013 | Dec 2000 | Dec 2013 | Dec 2013 |
| China | 133.89 | 1,361.82 | 11.17% | 14.74% | 26.29% |
| Brazil | 134.26 | 912.21 | 20.82% | 40.62% | 17.61% |
| India | 11.92 | 618.04 | 2.50% | 32.93% | 11.93% |
| Mexico | 59.64 | 306.68 | 8.72% | 24.32% | 5.92% |
| Turkey | 15.77 | 243.74 | 5.92% | 29.72% | 4.70% |
| Poland | 36.97 | 212.55 | 21.59% | 41.07% | 4.10% |
| Malaysia | 44.24 | 160.93 | 47.17% | 51.51% | 3.11% |
| Russia | 8.95 | 144.27 | 3.44% | 6.88% | 2.78% |
| South Africa | 71.35 | 126.68 | 53.69% | 36.13% | 2.45% |
| Thailand | 16.17 | 113.69 | 13.17% | 29.36% | 2.19% |
| **Total** | | | | | **81.08%** |

Source: *Emerging markets local currency debt and foreign investors*, The World Bank, 20 November 2014.

[4] Source: *Emerging markets local currency debt and foreign investors*, The World Bank, 20 November 2014.

However, despite the enlarged size of EM bonds in the global market, they do not get a fair share in global bond indices. In particular, China's bond issuance in local currency, i.e. Renminbi (RMB), is highly under-represented in global indices, compared to the size of its economy and bond issuance in local currency among EMs and even in the world. As of end-2017, the onshore Chinese bond market has a market value of RMB 64.57 trillion[5]. Even China's domestic bond market is already opened to a considerable extent for foreign participation through various channels[6], Chinese bonds are either not included or under-represented in major global indices. In the case of the recent addition of Chinese bonds (sovereign bonds and policy-bank bonds) into the Bloomberg Barclays Global Aggregate + China Index, the market weight of RMB assets is only 5.31% of the index, which is far less than the weight of China in global bond issuance.

In the following sections, we will further discuss the construction of global bond indices and then examine the factors affecting the progress of inclusion of Chinese bonds in global indices. This would give some insights on the under-representativeness of Chinese bonds in global indices.

## 2. MAJOR GLOBAL BOND INDICES FOR EMERGING MARKETS

The inclusion of more countries into global indices is driven by the increased interests of global investors to meet their needs for diverse liquidity and instruments. Referencing on global indices, investors can evaluate their portfolios' performance. They can either manage their asset portfolios passively by tracking the index, or use the index as a benchmark to gain exposure to certain markets through financial products such as exchange-traded funds (ETFs).

In general, the index providers would concentrate on the most liquid countries and currencies in order to make the indices easy to manage for global investors. Based on the currency components in EM debt, the underlyings of indices are divided into hard currencies and local currencies.

### 2.1 J.P. Morgan global bond indices

#### 2.1.1 Classification by currency and market weighting

J.P. Morgan offers a diverse range of EM indices, which are extensively used in asset management and EM debt investment. According to the difference in currencies, J.P. Morgan indices distinguish between two major individual index groups. For bonds denominated in local currencies, J.P. Morgan provides Government Bond Index-Emerging Markets (GBI-EM) series. This series was developed in response to an increase in investor appetite towards EMs' local-currency debt that grows rapidly in recent years. For bonds denominated in hard currencies, J.P. Morgan provides Emerging Market Bond Index (EMBI) family, which was introduced in July 1999, but is calculated back to December 1993. Besides sovereign bonds, it also contains quasi government bonds to represent more broadly sovereign debt in EMs.

Every index group is comprised of several variations, which are classified by different inclusion criteria in terms of the size of the investment universe, liquidity and the degree of country diversification.

5 Source: "2017 年债券市场统计分析报告", 16th January 2018, China Central Depository & Clearing Ltd.

6 See HKEX's research report, "Tapping into China's domestic bond market — An international perspective", 16 May 2017, published on the HKEX website.

For example, the GBI-EM index suite encompasses three variations — GBI-EM, GBI-EM Global and GBI-EM Broad. The sub-index GBI-EM Broad is the most comprehensive index with the largest range of bonds regardless of the ability of investors to access the markets. On the other end, the sub-index GBI-EM only includes countries that have no impediment for investors to directly access the local bond market, making it the sub-index that is the easiest for investors to replicate and could be easily used as benchmarks for ETFs. The sub-index GBI-EM Global takes the middle path in terms of market accessibility excluding only countries with explicit capital controls.

Moreover, every sub-index has a "diversified" version, which differs from the initial indices by the country weightings. In "diversified" versions, the extremely high weighting of individual countries in market-capitalisation will be reduced and limited to a certain maximal weighting according to J.P.Morgan's adjusting methodology. Smaller markets are given a greater weighting in the "diversified" index so as to achieve a more balanced diversification, even though the adjusted weightings are different from the market cap weights of the countries. Practically, the "Global Diversified" index is the most widely used one in fixed-income and asset management industries.

