White Paper
Fixed Income

January 2021

India Sovereign Bonds: Index Inclusion on the Horizon

Srinivasan M
Portfolio Specialist
EMEA Fixed Income Team

David Furey
Head of Fixed Income Strategists, EMEA

STATE STREET GLOBAL ADVISORS

Contents

Executive Summary

- India is the largest Emerging Market economy that is yet to be included in commonly-followed bond indices, but this is about to change.
- Foreign investors are now able to more easily invest in specified Indian debt via the Fully Accessible Route (FAR). This route was opened in April 2020 and removes quotas, which heretofore had been a major barrier to index inclusion. Issuance of this new type of debt is already at $150bn and is expected to reach $200bn by mid-2021.
- Fiscal policies to address the impact of the pandemic and stimulate demand have led to increased borrowing and a need to fund investment growth. Broadening the investor base will be a key plank of this strategy.
- Leading index providers JP Morgan and Barclays are currently evaluating India for potential inclusion into their flagship Emerging Markets and Global Aggregate Benchmark indices.

- A gradual, incremental approach would likely be taken by the index providers as they engage with investors to determine the appropriateness of the country's inclusion in their key fixed income benchmark indices. Additional subjective criteria from an investability, accessibility and liquidity perspective might also need to be satisfied.
- Enabling settlement via Euroclear would be somewhat of a silver bullet to solve the existing settlement challenges.

India Bond Markets: Pathway to Inclusion in Global Indices

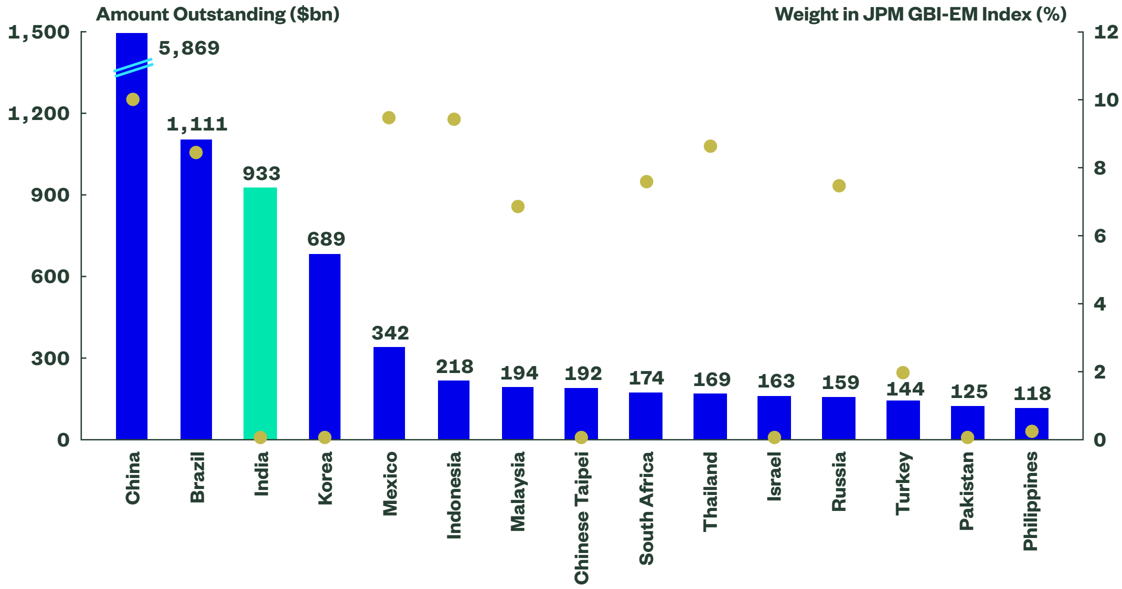
- **India's government has embarked on a strategy of opening up its bond market to foreign investors. Having its sovereign bonds included in benchmark indices is a key pillar of that plan.**
- **The sustained strength of the Indian economy has underpinned the country's investment grade credit rating and the strong recovery of many sectors to pre-COVID levels should provide comfort for investors.**

India is among the last of the large investment grade (IG) rated developing economies whose government bonds are not yet a part of global bond indices (Figure 1). This had been primarily due to limitations imposed by the government on foreign ownership of its domestic debt. Consequently, global fixed income allocations to India are non-core and off-benchmark, resulting in a significant under-representation of Indian debt in investors' global bond portfolios. Foreign ownership has been capped at 6% of the outstanding debt stock for government securities, although non-domestic ownership has been around just 2–3%.* Similar to China, India's government has embarked on a strategy to dismantle the barriers to index inclusion, thereby paving the way to attract foreign investors with the aim of having its sovereign bonds included in global indices. Attracting international investors through a clearly communicated and sequenced series of reforms and the easing of restrictions is a key pillar of India's strategy to deliver on its vision and targets as it increases issuance of government debt to fund its growing economy.

* Source: Reserve Bank of India.

Figure 1
15 Largest EM Countries by Local Government Debt

Outstanding Domestic Government Debt ($bn)
Weight in GBI-EM



Source: Bank of International Settlements as of 30 June, 2020. Source for Weights: JP Morgan as of 31 December 2020.

India's Bond Market — A Brief History

India's liberalization reforms began in 1991 and economic growth rates since then have been up to twice those achieved in the period from the 1950s to the 1980s. The country continues to be one of the world's fastest growing large economies. Putting aside the drastic change to the global growth outlook brought about by COVID-19, India's long-term growth potential could see it become the world's third largest economy within the next decade. It is presently the fifth largest, but its significant catch-up potential, the size and demographic advantage of its population, the stable political landscape, increasing trade and the adoption of new technologies represent potentially considerable growth tailwinds. Unlike many other developing economies, it has little dependence on commodities as a source of growth. The country's sovereign bond market, which is used primarily to finance the government budget deficit, has also grown strongly to become one of the largest and more liquid among high-yielding EMs.

Progress has accelerated, with Figure 2 illustrating the key milestones in the timeline of regulatory change for foreign investors to access the Indian debt market.

