

CRISIL

An S&P Global Company

CRISIL Yearbook On The
Indian Debt Market
2021

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Foreword

The corporate bond market's role in financing India's growth aspirations, especially the infrastructure build-out, has become even more critical after the sharpest economic contraction since Independence materially impacted wherewithal everywhere.

The Union Budget for fiscal 2022 focuses on ensuring a thriving – rather than just surviving – economy, and goes full throttle on investments, while giving a long rope to fiscal consolidation. This heaps a huge responsibility on the private sector in general and the corporate bond market in particular to do some heavy lifting, and take up a fair share of the investment load.

The corporate bond market, however, remains shallow and there is hardly any change in the skew towards higher-rated issuances, especially from the financial sector.

In the context, innovation needs to be one of the strategies to draw in investors. The sixth edition of the CRISIL Yearbook on The Indian Debt Market details the innovations required to shore up supply and demand in this space.

We have also undertaken comprehensive assessments of demand and supply of corporate bonds – including the funding needs of infrastructure, non-banks, banks and government undertakings on the supply side, and the investment needs of mutual funds, retirement funds, insurers, banks and foreign portfolio investors on the demand side – till fiscal 2025.

For the previous edition of the yearbook, we had engaged with key stakeholders, especially investors and issuers, and outlined ways to further develop and deepen the domestic corporate bond market. This edition captures the progress on some of those recommendations.

I am sure you will find the insights and comprehensive datasets useful.

I look forward to this yearbook stimulating more thought leadership on ways to deepen the corporate bond market and help meet India's gargantuan build-out needs.



Ashu Suyash
Managing Director & CEO

Executive summary

Three 'I's – infrastructure, investment and innovation, all necessitated by the pandemic – are scripting what promises to be an unusually busy time for the bond markets.

The government's sharp focus on India's infrastructure buildout to spur growth, as reflected in the National Infrastructure Pipeline (NIP) that envisages Rs 111 lakh crore of investments between fiscals 2020 and 2025, will be pivotal to this anticipated, heightened bond market action.

Raising that order would be an onerous ask even under normal circumstances – today more so, given the overwhelming fiscal burden on the government post pandemic.

Actionable innovative approaches to funding infrastructure thus become more urgent than ever. CRISIL estimates that innovation – by means of asset pooling, a well-capitalised credit guarantee enhancement corporation, and widespread adoption of the INFRA EL rating scale in the bond market – can help mobilise additional Rs 7-10 lakh crore of infrastructure issuances through fiscal 2025. It is by no means a small amount, and could help bridge part of the potential shortfall in funding the NIP.

Pooled assets can attract takeout financing from the corporate bond market. By providing structural credit enhancement through diversification across different counterparties and geographies, they reduce idiosyncratic risks. That can help banks and non-banking financial companies (NBFCs) free up a portion of the over Rs 20 lakh crore credit outstanding to the infra sector for fresh lending to new projects.

Infrastructure investment trusts (InvITs), co-obligor structures, and securitisation of infrastructure loans are some of the mechanisms for pooling assets. The scale and diversification provided by these can also open doors to foreign capital into these projects.

A well-capitalised credit guarantee enhancement corporation can facilitate issuances by lifting standalone credit ratings of operational infrastructure assets to levels desired by investors. Thus, capital invested in such a corporation would have a significant multiplier effect.

The recent budget also proposed creation of a market making entity for investment grade corporate bonds. This is expected to impart much needed liquidity to the bonds and propel more confidence in various investor segments in going down the credit curve.

The INFRA EL ratings scale, which assesses the expected losses (EL) over the lifetime of an infrastructure debt instrument rather than only the probability of default (PD), is another tool that would reveal the typically low EL of such projects to investors, thereby evoking interest in them.

Issuances by non-banks (NBFCs and housing finance companies [HFCs]) are seen as another big source of bond supply over the next few years. They will have to float Rs 14-15 lakh crore of corporate bonds to achieve a compound annual growth rate (CAGR) of 11% in assets under management (AUM) in the next five fiscals, CRISIL's analysis shows. This will also require securitisation to pick up and remain a key source of funding.

In the context, CRISIL expects total outstanding supply of corporate bonds to more than double from ~Rs 33 lakh crore in fiscal 2020 to Rs 65-70 lakh crore in fiscal 2025.

Demand, however, is expected to lag at Rs 60-65 lakh crore even if policy measures and institutional frameworks such as liquidity support for corporate bonds, credit default swaps, tax rationalisation measures for retail investors and foreign portfolio investments are put in place.

What could bridge the gap? A change in the way global capital is flowing, thanks to the rise of environmental, social and governance (ESG) factors, could come to the rescue.

Issuers, though, will need to keep an ear to the ground. An independent assessment of the credentials that lend credibility and make instruments attractive to ESG-conscious global funds will be a crucial facilitator.

Demand-supply arithmetic

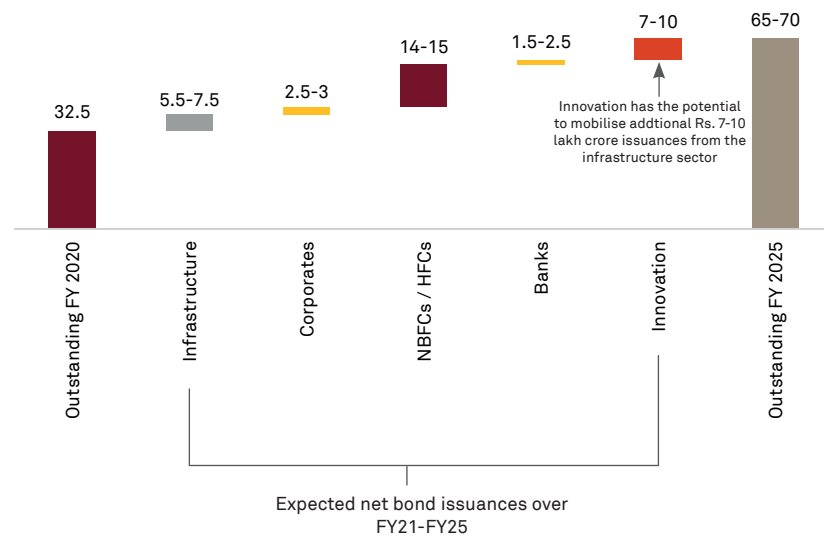


Overall supply of corporate bonds could double to Rs 65-70 lakh crore

Over the next five fiscals, corporate bond issuances outstanding could more than double from ~Rs 33 lakh crore or 16% of gross domestic product (GDP) at the end of fiscal 2020 to Rs 65-70 lakh crore – tantamount to 22-24% of GDP – by the end of fiscal 2025.

This growth will have three drivers: investments, primarily for infrastructure; non-banking financial companies (NBFCs) and housing finance companies (HFCs); and innovation to facilitate enhanced bond market funding for the NIP.

Expected corporate bond supply, FY21-FY25 (Rs lakh crore)



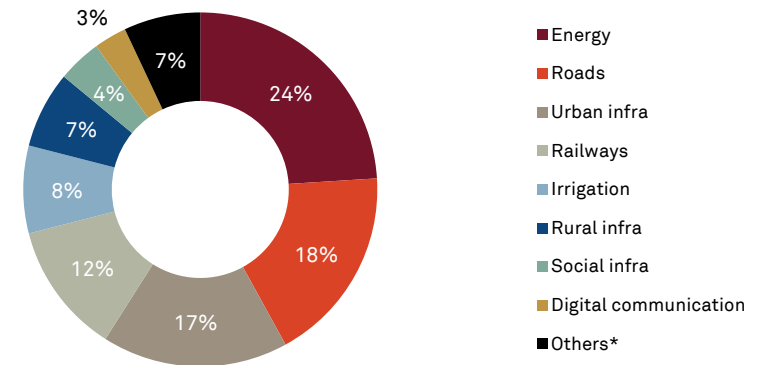
Source: CRISIL estimates

Infrastructure sector to supply Rs 5.5-7.5 lakh crore of bonds

The NIP has set an ambitious target of achieving Rs 111 lakh crore of investments in the infrastructure sector over fiscals 2020 through 2025. That is more than twice the infrastructure investments of ~ Rs 51 lakh crore seen between fiscals 2014 and 2019.

As much as 71% of the investments envisaged in the NIP is in four sectors - energy (predominantly power, renewables), roads, railways, and urban infrastructure.

Sector-wise break-up of Rs 111 lakh crore NIP investments, FY20-25



*Others include industrial infrastructure, agri and food processing, ports, and airports
Source: Report of the Task Force on NIP, Volume I

Bulk of the investments in infrastructure are expected to be borne by the central and state governments directly through budget allocations, followed by NBFCs – mostly government owned ones such as Power Finance Corporation, Rural Electrification Corporation and Indian Railway Finance Corporation – with the corporate bond market expected to play a relatively muted role.

CRISIL estimates that over fiscals 2021 to 2025, issuances from the infrastructure sector should amount to ~ Rs 5.5-7.5 lakh crore, predominantly by infrastructure public sector undertakings such as the National Highways Authority of India (NHAI), NTPC and Power Grid Corporation of India, followed by some private players in sectors such as roads, power, renewables and telecom.

Innovation can mobilise another Rs 7-10 lakh crore for NIP

Innovation in the bond market can help channel Rs 7-10 lakh crore of bond issuances in the infra sector, and help bridge potential shortfall in financing the NIP, while also relieving some of the fiscal burden on the government given the pandemic-induced stress in the economy.

These innovations include pooling of assets through structures such as InvITs, co-obligor structures and securitisation of infra loans, establishment of well-capitalised Credit Guarantee Enhancement Corporation, and the CRISIL INFRA EL rating scale (please refer to chapter “NIP financing hinges a lot on innovation” for more details).

Non-infra companies to contribute Rs 2.5-3 lakh crore of bond issuances

Major capital-intensive non-infrastructure sectors including auto, steel, cement, oil and gas upstream would require ~Rs 11 lakh crore capital expenditure in the next five fiscals, part of which will be funded through bonds. Besides, sectors such as real estate, pharmaceuticals, fast-moving consumer goods, and holding companies would also raise money through bonds.

Overall, CRISIL estimates the supply from non-infrastructure companies to be Rs 2.5- 3 lakh crore over the next five fiscals.

Non-bank issuances seen at Rs 14-15 lakh crore

The pandemic exposed non-banks (comprising NBFCs and HFCs) to the twin challenges of asset quality and funding access. While some green shoots started showing up in the recent quarter, confidence will be restored only based on sustained improvement.

In this context, CRISIL expects the AUM of non-banks to log an 11% CAGR over fiscals 2021-2025, lower than the 16% growth in the previous five years. That is primarily because of the pandemic induced stress and resultant elevated asset quality concerns, on top of the stress that financial sector had been facing post the IL&FS crisis.

To achieve the projected growth over the next five fiscals, NBFCs and HFCs, including government owned NBFCs and all-India financial institutions, would require Rs 26-27 lakh crore capital, of which Rs 14-15 lakh crore could be raised from the bond market.

CRISIL also expects securitisations to pick up and remain a key source of funding for NBFCs/HFCs after the short-term hiatus it had faced due to the pandemic-induced stress on the financial sector.

Bank issuances seen at Rs 1.5-2.5 lakh crore

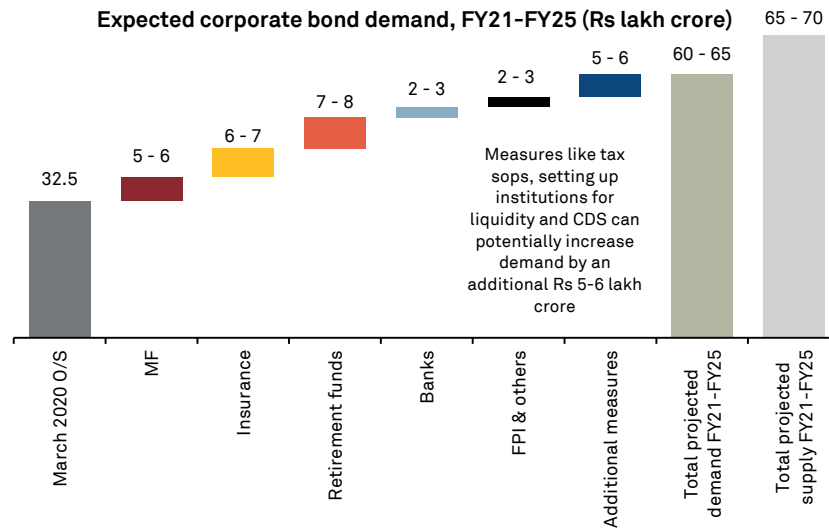
Overall credit growth for banks is seen at 9-10% over the next five fiscals. Private sector banks would outdo public sector ones supported by their relatively better asset-quality metrics and capitalisation.

Credit growth at private sector banks is expected to clock ~13% CAGR compared with ~8% for public sector banks. This growth will necessitate banks to raise regulatory capital - both through the equity and non-equity routes.

Overall, CRISIL estimates the capital requirement of banks to be Rs 2-3 lakh crore, of which Rs 1.5-2.5 lakh crore is expected to be funded from the corporate bond market.

Demand-side arithmetic

Where it stands and where it can go...



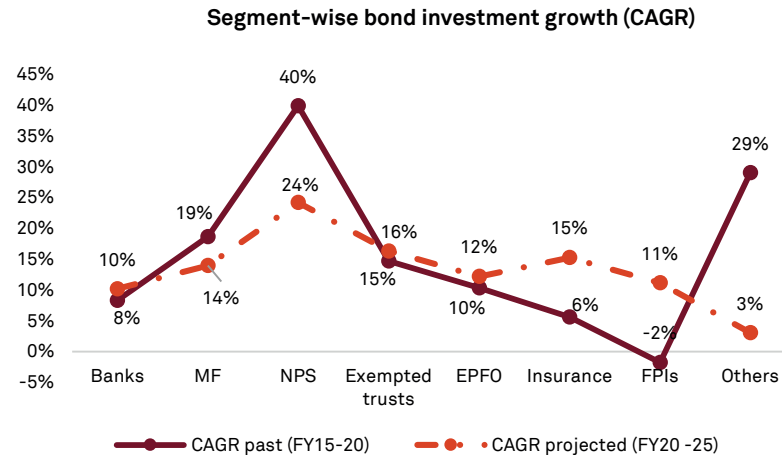
Others include – alternative investment funds (AIFs), corporates, NBFCs, retail, portfolio management services (PMS) and high networth individuals (HNIs)
 Source: RBI, MFs, PFRDA, insurance companies, IRDA, EPFO, NSDL, CRISIL estimates

...and what can springboard it

Our growth projection, based on the existing policy framework and optimistic assumption, suggests demand for corporate bonds will likely touch Rs 54-58 lakh crore by fiscal 2025. Given India's requirement of capital through the bond market over the next few years, key policy measures are needed for boost demand further. We believe focused policy measures can benefit the following investor segments, and thereby push aggregate demand to Rs 60-65 lakh crore.

- **Mutual funds (MFs):** Aligning capital gains taxation for debt MFs on a par with equity; extending tax sops similar to equity linked savings scheme (ELSS) to debt funds; targeted tax exemptions; and measures such as setting up of an institution for supporting liquidity of investment grade corporate bonds can increase flow to debt funds
- **Retail investors:** Incentivising retail investment through tax sops, similar to the one for infrastructure bonds introduced over fiscals 2010-12, can help garner a large pool of capital
- **Employees' Provident Fund Organisation (EPFO):** Measures such as credit default swaps and credit guarantees can encourage investment in private sector bonds
- **Foreign portfolio investors (FPIs):** To ensure full utilisation of limits for FPIs, taxation changes such as easing of withholding tax, offering tax incentives, setting up institutions to support liquidity and hedge credit risk, and inclusion in global indices can help significantly

Segment-wise analysis and projected growth (optimistic scenario, excluding additional measures)



Source: RBI, MFs, PFRDA, insurance companies, IRDA, EPFO, NSDL, CRISIL Research

A. Banks

Bond investments logged 8% CAGR between fiscals 2015 and 2020, and are projected to clock 10% CAGR between fiscals 2020 and 2025, driven by the following factors and assumptions:

- Deposit growth is currently higher than credit growth, given customers' flight to safety. We expect it to normalise to marginally below credit growth. Deposit growth is expected to remain in the 8-12% band and accordingly, credit growth is expected to rise from the current 4% to 9-10%
- Statutory liquidity ratio (SLR) requirement is expected to remain on average at 18% during this period
- Historical averages for ratios on investment book/ deposits and average of bond investment to total investment book are assumed to remain at current levels in the next five fiscals
- Bond investments worth Rs 1 lakh crore through TLTRO will remain a part of the bank exposure till fiscal 2023

Key monitorables

- It would be pertinent to see the RBI's policy framework on bank lending through marketable securities. Demand for bonds could pick up if they are encouraged to invest through bond market route
- Loans and bonds are treated differently from the perspective of treatment of valuations by banks. Alignment of both frameworks is likely to have a positive impact on bank demand for bonds

B. Mutual funds

Bond investment logged 19% CAGR between fiscals 2015 and 2020, and is projected to log 14% CAGR between fiscals 2020 and 2025. During the last five fiscals, there were periods of falling interest rate regime, which facilitated high inflows in the debt MFs. On the contrary, times of stress, such as the liquidity crisis for NBFCs and HFCs, and the pandemic, saw sharp outflows.

CRISIL's growth estimates consider the following factors:

- Given the fiscal deficit roadmap in Union Budget 2021-22, yields are expected to remain elevated over the next couple of years. It was witnessed in the past that during periods when yields rose, debt fund categories experienced outflows. Hence, growth in AUM is expected to remain muted at least over the next 2-3 fiscals due to pressure on yields on account of large supply of government securities
- In fiscal 2021, although the AUM of debt MFs grew at an impressive 45% over fiscal 2020, corporate bonds as a percentage of debt MF AUM declined to 58% (it was 80% in fiscal 2020), owing to preference for safer categories such as sovereign securities, including state development loans (SDL). We expect the allocation towards corporate bonds to gradually rebound to 80% by fiscal 2025
 - In fiscal 2021, inflows picked up in low-risk categories and outflows slowed in high-risk categories, pushing up the AUM of debt MFs
 - Bond investment grew between fiscals 2015 and 2020 on the back of significant flows into the MF industry, especially after the government's demonetisation of Rs 500 and Rs 1,000 banknotes

Key monitorables

- Rapid establishment and efficient functioning of institutions to support liquidity and credit (measures were announced recently, and are currently in the process of being operationalised) would go a long way to attract domestic capital through the MF route
- Taxation measures such as tax incentives and alignment of capital gain taxation to that of equity investment will help attract more investors in debt schemes
- Any negative event impacting credit or liquidity environment, at the other end, is likely to dampen investor sentiment

C. Retirement funds

a) EPFO: Bond investments charted ~10% CAGR between fiscals 2015 and 2020, and are projected to log 12% CAGR between fiscals 2020 and 2025, driven by the following:

- Average growth in debt corpus was around 14.6% per annum between fiscals 2017 and 2019. Overall, the growth rate is expected to decline steadily by 170 basis points (bps) between fiscals 2020 and 2025, given a muted increase in the subscriber base. In fiscal 2021, the fall in growth rate is expected to be slightly steeper due to withdrawal by subscribers and lower contribution due to loss of employment and pay cuts on account of the pandemic. However, this is expected to be a one-off case. The growth rate is likely to be higher in fiscal 2022 because of a lower base
- While allocation to bonds has been declining in recent years, attributable to rising credit concerns, investment in the private sector is expected to resume, leading to increased incremental allocation to corporate bonds. However, the upside in incremental allocation will be limited on account of higher supply of SDLs, which trade at levels similar to public sector bonds. Allocation to bonds is linked to growth in AUM of the EPFO and regulatory limits set by the Ministry of Labour and Employment and the EPFO. The average allocation to bonds between fiscals 2017 and 2020 was 27% (15% ex-equity). Despite the guidelines permitting up to 45% allocation to corporate bonds, we expect this to rise gradually to 30%, given the expected large supply of G-sec and state loans

b) Exempted trusts: Bond investments witnessed 15% CAGR between fiscals 2015 and 2020, and are projected to clock 16% CAGR between fiscals 2020 and 2025

- Growth in incremental AUM is expected to slow down in fiscal 2021 due to the pandemic. However, given the low base of this fiscal, higher-than-average growth is projected for fiscal 2022, beyond which the growth rate is likely to taper off

- Corporate bond assets are expected to increase due to higher allocation to bonds, in the range of 38-40% of incremental AUM

c) National Pension Scheme (NPS): Bond investment is expected to grow at the highest CAGR among all investor segments owing to low penetration levels of pension in India and a low base of bond investment. The investments logged 40% CAGR between fiscals 2015 and 2020, and are projected to clock 24% CAGR between fiscals 2020 and 2025 based on the following assumptions:

- The subscriber base logged an 8.92% CAGR between fiscals 2015 and 2020, and is likely to log a CAGR of ~9% between fiscals 2020 and 2025 due to growth from the unorganised segment (all citizens) and likely addition of states such as Tripura and West Bengal to the scheme
 - **Expected growth in subscriber base:** Central government 5.5%; state government 6.5%; corporates 18%; and unorganised sector 30%. The corporate and unorganised segments are expected to continue to grow at a higher rate, given lower penetration and tax benefits
 - **Growth in subscriber contribution:** Expected to grow at an average of 4%, linked to an increase in salary levels
- Allocation to bonds declined from 36% to 33% over fiscals 2015 and 2020, and is assumed at 34% during fiscals 2020 and 2025 given the 30-55% allocation to bonds mandated by the Pension Fund Regulatory and Development Authority Act (PFRDA) guidelines

Key monitorables

- More leeway permitted under the policy framework by the Ministry of Labour and Employment, the EPFO, and exempted trusts. Operationalising of institutions that provide a hedge for liquidity and credit can facilitate growth in allocation

- Taxation measures such as exemptions can accelerate growth in subscribers and therefore AUM for corporate bonds; on the flipside, any unfavourable taxation measure would slow the AUM growth and allocation to bonds

D. Insurance: Bond investments logged 6% CAGR between fiscals 2015 and 2020, and are projected to log 15% CAGR between fiscals 2020 and 2025

- Growth in total premium is expected to be low in fiscal 2021 on account of the pandemic; but is expected to be higher going ahead, driven by increasing penetration and increased awareness of insurance products
- Premiums are projected to log 14% CAGR for life insurance and 16% CAGR for non-life, pushing up the AUM of the insurance industry and leading to 15% CAGR in bond investment
- Investment by insurers is tightly regulated through investment guidelines, which are dominated by central and state government securities
- The investment portfolio mix is expected to remain largely stable even after the pandemic
- Crowding out by central and state government securities and capital gains tax on unit linked insurance plan (ULIP) products announced in the Union Budget for next fiscal are also important factors, which may curb growth in AUM of the overall industry and allocation to corporate debt

Key monitorable

- The recent budget announcement is likely to have an unfavourable impact on ULIP products, which may, in turn, impact investment in bonds. It would be critical to watch out for changes in tax policies and their likely impact

E. FPIs: Bond investment de-grew in calendar 2020, largely due to outflows amid the pandemic, but is expected to stabilise and log 11%

CAGR between fiscals 2020 and 2025

- Investment by FPIs is driven by regulatory limits, inflation, currency strength, and economic growth
- Fiscal 2020 and 2021 saw significant outflows in debt by FPIs as investors moved to developed economies amid the pandemic and economic slowdown. Regulatory limits for FPIs are assumed to remain at the current level of 15%
- With economic revival and facilitation of a regulatory framework for debt borrowing for REITs and InvITs, we estimate a healthy 11.15% CAGR for investment by FPIs
- Taxation changes such as easing of withholding tax, offering tax incentives, setting up institutions to support liquidity and hedge credit risk, and inclusion in global indices can sharply increase flows from FPIs
- Fiscal 2020 saw significant outflows in debt by FPIs, as investors moved to developed economies amid the pandemic and economic slowdown. Regulatory limits for FPIs are assumed to remain at the current level of 15%
- With economic revival and facilitation of a regulatory framework for debt borrowing for REITs and InvITs, we estimate a healthy 11.15% CAGR for investment by FPIs

F. Others (AIFs, PMS, HNIs, corporates, retail and NBFCs):

- The share of this category among investment managers is assumed to remain constant
- Multiple defaults in bonds recently can reduce the appetite for bonds in this category

Mind the gap

The bond market needs to play an important role in financing India's massive infrastructure buildout, as envisaged in the NIP.