**Table 2. The classification of J.P. Morgan bond indices**

| | GBI-EM Global Diversified | EMBI Global Diversified |
|---|---|---|
| Asset classes | • Local currency, sovereign | • Hard currency, sovereign & quasi-sovereign |
| Country criteria | • Gross national income (GNI) per capita must be below the Index Income Ceiling (IIC)* for 3 consecutive years<br>• Accessible to majority of foreign investors<br>• Does not include markets with capital controls | • GNI per capita must be below the IIC* for 3 consecutive years |
| Liquidity criteria | • Two-way daily pricing should be available and guidance taken from local trading desk | • Daily available pricing from a third-party valuation vendor |
| Instrument criteria | • Fixed rate and zero coupon<br>• Minimum size: US$1 bil (onshore bonds) or US$500 mil (global bonds) | • All fixed, floater, amortizers and capitalizers, Minimum size: US$ 500 mil |

* J.P. Morgan defines the Index Income Ceiling (IIC) as the GNI per capita level that is adjusted every year by the growth rate of the World GNI per capita, Atlas method (current USD), provided by the World Bank annually.

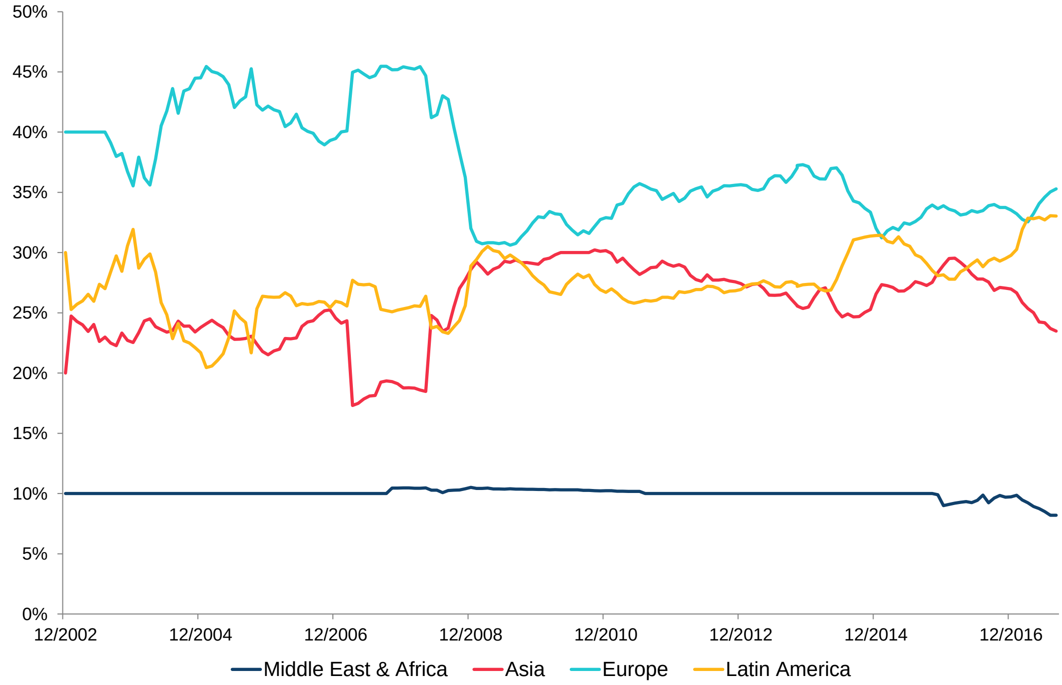
Source: J.P. Morgan.

### 2.1.2 Key features: regional distribution, rating and market capitalisation

In the GBI-EM Global Diversified Index, the number of countries was limited to 18[7]. As of August 2017, the index had the highest diversified weighting in Europe (35%), followed by Latin America (33%) and Asia (24%) (see Figure 6). According to the adjustment methodology, the weightings of some countries in GBI-EM Global Diversified Index are limited to 10%, such as Brazil or Mexico, while their weightings in the initial index (i.e. the GBI-EM Global Index) are substantially greater, based on the normal market capitalisation without weighting restrictions.

[7] Source: J.P. Morgan, as of 31 August 2017.