Figure 2
Timeline of Key Regulatory Changes in Indian Bond Market

1995	1996	2008	2010	2015	2016	2019	2020
Initiation of FII investment in debt; All FII investment in debt to follow 70:30 route i.e. 30% of investment to be in debt remaining 70% in equity	Introduction of a seperate 100% debt FII category; Overall limit at $1–1.5bn	Separate 70:30 and 100% debt routes eliminated; Govt debt limit increased to $5bn and Corporate debt limit increased to $3 bn	Govt debt limit raised to $10bn-incremental limit to be invested in securities of maturity over 5 years; Lock-in period for such investments is 3 years	Minimum residual maturity of three years introduced, all lock-in period restrictions removed and FPIs allowed to sell securities to domestic investors	Announcement of a new medium-term framework with a $18.2bn increase in the cap on foreign investment of in G-secs by March 2018, to be implemented in quarterly phases	Introduction of a 'Voluntary Retention Route' (VRR) for foreign investors, provided FPIs voluntarily commit to retain a required minimum percentage of their investments in India for a period	Introduction of a separate Fully Accessible Route (FAR) for foreign investors in certain specified Government bonds.No minimum residual maturity, concentration, and investment limits

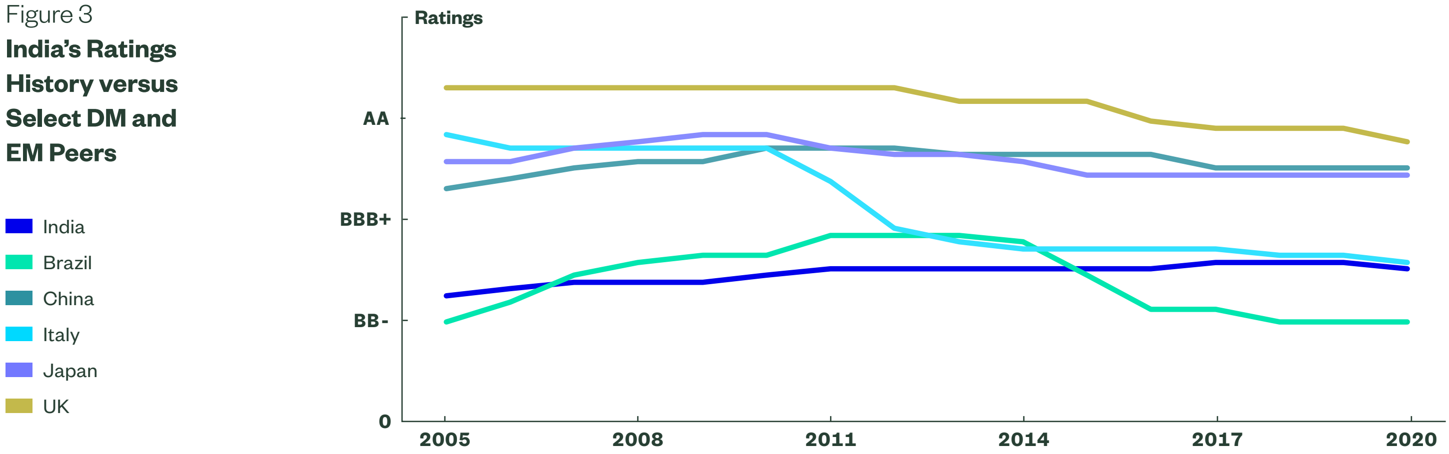
Source: Reserve Bank of India, News Media. FII=Foreign Institutional Investor.

Credit Ratings History

India's local sovereign debt is well established and has had investment grade status since being upgraded by Fitch in 2006. Fitch's action was followed by similar Moody's and S&P upgrades, and the country's credit rating has been stable in IG territory since then.

The stability of India and other emerging markets' ratings contrasts with the creeping deterioration of major developed market sovereigns (Figure 3). India demonstrated a restrained fiscal response to the COVID-19 pandemic as they were constrained by high public sector borrowing requirements, which stood at 9% of GDP coming into the crisis. Even as the total amount of stimulus (including RBI measures) announced in multiple rounds so far adds up to 15.2% of GDP[1] (headline figures), analysts estimate the immediate fiscal impact to be lower as many measures span multiple years, and a majority of the announcements are automatic stabilizers on the revenue side and a reallocation of expenditure plans. JP Morgan estimates the fiscal impact to be ~1.5% of GDP in Fiscal Year 2020–21, half the level undertaken by emerging markets, on average. The government had been implementing several structural reforms before the pandemic, with corporate tax rate cuts, a bankruptcy law to facilitate resolution of non-performing assets, and steps that improved the ease of doing business. Progress in reforms continued after the outbreak as well, with the government expecting this strategy to help stoke a robust medium-term recovery. There have been announcements in production-linked incentives for manufacturing, relaxation of manufacturing sector labour laws, opening up state monopolies in coal mining, railway services, and power distribution to the private sector, introducing incentives to encourage formal employment and removing barriers to agricultural trade by allowing farmers to enter into contracts with private companies.