CRISIL's estimates suggest the quantum of corporate bonds outstanding in the Indian market, which logged a CAGR of 13% in the five years through fiscal 2020 to Rs 33 lakh crore, can double to Rs 65-70 lakh crore by the end of fiscal 2025.

This will ride on facilitating measures such as pooling of assets and initiation of the credit guarantee fund to enhance supply. Pooling of assets will be important for asset monetisation, which would free up capital for new projects.

As against this, however, demand for corporate bonds will be only Rs 60-65 lakh crore as of fiscal 2025.

Demand has tailwinds from policy measures and institutional frameworks such as liquidity support for corporate bonds, credit default swaps, and tax rationalisation measures for retail investors and FPIs.

For the gap to be bridged, however, additional measures and enablers such as ESG (environmental, social, and governance) would be needed to attract foreign capital.

Measure for measure: taking stock of bond market reforms

In the run-up to CRISIL's 5th Annual Bond Market Seminar held in October 2018, we had conducted a survey of stakeholders covering 60 institutions – MFs, insurers, banks, corporates, alternative investment funds and non-banks – to gauge their concerns on and gather recommendations for developing and deepening the domestic corporate bond market.

This was followed up with round-tables of investors and issuers, and eventually, panel discussions at the seminar, which deliberated on suggestions received and the way forward.

The key policy recommendations crystallised in these discussions were included in the CRISIL Yearbook on the Debt Market 2018, and also shared with relevant regulatory authorities.

Here, we capture the actual progress made on these recommendations. We find that regulators have done a commendable job in implementing several of the measures discussed, but still have scope for intervention in some areas, as the table below captures.

Progress report: What's done and what's left

	Measures recommended in the 2018 seminar	Significance	Measures initiated	Further measures needed
Measures to enhance demand for corporate bonds	Revisit rating limits for insurance, pension funds	<ul style="list-style-type: none"> Enhance penetration of bond market for below AA rated category by revising the rating floor of AA for investments by insurers, pension funds 	<ul style="list-style-type: none"> Investments in A category ratings allowed in NPS, up to 10% of corporate bond portfolio Infrastructure investments rated not less than A, along with INFRA EL1 rating allowed as part of 'approved investments' by IRDAI 	<ul style="list-style-type: none"> Lend recognition to INFRA EL rating scale by other regulators such as PFRDA Gradually open up investments to lower-rated categories, say, BBB- on the traditional scale and INFRA EL2 on the EL scale
	Promote EL scale ratings	<ul style="list-style-type: none"> Channel investments to infra sector that may have ratings lower than AA, but enjoy high recoveries that limit overall losses to investors 		

Measures recommended in the 2018 seminar		Significance	Measures initiated	Further measures needed
Measures to enhance demand for corporate bonds	Develop CDS market	<ul style="list-style-type: none"> Provide hedging options for investors to enhance confidence in bond market investments across the ratings spectrum 	<ul style="list-style-type: none"> Legislative changes to the RBI Act made to allow bilateral netting of exposures 	<ul style="list-style-type: none"> Develop CDS market by allowing more market participants, FPIs who have expertise in writing CDS to participate-while RBI has released draft directions, enablers from relevant regulators of proposed CDS writers also needed Government may facilitate setting up an institution that can offer CDS protection
	Enhance retail participation in the bond market	<ul style="list-style-type: none"> Channel retail funds into the corporate bond market currently dominated by institutional investors 	<ul style="list-style-type: none"> Launch of bond exchange traded funds (ETFs) 	<ul style="list-style-type: none"> Encourage more bond ETFs, including thematic funds, in sectors like infrastructure Offer tax sops for retail investments in debt mutual funds, say similar to ELSS schemes for equity. Also, bring parity in capital gains tax between equity and debt products Extend the scope of proposed institution for providing liquidity in the bond market to include retail investors
	Encourage FPI participation in the bond market	<ul style="list-style-type: none"> Channel foreign capital into the corporate bond market 	<ul style="list-style-type: none"> FPI limit in corporate bonds increased from 9% to 15% 	<ul style="list-style-type: none"> Implement budget announcement of allowing FPI investments in debt issuances by REITs / InvITs Rationalise tax norms for FPI investments in corporate bonds
	Strengthen the resolution regime	<ul style="list-style-type: none"> Enhance confidence among investors on recovery prospects 	<ul style="list-style-type: none"> Outer limit of 330 days for completing resolution process, including any litigation introduced Provision introduced for financial sector resolutions initiated by relevant regulator 	<ul style="list-style-type: none"> Enhance NCLT infrastructure to ensure timelines are adhered to Comprehensive, dedicated framework for financial sector resolutions (Financial Resolution and Deposit Insurance Bill) Separate track for operational infrastructure projects

Measures recommended in the 2018 seminar	Significance	Measures initiated	Further measures needed	
Measures to enhance supply of corporate bonds	Set up a dedicated Bond Guarantee Fund	<ul style="list-style-type: none"> Provide full / partial guarantees to infrastructure issuances to uplift standalone credit ratings to rating levels desired by investors 	<ul style="list-style-type: none"> Credit Guarantee Enhancement Corporation announced 	<ul style="list-style-type: none"> Fast track operationalisation of the corporation and ensure adequate capitalisation
	Rationalise norms for Partial Credit Enhancement (PCE) by banks	<ul style="list-style-type: none"> Ensure pick-up of PCE products to provide credit enhancement to infra bonds 		<ul style="list-style-type: none"> Rationalise risk weight in a PCE transaction, consistent with the treatment of second loss facilities
	Ensure better cohesion, synergy among regulators	<ul style="list-style-type: none"> Ease compliance burden on issuers, ensure balance of supply- and demand-side initiatives 	<ul style="list-style-type: none"> Partial relaxation of rating thresholds by insurance, pension fund regulators Enhanced FPI limits in corporate bonds 	<ul style="list-style-type: none"> Further cohesion between capital market borrowing mandates of SEBI and the RBI to ensure more companies are encouraged to tap the bond market Bring parity between bank loans and bonds in terms of marking to market

Measures recommended in the 2018 seminar		Significance	Measures initiated	Further measures needed
Measures to enhance liquidity, market infrastructure	Enhance secondary market infrastructure	<ul style="list-style-type: none"> Improve liquidity, transparency in the secondary market, provide exit options for investors 	<ul style="list-style-type: none"> Request for Quotes (RFQ) platform operationalised by stock exchanges for secondary market trading in corporate bonds MFs, insurers mandated to use RFQ for 10% of secondary market trades in corporate bonds Integrated trade repository for enhanced transparency 	<ul style="list-style-type: none"> Fast-track setting up of institution announced in the budget to provide secondary market liquidity for corporate bonds Set up limited purpose clearing corporation for corporate bond repos as announced by SEBI Allow corporate bonds as collateral in the RBI's LAF Finalise policy framework for uniform valuation norms for corporate bonds across investor segments, which is currently under discussion
	Enhance primary market infrastructure	<ul style="list-style-type: none"> Enhance flexibility and efficiency in issuance processes 	<ul style="list-style-type: none"> Rationalisation of stamp duty for securities 	<ul style="list-style-type: none"> Implementation of proposed measures around on-tap issuances to provide issuers avenues to time the market and make the issuance process more efficient Simplify, streamline electronic bidding platform (EBP) processes to reduce time required to less than 4 days for money market instruments, bonds
	Create interest rate benchmarks	<ul style="list-style-type: none"> Facilitate hedging of interest rate risks 	<ul style="list-style-type: none"> Issuances of Financial Benchmark Administrator guidelines by the RBI 	<ul style="list-style-type: none"> Facilitate interest rate benchmarks by multiple benchmark providers

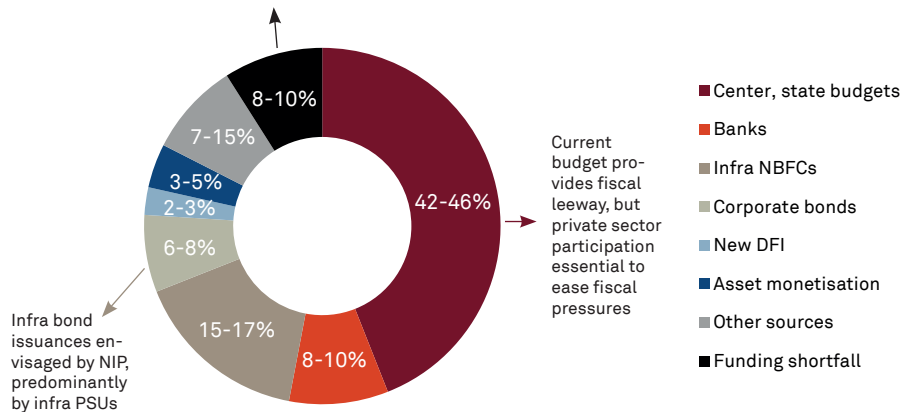
NIP financing hinges a lot on innovation

While the NIP envisages infrastructure investments of Rs 111 lakh crore over fiscals 2020 to 2025, it acknowledges the likelihood of a 8-10% shortfall.

Moreover, the weaker fiscal position of the Centre and states after the pandemic does not augur well for infrastructure spending. That's why it's imperative to leverage alternate and innovative financing avenues for the great Indian build-out.

Financing plan for NIP

Corporate bond market can step up to bridge the shortfall, play a bigger role in funding NIP



Other sources include multilateral/bilateral agencies, internal accruals of PSUs
Source: Report of the Task Force on NIP, Volume II

The essentiality of innovation

India's corporate bond market can play a significant role in facilitating takeout financing for operational infrastructure projects, and help release a material portion of the over Rs 20 lakh crore lent by banks and NBFCs to finance under-construction projects (for more perspectives on this, see the chapter titled 'Operational HAM roads bond well').

There is also substantial asset-monetisation potential in the infrastructure sector, which would, in turn, offer opportunities for the corporate bond market to facilitate debt financing for monetised assets.

For example, public sector undertakings in infrastructure currently hold assets worth over Rs 20 lakh crore. New projects worth Rs 10-12 lakh crore are also expected to be implemented by the public and private sectors over the next two fiscals in relatively stable asset classes such as roads, power generation and transmission, renewables, oil and gas pipelines, and telecom, which would become operational and stabilise within the next five fiscals. This reflects huge asset-monetisation potential over the medium term.

However, for bond market investments to reach these operational infrastructure assets, issuances by these assets need to be aligned with the requirements of bond investors who typically invest only in highly rated instruments. That means innovations such as pooling of assets, a well-capitalised Credit Guarantee Enhancement Corporation, and CRISIL INFRA EL rating scale are essential.

Opportunities for the corporate bond market

- Bank credit to infrastructure (~Rs 10 lakh crore)
- NBFC credit to infrastructure (~Rs 12 lakh crore)
- Assets held by public sector undertakings in infrastructure/ government implementing agencies (~Rs 20 lakh crore)
- Investments in new infrastructure projects that would be operational in the medium term (Rs 10-12 lakh crore)

Potential infrastructure bond issuances facilitated by innovation

Rs 7-10 lakh crore

Innovation

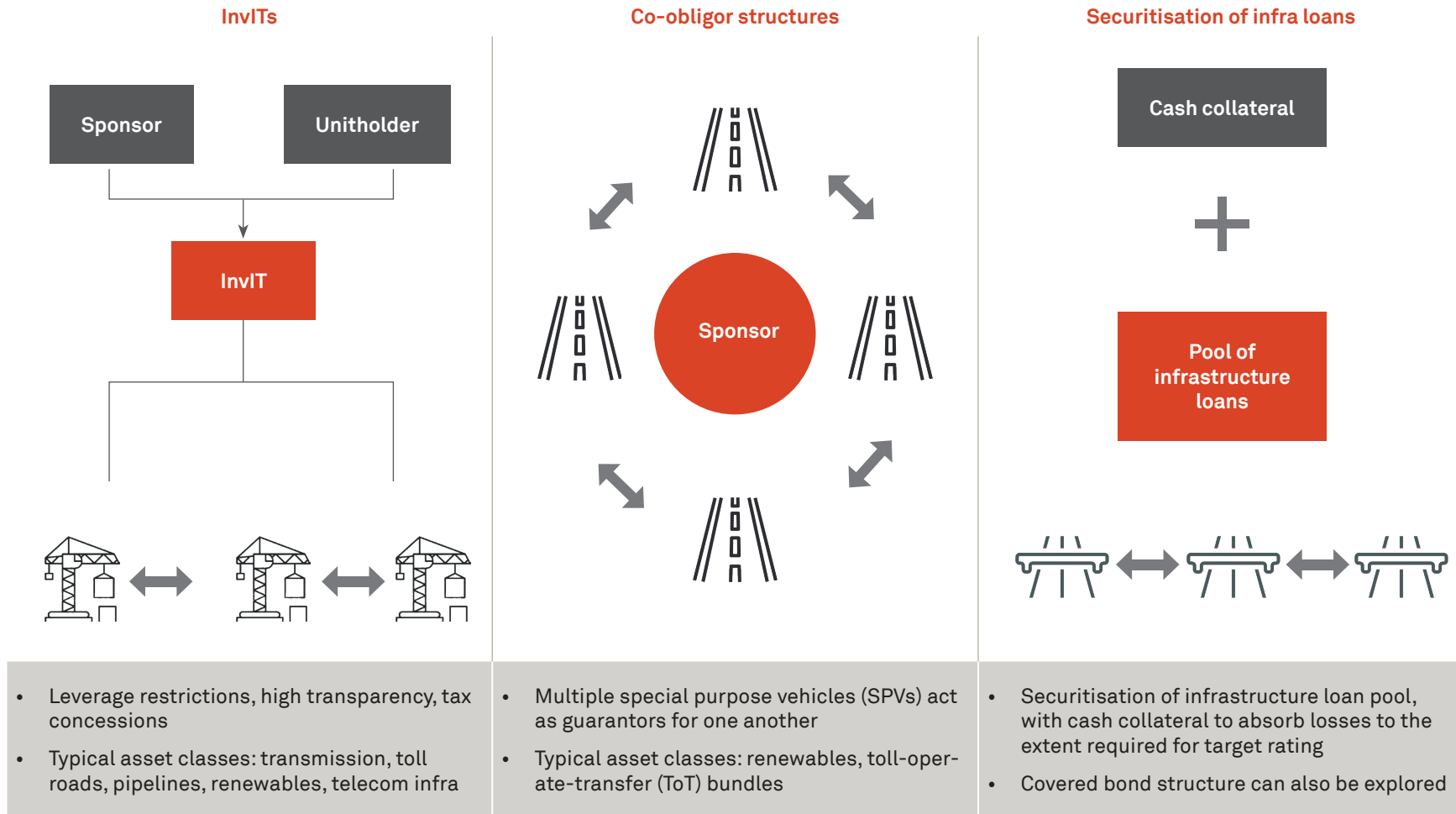
- Pooling of assets**
 - Infrastructure investment trusts (InvITs)
 - Co-obligor structures
 - Securitisation/covered bonds
- Credit Guarantee Enhancement Corporation
- CRISIL INFRA EL rating scale

Pooling of assets to provide portfolio diversification benefits, attracting bond investments

Pooling of assets can attract takeout financing from the corporate bond market, based on the structural credit enhancement provided by diversification across different counterparties and geographies that reduces idiosyncratic risks.

The scale and diversification of pooled assets can also help attract foreign capital into infrastructure. Additionally, pooling of assets brings in professional managements with asset-class-specific expertise that can improve operational performance and optimise capital structure, and provide comfort to investors.

The key mechanisms through which pooling of assets can be undertaken are highlighted below.



InvITs

InvITs are gaining currency in India following the footsteps of the developed world. The combined AUM of InvITs and real estate investment trusts (REITs) have reached ~Rs 2 lakh crore, marking a whopping 42% CAGR since the launch of the first InvIT in fiscal 2018.

Such growth has been enabled by supporting regulations such as cap on leverage, and restriction on investments in under-construction assets. The AAA rating threshold is also stipulated for listed InvITs if their debt-to-AUM ratio exceeds 49%. Further, mandatory distribution of surplus cash enhances investor confidence. These attributes can attract bond market investments into InvITs.

InvITs can help create an ecosystem for infrastructure creation by

Typical sector characteristics	Key ask from investors	REITs/InvITs	
↓ High opacity	Transparency and disclosure	Mandatory disclosure requirements	↑
↓ No specified limit on asset mix	Asset mix: more operational and less under-construction	Share of under-construction assets capped	↑
↓ No restriction on debt levels	Restriction on external debt	Consolidated external debt limited to 49% of asset value; can go up to 70% with AAA rating	↑
↓ Promoters control cash flows from operational assets	Cash-flow control from operational assets	Pass-through structure, controlled by trustee	↑
↓ No guidelines on minimum acceptable level of credit rating	High safety category credit rating	Credit rating of AA or above; AAA, if leverage exceeds 49% of asset value	↑
↓ Tax applicable at shareholder, holding company and special purpose vehicle levels	Tax benefits	Exempted for unitholders if SPVs pay tax as per the old tax regime. Tax not applicable for InvIT/REIT as it is a pass-through at trust level	↑

allowing developers to offload operational assets and release capital for new projects, and by allowing project financiers to offload debt to a new set of investors and unlock funds.

InvITs have the potential to generate ~Rs 6.5 lakh crore over the medium term, which can be part-funded by bond market issuances of Rs 3-4 lakh crore in sectors such as roads, transmission, gas pipelines, telecom infra and renewable assets.

Co-obligor structures

Co-obligor structures comprise multiple special-purpose vehicles (SPV) of a sponsor acting as guarantors for the collective debt of all SPVs.

Sponsors can form pools of select SPVs tailor-made to fit the risk appetites of different investors, thus enhancing their risk profile through better scale and portfolio diversification across multiple geographies and counterparties.

Co-obligors are typically governed by a common debt agreement, and cash flows from individual co-obligors are made available for servicing their collective debt obligations. Such structures can facilitate funding in operational assets such as renewables and roads, including ToT bundles.

Securitisation of infra loans

Loans to operational infrastructure assets can be brought together and securitised by lenders, similar to retail loans. This innovation spawns two benefits – diversification, and lowered credit risk because of cash collateral support.

Additionally, capital market investors can derive comfort from well-established legal and administrative practices that govern securitisation transactions.

All that will help transfer debt in operational projects to the corporate bond market, and unlock capital to fund the next set of construction-stage projects.

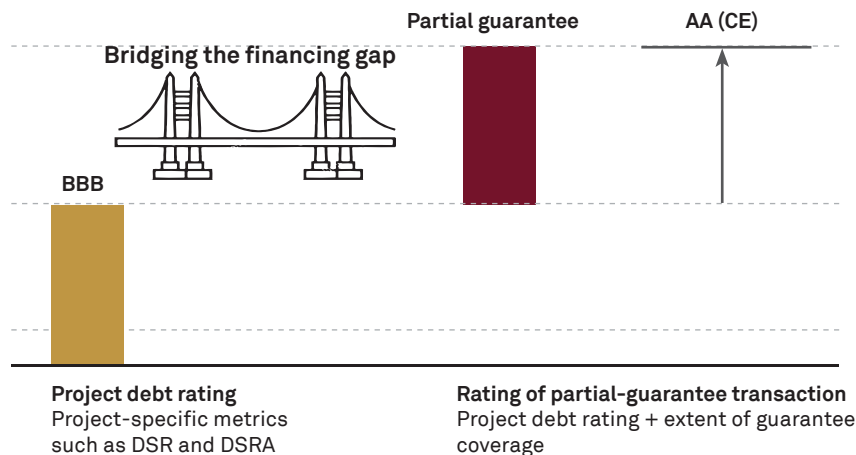
Lenders to infrastructure projects can also explore covered bonds

backed by a pool of infrastructure loans available exclusively for the benefit of bondholders if an issuer defaults. Such transactions can provide investors with dual recourse – to the issuer, as well as to the covered pool of infrastructure loans.

The Credit Guarantee Enhancement Corporation leg-up

A well-capitalised Credit Guarantee Enhancement Corporation can facilitate infrastructure bond issuances by enhancing the standalone credit ratings of projects via partial or full guarantees that take the ratings to levels desired by investors.

For example, the credit quality of project debt with a specific debt service coverage ratio (DSCR) and debt service reserve account (DSRA), mapping to a BBB level credit quality, can be enhanced to AA level via partial guarantee that reduces the chances of default by bridging temporary cash flow shortfalls in projects.



The Credit Guarantee Enhancement Corporation’s capital can generate a significant multiplier that can help mobilise a much larger quantum of corporate bond issuances through the available capital. For example, a corpus of Rs 15,000-20,000 crore in the guarantee corporation can help mobilise up to Rs 1-2 lakh crore of corporate bonds backed by credit enhancements in the medium term.

CRISIL INFRA EL rating scale to bring out high recovery rates in infra assets

CRISIL INFRA EL scale ratings that assess the EL over the lifetime of an infrastructure project can also facilitate bond issuances.

As infrastructure projects typically have high recoveries considering their long asset life, and contractual safeguards such as termination payments, their expected loss tends to be low.

CRISIL INFRA EL ratings provide additional information, complementing the credit rating on the conventional scale.

Hence, use of CRISIL INFRA EL ratings, along with traditional PD ratings for assessment of credit risks in infrastructure projects can help highlight inherent strengths of infrastructure projects and spur bond issuances (for more details, see chapter titled, ‘EL scale can change infrastructure financing’).

Operational HAM roads bond well

To revive public-private partnerships in highway construction, the government introduced the hybrid annuity model (HAM) in 2016. Just before this, bids for highway projects had resulted in developers taking a disproportionate share of risks. Not surprisingly, quite a few projects became unviable.

HAM projects reduced construction and funding risks for developers. During the construction phase, the concessioning authority (such as the NHAI) provides a sizeable share (40%) of the project cost in the form of milestone-based payments. Further, in the operational phase, developers are assured of pre-determined cash flows (with fixed + variable components) as long as the road is maintained over the concession period.