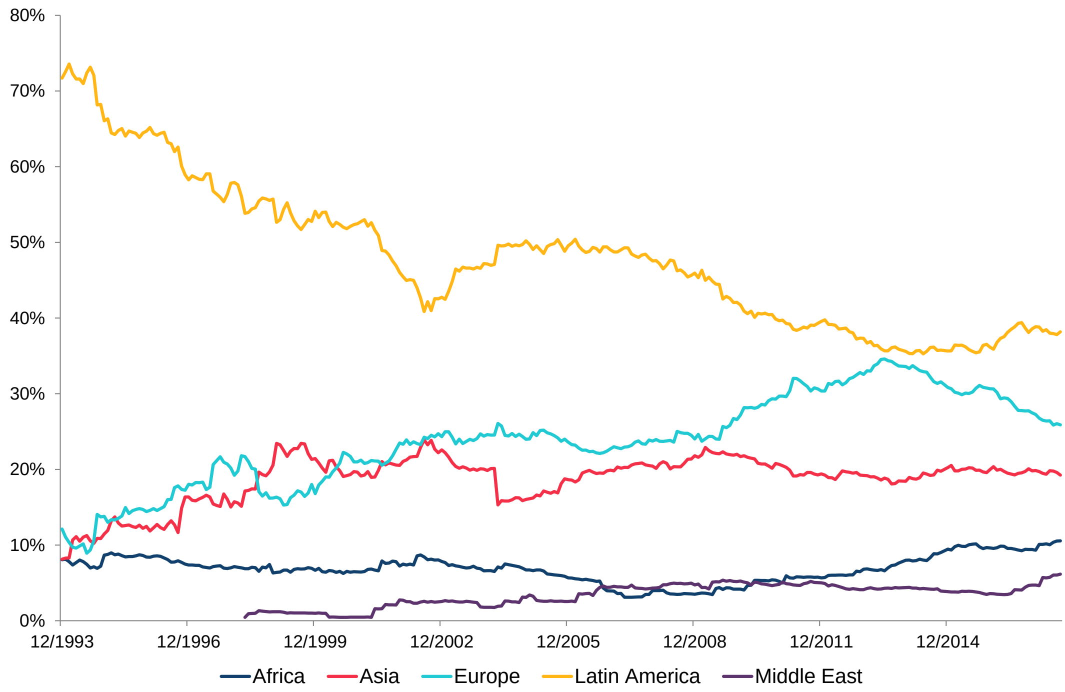
**Figure 6. Regional weightings of J.P. Morgan GBI-EM Global Diversified Index (Dec 2002 – Aug 2017)**




Source: J.P. Morgan.

As for the EMBI Index for hard-currency bonds, 38% of the weighting is in Latin America, 26% in Europe, 19% in Asia, 11% in Africa, and 6% in the Middle East as of August 2017. At the same time, 66 countries were included in the index, much broader than the local-currency indices (see Figure 7). It also balances the weightings of some large-volume countries with smaller-volume ones to improve the diversification of indices.

**Figure 7. Regional weightings of J.P. Morgan EMBI Global Diversified Index (Dec 1993 – Aug 2017)**




Source: J.P. Morgan.

Given the continuous structural improvement in the EMs, the soundness of the sovereign bonds has steadily improved. This is reflected by an upward shift of the rating distribution in GBI-EM and EMBI. As of August 2017, over 60% of constituents by weight in GBI-EM Global Diversified index (local currency) had reached investment grade. Even in EMBI Global Diversified index (hard currency), investment-grade bonds accounted for almost half (48%) by weight. (See Table 3.)

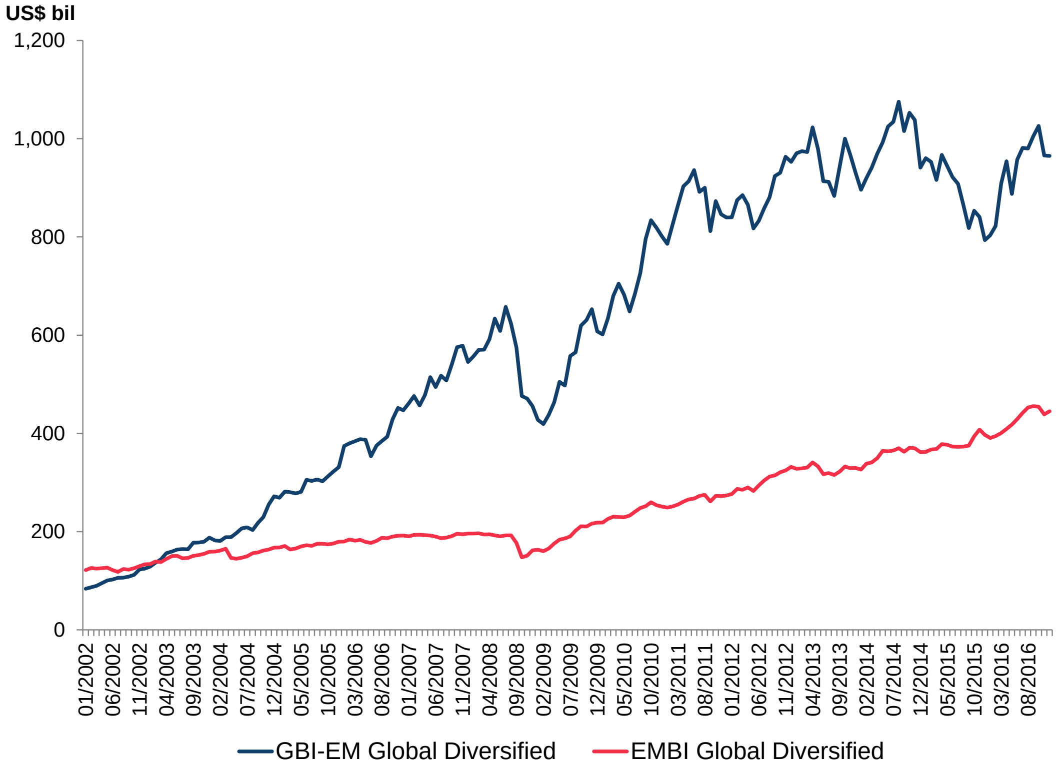
**Table 3. Key features of J.P. Morgan bond indices (End-Aug 2017*)**