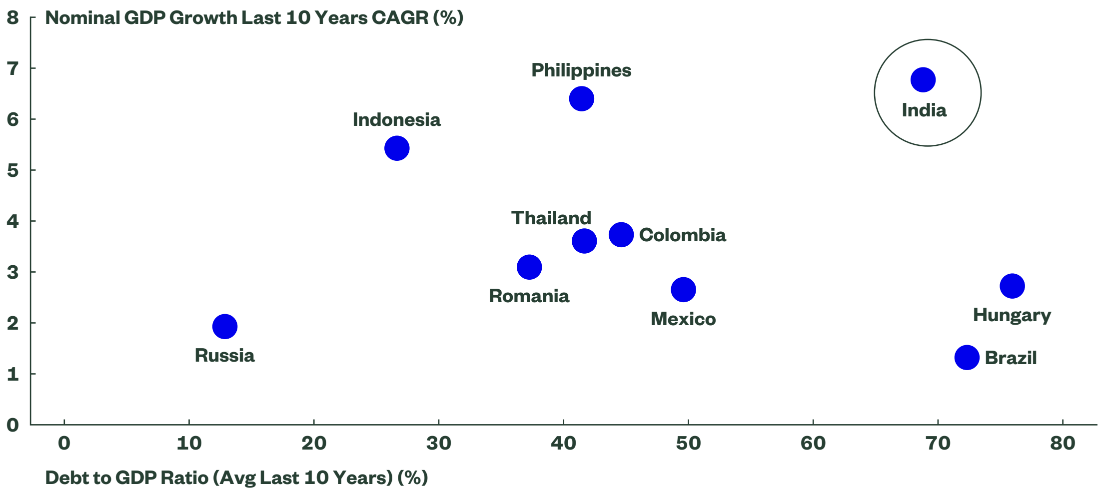
Figure 3
India's Ratings History versus Select DM and EM Peers



Source: Bloomberg Finance L.P., as of 31 December 2020. Average of ratings by Moodys, S&P, Fitch.

India's debt-to-GDP ratio is projected by the International Monetary Fund to rise to an estimated 89% by 2021 from the increase in the primary deficit, the growth shock in 2020, and a steeper yield curve. Given India's starting position, medium-term debt dynamics will depend much more on growth prospects over the next five years than on slightly larger deficits over the next two fiscal years, especially if the deficit is accompanied by a credible fiscal consolidation plan. JP Morgan estimates that India will undergo a slow-paced fiscal consolidation (to an estimated deficit of ~10.5% of GDP in the 2022 fiscal year (FY) from a deficit of ~13.5% of GDP in FY2021), in line with improvement in revenues as growth recovers. High-frequency economic data such as rail freight, power demand, automobile sales, e-way bill and GST collections, are all now at or above pre-pandemic levels and commencement of vaccination along with further relaxation of virus-containment measures as well as the sustained strength of the rural economy reinforces the positive inflection. We expect a still-accommodative monetary policy stance from the central bank to support the rebound in consumption, which accounts for 60% of GDP and has been a mainstay of the overall growth trend.

Figure 4
Expected Growth of the Denominator in Debt/GDP Ratio Matters



Source: International Monetary Fund, World Bank as of 30 September 2020.

Important Recent Developments in India's Bond Markets

- **The Reserve Bank of India initiated a key move in opening up the market to foreign investment with its introduction of a Fully Accessible Route (FAR) that allows for investment in specified bonds.**

- **India is actively seeking sources of funding for the continued growth of the economy and the stable currency, attractive yields and low correlation with other markets represent additional draws for investors.**

A strategic plan to open up India's sovereign bond market was first announced in the February 2020 Union budget. The Reserve Bank of India then followed through on April 1, introducing a separate Fully Accessible Route (FAR) for foreign investors in certain specified government bonds, without being subject to minimum residual maturity, concentration, or investment limits. Five securities, across different tenors, with an overall amount outstanding of $67bn were listed as eligible under FAR with immediate effect. It was also announced that all new issuances of government securities of five-year, 10-year and 30-year benchmarks from the financial year 2020–21 will be eligible for investment under FAR. The list of FAR-eligible securities has since been expanded to 12, amounting to $150bn. Once securities are designated to be eligible, they shall remain so until maturity and will also continue to be eligible for investment by domestic investors. This introduction of a separate channel has the potential to substantially simplify foreign investors' access to the Indian sovereign bond markets and, importantly, to facilitate India's inclusion in global bond indices.

Figure 5
List of 'Specified Securities' Under FAR

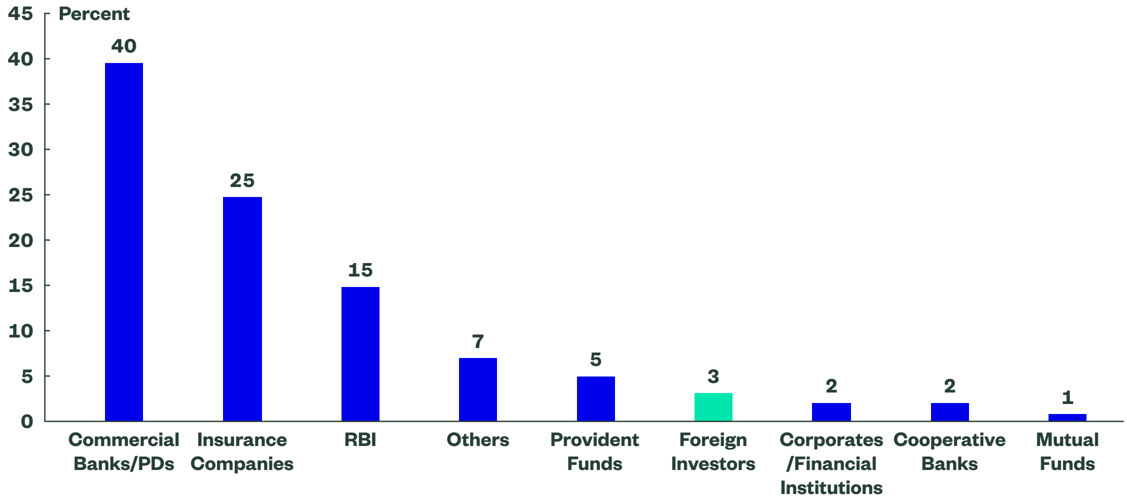
ISIN	Security Name	Maturity	Amount Outstanding ($bn)
IN0020190396	06.18% GS 2024	11/04/2020	14.0
IN0020180488	07.32% GS 2024	01/28/20204	10.0
IN0020190362	06.45% GS 2029	10/07/2029	15.7
IN0020180454	07.26% GS 2029	01/14/2029	16.3
IN0020190032	07.72% GS 2049	06/15/2049	11.5
IN0020200054	07.16% GS 2050	09/20/2050	13.7
IN0020200070	05.79% GS 2030	05/11/2030	15.3
IN0020200112	05.22% GS 2025	06/15/2025	16.2
IN0020200153	05.77% GS 2030	08/03/2030	16.8
IN0020200252	06.67% GS 2050	12/17/2050	3.4
IN0020200278	05.15% GS 2025	11/09/2025	7.7
IN0020200294	05.85% GS2030	12/01/2030	3.5
Total			**144.0**

Source: Reserve Bank of India as of 31 December 2020.