The variable component is linked to a floating-rate benchmark and inflation, and provides sizeable cushion against interest rate and inflation risks to investors. Such features were conceived to attract long-term debt funds once projects reached the operational phase.

Type of risk →	Financing risk	Revenue, or toll collection, risk	O&M risk
Type of model ↓			
BOT-Toll model	Private	Private	Private
BOT-Annuity model	Private	Govt	Private
BOT-VGF model	Govt and private	Private	Private
EPC model	Govt	Govt	Govt
HAM model	Govt and private	Govt	Private

Note: O&M = Operations and maintenance

With about 60 HAM projects nearing completion, ~Rs 32,000 crore debt will be eligible for takeout financing.

HAM projects in the operational phase – which have a low-risk operational cash-flow structure and offer a source of long-term cash flows – are tailor-made for bond market financing.

The projects can also be easily monetised by housing them in InvITs. This will free up precious risk capital for developers, enabling them to participate in newer projects.

Risk factors in the operational phase

Prudent policies on leverage and bidding are crucial if developers are to do well in infrastructure projects.

HAM also reduces the risks developers are exposed to in the operational stage by awarding fixed and variable components of cash flows over the concession period in lieu of the maintenance of the road by developers. These cash flows are:

- i) **Fixed annuity:** Representing 60% of the construction cost; received over the concession period
- ii) **Interest on annuity:** The developer also receives interest on annuity (at bank rate + 3%). In other words, any interest paid on the debt contracted by developer is compensated. Besides, fluctuation in interest rate is also offset to a large extent. This creates a significant hedge in situations where the interest rate on debt is inked broadly to the same benchmark. Also, the Ministry of Road Transport and Highways has updated the index used for calculating interest on residual annuity (marginal cost of funds-based lending rate, or MCLR, + 1.25%) for upcoming projects to address the differential movement of interest rate indices, which is beneficial
- iii) **Compensation:** The developer also receives compensation for maintenance of the road stretch, along with inflation adjustment (linked to the Wholesale Price Index and the Consumer Price Index). Therefore, any inflation-related adverse fluctuation is largely taken

¹Bank rate refers to RBI-administered policy rate, currently pegged at repo rate + 0.25%

care of. For instance, significant inflation in bitumen cost in the past had resulted in cash-flow pressures for some annuity model-based road projects

Therefore, HAM projects are fundamentally less risky compared with annuity projects.

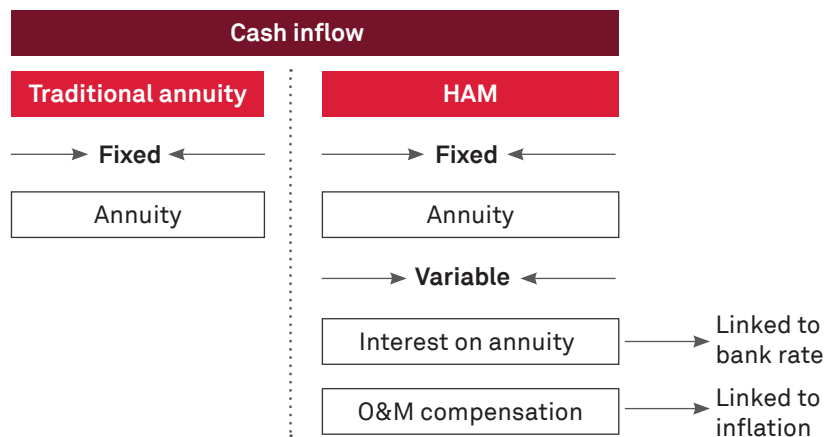
How HAM is different from annuity projects

Traditional annuity projects are those where a developer receives a fixed sum periodically (generally every six months) from the concessioning authority after completion. This is received over the concession period (10-15 years) in lieu of construction as well as maintenance of roads. Like a HAM road, even traditional annuity is safeguarded from demand-related risks. However, the developer remains exposed to risks related to inflation or interest rate that may arise over the concession period. On the other hand, in case of HAM, interest and inflation are largely passthroughs, thereby significantly reducing these risks for the developer.

HAM a suitable investment option for the corporate bond market

Indian corporate bond market investors are mostly risk-averse. What the market currently lacks is options that provide long-term investment opportunity and safe bets. HAM projects, if prudently leveraged, will be a good bet given their fundamentally low-risk operational cash-flow structure.

Cash inflow comparison for operational annuity and HAM projects



Outflows comprising maintenance and admin expenses and debt servicing requirements are similar for both traditional annuity and HAM road projects.

- **Long-term cash flow visibility:** HAM projects typically have long-term cash flows governed by their concession agreements with a tenure of ~15 years. Therefore, these projects have the potential to provide robust investment avenues for long-term investors such as pension and insurance investors, who look for stable cash flow-generating options
- **Inherently low-risk cash-flow structure:** HAM projects fare better than both build-operate-transfer-toll, and traditional annuity projects on the credit risk spectrum as most expense-related fluctuations due to interest rate and inflation are pass-throughs. Projects are also insulated from demand risk, the key risk faced by toll projects. A floating rate bond with coupon linked to the bank rate protects its investors from mark-to-market losses to a large extent, and creates a perfect hedge for HAM developers. That's a win-win
- **Ease of monetisation via InvIT route:** For the same reasons stated above, HAM projects are amenable to be housed in InvITs. While such projects have their own structural safeguards, InvITs help developers unlock precious equity risk capital to fund new projects

Over 60 HAM projects awarded by the NHAI between fiscals 2016 and 2018 are set to become operational by the end of 2021. As they enter the operational phase, they can look to refinancing from the corporate bond market.

That provides an opportunity to replace outstanding bank debt worth Rs 32,000 crore in these assets. Freeing it up will help banks channel the monies into newer projects. The NIP talks about an overall outlay of about Rs 20 lakh crore towards the road sector, and participation in projects by experienced developers will be critical for this target to be achieved.

What about pitfalls?

While HAM as an asset class lends itself well to the corporate bond market, it is critical for these assets to be prudently managed. The following aspects assume significance:

- Appropriate leverage levels and adequate liquidity buffers
- Presence of adequate structural safeguards, especially in case of aggressive bidding, leading to lower-than-required maintenance compensation
- Ability of the sponsor and adequacy of provisions to perform routine and major maintenance

Net-net, a prudently funded and managed HAM project should meet the requirements of a corporate bond market investor, given its inherent structural safeguards. The structure would also strengthen with the Ministry of Road Transport and Highways updating the index used to calculate interest on residual annuity.

EL scale can change infrastructure financing

Infrastructure build-out and its financing will remain the highest policy priority for years because they are critical to long-term economic growth.

Problem is, the corporate bond markets have been wary of funding infrastructure projects because the perception that risk is high during their construction phase.

While banks and other financial institutions can continue to be the early funders of such projects, it is important to release them after the construction phase so that their capital and resources can be utilised for newer projects.

That's why takeout financing of operational projects by the corporate bond market has to pick up significantly.

Typically, operational infrastructure projects, once stabilised, benefit from structural safeguards. These include long-term legal contracts/agreements that provide revenue visibility, minimal management intervention necessary for operations, and significant downside protection to lenders if the projects are public-private partnerships.

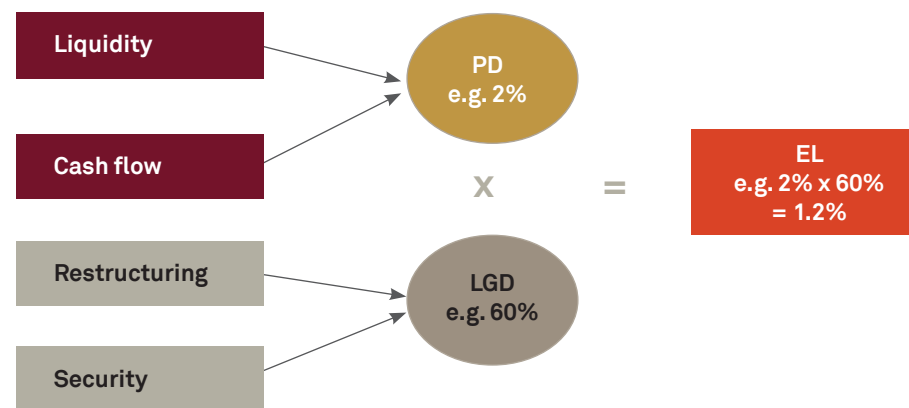
But the conventional credit rating scale does not capture these safeguards because it assesses the probability of default (PD) only from a 'single rupee, single day' perspective.

They are, however, captured way better by the CRISIL INFRA EL rating scale, which assesses expected loss over the life of an instrument.

Along with the conventional PD rating, INFRA EL rating can facilitate effective pricing of credit risk, without compromising on risk assessment.

How it works

The term expected loss, or EL, means the average credit loss expected from an exposure or a portfolio over a given period of time. Or PD multiplied by loss given default (LGD).



Conventional ratings convey the PD by assessing the ability and willingness of the issuer to meet debt obligations in a timely manner. While the assessment factors in the ability to generate adequate cash flows to meet debt obligations, it places significant emphasis on liquidity aspects that ensure timely payment. The probability of delay for even a single day or a single rupee is baked into this calculus. Put another way, this assessment stops at default, and does not factor in the post-default recovery prospects.

LGD, on the other hand, captures the loss that an investor may incur after default. It is based on factors that influence recovery – such as the fundamental viability of a project and therefore its ability to resolve default by way of restructuring, and the security that can be enforced.

EL, by combining the fundamental pillars of credit risk – PD and LGD – helps quantify losses likely to be incurred by the lender in case of default. This additional information becomes an important data point for investment decisions.

CRISIL Infra EL complements PD rating

The CRISIL INFRA EL rating indicates the expected loss that an investor could bear over the life of a debt instrument issued by an infrastructure entity.

CRISIL Ratings uses a 7-point scale for this product where 'CRISIL INFRA EL 1' is the highest rating denoting the lowest expected loss, while 'CRISIL INFRA EL 7' is the lowest rating indicating the highest expected loss. The table below shows the scale, together with descriptors and associated indicative EL ranges:

CRISIL's Infra EL scale

Rating	Indicative EL ranges
CRISIL INFRA EL 1 Lowest expected loss	$\leq 1.25\%$
CRISIL INFRA EL 2 Very low expected loss	$1.25\% < X \leq 3.5\%$
CRISIL INFRA EL 3 Low expected loss	$3.5\% < X \leq 7.5\%$
CRISIL INFRA EL 4 Moderate expected loss	$7.5\% < X \leq 15\%$
CRISIL INFRA EL 5 High expected loss	$15\% < X \leq 25\%$
CRISIL INFRA EL 6 Very high expected loss	$25\% < X \leq 35\%$
CRISIL INFRA EL 7 Highest expected loss	$> 35\%$

The EL rating complements conventional credit ratings (based on the PD approach) and provides additional information to the investors by taking into account post-default recovery prospects.

While EL as a concept is applicable to all asset classes, the CRISIL INFRA EL rating is applicable to debt instruments issued by infrastructure entities as defined under the Harmonised Master List of Infrastructure Sub-Sectors published vide gazette notifications dated April 8, 2016.

As EL rating from credit rating agencies is a relatively new concept in India, it has been introduced for the infrastructure sector, where there is a high degree of predictability of cash flows and recovery prospects. Possibility of high recoveries for infrastructure is also supported by global experience, which shows 72% recovery for infrastructure companies against 60% for non-financial corporates².

As investor confidence improves, the EL scale can be extended to other sectors as well.

The relevance of the CRISIL INFRA EL scale

The CRISIL INFRA EL scale was developed to encourage investments in infrastructure projects, which are perceived to carry higher risks, especially implementation-related, in the construction phase.

However, once the projects become operational and stabilise, these risks decline substantially. Very rarely have operational, stabilised infrastructure projects run into issues. For example, toll road assets have weathered economic downturns, the pandemic, mining bans and have generally shown resilience as traffic picks up once the tide turns.

Even international experience suggests a lower likelihood of default and higher stability for infrastructure corporate ratings compared with other non-financial corporates³.

Even so, PD ratings of operational infrastructure assets may be affected by constrained liquidity profiles stemming from temporary cash flow mismatches because of delayed payments from counterparties or transitory variability in operating conditions.

However, the cash flow prospects over the lifetime of the instrument are generally strong for these assets, leading to expectation of good recoveries even in the event of a default, thereby resulting in low EL levels. This is generally due to the inherent strengths of these projects, such as:

- **Monopolistic nature of the business:** The assets involve a very high amount of capital expenditure. To make these projects viable, cash flow certainty is essential. Therefore, most infrastructure projects have a non-compete clause, which enable higher revenue visibility

^{2&3}Source: S&P Ratings Default, Transition, and Recovery: 2018 Annual Infrastructure Default And Rating Transition Study

- **Passive and utility nature of operations:** Such assets, once installed/constructed, do not require very active intervention on every-day basis, unlike in a manufacturing set-up. Incremental capex needs are also usually minimal. Besides, as the service rendered is that of a utility, demand fluctuations are not stark
- **Long project tenure and ring-fenced debt:** Such assets generally have a very long life / long contractual agreements in place, such as for 15-20 years. Against this, the loan tenure is significantly shorter, creating a refinancing opportunity if the situation demands. Also, generally the debt is ring-fenced with a tight waterfall mechanism to safeguard investor interest
- **Counterparties are government agencies:** They generally tend to honour contractual obligations ultimately, even if not necessarily on time
- **Contractual safeguards:** Many infrastructure projects have long-term agreements with government counterparties, ensuring revenue exclusivity and visibility. These agreements also, at times, weave in predetermined termination payments. For example, in the case of road projects, concession agreements typically stipulate that the concession authority, in the event of default, has to make a termination payment to the extent of 90% of debt due to the lenders. This structurally protects the lenders by capping their loss levels. In case there is a default because of sponsor issues, the lenders also have a right to seek substitution of the sponsor, thereby ensuring the asset remains functional, and the lender does not face losses on this count. There have been multiple instances in the Indian context where the asset has changed hands from a weak sponsor to a stronger one with no loss to lenders

CRISIL's INFRA EL rating takes these factors into account to arrive at the EL level for a debt instrument. This additional information can help in addressing the risk perception further.

Resilience of road assets

Optimally leveraged and well-managed road assets generally show resilience to economic downturns, agitations, lockdowns and mining-related bans. There have been instances where cash-flow mismatches due to temporary traffic disruptions are taken care of by available cushion in debt servicing and liquidity buffers maintained by SPVs.

If the road is well maintained, some flexibility also exists in terms of carrying out major maintenance. In case of medium-term traffic impact – such as a mining ban, sponsors would be willing to support the assets given their long asset life and inherent viability.

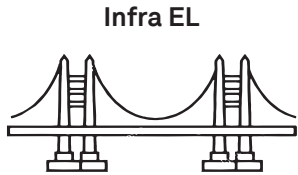
Even assets that have defaulted due to higher debt or weak sponsors leading to non-maintenance of the asset have changed hands with lenders not incurring any loss. This has been made possible primarily due to the long asset life.

CRISIL INFRA EL ratings enables the corporate bond market

Infra EL ratings are expected to bridge the risk perception gap between long-term investors and infrastructure issuers, thereby enabling the latter to raise funds from the corporate bond market.

Funding challenges faced by infrastructure projects

- Perception of high risk due to long gestation period
- Inadequate long-term capital
- Largely dependent on bank funding



Brings out attributes of infrastructure

- Monopolistic market position
- High entry barrier
- Strategic and utility nature of assets
- Small incremental capital expenditure or working capital
- Low technological obsolescence risk
- Safeguards through long-term contracts

Investment challenges faced by insurers and pension funds

- Low risk appetite reduces available invest pool
- Asset-liability mismatch due to investments in short-tenure debt
- Low risk-adjusted returns for investors

Using CRISIL INFRA EL ratings, issuers can highlight the low-risk nature of their assets and raise long-term funds at competitive rates. The safety net of EL ratings can help 'patient capital' investors such as insurance and pension funds to invest in lower-rated papers that have better risk-adjusted returns, and also mitigate the risk of asset-liability mismatches.

The Insurance Regulatory Development Authority of India (IRDAI) recently allowed the use of EL ratings for classification of infrastructure investments as approved investments.

Such investments, if rated at least 'A' on the PD scale and EL1 on the EL scale, can now be classified as approved investments.

This much-awaited regulatory recognition is a big positive for infrastructure financing and will enable the corporate bond market to play an active role in takeout financing.

Traditionally, infrastructure financing has relied on bank finance, which exposes banks to asset-liability mismatch risks. A transition to the corporate bond market will be beneficial for all stakeholders. With IRDAI providing regulatory recognition, other regulators would also follow suit.

Potential improvement in risk-adjusted return for insurers

So far, insurers were allowed to invest only in 'AA' or 'AAA' rated papers. Following the IRDAI facilitation, they can now invest lower down the rating spectrum to 'A' rated papers of infrastructure companies. This will fetch better yields – say 10% for 'A' rated paper versus 8% for 'AA'. This additional 200 bps is not offset by additional risk, as these papers are also required to be rated EL1 – indicating expected loss of $\leq 1.25\%$ over the life of the instrument. This translates to annual EL of ~20 bps, assuming 7-year duration of the paper.

So clearly, the play available from a risk-adjusted basis to the insurance company is quite substantial, almost 180 bps higher than the required spread of less than 20 bps. This higher risk-adjusted return is because of navigating down the credit curve, with higher credit risk calibrated by the EL rating.

To sum up, the CRISIL INFRA EL scale can provide additional inputs to investors by quantifying their potential loss levels over the life of an instrument.

This can complement the conventional credit ratings based on PD, and help effectively price credit risk.

By bridging the gap between the risk perception of investors and issuers, the CRISIL INFRA EL rating acts as an effective enabler of the corporate bond market.

Further regulatory recognition will enable widespread adoption of the EL scale. That will go a long way in helping India meet its infrastructure build-out goal.

ESG can bridge the growth-capital gap

When the NIP was drawn up, the government had expected the domestic corporate bond market to contribute Rs 7-9 lakh crore, or 6-8%⁴, of the Rs 111 lakh crore infrastructure investments needed between fiscals 2021 and 2025.

Then came the Covid-19 pandemic, which crushed economic activity even as government expenditure soared to offset its aftermath. The result is impaired fiscal positions of both, the Centre and the states.

That means contribution from the corporate bond market and private sector will have to increase materially.

CRISIL's analysis shows that over the next five fiscals, corporate bond issuances outstanding can more than double from ~Rs 33 lakh crore⁵ at the end of fiscal 2020 to Rs 65-70 lakh crore⁶ by the end of fiscal 2025.

But a demand-side analysis shows outstanding issuances could touch Rs 60-65 lakh crore by fiscal 2025.

That would leave a gap of ~Rs 5 lakh crore.

As a result, tapping all potential pools, including large chunks of 'patient capital', or long-term investors from the developed economies, especially the sustainability-conscious ones, becomes critical.

On their part, global asset managers have been actively integrating ESG, factors into their investing process.

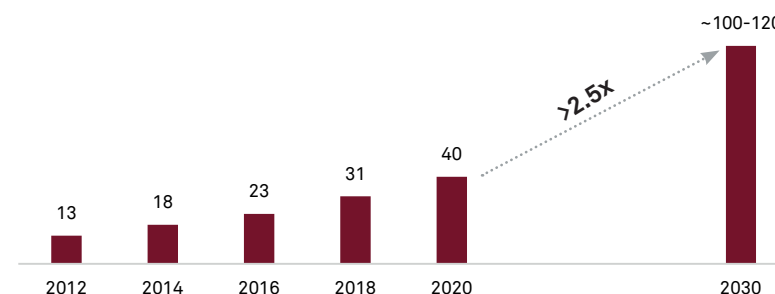
Clearly, ESG is increasingly influencing the flow of global capital.

Put another way, foreign investor demand can increase if domestic corporate issuers embrace ESG practices.

ESG is galloping ahead worldwide

Globally, ESG-mandated AUM totalled \$40 trillion⁷ as of December 2020, and are expected to triple to \$100 trillion⁸ by fiscal 2030.

Global AUM under ESG investing on the rise (\$ trillions)



Source: Global Sustainable Investment Alliance 2018 report, ESG Data Integration by asset manager by Opimas, Climate Change and Corporates by Deutsche Bank,

The reasons for this trend are not far to seek. ESG factors help investors assess the long-term sustainability of a company or investment.

- Environmental factors determine a company's stewardship of the environment and focus on waste and pollution, resource depletion, greenhouse gas emissions, deforestation, and climate change
- Social factors examine how a company manages relationships with all its stakeholders – employees, suppliers, customers, and the communities it operates in
- Governance factors take a look at corporate policies and how a company is governed, i.e. performance of the board, ownership concentration and shareholder rights, and disclosure levels

Global funds have started integrating these non-financial factors into their investment decisions – apart from the traditional analysis

⁴As per NIP, sources of funds

⁵SEBI outstanding corporate bonds data

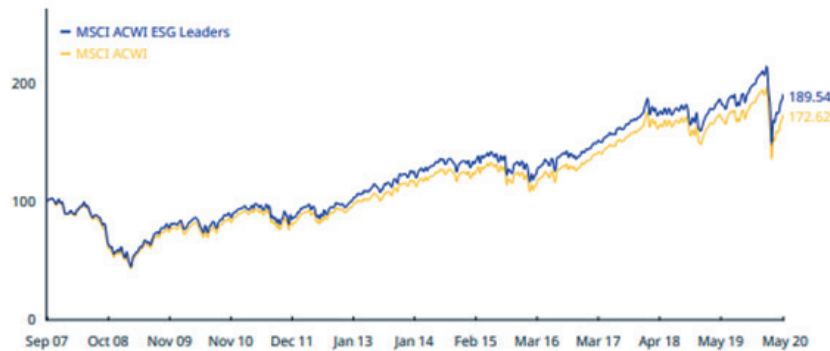
⁶CRISIL estimates

⁷Report on 'ESG Data Integration by asset manager' by Opimas

⁸Report on 'Climate Change and Corporates' by Deutsche Bank

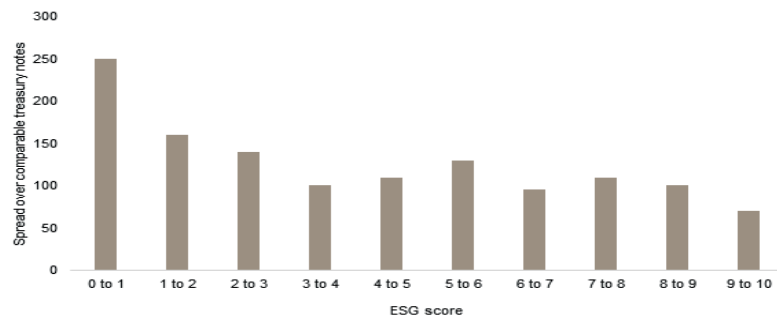
of business, and financial and management aspects. Investments in companies that score well on ESG have generated higher value over the long term. As the charts below show, ESG investing has generated superior returns, and ensures low exposure to risk as reflected in the lower cost of capital.