| | GBI-EM Global Diversified (Local currency) | EMBI Global Diversified (Hard currency) |
|---|---|---|
| No. of countries | 18 | 66 |
| No. of instruments | 215 | 620 |
| Market cap (US$ bil) (End-2016) | 965 | 445 |
| Performance (31 Dec 2008 to 30 Dec 2016, annualised) | 3.33% | 9.61% |
| Credit quality (Average) (Moody's / S&P / Fitch) | Baa2 / BBB / BBB | Ba1 / BB+ / BB+ |
| Rating distribution: | | |
| A and above | 23.62% | 12.62% |
| BBB | 42.35% | 35.71% |
| BB | 32.94% | 23.32% |
| B | 1.09% | 24.48% |
| CCC and below | — | 3.87% |

* Unless otherwise specified.
Source: J.P. Morgan.

Since the J.P. Morgan Index families have become the market standards in fixed-income management, the market capitalisation of the above two J.P. Morgan bond indices (including hard currency and local currency) has risen steadily in recent years, reaching a combined value of US$1,410 billion as of end-2016. In particular, the index for local currency is growing faster than the one denominated in hard currency (see Figure 8), indicating the importance of the domestic bond market in EMs. Since March 2016, J.P. Morgan has put China on "Index Watch" for potential inclusion in the GBI-EM index suite.

**Figure 8. The market capitalisation of J.P. Morgan indices**




Source: J.P. Morgan.

## 2.2 FTSE Russell global bond indices[8]

### 2.2.1 Inclusion criteria

FTSE Russell provides global indices as benchmarks for the investors who have exposure to the global sovereign bond markets. Its major bond index denominated in local currencies is the **World Government Bond Index (WGBI)** which measures the performance of fixed-rate, investment-grade sovereign bonds. This index currently comprises sovereign debt from over 20 markets and denominated in a variety of currencies. To join the WGBI, a market must satisfy the criteria of market size and rating. The lack of barriers-to-entry into a market is also an additional requirement.

| Table 2. Inclusion criteria of WGBI | |
|---|---|
| Market size | The total outstanding amount of the market's eligible issues must be at least US$50 billion / EUR 40 billion /JPY 5 trillion. |
| Credit quality | A- by S&P and A3 by Moody's, for all new markets |
| Barriers to entry | Potentially eligible markets should encourage foreign ownership of its bonds, allow investment-related participation in its currency markets, support the potential currency hedging needs of investors, and facilitate repatriation of investor's capital. Other factors such as tax, regulation stability and ease of operations are also considered. |

Source: FTSE Russell，Index Rules for WGBI, April 2018.

8 Formerly the Citi global bond indices. FTSE Russell is a leading global provider of benchmarks, analytics, and data solutions for investors worldwide. On 31 August 2017, Citi's fixed income indexes joined the FTSE Russell index family as part of the acquisition of The Yield Book and Citi Fixed Income Indices businesses by London Stock Exchange from Citi.

### 2.2.2 Current progress of China's inclusion into fixed income indices

China's eligibility for inclusion into fixed income indices has been closely monitored since the China Interbank Bond Market (CIBM) was further opened up for access by foreign financial institutions in February 2016. Upon introduction of measures by the People's Bank of China (the PBOC) to further open up the domestic bond market and the foreign exchange derivatives market for eligible foreign institutional investors, China has already met the entry criteria of certain global indices and has become eligible for inclusion into the WGBI.

In March 2017, Citi, the former index provider of the WGBI, announced that China is eligible to join its other three government bond indices — the **Emerging Markets Government Bond Index (EMGBI)**, **Asian Government Bond Index (AGBI)**, and the **Asia Pacific Government Bond Index (APGBI)**. As China has met the requirements for three consecutive months since the announcement, China has been formally included into EMGBI, AGBI and APGBI in February 2018.