The Push Factors

There are both push and pull factors behind this significant step to secure greater access to global bond investor capital. The push factors include the increase in funding needs due to COVID-19, as the government had revised its gross borrowing needs for FY2021 to be as much as $160bn in May 2020, as opposed to the $100bn it had budgeted for in February. Historically, commercial banks have been the main buyers of domestic bonds, holding almost 40% of outstanding debt (Figure 6), as they have to maintain Treasury assets as part of their Statutory Liquidity Ratio (SLR) reserve requirements. However, they are expected to scale back ownership somewhat as the SLR continues to be reduced from 21.5% in 2016 to 18% today in an effort to boost lending and kickstart economic growth.

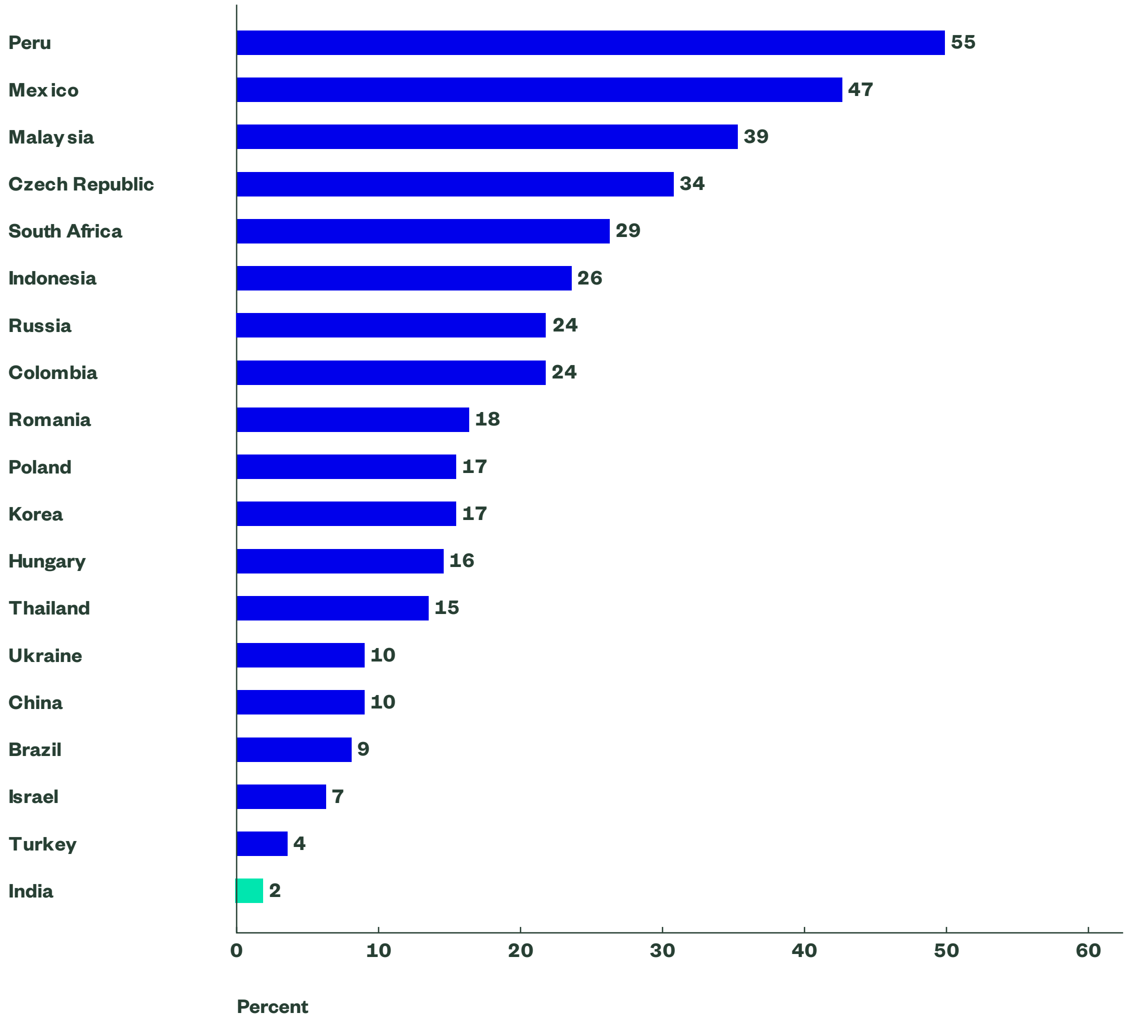
Figure 6
Ownership Breakdown of Indian Government Bonds



Source: Reserve Bank of India as of 30 September 2020.

The increased supply of bonds, and the need to bridge this financing gap has spurred the government to seek foreign capital. With foreign ownership of the country's bonds considerably below other EM peers (Figure 7), this represents a significant untapped demand potential for Indian government bonds.