ESG investments promise superior returns



Source: MSCI ACWI ESG Leader Index Factbook

Relationship between spread over risk-free rate and ESG scores of S&P 500 companies



Source: BofA-Merill Lynch study

¹⁰A study conducted by Japan Sustainable Investment Forum (JSIF)

¹¹Global Sustainable Investment Alliance 2018 report

Emerging economies expected to drive ESG growth

Initially concentrated in Europe and the US, ESG investing has now spread to Canada, Australia and Japan. In Japan, assets invested according to sustainable investment principles rose 45% on-year to ¥336 trillion in 2019¹⁰. In Australia and New Zealand, it has clocked a CAGR of 49%¹¹.

The next phase of growth is expected to be in the emerging economies. ESG-screened emerging market funds are expected to grow to \$15-20 trillion and comprise 15-20% of the global ESG-linked AUM by 2030.

To tap this growing pool of growth capital, domestic companies need to adapt and embed ESG considerations into their business philosophy, and ensure high transparency through non-financial disclosures.

That will help partially bridge the demand-supply gap of ~Rs 5 lakh crore.

A constraining factor for global investors is the lack of clarity on how 'green' the opportunities in India are.

The good part is, there are signs of change. Today, all the 50 companies in the National Stock Exchange Nifty index have a board-level committee on corporate social responsibility, while nearly a third have a committee that deals with sustainability and ESG-related aspects.

About 70% of them have delineated the financial and non-financial capital available, and have identified human, social and natural as the areas of focus along with metrics related to each.

ESG adoption should also speed up with the Securities and Exchange Board of India proposing expansion of non-financial disclosures and rechristening Business Responsibility Reporting as Business Responsibility and Sustainability Reporting (BRSR). This would be applicable to the top 1,000 listed companies.

Given the milieu, a crucial facilitator of global capital will be independent assessment of ESG credentials that lend credibility and make instruments attractive to ESG-conscious global funds.

A concomitant here would be higher disclosure and data standards that give a clear picture on the sustainability quotient of available products. Regulatory oversight is ensuring this and adoption of global best practices in the disclosure of non-financial performance will enhance foreign investor confidence in domestic corporate bonds.

The task is clearly cut out.

Bond ETFs a new and growing avenue

Exchange traded funds (ETFs) are a cost-effective route to get a diversified exposure to debt capital markets and can help attract an additional pool of foreign capital if the ecosystem remains conducive and the current euphoria around these products sustains.

Globally, these passive investment products have seen their AUM burgeon over the past few decades. The first ever index fund was launched by Vanguard in 1976 and the first ETF that tracked S&P 500 in the US followed after almost 17 years, in 1993. Bond ETFs were introduced in 2002, and have been one of the fastest-growing categories in asset management since then.

In India, the first ETF (equity) was launched in 2002. Today, there are ~90 such funds in the market, across categories. The launch of Bharat Bond ETF, the first corporate bond product, has set the stage for further expansion.

The government's role in promoting debt ETFs, as seen during the launch of Bharat Bond ETF, together with investments by large institutional players and evolving regulations, are helping the passive funds market expand in India.

The supportive policy environment – favourable foreign portfolio investor (FPI) limits, for instance – coupled with stable exchange rates and a lucrative yield scenario, will need to continue if India is to become a preferred destination for foreign capital, riding on ETFs.

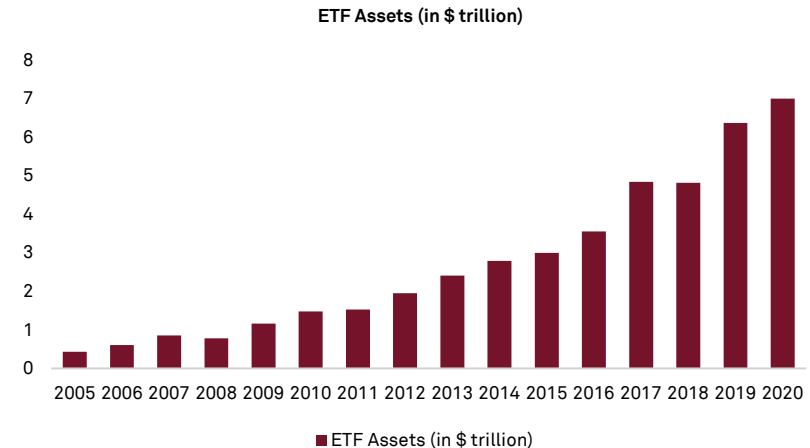
Given that it is a low-cost avenue, the right mix of digitalisation (standardised web-based procedures for investment, rule-based robotic advisories, building on social media to educate and target investors, etc.), awareness and product & incentive structure would be needed to offer the right product efficiently. This will help investors take informed decisions on their own or through the distribution and wealth management community.

The global ETF industry

The global ETF AUM has grown close to seven times in the 12 years through 2020 to \$7 trillion¹, from \$0.9 trillion in 2008. The US accounts for a whopping 70% of this pie, followed by Europe and China.

Bond ETFs are a small but fast-growing segment. In the 18 years since they were introduced, fixed income ETFs have seen their AUM surge to \$1.4 trillion². According to a recent study by Greenwich Associates, a CRISIL subsidiary, over 60% of global institutional investors used bond ETFs in 2019, up from 20% in 2017. Bond ETFs have grown more than 500%³ since 2009, compared with 300% for actively managed bond mutual funds (see Annexure 1 for details). Still, corporate bond funds remain a considerably larger segment – the AUM of bond funds is more than four times higher than that of bond ETFs.

Global ETF assets over the years



Source: ETFGI

¹<https://etfgi.com/>

²Blackrock

³"Credit Trends: The Growing Role Of Mutual Funds And Exchange-Traded Funds In The Credit Market" by S&P Global.

Key reasons for growth

The key reasons for growth in ETFs include:

- **Fall in alpha for active management** – A majority of active funds in the US have failed to outperform their benchmarks across asset segments over different time horizons – ranging from 1 to 15 years. Funds investing in government securities struggled across tenures, with 98%, 88%, and 84%⁴ underperforming in the long, intermediate, and short-term buckets, respectively, in 15 years. Also, 98% and 74% of long and short investment grade funds, respectively, underperformed in the similar period. In the high-yield funds category, 99% of funds underperformed over a 15-year period, whereas 68% underperformed in the last one-year period. In the milieu, investors are embracing index-based investing rather than pay higher expenses for underperforming active fund strategies
- **Low cost** – One of the key attractions of ETFs is their low cost. This has enabled these funds to beat their actively managed peers. As the industry has gained scale, the expense ratios have tumbled further. Today, in the US market, the average asset-weighted expense ratio for bond ETFs is 7 bps compared with 55 bps for active bond funds
- **Transparency** – ETFs replicate indices that have security selection and weight allocation methodologies stated publically. Hence, investors can predict their constituents. There is visibility on a daily basis for index constituents as against monthly or quarterly visibility for mutual funds
- **Liquidity** – Smaller lot sizes for exchange trading, narrow bid-ask spreads and additional liquidity for large investors make ETFs fairly liquid compared with their underlying basket of securities. Fears of liquidity drying up during times of crisis have also been partially assuaged during the recent pandemic-induced stress

To elaborate, ETFs can be bought and sold during market trading hours at prices that are expected to reflect the value of their underlying basket of securities. The ticket size for trading in ETFs on exchange is also suitable for smaller amounts, compared with market lots in underlying bond markets. In addition, for large investors, liquidity on end-of-day basis is provided by the ETF manufacturer or mutual fund.

ETFs (including fixed income ETFs) have had low bid-ask spreads compared with underlying basket of securities. The bid-ask spread, which signifies the availability of the quote of a counterparty, can be considered a good indicator of liquidity of any financial instrument (the narrower the spread, the better the liquidity).

That said, the role of market makers is critical in this entire exercise of maintaining the ETF prices close to that of the underlying basket and being present as a counterparty with narrow bid-ask spread. These market makers explore arbitrage opportunities whenever the ETFs trade at a discount or premium to the underlying basket and thus provide liquidity in the exchanges during the day while maintaining the prices of ETFs close to those of the underlying basket.

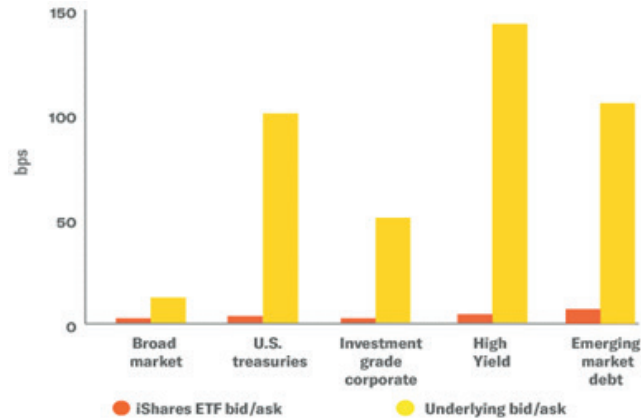
The arbitrage mechanism suffers a setback in the event of disruptions in trading on exchanges, which is generally triggered by huge deviations in prices – as was observed in two major flash crises that ETFs faced in 2010 and 2015. However, the trends that emerged in 2020 seem to assuage these concerns to some extent. While expectation of assistance from the Federal Reserve could have been at the back of the minds of investors flocking to ETFs, the following data suggests that the expected crisis was avoided, at least temporarily.

The following snapshot compares the bid-ask spread⁵ for various iShares Bond ETFs with the spread for its underlying assets during the pandemic-induced stress. The narrow bid-ask spreads in ETFs compared with those of underlying bonds during the times of crisis as well show that ETFs passed the liquidity test recently.

⁴S&P Dow Jones Indices LLC. SPIVA U.S. Mid-Year 2020 Scorecard. Data as of June 30, 2020

⁵<https://www.institutionalinvestor.com>

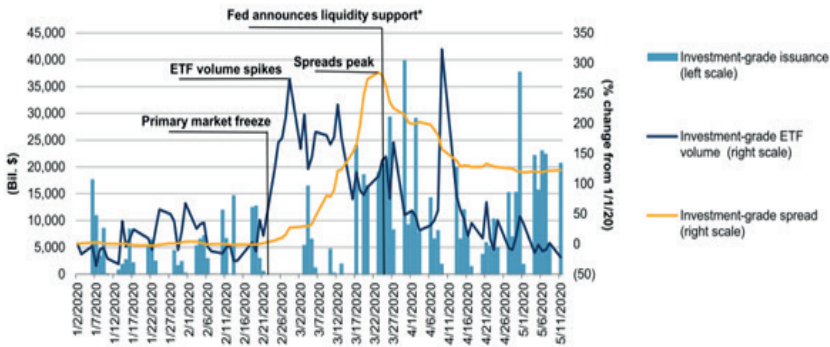
Average bid-ask spread (bps)



(Reprinted with permission from Institutional Investors)

The spike in trading volumes of ETFs during these times of stress, compared with drying up of issuances of underlying bonds as the following chart shows, testifies to ETFs providing parallel liquidity to bond markets.

U.S. Investment-Grade Issuance Froze, ETF Volumes Surged, Spreads Spiked

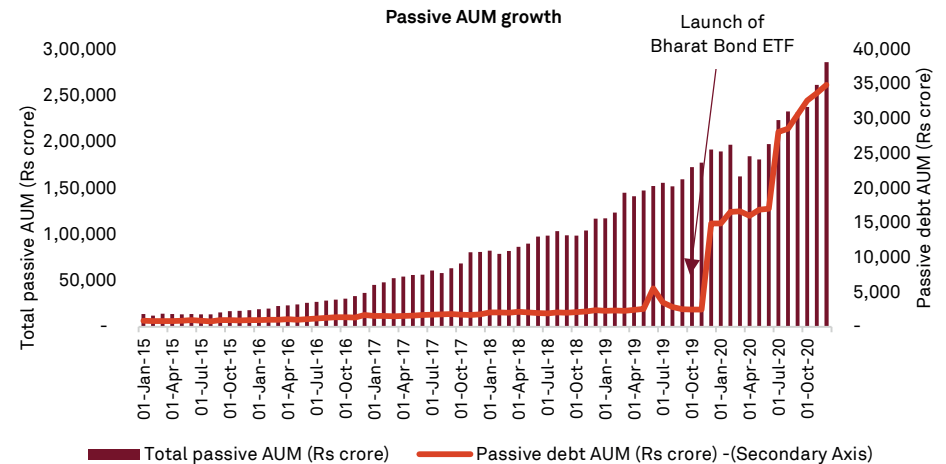


⁸<https://www.amfiindia.com/research-information/other-data>

The ETF industry in India

In India, the total passive AUM stood at Rs 2.85 lakh crore as on December 31, with gold and equity index funds and ETFs accounting for up to 90% of the pie. Since the launch of Bharat Bond ETF, which offers a basket of PSU bonds with a maturity of 3-10 years, the contribution of debt ETFs has grown and now forms around 10% of the total passive AUM. The debt passive AUM stands at Rs 34,000 crore⁶, of which Bharat Bond ETF accounted for 86%.

Growth in passive AUM

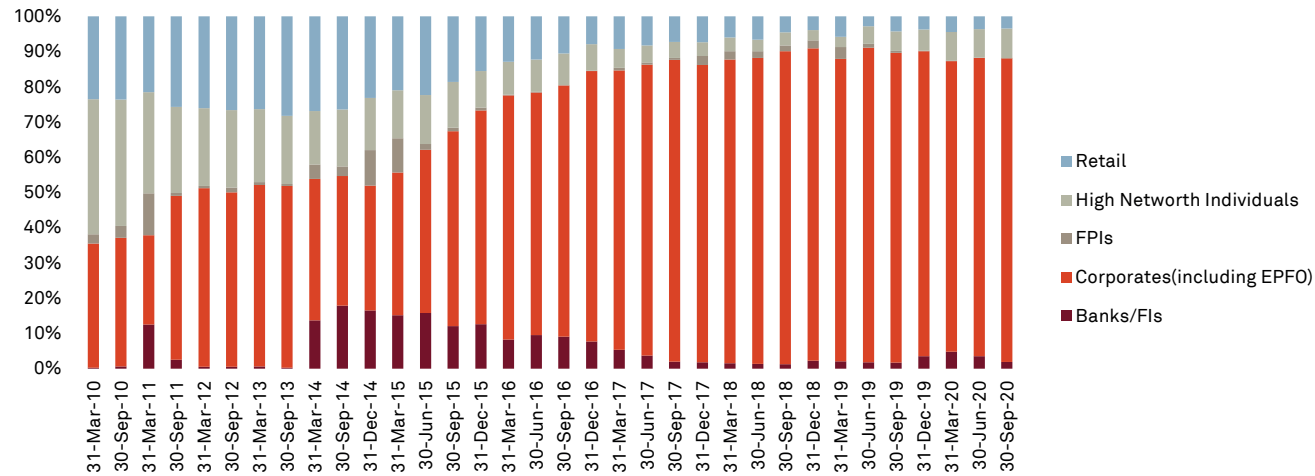


Source: The Association of Mutual Funds in India (AMFI)

Retail participation increases in terms of absolute amount

Retail participation in passive products (across asset classes, including ETFs and index funds) has increased from Rs 800 crore in 2010 to Rs 8,000 crore in 2020. However, retail contribution as a percentage of total passive investment AUM has remained low. A majority of investments come from corporates, as seen in the chart below.

Share of investor categories in passive AUM



Source: AMFI

Potential for growth of ETFs in India

ETFs can play a role in pushing up the mutual fund AUM. Low costs can be a primary factor in attracting the additional investments. Bharat Bond ETF being offered at 0.05 bps expense ratio can lead to a fall in ETF investment expense in future.

Today, AUM-weighted expense ratio of 0.8 bps for debt ETFs (17 bps excluding the Bharat Bond ETF) seems to be attractive compared with the AUM weighted expense ratio of 77 bps for regular plans of active debt schemes. However, it is not very lucrative if compared with AUM-weighted expense ratio of 33 bps for direct plans.

Another major reason for preference shifting to ETFs would be fall in alpha for active funds. The degree of underperformance of returns for active funds since inception ranges from 8 bps to 210 bps.

Taking this into consideration, and also basis increased contribution expectation from retail and HNI segments, we expect the passive product

inflows to contribute Rs 1-1.5 lakh crore additionally to the mutual fund AUM in the next couple of years.

Debt ETFs can be the vehicle of choice for FPI investments in India's debt market

India's fiscal deficit is estimated at a high 9.5% of GDP this fiscal and 6.8% in the next. Also, the government has proposed a long-term glide path for fiscal consolidation to bring down the fiscal deficit to 4.5% by fiscal 2026. This need for increased government borrowings is expected to keep demand for capital high over the next few years.

At the other end, gross domestic savings as a percentage of gross national domestic income has fallen from ~34% in fiscal 2012 to ~31% in fiscal 2020.

Against this backdrop, attracting foreign capital becomes an imperative in order to obviate a rise in the cost of borrowing and a crowding out effect on corporate debt.

To be sure, the RBI was gradually increasing the limits up to which FPIs could invest in Indian debt securities and had abandoned the minimum three-year holding requirement well before the pandemic set in. These steps were aimed at making Indian government securities lucrative for FPIs and also making them eligible for selection in global indices so

they could attract more foreign money. Demarcating a few government securities that would be eligible for FPIs without any limits under 'fully accessible route' (FAR) was another step in this direction.

The government, on its part, is trying to fix other operational details to make this a reality.

Meanwhile, Indian gilts remain attractive from a relative yield perspective, as the following table shows.

Yield comparison of India's 10-year G-sec vs those of other countries

Country	India	Canada	Germany	USA	Australia	UK	France	China	Japan	Spain	Italy	Russia	Brazil
Ratings	BBB-	AAA	AAA	AA+	AA+	AA	AA	A+	A+	A	BBB	BBB-	BB-
31-Dec-20	5.9%	0.69%	-0.57%	0.92%	0.97%	0.26%	-0.34%	3.20%	0.02%	0.02%	0.54%	5.91%	6.95%
31-Dec-19	6.6%	1.62%	-0.25%	1.89%	1.36%	0.77%	0.03%	3.18%	-0.01%	0.43%	1.38%	6.23%	6.74%
31-Dec-18	7.4%	1.92%	0.24%	2.80%	2.31%	1.27%	0.70%	3.27%	0.01%	1.43%	2.97%	8.69%	9.17%
31-Dec-17	7.3%	2.03%	0.42%	2.43%	2.64%	1.18%	0.68%	3.92%	0.05%	1.48%	1.81%	7.54%	10.09%
31-Dec-16	6.5%	1.72%	0.34%	2.49%	2.76%	1.39%	0.75%	3.06%	0.08%	1.37%	1.89%	8.40%	11.37%
31-Dec-15	7.8%	1.40%	0.60%	2.24%	2.83%	1.88%	0.94%	3.12%	0.28%	1.85%	1.60%	9.77%	16.44%

Source: www.worldgovernmentbonds.com

As shown in the table above, Indian government bonds are offering attractive yields compared with other countries. Additionally, CRISIL expects the exchange rate to remain stable around Rs 74/\$ in March 2021 and Rs 75/\$ in March 2022.

Together, the coordinated efforts of regulators and the government, attractive yields, and exchange rate stability make India a good investment avenue for FPIs.

Challenges for debt ETFs in India and possible solutions

The potential/ scope for growth of debt ETFs in India is clearly enormous, but there are also some major challenges to be addressed. These include:

- **Liquidity:** Illiquidity of underlying bonds translates into replication issues for ETF manufacturers. This has resulted in ETFs getting launched mainly in relatively liquid government and public sector bond segments in India. Low secondary market liquidity (average daily traded volume of close to Rs 2 crore for Bharat Bond ETF) - is also playing on the minds of investors
 - **Possible solution:** The role of market makers becomes critical in maintaining ETF liquidity. These players support liquidity on the exchange and ensure that ETFs trade at a value closer to that of the underlying basket. Limited number of market makers in Indian markets (5 vs 34 in the US), is a constraint here. Setting up of an institution to support liquidity for investment grade bonds as announced in Union Budget 2021-22 by the Finance Minister is, therefore, a welcome step

- **Replication challenges:** Given the illiquid nature of the bond market, the ETF manufacturers find it difficult to track the underlying bond indices
 - **Possible solution:** Relaxation of the replication norms may be the key here. A step in the right direction has already been taken by the regulator by allowing a waterfall approach for index replication of ETFs, by including issuers/ securities beyond the index constituents (see annexure 2 for details)
- **Lack of awareness among retail participants:** Most of the popular ETFs in India have grown due to the funds deployed by institutional investors. It is also important to channel the large pool of retail savings into this
 - **Possible solution:** Investor awareness drives by policymakers and entities such as the Association of Mutual Funds in India and development of suitable products to meet the financial goals/ needs of the retail investors would be critical. Regulations facilitating such innovation would hold the key. Also, as the scope for alpha in active management reduces, the shift to ETFs can happen naturally
- **Limited motivation for distributors on account of paltry commissions:** With low expense ratios, the distribution commissions are also limited in case of ETFs
 - **Possible solution:** Infrastructure development by providing standardised web-based procedures for investments, building on social media to educate and target investors, and rule-based robotic advisories that could directly target investors in a cost-effective way can plug this gap

Annexure 1



Source: "Credit Trends: The Growing Role Of Mutual Funds And Exchange-Traded Funds In The Credit Market" by S&P Global

Annexure 2: Summary of norms for Debt Exchange Traded Fund (ETFs)/Index Funds

Replication of the index shall be on basis of a waterfall approach as follows:

- Completely replicate if possible
- Issuer level replication with different bonds having deviation of +/- 10% for duration of bonds in the index. Portfolio duration deviation of not more than +/- 5%
- Other issuers from the index – Other issuers that are part of the index and having duration, yield and credit rating similar to the non-available issuers from the index. Portfolio duration deviation of not more than +/- 5%
- Issuers beyond index - Issuers that are not a part of the index and having duration, yield and credit rating similar to the non-available issuers from the index. Portfolio duration deviation of not more than +/- 5%. Such issuers shall not exceed 20% of portfolio value

Not easy for all

The RBI's unprecedented monetary-easing measures during the pandemic, complemented by synchronised, extraordinary easing by other central banks, have helped financial markets stage a full-throttle recovery from the abyss post the Covid-19 outbreak.

In India, conditions have never been easier in three years. Investor sentiment is on a high. Demand in some segments is also perking up.

However, easing has not been uniform across market players.

CRISIL's Financial Conditions Index (FCI) captures this.

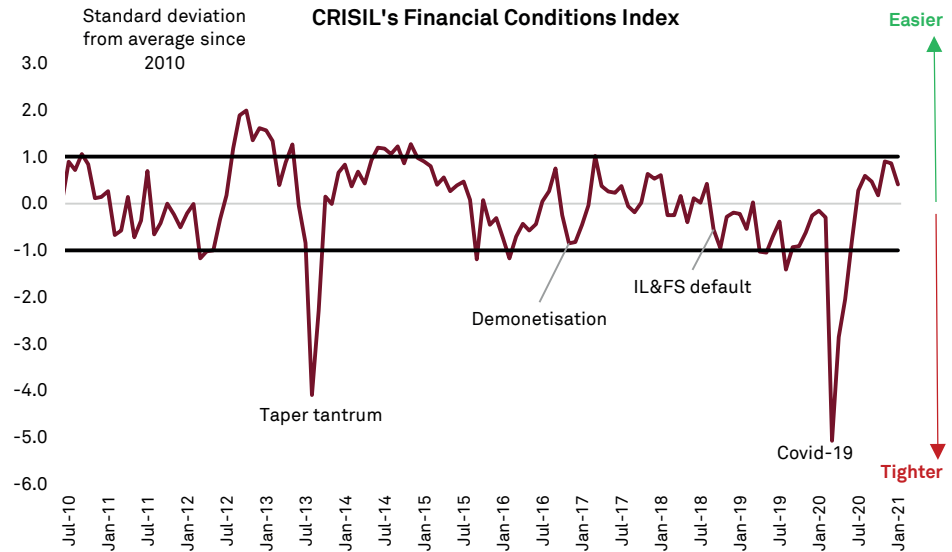
Moreover, there are tightening risks ahead.