According to FTSE Russell, the market weight of China, based on 1 April 2018 data, was 52.55% in the EMGBI, 10.00% in the EMGBI-Capped[9], 58.85% in AGBI and 20.00% in AGBI-Capped[10] (see Tables 3 and 4).

**Table 3. Market weights by country in the EMGBI and EMGBI-Capped (1 Apr 2018)**

| | Number of issues | Market value (in US$ bil) | Market weight (%) | |
|---|---|---|---|---|
| | | | EMGBI (including China) | EMGBI-Capped (including China) |
| China | 136 | 1,320 | 52.55 | 10.00 |
| Mexico | 15 | 147 | 5.87 | 10.00 |
| Indonesia | 33 | 127 | 5.04 | 9.69 |
| Brazil | 5 | 124 | 4.94 | 9.51 |
| Poland | 18 | 122 | 4.85 | 9.32 |
| South Africa | 14 | 119 | 4.75 | 9.14 |
| Thailand | 24 | 102 | 4.08 | 7.84 |
| Malaysia | 33 | 86 | 3.41 | 6.57 |
| Russia | 19 | 78 | 3.12 | 6.00 |
| Turkey | 22 | 71 | 2.82 | 5.43 |
| Colombia | 9 | 66 | 2.63 | 5.06 |
| Hungary | 16 | 47 | 1.88 | 3.62 |
| Philippines | 29 | 44 | 1.76 | 3.38 |
| Peru | 10 | 30 | 1.18 | 2.27 |
| Chile | 14 | 28 | 1.13 | 2.17 |

Source: FTSE Russell.

9 The EMGBI-Capped — Emerging Markets Government Capped Bond Index — is designed to limit individual market exposure by imposing a maximum country weight of 10%.

10 The AGBI-Capped — Asian Government Capped Bond Index — is designed to limit individual market exposure by imposing a maximum country weight of 20%.

**Table 4. Market weights by country in the AGBI and AGBI-Capped (1 Apr 2018)**

| | Number of issues | Market value (in US$ bil) | Market Weight (%) | |
|---|---|---|---|---|
| | | | AGBI (including China) | AGBI-Capped (including China) |
| China | 136 | 1,320 | 58.85 | 20.00 |
| Korea | 41 | 485 | 21.61 | 20.00 |
| Indonesia | 33 | 127 | 5.64 | 17.32 |
| Thailand | 24 | 102 | 4.56 | 14.01 |
| Malaysia | 33 | 86 | 3.82 | 11.74 |
| Singapore | 20 | 70 | 3.11 | 9.56 |
| Philippines | 29 | 44 | 1.97 | 6.04 |
| Hong Kong | 30 | 10 | 0.43 | 1.33 |

Source: FTSE Russell.

However, China is still under review to be included into WGBI. To date, China has been added to the "World Government Bond Index – Extended" (WGBI-Extended) in July 2017. As of end-March 2018, China has a market weight of 5.54% in the WGBI-Extended Index[11]. If the ease of access to China's onshore bond market can be further improved, the inclusion of China into WGBI could be expected.

## 2.3 Bloomberg Barclays indices[12] with Chinese bonds

Along with the increasing accessibility to China's bond market and the global signifiance of China's economy, Bloomberg launched two hybrid bond indices covering Chinese bonds in March 2017. These are the "Global Aggregate + China Index" and the **"EM Local Currency Government + China Index"**. The Global Aggregate + China Index combines Bloomberg Global Aggregate Index with 151 China treasury bonds and 251 bonds issued by the Chinese policy banks. As a result of the inclusion of RMB-denominated Chinese bonds, the weight of RMB in this hybrid index is 4.6%, ranking after the USD, Euro and JPY. Similarly, EM Local Currency Government + China Index combines the EM Local Currency Government Index and 151 eligible Chinese treasury bonds. Based on the market value, Chinese bonds weigh 38.2% in this index.

On 23 March 2018, Bloomberg announced that it will add Chinese RMB-denominated government and policy bank securities to the **Bloomberg Barclays Global Aggregate Index**, one of the most widely-used benchmark for international fixed-income investors. The addition of these securities will be phased in over a 20-month period starting April 2019. After the inclusion, the index would include 386 Chinese securities, which represented 5.49% of the index as of 31 January 2018.

As a matter of fact, China's inclusion into Bloomberg indices could be tracked back to 2004 when the Bloomberg China Aggregate Index was first introduced to the market. The increasing opening up of China's domestic bond market is, no doubt, a catalyst for China's inclusion into global indices. The above measures taken by Bloomberg could be seen as a further step to allow global investors to grasp investment opportunities in China.

[11] Source: FTSE Russell.

[12] Bloomberg acquired the fixed-income index assets from Barclays on 24 August 2016, after which the indices are co-branded as the Bloomberg Barclays Indices.