Figure 7
Foreign Ownership Share in Key EM Domestic Bond Markets (%)

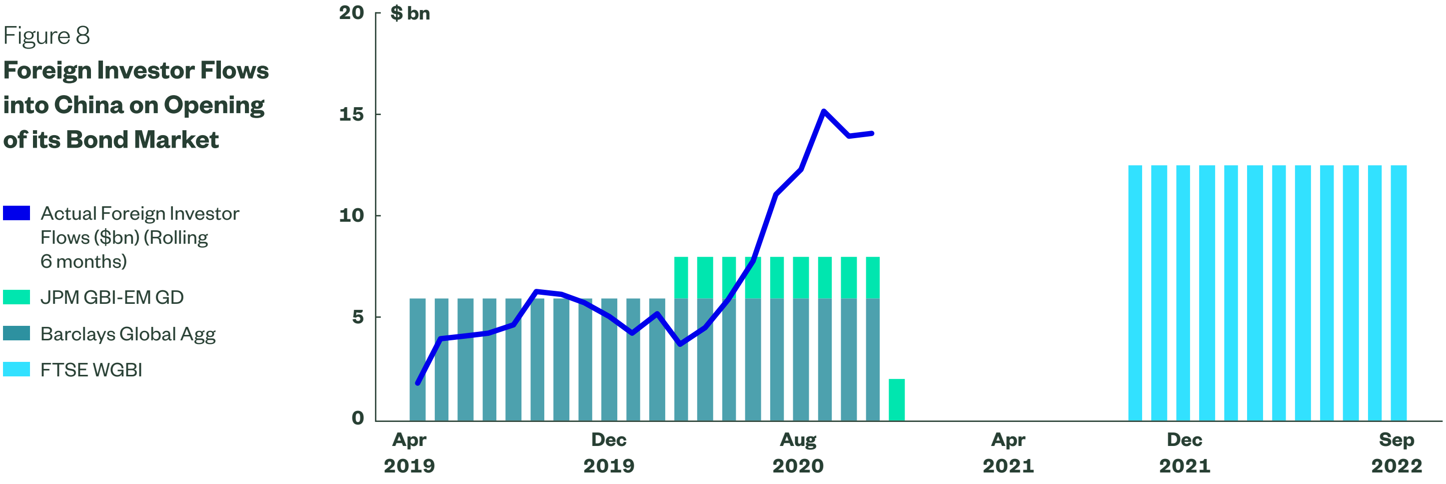


Source: Bank of America as of 31 December 2020.

The Pull Factors

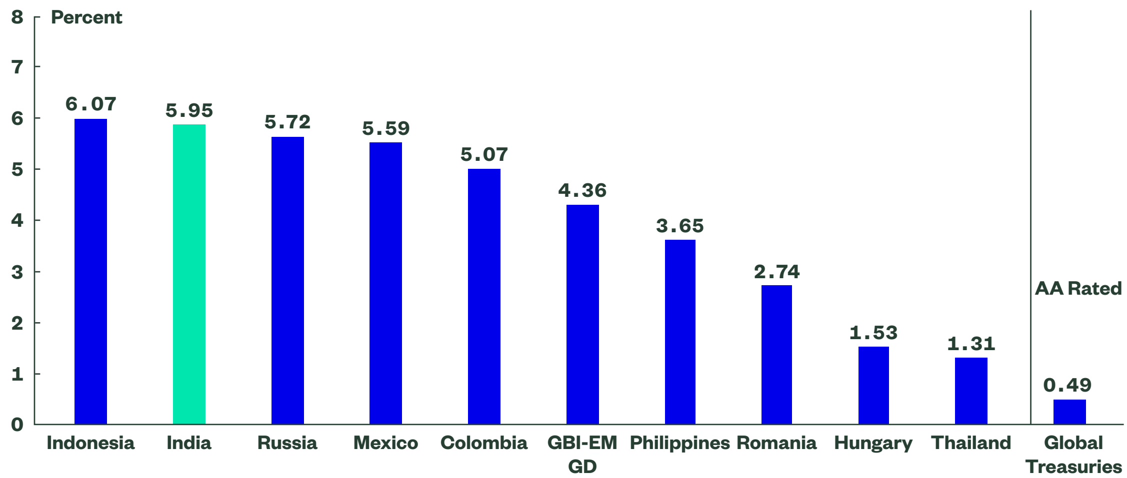
The pull factors are the reasonably stable currency, attractive carry and roll versus that of DMs and other EMs (Figure 9), the central bank's continued support through stated open market operations (OMOs/operation twists), signs of economic recovery, and diversification as India government bonds have exhibited low correlations versus other DM and EM markets. (Figure 10). We can draw some inferences for potential demand from the recent inclusion of China into various widely-followed benchmark indices. The inclusion of China into the Barclays Global Agg was expected to generate passive flows of $120bn distributed over 18 months, while inclusion into JPM's GBI-EM GD Index was expected to lead to flows of $20bn distributed over a period of 10 months. FTSE confirmed China's inclusion in the FTSE World Government Bond Index from October 2021, with an expected $150bn of flows phased over a period of 12 months. However, as Figure 8 shows, actual flows from foreign investors into China have run above levels explained by allocation at benchmark weights alone, implying an additional layer of demand for bonds of countries which prove their investability by virtue of getting included in a benchmark.

Figure 8
Foreign Investor Flows into China on Opening of its Bond Market



Source: Barclays, JP Morgan, FTSE as of 31 December 2020.

Figure 9
Average Yields of BBB+/BBB/BBB- Rated Large EM Markets



Source: JP Morgan as of 31 December 2020.

Figure 10
Correlations of India Treasuries vs Other Markets (USD Unhedged)

	India Treasuries	US Treasuries	Euro Government	Pan-Asia EM Govt	EM Local Curreny Govt	UK Gilts	Global Aggregate	China Treasury Index
India Treasuries	1.00							
US Treasuries	0.10	1.00						
Euro Government	0.44	0.25	1.00					
Pan-Asia EM Govt	0.61	0.24	0.64	1.00				
EM Local Currency Govt	0.56	0.02	0.69	0.83	1.00			
UK Gilts	0.18	0.24	0.56	0.43	0.47	1.00		
Global Aggregate	0.42	0.55	0.84	0.71	0.65	0.64	1.00	
China Treasury Index	0.19	0.14	0.15	0.36	0.15	0.09	0.18	1.00

Source: Bank of America, iBoxx, JP Morgan as of 31 December 2020. Based on last 15 years data.