The past decade in one chart

The FCI is a broad-gauge index that combines 15 key parameters across equity, debt, money, and forex markets in India, along with banking and policy conditions¹.

It shows that financial conditions stayed stable over most part of the past decade, except for a few periods of external and domestic shocks. A quick recap of these and how they show up on the FCI:

Three events rattled otherwise stable financial conditions over the past decade



Note: a value above 0 indicates easier conditions, and below 0 tighter conditions than decadal trend; a value above/below 1 standard deviation indicates significant easing/tightening
Source: CRISIL

The taper tantrum: The first large shock post the 2008 Global Financial Crisis was in 2013, when the mere hint of tapering asset purchases by the US Federal Reserve (Fed) roiled financial markets across the globe.

Our FCI dropped four standard deviations below the decadal average, implying significant tightness in conditions.

The tantrum started with FPIs pulling out, leading to the sharpest-ever rupee depreciation in that decade. Interest rate spreads in money and bond markets rose by more than 100 bps between July-September 2013. India was also more vulnerable to external shocks at that time, with current

¹For more details, refer to CRISIL report: Tracking Financial Conditions (October 2020)

account deficit (CAD) at over 4% of GDP, fiscal deficit at ~5%, inflation close to double digits, and slowing GDP growth.

Demonetisation: A temporary shock, it eventually benefited financial conditions, as a significant chunk of money supply as cash came into the financial system. This eased interest rates in money and bond markets, particularly on government securities (G-secs) and treasury bills (T-bills). Domestic macro indicators were also improving through this period, with CAD falling below 1%, fiscal consolidation, inflation below 5% and GDP growth above 8%.

The IL&FS debacle: Post September 2018, the default by IL&FS² triggered a confidence crisis among NBFCs and brought on a more persistent tightness. Corporate bond spreads spiked, especially for lower-rated NBFCs.

Notably, this crisis came at a time of external headwinds as well.

Other concurrent developments: Global financial conditions had tightened considerably as the Fed hiked rates four times in 2018, while continuing to reduce its balance sheet. Rising US-China trade tensions weakened investor appetite and hurt capital flows to emerging markets. Rising crude oil prices reversed the fall in CAD and increased pressure on the rupee. This forced the RBI to hike repo rate, even as CPI inflation was falling. This implied a rise in real interest rates, which hurt growth prospects.

Meanwhile, several public sector banks were put under the prompt corrective action (PCA) framework in the ongoing banking sector clean-up. This, coupled with the NBFC crisis, hit credit growth to the economy, with bank lending sliding since 2019.

How the FCI registers the pandemic and responses to it

The pandemic amplified the pre-existing tightness in financial conditions: in India, they were tightest in March 2020 in the past decade, the FCI shows.

The suddenness and magnitude of the scourge froze financial markets across the globe.

The following heatmap captures how exactly it panned out across India's market segments. With global conditions freezing up, record high FPI outflows and sharp rupee depreciation ensued. Equities tanked, their volatility too amplified. Corporates faced an acute liquidity crunch, as reflected in the sharp rise in spreads for commercial paper (CPs) and corporate bonds. Term premium for 10-year G-secs, already above the historical average, spiked further.

But then, the extraordinary monetary policy easing by the RBI (115 bps cut in the repo rate, Rs 2.8 lakh crore open market purchases of G-secs and other unconventional measures) and other major central banks engineered a quick improvement.

The FCI shows conditions became easier than the long-term average from July itself. By December, the index rose to a three-year high, implying the easiest conditions in that time.

To be sure, the ultra-accommodative stance of other major central banks also helped revive capital inflows to emerging markets. Faster-than-expected economic recovery and good progress on vaccines further boosted investor appetite. In contrast with record-high FPI outflows in March, December saw record inflows. Domestic equities benefitted the most, with the Sensex at an all-time high.

Money market instrument rates have fallen well below the repo rate amid surplus liquidity. The benchmark 10-year G-sec yield fell to decadal lows despite an 80% increase in central government borrowing. This also facilitated easing in corporate bond yields. Bank lending rates also eased to some extent, though their spreads over repo rate remained higher than the long-term averages.

²Infrastructure Leasing Financial Services

Getting better: financial conditions in 2020

		Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21
Policy rate	Repo rate (%)	5.15	5.15	4.4	4.4	4	4	4	4	4	4	4	4	4
	Repo rate, inflation-adjusted (%)	-2.4	-1.4	-1.4	-2.8	-2.3	-2.2	-2.7	-2.7	-3.3	-3.6	-2.9	-0.6	-0.1
Liquidity conditions	Net absorption(-)/injection(+) under LAF (Rs bn)	-3178	-3028	-2966	-4752	-5115	-3770	-3599	-3683	-3308	-4097	-5290	-5568	-5440
Money market	Call money rate (%)	4.9	5.0	4.9	4.0	3.6	3.5	3.4	3.4	3.4	3.3	3.2	3.1	3.2
	CP 6-month spread^ (%)	1.0	0.8	2.3	1.9	1.5	0.6	0.0	0.0	0.0	0.2	-0.2	-0.2	0.1
	91 day T-bill (%)	5.1	5.1	4.8	3.9	3.4	3.3	3.2	3.3	3.3	3.2	3.1	3.1	3.2
Debt market	10-year G-sec (%)	6.6	6.4	6.2	6.3	5.8	5.8	5.8	6.0	6.0	5.9	5.9	5.9	5.9
	Term premium (%)	1.4	1.3	1.8	1.9	1.8	1.8	1.8	2.0	2.0	1.9	1.9	1.9	1.9
	AAA bond spread' (%)	0.8	0.7	1.0	0.9	1.0	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.6
	AA bond spread" (%)	3.7	3.7	4.6	4.9	4.9	4.5	3.1	2.7	2.5	4.3	4.1	4.1	2.8
Lending rates	MCLR (6 month) (%)	8.1	8.1	8.0	8.0	7.8	7.6	7.5	7.4	7.3	7.3	7.2	7.2	7.2
	Housing loan rate (%)	8.4	8.4	8.4	7.9	7.8	7.6	7.4	7.4	7.4	7.4	7.4	7.4	7.4
	Auto loan rate (%)	8.9	8.9	8.8	8.4	8.3	8.1	8.1	8.1	8.1	8.0	8.0	8.0	8.0
Credit availability	Bank credit growth (y-o-y,%)	8.5	7.3	6.8	7.4	7.0	6.9	6.9	6.0	5.8	5.5	6.0	5.9	5.9
Money supply	M3 growth (y-o-y %)	11.2	10.2	8.9	10.8	11.7	12.3	13.2	12.6	12.2	11.6	12.5	12.4	12.5
Equity market	Sensex (%*)	18.6	11.6	-12.1	-28.2	-12.5	-2.4	6.4	7.2	8.4	7.8	25.3	22.4	23.4
	NSE VIX	14.9	15.4	53.1	45.0	37.0	30.3	25.2	21.2	21.1	21.6	21.0	19.8	22.4
Forex market	Rs/USD (m-o-m %)	0.2	0.2	4.0	2.5	-0.8	0.1	-1.0	-0.4	-1.6	0.0	1.0	-0.8	-0.7
Foreign capital	Net FPI (USD bn)	0.1	1.3	-15.9	-2.0	-1.0	3.4	0.5	6.7	-0.2	3.0	8.5	9.6	2.0
Global conditions	S&P500 (%*)	13.0	17.0	-4.2	-5.6	-1.9	10.2	9.5	16.8	11.8	18.2	15.1	21.1	23.5
	US 10Y Treasury yield (%)	1.8	1.5	0.9	0.7	0.7	0.7	0.6	0.7	0.7	0.8	0.9	0.9	1.1
		63.6	55.0	33.0	23.3	31.0	39.9	42.8	44.3	41.1	40.5	43.2	49.9	54.6

Note: LAF is liquidity adjustment facility, ^spread over repo rate; term premium is 10 year G-sec's spread over repo rate; 'spread over 10-year G-sec; "spread over five-year G-sec; *% change with respect to a two-year moving average, a positive % rupee change implies depreciation against US\$ and vice-versa

Source: RBI, National Securities Depository Ltd (NSDL), US Treasury department, CEIC, CRISIL

■ Favourable ■ Adverse ■ Neutral

Some have had it easier than others

Notably, while financial conditions broadly eased across various segments, the extent was not uniform.

Biggest beneficiaries

- Money markets benefited more from surplus liquidity relative to longer-tenure securities. The call money rate, 91-day T-bill, and even 6-month CPs have been trading below the repo rate over the past year, and during some episodes, even below the reverse repo rate
- The RBI's intervention in the bond market through open market purchases and long term repo operations (LTROs) significantly benefitted G-secs and high-rated corporate bonds. Yield on 10-year G-sec fell 65 bps in calendar year 2020. For 10-year AAA-rated corporate bonds, the average spread over 10-year G-sec fell to 53 bps by end-2020 compared with 82 bps at the start of the year. Lower-rated bonds saw spreads narrowing to a lesser extent
- Record high FPI inflows mainly went to the equity market, which saw \$23 billion net FPI inflows in 2020, compared with \$14.4 billion the previous year. In contrast, the debt market saw \$14.1 billion net outflows in 2020, compared with \$3.7 billion net inflows the previous year

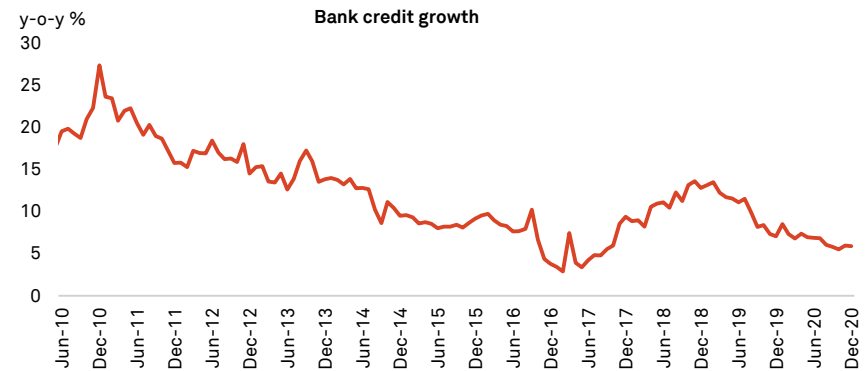
Still elusive for these

- Bank credit growth, which was falling even before the pandemic, slumped further in 2020. Even in December, it remained below pre-pandemic levels. Moreover, growth has been weakest to micro and small enterprises, which have been hit hardest by the pandemic. A recent study by CRISIL Research³ has shown that the revenue of small players has suffered more than that of large ones. Despite weak bank credit growth, the latter were able to tap other financing channels such as the bond market. The biggest beneficiaries of the government's emergency credit guarantee scheme have been the medium-sized enterprises, where credit offtake has picked up considerably

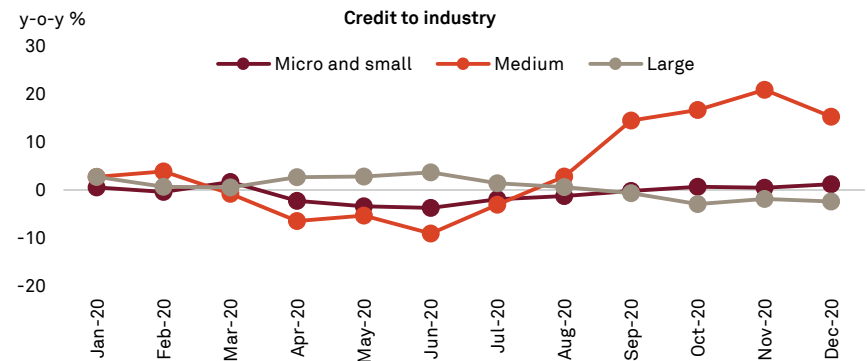
- In the bond market, spreads for lower-rated corporate bonds remain higher than long-term averages. For instance, spreads for AA-rated medium-term bond over government benchmark is was over 400 bps in December 2020, compared with a decadal average of 190 bps. Spreads for low-rated NBFCs remain even higher

This highlights that risk aversion remains high, hindering a broad-based financial easing.

Bank credit has dwindled further post pandemic



Credit offtake weakest to smaller enterprises



Source: RBI, CEIC, CRISIL

³Size matters in viral bout (CRISIL Research, December 2020)

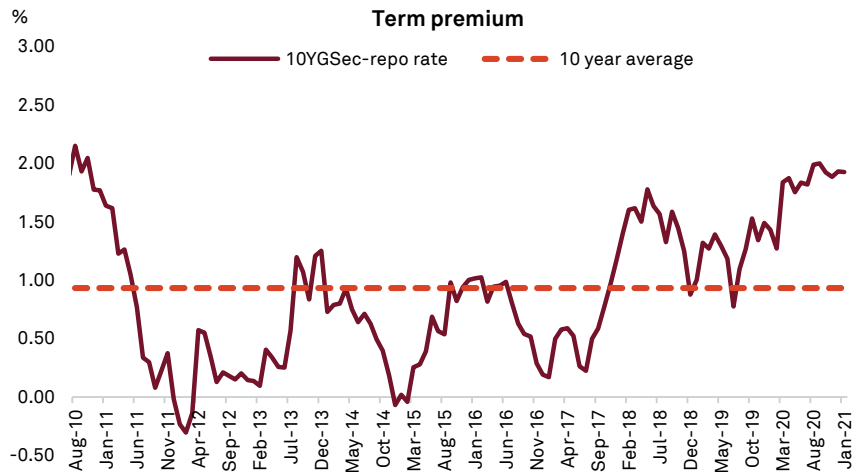
Watch out for tightening risks

The government has deviated from its fiscal consolidation path for two fiscals now. This has translated into increased supply of government bonds in the market. The pandemic has further dealt a huge blow to government finances, with fiscal deficit ballooning to 9.5% of GDP in fiscal 2021. As a result, the Centre's gross market borrowing (i.e., fresh issuances of G-secs) jumped to a record high of Rs 12.8 lakh crore in fiscal 2021, compared with Rs 7.1 lakh crore previous year. With fiscal deficit remaining stretched at 6.8% of GDP in fiscal 2022, borrowings are expected to see only a slight reduction to Rs 12.06 lakh crore in fiscal 2022, according to budget estimates.

So far, G-sec yields have withstood such a surge in borrowing, thanks to the RBI's timely measures. However, the term premium remains abnormally high, reflecting the fiscal risk factored in by investors. Term premium of the 10-year G-sec over repo rate averaged 180 bps in 2020, compared with a decadal average of 90 bps.

Supply pressures will have a bearing on yields once the RBI starts unwinding its ultra-accommodative stance. Upside risks also persist on account of rising crude oil prices and US Treasury yields.

Term premium indicates heightening fiscal risks



Source: RBI, CRISIL

Financial risks to watch out for

- Rising insolvencies and non-performing assets (NPAs):** Easy financial conditions and regulatory forbearance averted the liquidity crunch risked by lockdowns, halting a rise in insolvencies on account of the pandemic. However, as pointed out in the RBI's latest Financial Stability Report, the actual impact on balance sheets will become apparent once the regulatory relief is rolled back. The latest Economic Survey also recommends forbearance to be withdrawn as soon as economic recovery sets in. The emergence of more NPAs could further heighten risk aversion of banks and weaken credit growth
- Inflated asset prices:** As pointed earlier, financial easing has benefitted certain market segments more than others. In particular, equity prices have raced far ahead of recovery in the real economy, resulting in stretched valuations. Price-to-earnings (PE) ratio for the Sensex has reached an all-time high of ~34, compared with the long-term average of 20. Unless a commensurate real recovery is realised, such stretched valuations could be a risk to financial stability

Data book, fiscals 2011-2021



The year that defined the new normal

The chain of setbacks that roiled Indian debt markets in the past few years continued through fiscal 2020 and into the current fiscal.

Ever since a large non-banking finance company (NBFC) defaulted on its repayment obligations in September 2018, NBFCs and housing finance companies (HFCs) have had to grapple with multiple challenges – from an acute liquidity crisis to the Covid-19 pandemic. Besides, spreads on lower-rated issuers widened as demand for credit papers reduced after a large asset management company (AMC) wound up its credit schemes.

Credit offtake from banks has been muted – at 5.5%, the pace of growth has been significantly lower than the 13.3% in fiscal 2019. Weak economic activity, deleveraging of corporate balance sheets and risk aversion by banks due to asset quality concerns led to banks parking excess liquidity in repo and statutory liquidity ratio (SLR) securities.

However, measures taken by regulators to maintain excess liquidity in the system, borrowing under targeted long-term repo operations (T-LTROs), the Partial Credit Guarantee Scheme (PCGS), launch of debt exchange-traded funds (ETFs) starting with Bharat Bond ETF, and falling interest rates have resulted in an unexpected rise in issuances in debt markets.

High liquidity has kept a leash on costs

Liquidity conditions transited out of deficit zone starting June 2019, backed by multiple measures from the Reserve Bank of India, including cash reserve ratio (CRR) reduction, variable and fixed rate repos/ reverse repos, access to the marginal standing facility (MSF), LTRO, T-LTROs, line of credit to financial institutions, and a special liquidity facility for mutual funds (MFs). Systemic liquidity remained in surplus, averaging Rs 4 lakh crore in the first half of this fiscal.

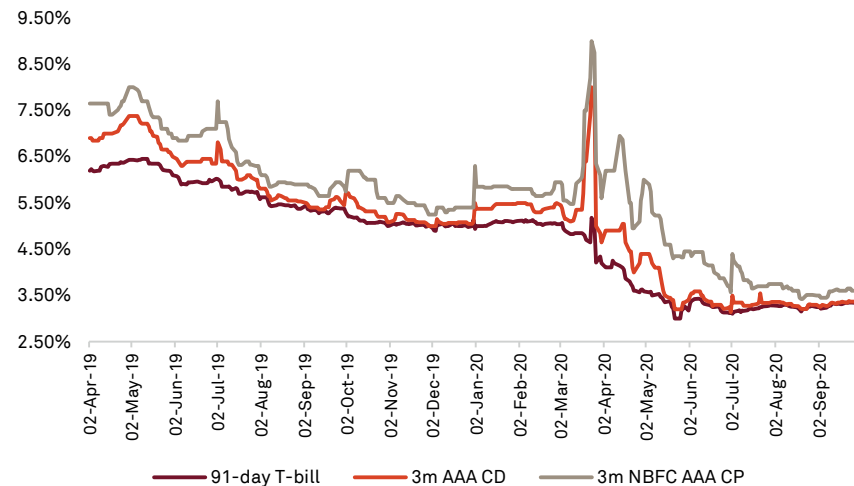
With high systemic liquidity and the increase in bank deposits consistently outpacing credit growth, supply of CDs shrank.

Fresh issuance of certificates of deposit (CDs) fell to Rs 3.88 lakh crore in fiscal 2020 and to a mere Rs 51,658 crore in the first half of fiscal 2021.

New issuances of commercial papers (CPs) in the primary market also declined to Rs 7.86 lakh crore in the first half of this fiscal from Rs 21.96 lakh crore in fiscal 2020 and Rs 25.96 lakh crore in fiscal 2019. This was due to reduced demand for CPs of NBFCs and HFCs.

Broadly following the trajectory of policy rates, the interest rate spreads widened and compressed based on the varying demand-supply dynamics. The average spread of three-month CD rates over 91-day T-bill rates narrowed from 60 bps in the first quarter of fiscal 2020 to 13 bps in the third quarter, but widened to 54 bps in the fourth quarter as the pandemic set in and due to the usual year-end balance sheet phenomenon. For three-month NBFC CPs, the average spreads over CDs compressed marginally from the first to third quarters of fiscal 2020, averaging 46 bps for the year. However, the spread widened significantly to 104 bps in the first quarter of this fiscal owing to heightened risk perceptions on the back of defaults and downgrades in NBFCs, and normalised to 35 bps in the second quarter as demand picked up.

Benchmark money market rates

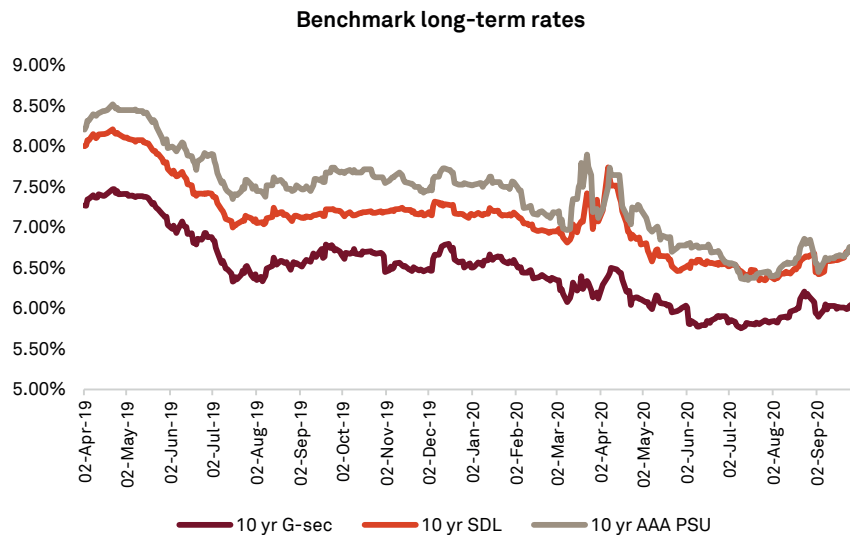


SLR stayed on downward trajectory

There was a minor hardening in government security (G-sec) yields in April 2019 in response to the RBI maintaining a neutral monetary policy stance contrary to market expectations, and on sustained higher crude oil prices and depreciation of the rupee. Thereafter, however, yields mostly traversed downwards for much of fiscal 2020.

General election results, infusion of liquidity, lower crude prices, rate cuts, and open market operations (OMOs) resulted in the yields easing. Geopolitical tension following the attack on oil refineries in Saudi Arabia, concerns over fiscal slippage, and rising interest rates in the United States led to yields increasing for brief periods intermittently.

With the growth slowdown, the RBI cut the policy rates and maintained its accommodative stance, and through various measures, including hike in HTM limits, OMOs, and devolvement of issuances to primary dealers, managed the interest rates and kept them in check despite the unusually large supply of G-secs this fiscal.



Note: G-sec and SDL yields are semi-annualised, corporate bond yield are annualised.
Source: CRISIL Research

At Rs 7.10 lakh crore, the gross borrowing in fiscal 2020 was much higher than the Rs 5.71 lakh crore borrowing programme for the previous fiscal because of higher redemption pressure on dated securities. This fiscal, gross borrowing is expected to touch Rs 12.8 lakh crore as per budget estimates.