## 3. OBSTACLES FOR CHINA'S INCLUSION INTO GLOBAL BOND INDICES

Attracting more foreign investors to participate in China's domestic bond market is a major step to support ongoing RMB internationalisation and to back up the exchange rate of the RMB by possible capital inflows from fixed-income securities investors[13]. Given the representativeness of global indices in global bond markets, the inclusion of China in global bond indices will, no doubt, promote higher foreign participation in China's bond assets. From the perspective of global index providers, China's inclusion is also considered a strategic move given the importance of China's bond market as the third largest in the world. Then, what are the current major obstacles that hinder China's inclusion in global bond indices?

**In terms of market size and credit rating**, China's bond market should have far exceeded the inclusion criteria of most global bond indices. It had a total outstanding value of RMB 64.57 trillion as of end 2017[14] — the world's third largest after the US and Japan[15], and a sovereign credit standing at A+ by Standard & Poor's, A1 by Moody's and A+ by Fitch.

**In terms of market entry barriers and direct accessibility**, however, foreign investors and index providers may worry about the participation costs caused by the lengthy registration process, investment quotas, lock-up periods, and repatriation limits for accessing China's domestic bond market.

### 3.1 Policy changes undertaken for reducing entry barriers

**China has taken a number of steps to open up its domestic bond market to foreign investors.** In 2010, China took the first step to allow overseas monetary authorities and qualified institutions to use offshore RMB to invest in the CIBM, followed by the official announcement of Renminbi Qualified Foreign Institutional Investor (RQFII) program in 2011 and further relaxations on the investment restrictions of Qualified Foreign Institutional Investor (QFII) program in 2013 as further steps towards opening the domestic bond market.

Since 2015, a number of notable liberalisation measures were launched to further facilitate foreign investors to access CIBM. These include the policy in June 2015 that allows offshore RMB clearing and participating banks to conduct repurchase (repo) financing by using their onshore bond holdings, and the policy measures announced in mid-July 2015 that further expanded the scope of eligible bond transactions to include cash bonds, bond repos, bond lending, bond futures, interest rate swaps and other transaction types as permitted by the PBOC. In February 2016, the PBOC released new regulations which relaxed the rules on investment quotas, lock-up periods, and repatriation limits applicable to certain types of foreign institutional investor accessing the CIBM. In May 2016, it further released a detailed clarification of the investment procedure for foreign institutional investors. In 2017, foreign investors were given the accessibility to the domestic derivatives markets to hedge currency risks as well.

**More importantly, the Bond Connect scheme[16] was officially launched in July 2017 under which Northbound trading allows foreign investors to trade domestic bonds through the trading platform in Hong Kong**. Bond Connect does not set restrictions on daily and aggregate investment limits, fund remittance and lock-up period, and therefore largely increases the convenience and transaction efficiency for foreign investors to access

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13 See HKEX research report, "Tapping into China's domestic bond market — An international perspective", 16 May 2017, on HKEX website.

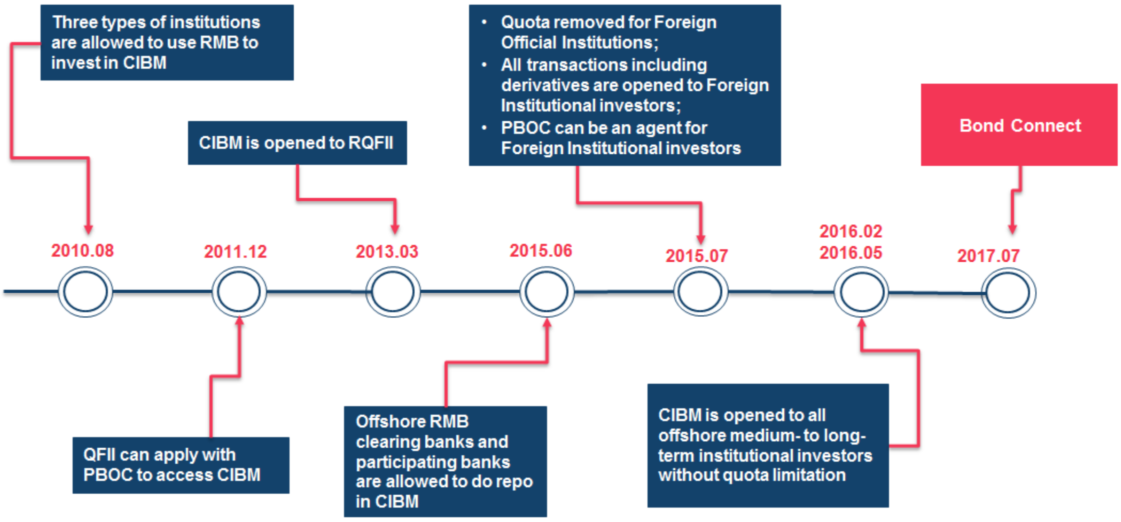
14 Source: "2017 年债券市场统计分析报告"，16th January 2018, China Central Depository & Clearing Ltd.