Potential Index Weights on India's Inclusion in Benchmarks

- **While India has yet to be included in the key benchmark indices, there is increasing recognition that the country has made considerable progress towards achieving that goal.**

- **It seems likely that Indian bonds would ultimately account for 10% of the JP Morgan GBI-EM Global Diversified Index, which is the maximum weight of any country allocation.**

The key global bond benchmarks that are considering India for inclusion are the JP Morgan GBI-EM Global Diversified index, which is the flagship benchmark for EM debt investors, and the Bloomberg Barclays Global Aggregate Bond Index.

Of the two indices, the JPM GBI-EM GD has historically allowed partial inclusion of a country's bonds, whereas the Bloomberg Barclays Global Agg has never done so. The RBI, in a recent investor discussion on index inclusion, mentioned that it is not considering making issuance tenors other than five-year, 10-year and 30-year bonds to be FAR-eligible for now. Hence, Barclays may wait for India to consider removing the investment limit for all securities, or for the FAR bond list to grow to a critical mass (i.e. 40–50% of the market) before perhaps tweaking its index rules to include India.

JP Morgan completed its 2020 Index Governance Results in September and while the company recognized that India is making good progress towards meeting requirements for inclusion in the GBI-EM GD, it did not announce any timeline for inclusion and have kept the country under review. Custody/settlement and operational requirements have been cited as key hurdles for accessing the onshore bonds.

Developments since then have seen Indian regulators begin to progress towards making the FAR bonds Euroclear-eligible. Should this happen, foreign institutional investors will be able to buy and sell Indian FAR bonds using the Euroclear platform, thereby bypassing the need to register domestically for clearing and settlement purposes. This would streamline the settlement process, making it more automated, removing the need for manual checks and the need for margining. These changes will essentially align the settlement cycle with international standards. In the event of Indian debt becoming eligible for Euroclear, index inclusion is likely to be possible soon thereafter as no additional setup requirements would be necessary.

Based on latest forecasts of gross monthly issuance of five-year, 10-year and 30-year bonds of around $8–9bn a month, the market capitalization of India's FAR bonds should grow to over $200bn by July 2021. It is possible that index inclusion could happen around that time. Based on this size and the index weighting methodology, India would also reach the 10% country cap of the JPM GBI-EM Global Diversified Index. It seems likely that India will be included in the index at a rate of 1% per month, matching the approach used in China's inclusion.

The likely weight for India in the Global Agg is less clear, and could potentially range anywhere from 0.4% to 1.5% depending on whether the index provider goes ahead with a partial or full inclusion scenario and also assuming a constant pace of bond market growth in other countries in the index.

We outline what we believe to be the potential index weight and flows into India government bonds under two scenarios in Figure 11 and Figure 12:

Figure 11
Scenario 1: Partial FAR Bonds Inclusion

Index	Amount O/s (bn) ($)	AUM Tracked (bn) ($)	Estimated Final Index Weight (%)	Flows (bn) ($)
JPM GBI-EM GD	1,166	225	10.00	22.50
Barclays Global Agg	58,749	2,500	0.35	8.80

Source: State Street Global Advisors estimates. The above targets are estimates based on certain assumptions and analysis made by State Street Global Advisors. There is no guarantee that the estimates will be achieved.

Figure 12
Scenario 2: Full 'All Bonds' Inclusion in Both Indices

Index	Amount O/s (bn) ($)	AUM Tracked (bn) ($)	Estimated Final Index Weight (%)	Flows (bn) ($)
JPM GBI-EM GD	1,166	225	10.00	22.50
Barclays Global Agg	58,749	2,500	1.46	36.50

Source: State Street Global Advisors estimates. The above targets are estimates based on certain assumptions and analysis made by State Street Global Advisors. There is no guarantee that the estimates will be achieved.

A gradual, incremental approach would likely be taken by the index providers as they engage with investors to determine the appropriateness of the country's inclusion in their key fixed income benchmark indices. Additional subjective criteria from an investability, accessibility and liquidity perspective might also need to be satisfied. These include:

- Sufficient secondary market liquidity
- Established and transparent daily pricing mechanisms
- A sufficiently developed forwards/NDF market so that foreign participants can hedge their exposures back to USD/base currency
- Ease of setup procedures and reduction of level of disclosures required related to ultimate beneficiary owners
- Introducing automation into the process for trade matching
- Allowing local custodians to post margin on behalf of foreign investors
- Simplifying tax processes and repatriation etc.,

A full evaluation and investor engagement via the various Index Advisory Councils usually occurs before announcements related to inclusion are made.

China's recent inclusion in the JPM-GBI-EM and Barclays Global Agg could provide guidance points to India. Even though China had launched Bond Connect in July 2017, which enabled foreign investors to more easily invest in the Chinese onshore bond market, the announcement of index inclusion from Barclays only came in March 2018, and index inclusion started in April 2019. Even with a lead time, cultivating a stronger bond market to underwrite the growing economy has become necessary in order for India to achieve its ambition of a $5 trillion economy by 2024. With India's savings rate on a declining trend since 2011, the resources to finance investment growth has to be found, and global bond index inclusion facilitates such long-term capital inflows. Also, higher offshore participation in local bond markets will increase the scrutiny of fiscal, monetary and government policy initiatives by international investors, and be complementary to long-term structural reforms.

Hedging the Currency Exchange Risk

- **Investing in any foreign currency denominated asset comes with foreign exchange risk. Hedging has traditionally offered a way to mitigate such risks.**

- **Hedging the Indian rupee can be costly due to the high cost of carry. However, the strong economic fundamentals and outlook seems likely to continue to attract capital flows, providing support for the currency and negating the need to hedge the rupee for now.**

The Reserve Bank of India (RBI) maintains the Indian rupee (INR) in a managed floating regime. The INR is fully convertible on the current account, and while it is restricted on the capital account, there are specific transactions that have been authorized by the RBI for routine capital account transactions — such as investments by foreign portfolio investors. Onshore deliverable forwards are quoted up to 10 years and can be accessed by foreign institutional investors, corporates, and resident individuals, for hedging purposes. INR buys/sells must be tied to the authorized purchase of assets or trade/income flows. Resident and non-resident entities can also use the route of a simplified hedging facility to hedge the exchange rate risk on all permissible transactions, which can be either contracted or anticipated. The most common tenor with the best liquidity in the forwards market is one year or less, but longer maturities are available and there is reasonable liquidity up to 10 years.