Supply was large, with multiple 10-year G-sec benchmark securities being introduced in a short span of a year, and the outstanding crossed the Rs 1 lakh crore-mark quickly.

Even issuances of SDLs rose a sharp 33% on-year in fiscal 2020 and are expected to increase by a further 37% this fiscal. Despite the large SDL supply, spreads between G-secs and SDLs remained range-bound, averaging ~63 bps in both fiscal 2020 and the first half of this fiscal.

Bonds benefited from liquidity measures

Amid the risk of crowding out by SLR securities supply, primary corporate bond issuances increased to Rs 6.9 lakh crore in fiscal 2020.

Softening yields encouraged corporates to mobilise higher resources from the corporate bond market, particularly public sector entities. Private placements remained the preferred choice for corporates, accounting for ~98% of total resources mobilised through the bond market. However, the share of the NBFC/HFC segment and A and lower-rated bonds has been declining from 2018 due to reduced demand following defaults and downgrades in the NBFC/HFC segment.

Yields of benchmark corporate bonds mostly tracked the G-sec movement, and the spread of 10-year AAA PSU bonds over the 10-year G-sec averaged ~100 bps in fiscal 2020. This spread shrank to 63 bps in the second quarter this fiscal.

Investments by FPIs in corporate bonds dropped to Rs 1.73 lakh crore at fiscal 2020-end from Rs 2.19 lakh crore at fiscal 2019-end. This further reduced to Rs 1.45 lakh crore by September 2020, resulting in utilisation levels of limits at ~34%, significantly lower than past years.

Riding the falling interest rates, most of the CRISIL long-term indices

delivered higher returns in fiscal 2020. There was a fall in returns in money market indices due to rollovers on low interest rate papers.

Macroeconomic troubles

Even before the pandemic hit, real GDP growth had slumped to a decadal low of 4% in fiscal 2020 compared with 6.5% the previous year. This was driven by slowing private consumption as well as investment growth. Business and consumer confidence were at their lowest in 10 years, and the financial sector, burdened with bad assets, was unable to adequately lubricate the economy.

The pandemic sharply slowed the Indian economy to -23.9% in the first quarter this fiscal. The huge economic cost it extracted forced the country to open up and get back on its feet in the following quarter, slowing the decline to -7.5%. What also helped was a sharp cutback in operating costs for corporates due to jobs and salaries being pared, employees exercising work-from-home options, and low input costs due to benign interest rates and prices of crude oil and commodities.

Two other factors have been supportive: the agriculture sector, which recorded 3.4% growth on-year, and exports, which only posted a contraction of 1.5% versus -19.8% in the first quarter. Since imports fell much sharper than exports, net trade was less of a drag on the economy compared with the past.

For the first half of this fiscal overall, GDP declined 15.7%, with the services sector suffering more than manufacturing. In the second half, GDP growth is estimated to be almost stagnant. Thus, for the fiscal overall, GDP is expected to decline 7.7%, according to first advance estimates by the National Statistics Office.

Consumer price index-linked (CPI) inflation remained within the RBI's target of 4-6% for much of fiscal 2020, averaging 4.8% for the year. However, in the first half of this fiscal, it consistently remained above

the upper target limit, averaging 6.7%. Sporadic lockdowns and supply disruptions, coupled with high bullion prices, have kept prices elevated despite slack demand.

The weak domestic demand, coupled with low crude prices, led the current account deficit to narrow to 0.9% of GDP in fiscal 2020 compared with 2.1% the previous year. The imposition of lockdowns led the current account to turn surplus in the first half of this fiscal, as imports fell much sharper than exports. The first quarter saw a record-high surplus of \$19.8 billion, or 3.9% of GDP. With the economy unlocking, this moderated to \$15.5 billion or 2.4% of GDP in the second quarter.

Uncertainty post the pandemic in March 2020 led to a record outflow by FPIs and a sharp depreciation of the rupee against the US dollar at fiscal 2020-end. The rupee averaged 74.4 to the dollar in March 2020, compared with 69.5 in March 2019. However, the sharp easing of monetary policies by central banks globally led to a return of FPI inflows. This, coupled with the current account surplus, eased depreciation pressure on the rupee. By the end the first half of this fiscal (September average), the rupee settled at 74.7 per US dollar.

The central government's fiscal deficit had breached the Fiscal Responsibility and Budget Management (FRBM) target in fiscal 2020, with fiscal deficit printing at 4.6% of GDP. Gross market borrowing had risen to Rs 7.1 lakh crore in fiscal 2020 compared with Rs 5.7 lakh crore the previous year. The hit to economic activity due to the pandemic further affected tax revenues and led to a sharp rise in borrowing. In the first half of this fiscal, the Centre's gross market borrowing had surged to Rs 7.4 lakh crore.

Annexure

Key macroeconomic data, policy rates and bank lending

Fortnight ended	Non-food bank credit	Investments in commercial paper	Investments in shares	Investments in bonds/debentures	Total non-food bank credit
15-Jan-21	1,05,53,613	72,243	87,353	5,80,452	1,12,93,661
25-Sep-20	1,02,05,155	92,022	88,193	5,77,661	1,09,63,031
27-Mar-20	1,03,19,098	1,04,526	95,255	5,43,959	1,10,62,839
29-Mar-19	97,30,112	90,362	87,506	5,73,649	1,04,81,629
30-Mar-18	85,83,436	1,15,944	90,607	4,61,664	92,51,651

Source RBI

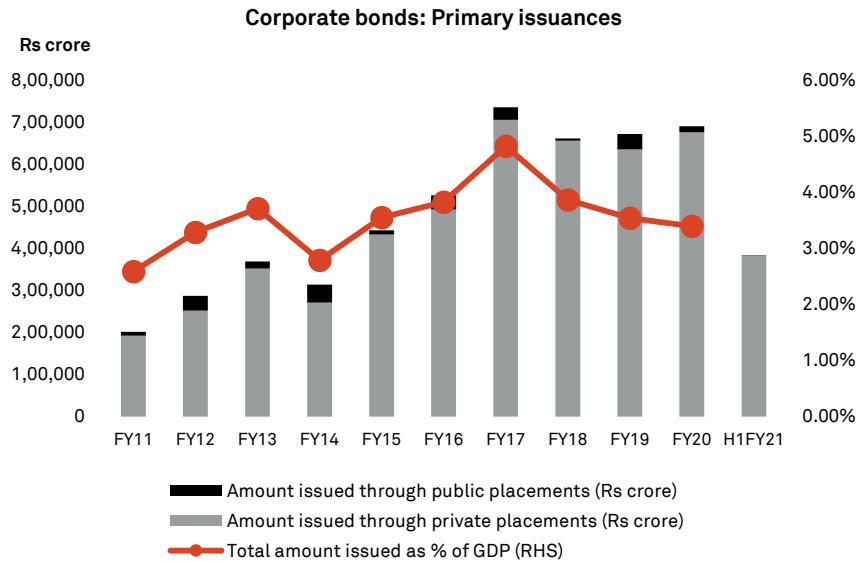
Effective date	Fix range LAF rates			Cash reserve ratio	Marginal standing facility	Statutory liquidity ratio
	Bank rate	Repo	Reverse			
22-May-20	4.25	4.00	3.35	-	4.25	-
17-Apr-20	-	4.40	3.75	-	-	-
11-Apr-20	-	-	-	-	-	18.00
28-Mar-20	-	-	-	3.00	-	-
27-Mar-20	4.65	4.40	4.00	-	4.65	-
04-Jan-20	-	-	-	-	-	18.25
12-Oct-19	-	-	-	-	-	18.50
04-Oct-19	5.40	5.15	4.90	-	5.40	-
07-Aug-19	5.65	5.40	5.15	-	5.65	-
06-Jul-19	-	-	-	-	-	18.75
06-Jun-19	6.00	5.75	5.50	-	6.00	-
13-Apr-19	-	-	-	-	-	19.00
04-Apr-19	6.25	6.00	5.75	4.00	6.25	19.25

Source RBI

Key Macroeconomic parameters	FY19	FY20	FY21F
CPI inflation (% , average)	3.4%	4.8%	6.4%
Repo rate (% , March-end)	6.25%	4.40%	4.00%
SLR (% , March-end)	19.25%	18.00%	18.00%
Brent crude oil price (USD per barrel, March)	66.4	33.4	55-60
Current account balance (as a % of GDP)	-2.10%	-0.90%	1.80%
Fiscal deficit (as a % of GDP)	3.40%	4.60%	9.50%
Rupees per dollar (March-end)	69.5	74.4	74.00
GDP growth (y-o-y %)	6.10%	4.00%	-7.70%
FPI investment in corporate bonds (Rs lakh crore; March-end)	2.19	1.73	1.34*
GOI net market borrowing (Rs lakh crore)	4.23	4.74	10.5

F: Forecast for FY21; NA: Not available, * as on 17 Feb 2021

Corporate bond issuances stick to 'private' road

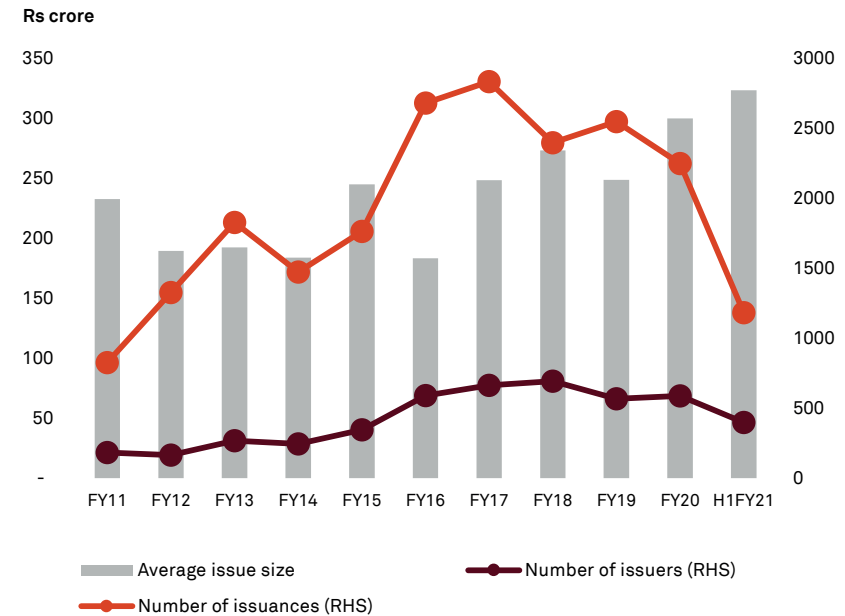


Source: RBI, SEBI, Prime Database
 Note: Amount issued as % of GDP is not available for H1FY21

Primary issuance via private placements continued to dominate the total issuance – at ~98% in fiscal 2020 and 99.77% in the first half of fiscal 2021. Public issuance (largely driven by retail investors) lagged behind because of reduced interest rates, positive equity markets, and alternative cheaper fund-raising options for NBFCs, which typically borrow through public placements.

A multitude of schemes launched by the Reserve Bank of India (RBI) and the Ministry of Finance, such as long-term repo operations (LTRO), targeted long-term repo operations (TLTRO), special liquidity scheme (SLS), and partial credit guarantee scheme (PCGS), brought low interest rates and high liquidity to the market. Hence, despite the Covid-19 pandemic, primary issuance was ample.

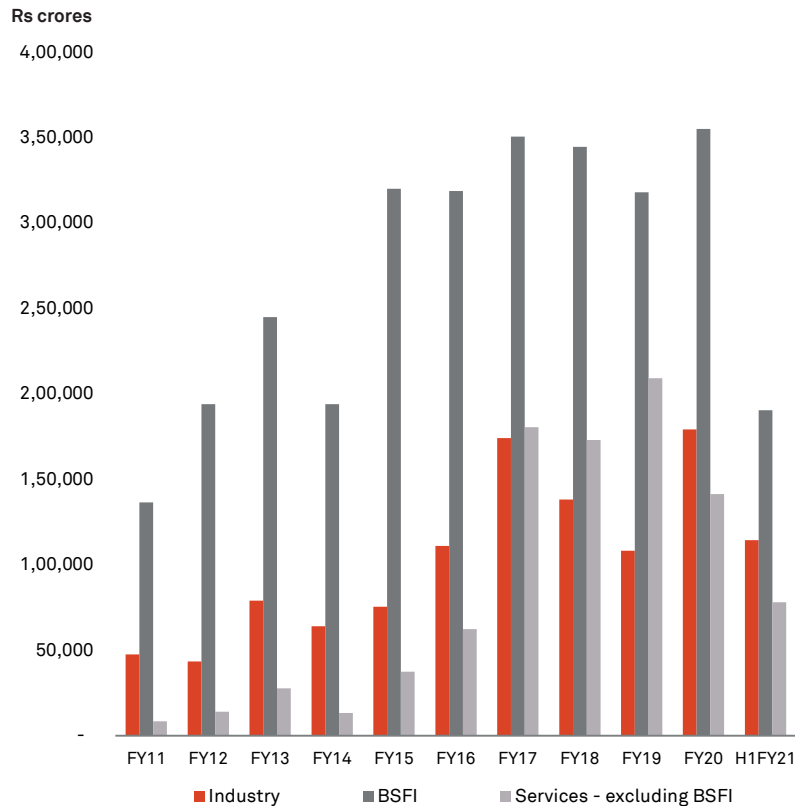
Corporate bonds: Private placements



Source: RBI, SEBI, Prime Database

The number of NBFC and HFC issuers who approached the bond market has fallen post fiscal 2018 due to lower appetite for such papers, reduced capital requirement (owing to consolidation of business at top NBFCs and HFCs), and alternative funding sources (such as securitisation and bank loans). The total issuance fell a marginal ~3% on-year in fiscal 2019, following the IL&FS and NBFC liquidity crisis. Meanwhile, the number of issuers decreased a significant ~18% on-year, reflecting the strain on lower-rated issuers in raising capital from the market. In fiscal 2020, the total issuance amount increased a marginal ~6% on-year, the number of issuances fell ~12% on-year, and the number of issuers changed a minimal ~3% on-year. As interest rates fell, the average issuance size increased in fiscal 2020 and also the first half of this fiscal.

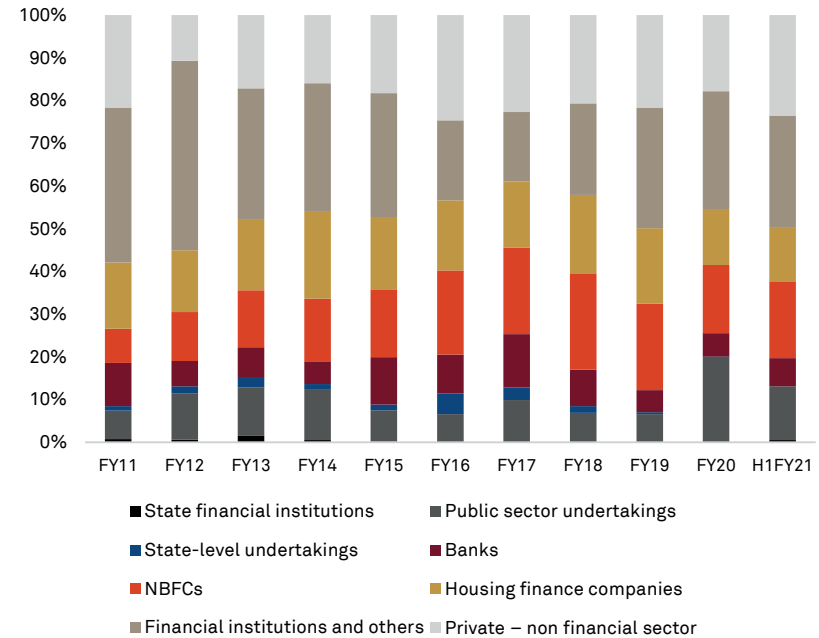
BFSI dominance in issuance continues



Source: Prime Database, CRISIL Research

The banking, financial services, and insurance (BFSI) segment continued to dominate the total issuance – ~50% in fiscal 2019 and 52% in fiscal 2020. Despite the pandemic and nationwide lockdown hurting the economy, the BFSI segment contributed ~49.7% of the total issuance in the first half of fiscal 2021. Many corporates took advantage of the lower borrowing cost in capital markets backed by TLTRO (for stressed sectors), PCGS, and SLS. Hence, the share of the industry segment increased to 30% of the total issuance in the first half.

NBFCs and HFCs lose share



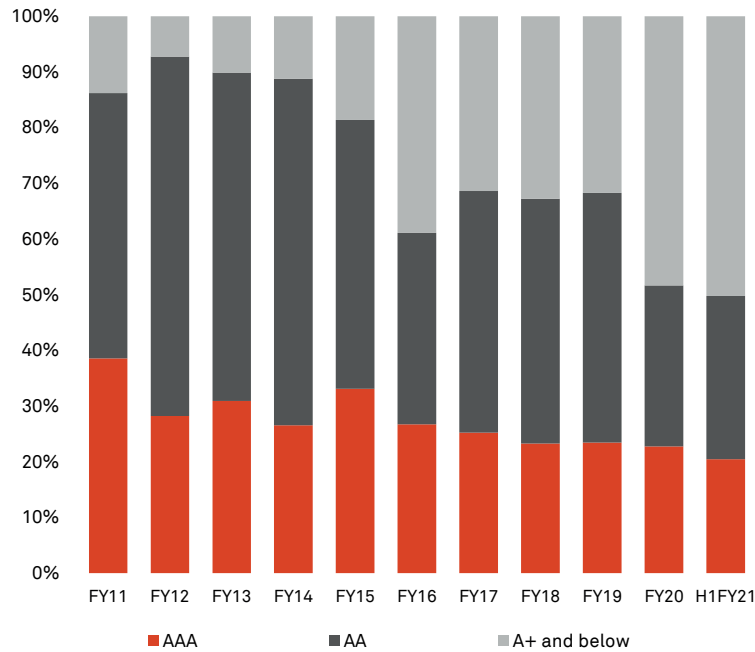
Source: Prime Database, CRISIL Research

The share of NBFCs and HFCs remained a good 4 percentage points lower through fiscal 2020 and the first half of fiscal 2021, compared with the preceding years, showing these sectors were yet to regain the confidence of investors completely. Within these sectors, leaving out the borrowing done under various special schemes announced by the RBI, only the top-rated issuers were able to tap bond markets.

Multiple NBFCs/HFCs also used market-linked debentures as a vehicle for financing in the past two fiscals and were thus able to access alternative avenues of funding from HNIs.

The lost share from these sectors has been taken up primarily by private corporate and financial institutions, which took advantage of lower interest rates in debt markets and of schemes such as TLTRO.

Number of issuances



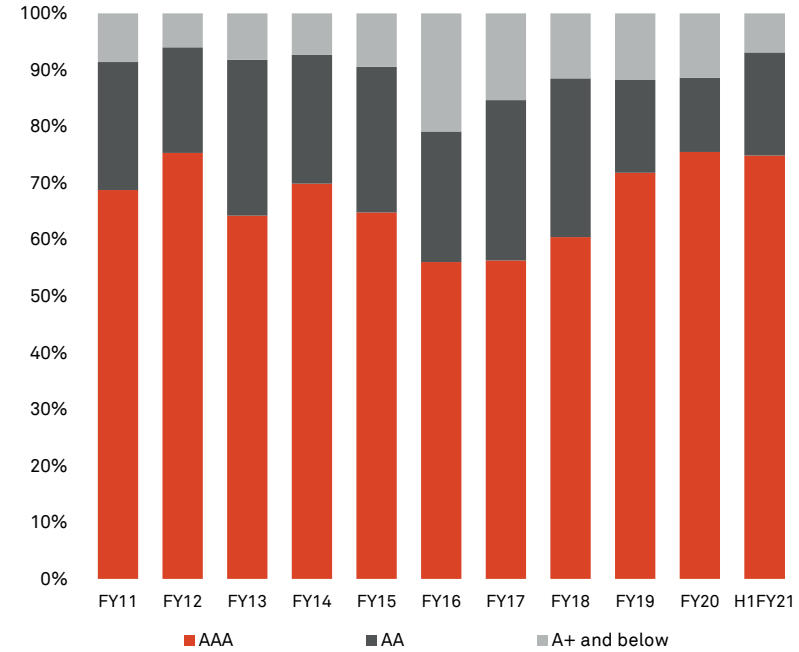
Source: Prime Database, CRISIL Research

The AAA segment’s contribution to the total number of issuances remained flattish over fiscals 2018-2020 at 23%.

Lower-rated bonds picked up in fiscal 2020 and the first half of fiscal 2021 because of growing interest from banks under TLTRO and PCGS, ensuring availability of cheaper funds for lower-rated companies. Further, MFs started showing interest in these lower-rated papers for their credit opportunity funds.