15 Source: The PBOC website.

16 An arrangement that enables Mainland and overseas investors to trade bonds on the Mainland and Hong Kong bond markets through the connectivity established between the institutional financial infrastructure in the Mainland and Hong Kong. Northbound trading was launched initially.

China's domestic bond market. Figure 9 shows the opening process of the China domestic bond market.

**Figure 9. The opening process of the China domestic bond market**




Note: The given dates refer to the policies' official announcement dates.
Source: Official announcements and public news.

For trading through Bond Connect, overseas investors do not need to open Mainland settlement and custody accounts, and are not required to deal with Mainland authorities for market admission and trading qualifications. Instead, they can make use of their existing accounts in Hong Kong to handle their market registration process through the Bond Connect platform. Moreover, the Bond Connect scheme adopts a "multi-level depository arrangement" with the nominee model to handle the registration, depository, clearing and settlement process for overseas investors. Given these, overseas investors do not need to spend extra resources to study the comprehensive settlement and custody systems and the related laws and regulations of the Mainland bond market. They can simply deploy their existing long-established trading and settlement practices.

Apparently, Bond Connect is an innovative initiative for overseas investors to tap into China's bond market, with reduced entry costs and increased accessibility. Despite the short history of this scheme and the expected time for market participants to adapt to it, the improvements it offers in removing entry barriers to China's bond market and in easing restrictions on foreign participation could enhance China's eligibility to meet the stringent inclusion criteria of global bond indices.

## 3.2 Operational issues to be improved

Notwithstanding the above considerable progress in opening up China's domestic bond market, especially that offered by Bond Connect, there exists certain operational issues which are of key concerns to foreign participants.

**Firstly, delivery versus payment (DVP) settlement**[17] arrangement is not fully implemented in all existing channels to align with international standards. This may be burdensome for international institutions to meet the compliance requirements for their investments in EMs.

[17] DvP is a common arrangement of settlement for securities transactions. The process involves the simultaneous delivery of securities and the stipulated payment amount for the transaction.

So far, only certain bonds traded through Bond Connect can enjoy DVP settlement. There is a need to extend the DVP arrangement to all bond transactions conducted in CIBM.

**Secondly, the taxation policy on foreign investment** in China's sovereign and corporate bonds needs to be clarified. China has exempted the applicability of withholding taxes on interest and dividends received by foreign institutional investors in China, but the capital gains tax (CGT) remain undefined. A clear taxation regime on foreign investments in domestic bond market would be helpful for global bond-index providers to evaluate the impact on the performance of their indices.

**Thirdly, foreign participants have been facing difficulty in repatriating funds** after selling onshore bonds. This is particularly a concern in a stressed market environment. This issue has been eased, to a large degree, after the launch of Bond Connect which has no restrictions on investment quotas, lock-up periods and repatriation limits. However, similar regulatory relaxation for other existing channels (QFII and RQFII) is also needed to further improve China's eligibility to meet the stringent inclusion criteria of global market benchmarks.

**Fourthly, the inclusion into global indices requires the ability to hedge currency risk through liquid foreign exchange markets.** The sovereign bonds denominated in local currency included in global indices would reduce exchange rate mismatches at the sovereign level. The performance of funds that track the indices is, however, generally calculated on the basis of hard currencies, mostly in USD. Thus, global investors with exposure to RMB bonds would have currency risk on their investments and returns. If the investor does not wish to leave this risk unattended, he must undertake currency hedging or draw upon benchmarks hedged in USD from the outset. Therefore, foreign investors' access to onshore/offshore hedging instruments will further support China's inclusion into global bond indices.

## 4. FURTHER DISCUSSIONS

### 4.1 The potential impact of China's inclusion into global bond indices

To date, China has already been added into some important indices, such as the Bloomberg Barclays Global Aggregate Index, to facilitate investors to get exposure to Chinese onshore bonds. J.P. Morgan has also put China on "Index Watch" for inclusion in their GBI-EM series since March 2016. If China were included, it would constitute more than 33% of the uncapped index[18], although it is most likely to be capped at 10% in the more widely used GBI-EM Global Diversified Index (the same weight as smaller countries such as Brazil and Mexico).

It could be expected that China's inclusion into the more widely-used global indices appears inevitable and this would have significant impact on the global bond investment landscape in the foreseeable future. According to the estimation mentioned above, China is most likely to have a market weighting of 33% in J. P. Morgan's GBI-EM index (uncapped), more than the 5.54% in FTSE Russell's WGBI-Extended, or the 5.49% in the Bloomberg Barclays Global Aggregate Index. The latter two indices are more extensively followed by global funds, with an aggregate value of around US$2 trillion to US$4 trillion. Given this, inflows into Chinese bonds, if these are included into the more widely used indices, are expected to be in the range of US$100 billion to US$400 billion, resulting in a three-fold increase in current foreign holding of Chinese bonds. Although the inflows could be subdued if China is under-weighted in active funds at the initial stage, China's share in active funds is expected to gradually increase to its full weight, dissipating the market weights of smaller EM countries.