The INR has been a costly currency to hedge historically against the USD or EUR, as hedgers must pay the high cost of carry — and this expensive cost of hedging is expected to continue in the near future as well. We believe India's favorable long-term growth outlook is likely to continue to attract capital flows (especially if Indian debt is accepted into major benchmark indices). The cyclical picture is also favorable as the world looks forward to COVID-19 vaccinations and Indian growth is steadily improving from its slump in the first half of 2020. While INR may not enjoy the same degree of support during the global recovery as other cyclically sensitive EM currencies, the fact that exports account for about 20% of GDP means that it will most likely benefit from a return to growth in 2021–2022. Given the high cost of hedging and reasonably positive structural and cyclical growth outlook, INR is likely to be well supported in the near to medium term, and we would recommend low hedge ratios for USD and EUR based investors.

After the initial global recovery phase from COVID-19, it will be important to reassess and consider adding INR hedges. Unlike prior recession periods, INR is already at the top end of its 15-year valuation range, and as the recovery progresses and inflation remains on the higher end, we expect INR to become even more expensive on a real basis. However, we expect real rates, which are negative now, to track back toward zero and into positive territory over the next 18 months. Much of that improvement will likely result from a reversion of inflation from its current level over 7% back toward the 4% target level as COVID related supply side disruptions dissipate, the central bank begins to raise policy rates, and we see further progress in the productivity and pricing efficiency of the agricultural sector. That said, we think this reversion in inflation and the pace of repo rate increases by the central bank will be slow. In addition, the government is likely to maintain a steady policy of exchange rate intervention to prevent excessive INR strength, and foreign reserves have already increased by $100bn USD in 2020. Therefore, later in 2021 and into 2022, we believe that it will be important to take a close look at INR hedging policy, specifically, to reconsider our current bias to remain unhedged, or least target a low hedge ratio.

Appendix

Table A: India Bond Market — Key Characteristics

	Government of India (GoI) Bonds
Issuer	Government of India (GoI)
Currency	Indian rupee (INR)
Minimum denomination	INR10,000 (market lot INR5cr)
Tenors	1–7 years, 10 years, 30 years, 40 years
Coupon frequency	Semi-annual
Day count	30/360
Primary Market	
Auction style	Multiple-price style auction, non-competitive tranche for special entities
Average issue size	INR20–70bn
Auction frequency	4–5 auctions per month
Settlement (Done)	T+1
Secondary Market	
Trading mechanism	OTC, exchange
Trading hours (local time)	0900–1730
Quoting convention	Price to 2 decimals
Average bid-offer spreads	1–4bp
Buying volume in a single day (USDm) (with minimal market impact)	USD200m for benchmark bonds, USD50m for others
Average trade size	INR100m
Volume	INR200–350bn per day
Settlement (Done)	T+1
Clearing	RBI's SGL system, CCIL
Regulations for Foreign investors	
Custodian	Local custodian required
Income-tax on interest	20% interest, subject to Double Taxation Agreement (DTA)
Capital gains tax#	10% for long-term, 30% for short-term, subject to Double Tax Agreement (DTA)
Entry/exit restrictions	None

Source: HSBC EM Rates and Currency Guide 2020.

Table B: India FX Market — Key Characteristics

Onshore daily average spot volume:	USD10–12bn
Average onshore spot transaction size:	USD5m
Onshore spot bid/ask spread:	1 bp (0.01INR)
Onshore daily average forward volume:	USD2–3bn
Average onshore forward transaction size:	USD10m
Onshore forward spread:	1 bp (0.01INR)
Offshore daily average NDF volume	USD5–7bn
Average NDF transaction size	USD10–20m
NDF spread:	1–2 bps (0.02INR)
Onshore daily average options volume:	USD250–350m
Onshore average options transaction:	USD20m
Onshore implied option volatility spread:	0.5 vol
Offshore daily average options volume	USD1.0bn
Offshore average options transaction	USD50m
Offshore implied option volatility spread	0.4 vol

Source: HSBC EM Rates and Currency Guide 2020.

Contributors/ Contacts

Aaron Hurd,
Senior Portfolio Manager, Currency

About State Street Global Advisors

Our clients are the world's governments, institutions and financial advisors. To help them achieve their financial goals we live our guiding principles each and every day:

- Start with rigor
- Build from breadth
- Invest as stewards
- Invent the future

For four decades, these principles have helped us be the quiet power in a tumultuous investing world. Helping millions of people secure their financial futures. This takes each of our employees in 31 offices around the world, and a firm-wide conviction that we can always do it better. As a result, we are the world's third-largest asset manager with US $3.47 trillion* under our care.

* This figure is presented as of December 31, 2020 and includes approximately $75.17 billion of assets with respect to SPDR products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated.