That said, while the number of issuances from lower-rated segments was large, these were primarily by a few issuers and the total amount issued was significantly small as the ticket size per issuance was minuscule compared with that of top-rated issuers. Further, the total number of issuers declined ~15% to 587 in fiscal 2020 from 694 in year

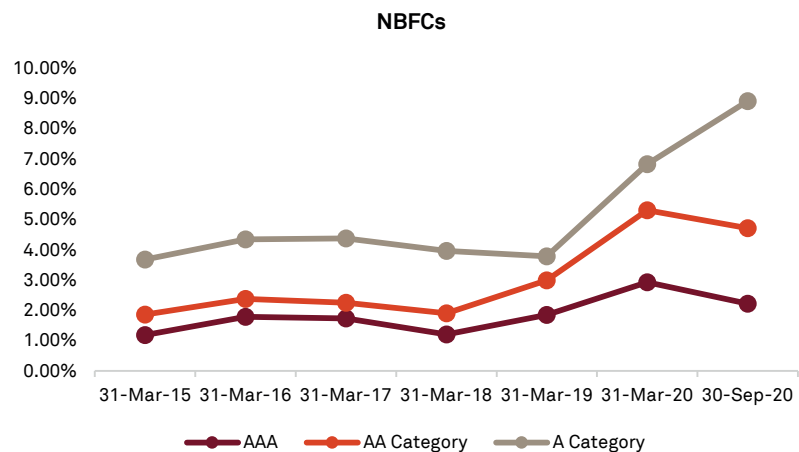
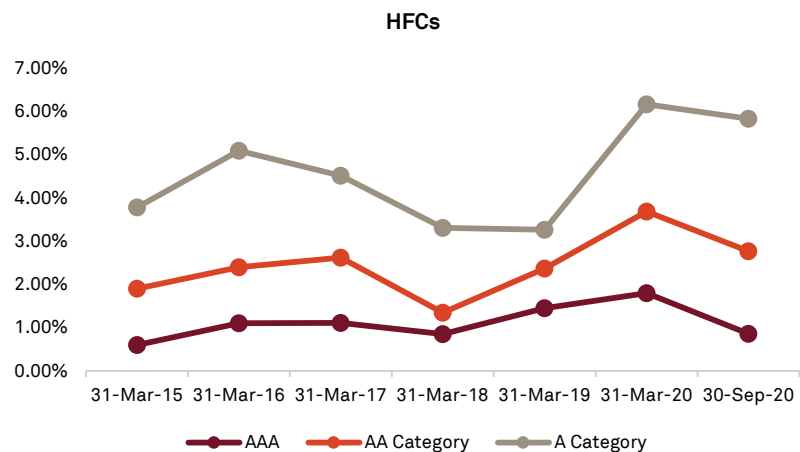
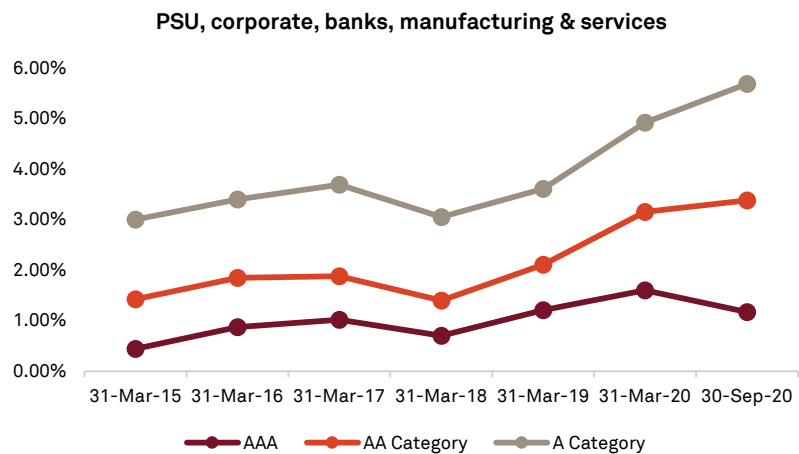
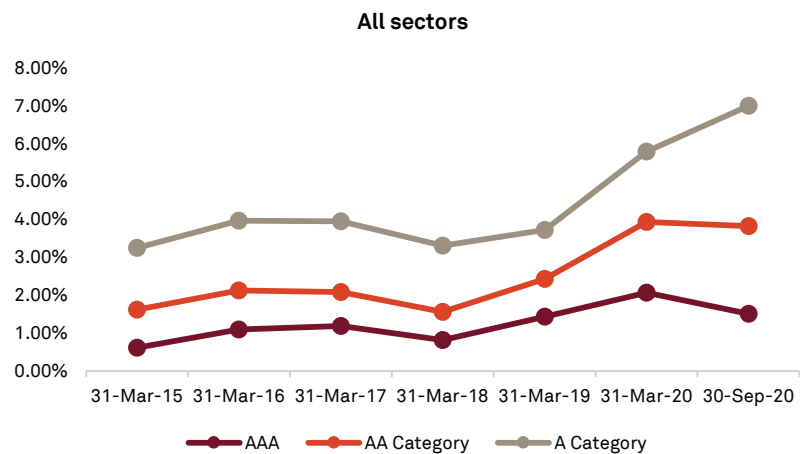
Amount of issuances



Source: Prime Database, CRISIL Research

2018, and stood at 398 in the first half of fiscal 2021. Following the IL&FS debacle in fiscal 2018, the market appetite continues to wane for lower-rated bonds and investments in the NBFC/HFC sectors. Issuance amount of AAA category issuers rose to 72% of the total issuance in fiscal 2019 (60% in fiscal 2018), and that of AA category issuers fell to 16% (28% in fiscal 2018). Similarly, the AAA segment took about 75% of the total pie in fiscal 2020 and the first half of fiscal 2021. In the first half, although the RBI’s stimulus packages encouraged lower-rated companies to raise capital, the A+ and below segment constituted only 7% (lowest in the last 5 years), reflecting the low-risk appetite of investors following the winding up of six credit schemes by Franklin Templeton AMC in April 2020.

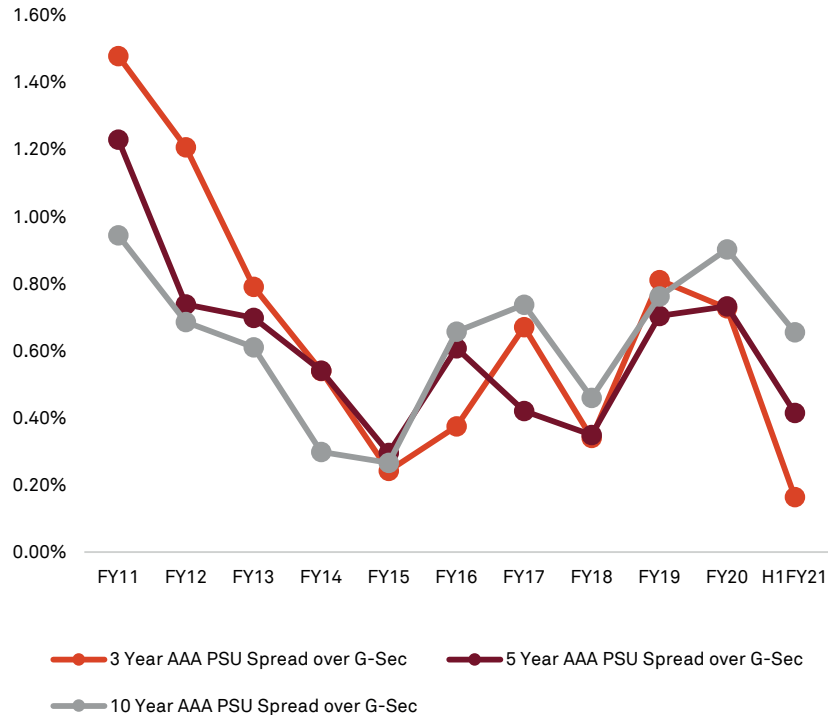
Spread widens for AA and A rated issuers



Source: Crisil Research
 Note: Average of spread of all issuers in the rating and sector category, computed over corresponding maturity G-sec, averaged over tenure. Spreads are as of March end date

Spread over G-secs compresses across categories

AAA PSU issuers spread over G-Sec

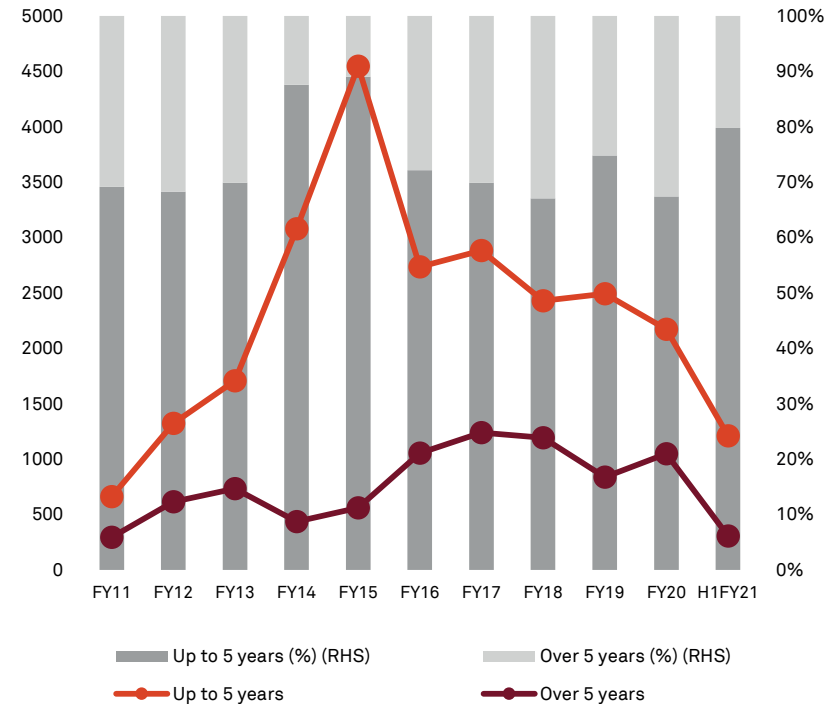


Spread as of March-end
Source: CRISIL Research

Spreads over G-sec expanded across rating categories in fiscal 2020. The spread for A and lower category issuers widened significantly in fiscal 2020 and remained elevated in the first half of fiscal 2021, as market caution following a string of defaults/rating downgrades since September 2018 led to reduced investor appetite for corporate bonds. In the first half, ample systemic liquidity and RBI's OMOs led to compression of spreads of benchmark and top-rated corporate bonds over G-sec. However, demand for lower-rated issuers remained muted, widening spreads further for them.

Maturity profile of securities issued

No. of securities

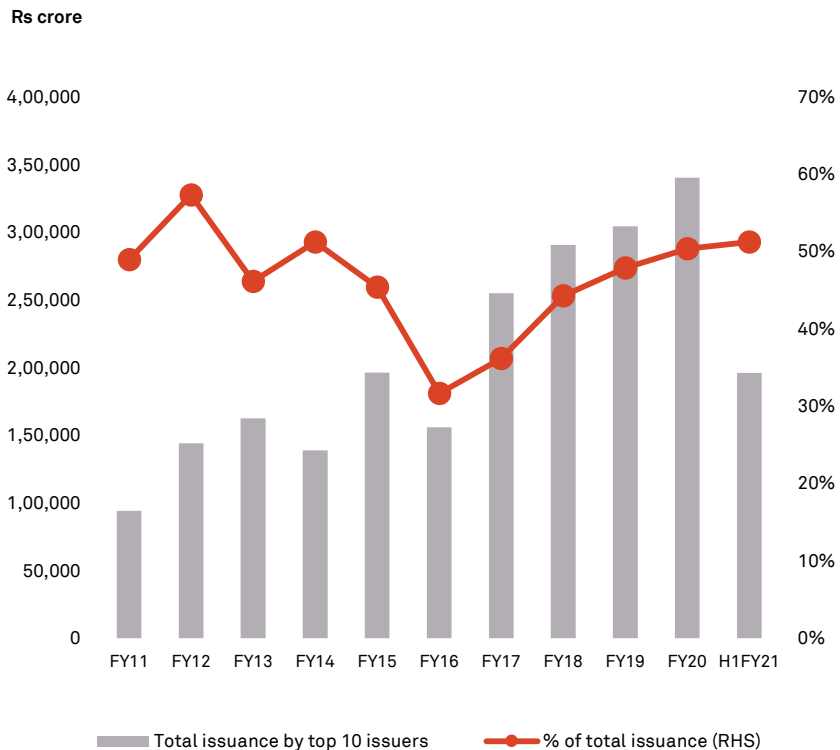


Source: Prime Database, CRISIL Research

About 80% of the total issuance in the first half of this fiscal fell under the maturity bucket of up to 5 years, marking a 5-year high. Amid the pandemic, investors were cautious about taking a long-term view and resorted to investing in shorter-tenure securities. Issuances under TLTRO which were predominantly of 3-year tenure also resulted in higher share.

Demand for shorter-tenure segments (up to 3 years) remained strong, accounting for ~33% in fiscal 2019 and ~32% in fiscal 2020, largely on the back of mutual funds (MFs), which are active in the 0-3 year segment. The proportion of this segment increased to 37% in the first half of fiscal 2021, the highest in the last 5 years, due to demand from banks under the RBI stimulus packages (LTRO, TLTRO, PCGS, and SLS), which had an investment maturity cap of up to 3 years.

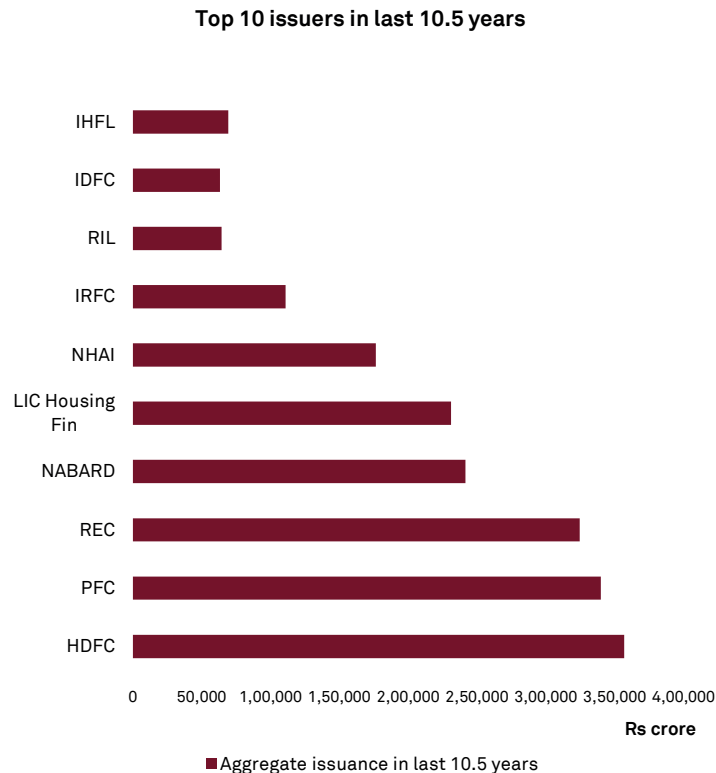
Top 10 issuers account for 50% of issuances



Source: Prime Database, CRISIL Research

The top 10 issuers based on issuance amount contributed ~50% of the total issuance over fiscal 2019 to the first half of fiscal 2021. Housing Development Finance Corporation (HDFC) led in aggregate issuance over the past 10 years. However, in the first half of fiscal 2021, Power Finance Corporation (PFC) led the group, followed by HDFC and Reliance Industries (a new entrant in the list of top five issuers).

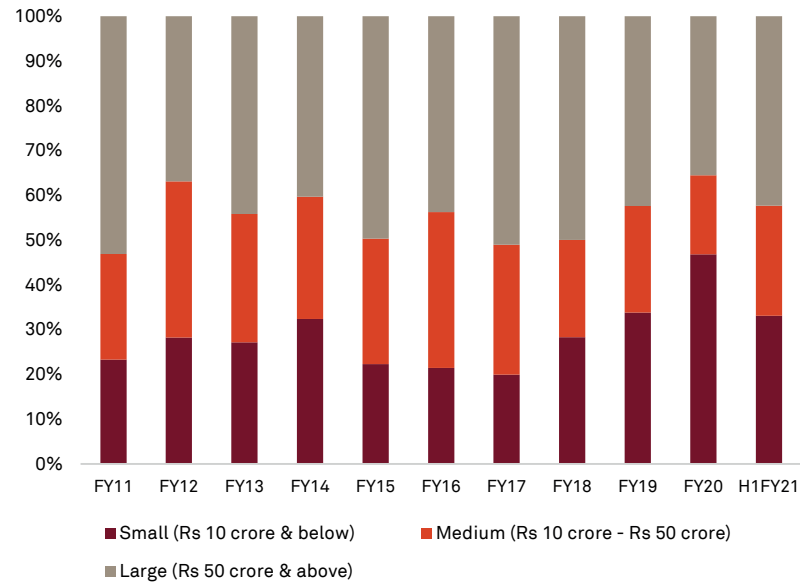
HDFC tops the toppers



Source: Prime Database, CRISIL Research

Banking, financial services and insurance or BFSI sector entities have continued to lead borrowers in debt markets in the past 10 years, with HDFC Limited at the top with Rs 3.56 lakh crore of gross borrowings. Reliance industries' large borrowing in the past few years have brought it into the top 10 list.

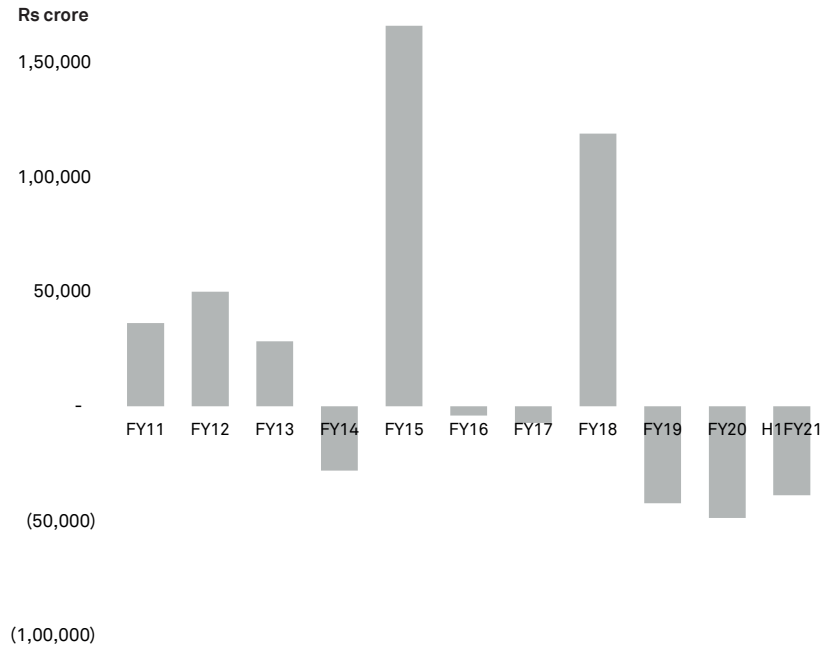
Smaller issuances gain bigger share



Source: Prime Database, CRISIL Research

The number of large issuances has fallen over the past few years as companies staggered their borrowings due to lower demand. Given the limits on ISINs permitted to mature in a particular year for an issuer, companies borrowed multiple times under same ISIN. MLD issuances also increased in the past two years, despite the fact that these are HNI products, normally issued in small quantum.

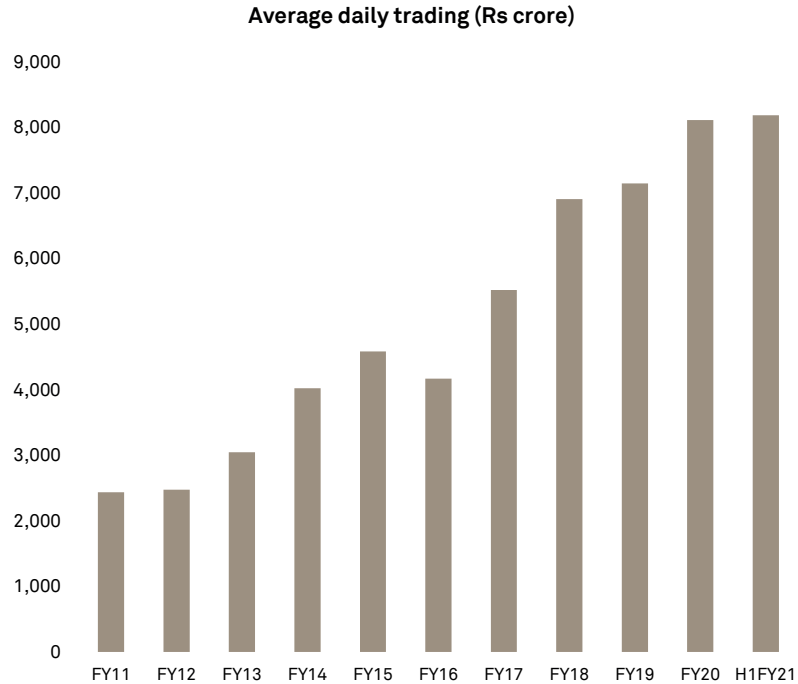
FPI outflows continue



Source: NSDL, CRISIL Research

FPIs remained net sellers in debt for the third consecutive year. The pandemic has pushed FPIs out to developed economies, which are considered safer havens than emerging markets. As of September this fiscal, FPI debt utilisation had already fallen to 33.81%.

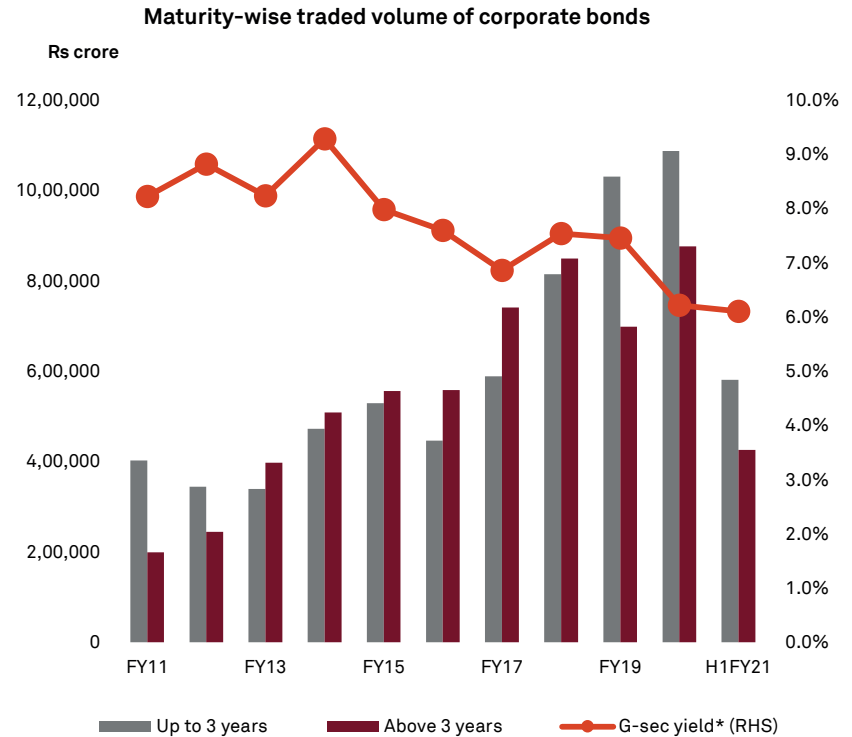
Traded volume surges



Source: FIMMDA, CRISIL Research

In the secondary market, trading volume increased ~14% on-year in fiscal 2020 and remained flattish in the first half of fiscal 2021, indicating increasing depth and liquidity in the market. Trading activity was significant in below-investment grade securities, reflecting demand from offshore investors for buying these securities from Indian banks and MFs. In the first half of fiscal 2021, demand was higher from banks in the secondary market for up to 3 years maturity securities under the RBI's LTRO/TLTRO initiatives.

Shorter tenures start to trade more



*10-year benchmark G-sec yield as of March end
Source: NSE, BSE, CRISIL Research

Volatile interest rates, outflows from FPIs and debt mutual funds, and selling of NBFC/HFC exposures by investors shored up trading in shorter tenure securities in the past three years. Larger trading in shorter segments can also be attributed to increased issuances in this maturity segment and launch of debt ETFs.

When the CD rate slumped below repo...

Certificates of deposit			
Fiscal	Amount issued (Rs crore)	Interest rate range (%)	Outstanding (Rs crore)
FY11	851,834	4.15-10.72	4,24,740
FY12	944,996	7.30-11.90	4,19,530
FY13	865,156	7.85-12.00	3,93,120
FY14	796,468	7.50-11.95	3,98,103
FY15	772,847	7.55-10.25	3,29,096
FY16	629,133	7.00-8.90	2,44,672
FY17	407,556	5.92-8.53	1,55,741
FY18	440,275	6.00-8.50	1,85,732
FY19	565,253	6.25-9.65	2,72,260
FY20	388,256	4.93-8.80	1,72,996
H1FY21	51,658	3.37-7.94	75,570

Note: Outstanding as on March end
Source: RBI, CRISIL Research

Issuance and outstanding volume of CDs plunged ~31% and ~36% on-year, respectively, last fiscal, accelerating the downtrend seen since fiscal 2012.