[18] According to IMF estimation in its Global Financial Stability Report, April 2016.

## 4.2 The importance of offshore hedging instruments upon China's inclusion

Investing in index ETFs has become a major way for global investors to access local emerging sovereign markets in recent years. Through tracking a global EM index, investors can easily have an instant exposure to a diversified portfolio on EMs without inputting extra research on small countries. Given the transparency of ETFs in portfolio structure, the ETF industry has experienced an extraordinary growth. The assets managed by ETFs worldwide increased from US$1.3 trillion in 2010 to US$3.4 trillion in 2016[19].

Once China is included or assigned a larger weight in global indices, more ETFs tracking these global bond indices will accordingly increase their holdings in China's sovereign bond sectors, resulting in heightened exposure to the risks related to their RMB assets held. In general, Treasury-bond (T-bond) Futures would be an ideal instrument to hedge the risk of bond ETFs, especially for those that track the global indices covering sovereign bonds denominated in local currencies. In 2013, China launched T-Bond Futures in its domestic market to facilitate investors' risk management. However, these products are not yet available for foreign participants, and the liquidity is limited due to the absence of key market users such as domestic insurance companies and banks. HKEX had also launched a similar T-Bond Futures product, the price of which is based on the average yield of domestic sovereign bond basket[20]. The continuous availability of this kind of instrument could facilitate foreign investors to hedge their exposure to China's sovereign bonds denominated in local currency, and would reduce the sensitivity of China's domestic bond market to global market turmoils.

## 4.3 The impact of investor behaviour in the stability of investment fund flows after China's inclusion

China's inclusion into global bond indices will encourage more global funds to flow into Chinese bond assets denominated either in hard currencies or in RMB. Inevitably, the increasing foreign investment fund flows may also make the domestic market more sensitive to the ups and downs in global risk appetite. Large global institutional investors, such as global banks, pension funds, insurance companies, central bank reserves and sovereign wealth funds, are prone to choose a widely used index as a benchmark, or take positions away from the benchmarks within a certain risk budget to achieve excess returns. Therefore, the investment behaviours of these investors and the pattern of their fund flows would be critical factors in assessing the stability of foreign portfolio fund flows after China's inclusion into global bond indices.

Compared to pre-dominantly retail-oriented mutual funds, large institutional investors of a global perspective, including large pension and insurance funds, international reserve funds and sovereign wealth funds, provide relatively stable fund flows to EM domestic bond markets but may react more strongly to the downgrading of sovereign ratings[21]. These large institutional investors' bond holdings in EMs have been more resilient than mutual funds during episodes of market distress. However, their flows into EMs bonds dropped considerably after the Lehman Brothers shock in 2008 due to EMs' sovereign downgrades[22]. From this perspective, maintaining a solid sovereign rating is essential for attracting global large institutional investors and for remaining included in global indices. In addition, domestic financial deepening, including expanding the local investor base, deepening banking sectors and capital markets, and improving institutional environment, will help strengthen the domestic

[19] Source: Statista database.

[20] The T-Bond Futures pilot programme was terminated at the end of 2017 in order to allow the relevant authorities to formulate a more efficient framework for offshore RMB derivatives trading going forward.

[21] Source: IMF GFSR 2014.

[22] Source: Analysis findings in IMF GFSR 2014.

financial market and mitigate the adverse impact of global financial shocks on domestic asset prices.

## ABBREVIATIONS

| | |
|---|---|
| AGBI | FTSE Russell’s Asian Government Bond Index |
| APGBI | FTSE Russell’s Asia Pacific Government Bond Index |
| CGT | Capital gains tax |
| CIBM | China Interbank Bond Market |
| CNY | Onshore Renminbi |
| DVP | Delivery versus payment |
| EM | Emerging Market |
| EMBI | J.P. Morgan’s Emerging Market Bond Index series |
| EMGBI | FTSE Russell’s Emerging Markets Government Bond Index |
| ETF | Exchange-Traded Fund |
| GBI-EM | J.P. Morgan’s Government Bond Index-Emerging Markets series |
| IIC | Index Income Ceiling |
| IMF | International Monetary Fund |
| PBOC | People’s Bank of China |
| QFII | Qualified Foreign Institutional Investor |
| RQFII | Renminbi Qualified Foreign Institutional Investor |
| T-bond | Treasury bond |
| WEO | World Economic Outlook |
| WGBI | FTSE Russell’s World Government Bond Index |

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