ssga.com

State Street Global Advisors Worldwide Entities

Abu Dhabi: State Street Global Advisors Limited, ADGM Branch, Al Khatem Tower, Suite 42801, Level 28, ADGM Square, Al Maryah Island, P.O Box 76404, Abu Dhabi, United Arab Emirates. Regulated by the ADGM Financial Services Regulatory Authority. T: +971 2 245 9000. **Australia:** State Street Global Advisors, Australia, Limited (ABN 42 003 914 225) is the holder of an Australian Financial Services License (AFSL Number 238276). Registered office: Level 14, 420 George Street, Sydney, NSW 2000, Australia. T: +612 9240-7600. F: +612 9240-7611. **Belgium:** State Street Global Advisors Belgium, Chaussée de La Hulpe 120, 1000 Brussels, Belgium. T: 32 2 663 2036. F: 32 2 672 2077. SSGA Belgium is a branch office of State Street Global Advisors Ireland Limited. State Street Global Advisors Ireland Limited, registered in Ireland with company number 145221, authorised and regulated by the Central Bank of Ireland, and whose registered office is at 78 Sir John Rogerson's Quay, Dublin 2. **Canada:** State Street Global Advisors, Ltd., 1981 McGill College Avenue, Suite 500 , Montreal, Qc, H3A 3A8, T: +514 282 2400 and 30 Adelaide Street East Suite 800, Toronto, Ontario M5C 3G6. T: +647 775 5900. **France:** : State Street Global Advisors Ireland Limited, Paris branch is a branch of State Street Global Advisors Ireland Limited, registered in Ireland with company number 145221, authorised and regulated by the Central Bank of Ireland, and whose registered office is at 78 Sir John Rogerson's Quay, Dublin 2. State Street Global Advisors Ireland Limited, Paris Branch, is registered in France with company number RCS Nanterre 832 734 602 and whose office is at Immeuble Défense Plaza, 23-25 rue Delarivière-Lefoullon, 92064 Paris La Défense Cedex, France. T: (+33) 1 44 45 40 00. F: (+33) 1 44 45 41 92. **Germany:** State Street Global Advisors GmbH, Brienner Strasse 59, D-80333 Munich. Authorised and regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht ("BaFin"). Registered with the Register of Commerce Munich HRB 121381. T: +49 (0)89-55878-400. F: +49 (0)89-55878-440. **Hong Kong:** State Street Global Advisors Asia Limited, 68/F, Two International Finance Centre, 8 Finance Street, Central, Hong Kong. T: +852 2103-0288. F: +852 2103-0200. **Ireland:** State Street Global Advisors Ireland Limited is regulated by the Central Bank of Ireland. Registered office address 78 Sir John Rogerson's Quay, Dublin 2. Registered Number: 145221. T: +353 (0)1 776 3000. F: +353 (0)1 776 3300. **Italy:** State Street Global Advisors Ireland Limited, Milan Branch (Sede Secondaria di Milano) is a branch of State Street Global Advisors Ireland Limited, registered in Ireland with company number 145221, authorised and regulated by the Central Bank of Ireland, and whose registered office is at 78 Sir John Rogerson's Quay, Dublin 2. State Street Global Advisors Ireland Limited, Milan Branch (Sede Secondaria di Milano), is registered in Italy with company number 10495250960 - R.E.A. 2535585 and VAT number 10495250960 and whose office is at Via Ferrante Aporti, 10 - 20125 Milano, Italy. T: +39 02 32066 100. F: +39 02 32066 155. **Japan:** State Street Global Advisors (Japan) Co., Ltd., Toranomon Hills Mori Tower 25F 1-23-1 Toranomon, Minato-ku, Tokyo 105-6325 Japan. T: +81-3-4530-7380. Financial Instruments Business Operator, Kanto Local Financial Bureau (Kinsho #345), Membership: Japan Investment Advisers Association, The Investment Trust Association, Japan, Japan Securities Dealers' Association. **Netherlands:** State Street Global Advisors Netherlands, Apollo Building, 7th floor Herikerbergweg 29 1101 CN Amsterdam, Netherlands. T: 31 20 7181701. SSGA Netherlands is a branch office of State Street Global Advisors Ireland Limited, registered in Ireland with company number 145221, authorised and regulated by the Central Bank of Ireland, and whose registered office is at 78 Sir John Rogerson's Quay, Dublin 2. **Singapore:** State Street Global Advisors Singapore Limited, 168, Robinson Road, #33-01 Capital Tower, Singapore 068912 (Company Reg. No: 200002719D, regulated by the Monetary Authority of Singapore). T: +65 6826-7555. F: +65 6826-7501. **Switzerland:** State Street Global Advisors AG, Beethovenstr. 19, CH-8027 Zurich. Registered with the Register of Commerce Zurich CHE-105.078.458. T: +41 (0)44 245 70 00. F: +41 (0)44 245 70 16. **United Kingdom:** State Street Global Advisors Limited. Authorised and regulated by the Financial Conduct Authority. Registered in England. Registered No. 2509928. VAT No. 5776591 81. Registered office: 20 Churchill Place, Canary Wharf, London, E14 5HJ. T: 020 3395 6000. F: 020 3395 6350. **United States:** State Street Global Advisors, 1 Iron Street, Boston, MA 02210-1641. T: +1 617 786 3000.

The views expressed in this material are the views of Srinivasan M and David Furey through the period December 2020 and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected. The whole or any part of this work may not be reproduced, copied or transmitted or any of its contents disclosed to third parties without SSGA's express written consent. All information is from SSGA unless otherwise noted and has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information and it should not be relied on as such.

The information provided does not constitute investment advice as such term is defined under the Markets in Financial Instruments Directive (2014/65/EU) and it should not be relied on as such. It should not be considered a solicitation to buy or an offer to sell any investment. It does not take into account any investor's or potential investor's particular investment objectives, strategies, tax status, risk appetite or investment horizon. If you require investment advice you should consult your tax and financial or other professional advisor.

Currency Risk is a form of risk that arises from the change in price of one currency against another. Whenever investors or companies have assets or business operations across national borders, they face currency risk if their positions are not hedged.

Foreign investments involve greater risks than US investments, including political and economic risks and the risk of currency fluctuations, all of which may be magnified in emerging markets.

Investing in foreign domiciled securities may involve risk of capital loss from unfavorable fluctuation in currency values, withholding taxes, from differences in generally accepted accounting principles or from economic or political instability in other nations. Investments in emerging or developing markets may be more volatile and less liquid than investing in developed markets and may involve exposure to economic structures that are generally less diverse and mature and to political systems which have less stability than those of more developed countries.

Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates raise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

ID367905-3370250.2.1.GBL.RTL 1220
Exp. Date: 31/01/2022