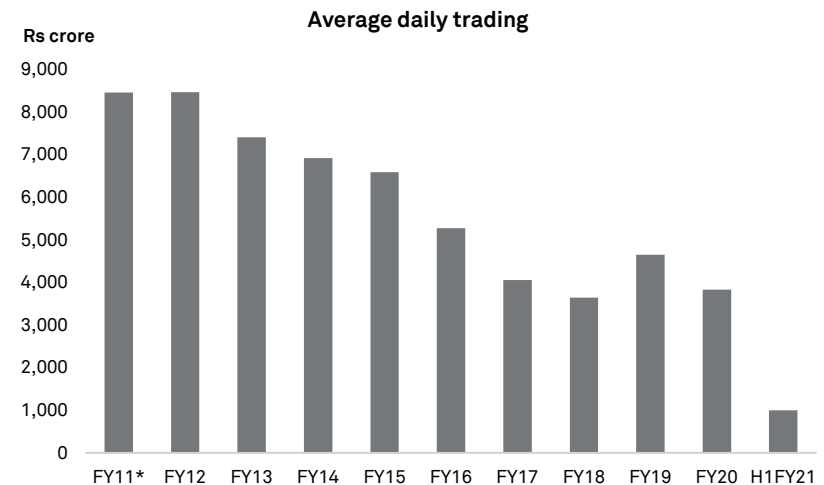
The issuance volume was the lowest in a decade and is likely to decline further this fiscal. This is largely due to surplus liquidity in the banking system, which averaged ~Rs 2.70 lakh crore in the second half of fiscal 2020 and ~Rs 3.99 lakh crore in fiscal 2021.

The reason is not far to seek. Banks have been chary of lending due to a deterioration in credit quality, especially since the Infrastructure Leasing

and Financial Services (IL&FS) debt default in September 2018 pushed NBFCs into a severe liquidity crisis. With high systemic liquidity and bank deposits growth consistently outpacing credit growth, banks have had little reason to tap the short-term debt market.

Given limited supply, CDs yield slumped to a 10-year low rate of 3.37%, well below the repo rate of 4%, and ranged between 3.37% and 7.94% in the first half of fiscal 2021.

Average daily trading of CDs plummets

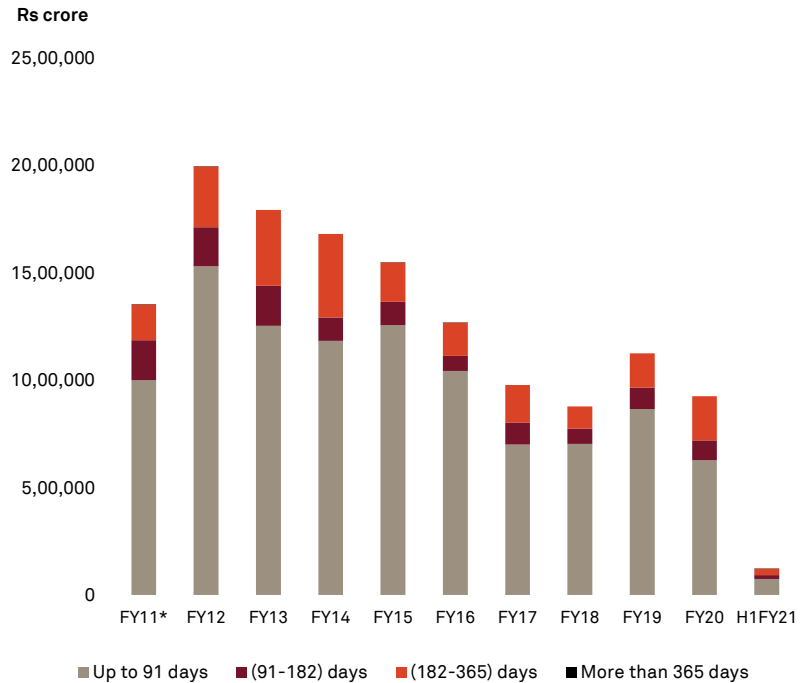


*From August 2010
Source: FIMMDA, CRISIL Research

Average daily trading volume declined ~18% in fiscal 2020 because of a decrease in the supply of CDs. Additionally, due to a reduction in trading hours (as per RBI guidance) amid the pandemic-led lockdown, average trading volume slumped to ~Rs 1,000 crore in the first half of fiscal 2021.

Three-month CDs remain the most active segment

Break-up of traded amount as per maturity

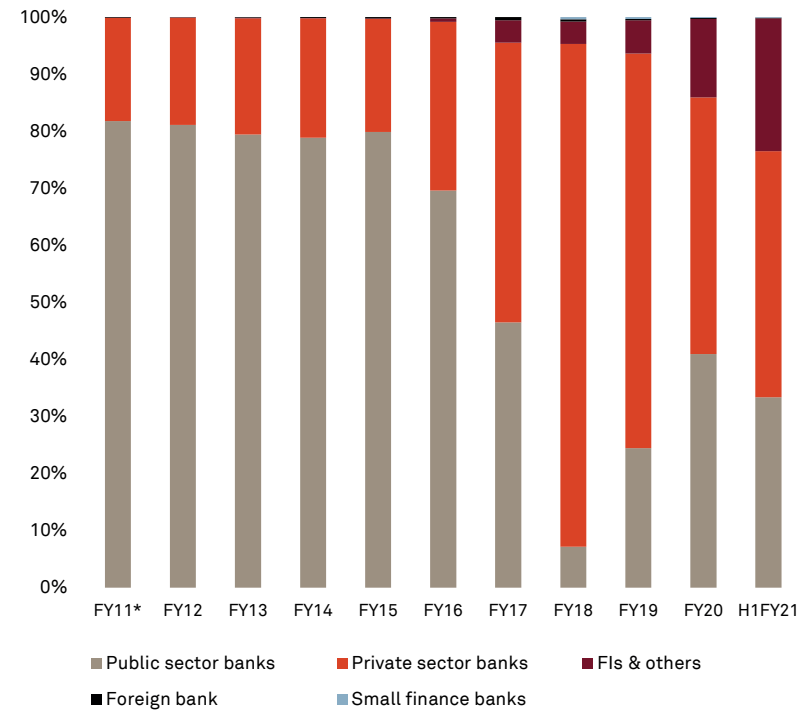


*From August 2010
Total annual trading
Maturity refers to residual maturity of the instruments
Source: FIMMDA, CRISIL Research

'Up to 91 days' remained the most traded segment, with a marginal decline (68% vs ~75% on average) witnessed in fiscal 2020. The segment has high interest from liquid mutual funds.

Fiscal 2020 and the first half of fiscal 2021 saw increased activity in the '9 months to 1 year' segment, which accounted for 22-24% of the total trading volume vs 14% in fiscal 2019. Increased activity in longer tenures could be attributed to falling interest rates amid limited supply.

FI and private bank CDs start to trade more often



*From August 2010
Total annual trading
Source: FIMMDA, CRISIL Research

The share of public sector bank CDs in trading has started to increase post its all-time low in fiscal 2018, as PSU banks were flushed with liquidity, resulting in slow supply. The share of CDs of financial institutions in trading also increased gradually in line with their increased supply.

...and CPs reversed their growth trend

Commercial paper			
Year	Amount issued (Rs crore)	Interest rate range (%)	Outstanding (Rs crore)
FY11	225,453	3.85-18.00	80,305
FY12	521,175	6.39-15.25	91,188
FY13	765,355	7.37-15.25	109,255
FY14	728,157	7.36-14.31	106,614
FY15	1,150,061	7.36-14.92	193,268
FY16	1,628,763	6.52-13.14	260,244
FY17	2,081,644	5.68 -14.92	397,965
FY18	2,292,547	5.48-37.73	372,577
FY19	2,596,441	6.03-17.49	483,084
FY20	2,196,894	4.75-14.47	344,527
H1FY21	786,963	2.98-13.35	362,310

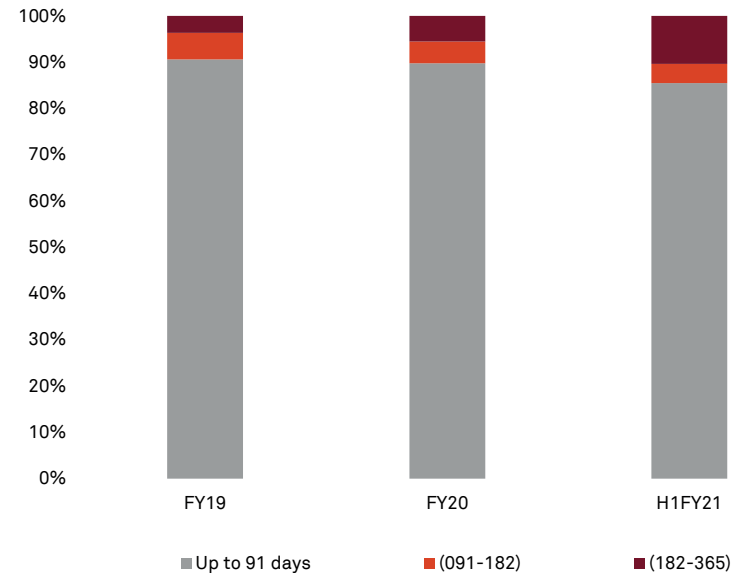
Note: Outstanding as on March end
Source: RBI, CRISIL Research

A reduction in demand for lower credit papers from NBFCs, housing finance companies (HFCs), and microfinance institutions (MFIs) saw CP issuance reverse the trend of 17.68% CAGR over fiscals 2015-19 and decline ~15% last fiscal. The outstanding CP volume also declined 29% on-year.

In the first half of fiscal 2021, however, CP issuance and outstanding volume recovered, driven by issuances under the Special Liquidity Scheme (SLS) and the Partial Credit Guarantee Scheme (PCGS) for short-term borrowing by NBFCs, HFCs, and MFIs as well as for IPO financing.

Surplus liquidity in the market pulled yields down for the top issuers to a low of 2.98% in the first half of fiscal 2021, and led to a compression of spreads across sectors for the 'up to 91 days' tenure. Interest rates were in the range of 2.98-13.35% in the first half.

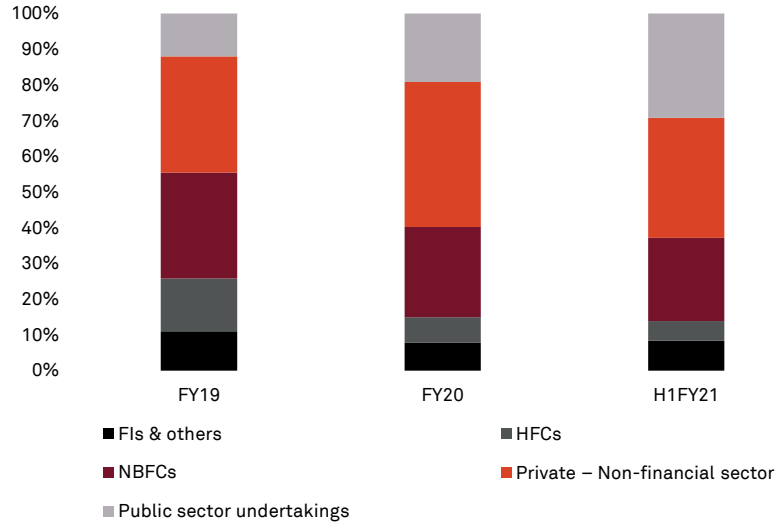
Upto 91 days segment dominate the issuance bucket



Source CCIL FTRAC, CRISIL Research

Primary issuance of CPs dominated the 'up to 91 days' segment from fiscal 2019 to the first half of fiscal 2021 due to demand from MFs, which are most active in this segment.

Public sector entities raise share in CP issuances



Source CCIL FTRAC, CRISIL Research

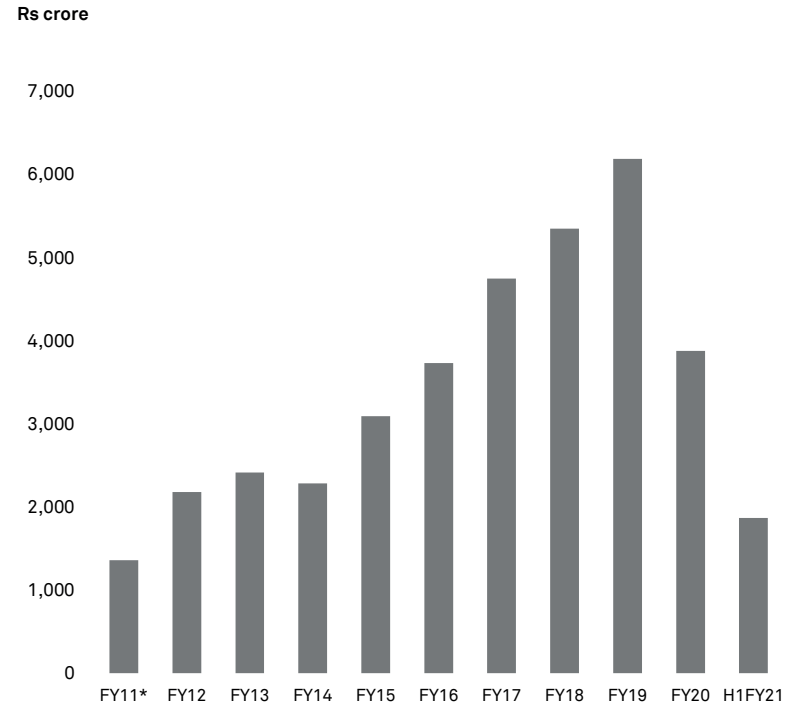
Issuances declined steadily from fiscal 2019 through the first half of fiscal 2021 owing to reduced investor appetite as defaults and rating downgrades increased post September 2018, especially in the NBFC/HFC sector. The decline in the NBFC segment, though, was restricted due to IPO financing.

CP issuances in the HFC and NBFC segments declined ~60% and ~30% on-year, respectively, in fiscal 2020, whereas oil marketing companies showed a steady increase of ~30% on-year.

In the private non-financial sector, Reliance Group had the highest issuance from fiscal 2019 to the first half of fiscal 2021. In fiscal 2020, its issuance increased ~35% on-year.

After the PFC-REC merger, issuance declined ~70% in fiscal 2020, with no issuance of REC in the first half of fiscal 2021.

Average daily trading of CPs falls down the leeside

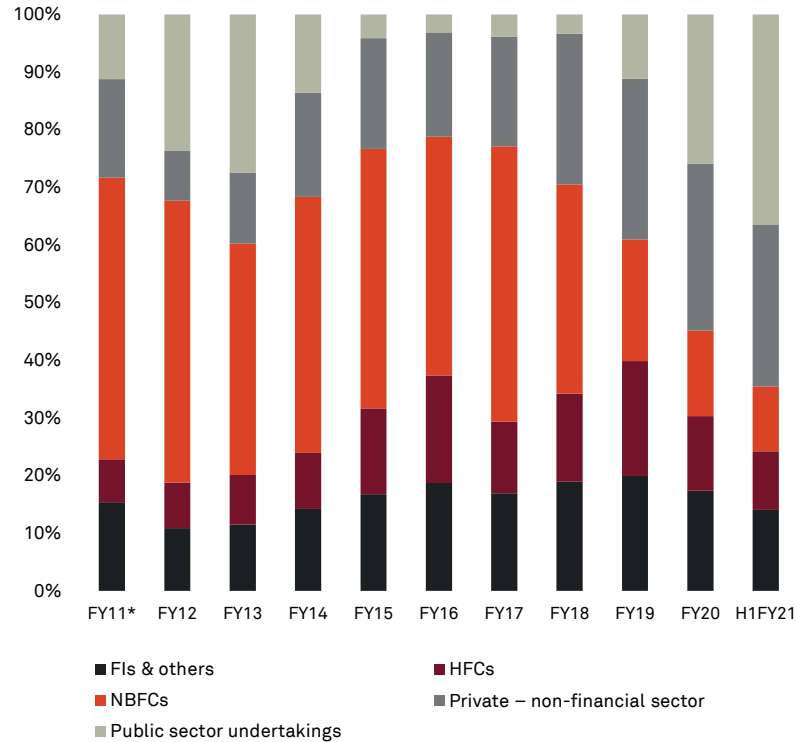


*From August 2010
Source: FIMMDA

CP trading volume declined 37% last fiscal after increasing ~22% on-year over fiscals 2015-19. A multitude of factors was at play – reduced demand for lower-rated credits in the NBFC/HFC segment; restrictions imposed by the Securities and Exchange Board of India (SEBI) on investment in unlisted CPs for mutual funds in the second half of the fiscal year 2020; and reduced trading hours for money market instruments amid the pandemic in the first half of fiscal 2021.

In the first half of fiscal 2021, average trading volume dropped further to Rs 1,867 crore – the lowest in a decade.

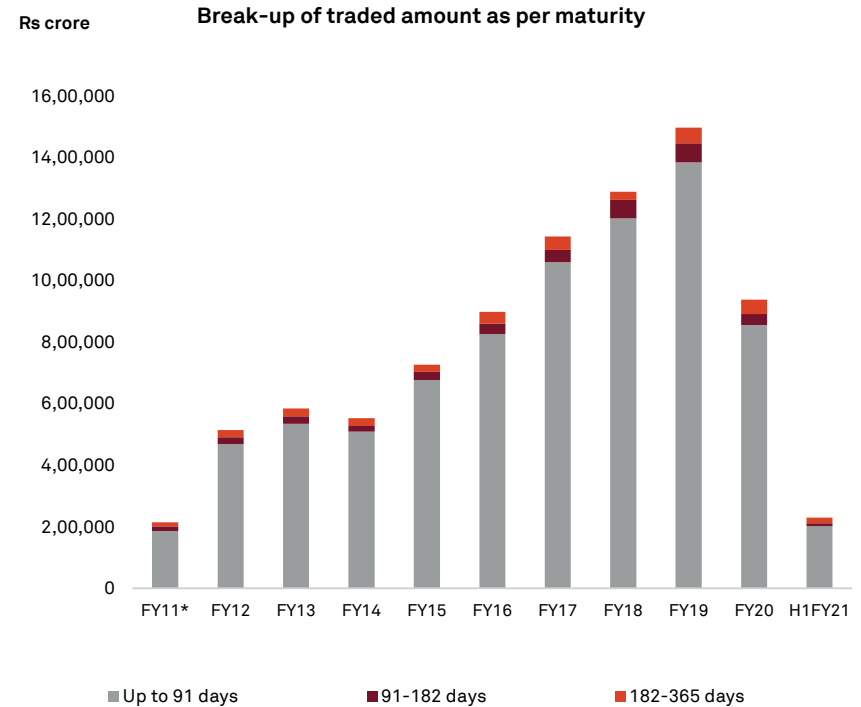
Financial sector entities start to lose share in trading



*From August 2010
Total annual trading
Source: FIMMDA

Trading in non-financial sector CPs picked up, with public sector and private non-financial sector CPs accounting for 55% of the trading volumes last fiscal. The share of NBFC and HFC CPs in secondary market has replicated the trends in primary market as these have lost significant share in trading in the last few years.

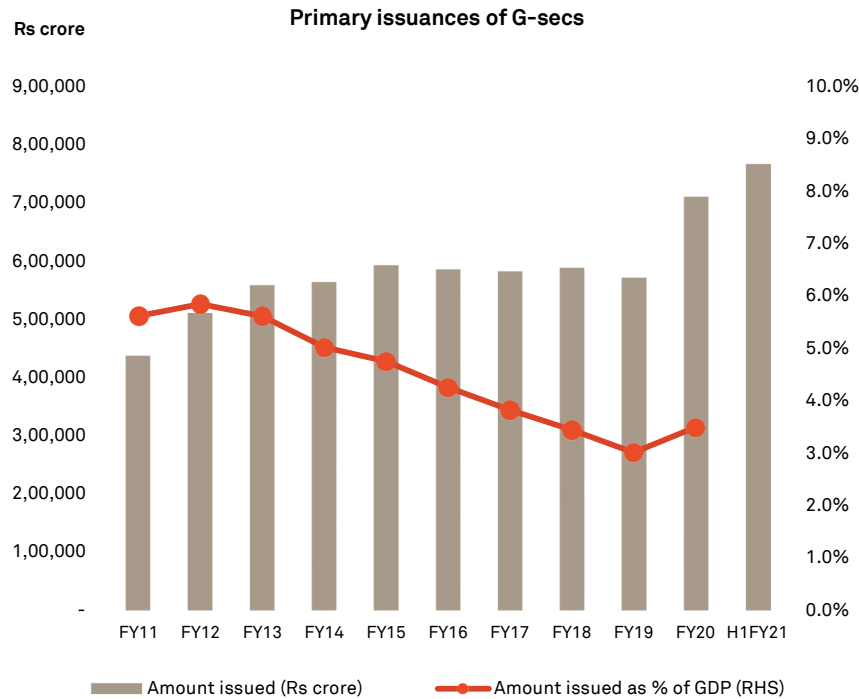
CP volume centred on short end of the maturity curve



*From August 2010
Total annual trading
Maturity refers to residual maturity of the instruments
Source: FIMMDA

Up to 91 days CPs accounted for 91% of the trading volume in fiscal 2020, in line with the 10-year average of 92% and 88% in the first half of fiscal 2021. As short-term interest rates remained lower across tenures in the first half of fiscal 2021, the share of 6-month to 1-year CPs increased a marginal ~8%.

Govt borrowing buoys G-secs

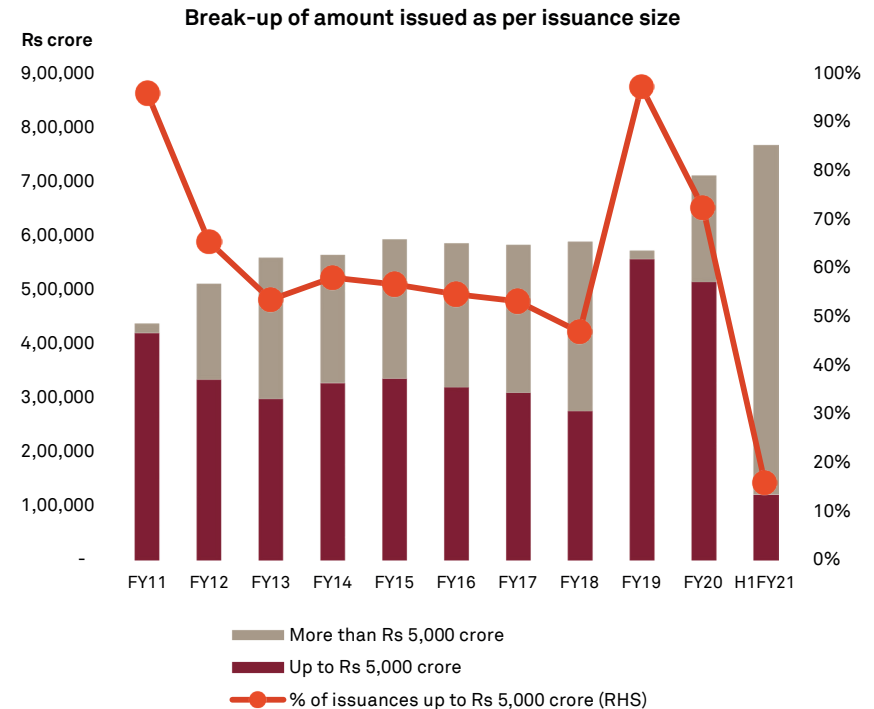


Note: Amount issued as % of GDP not available for H1FY21
 Source: RBI, CRISIL Research

The government's gross borrowing in fiscal 2020 at Rs 7.10 lakh crore was much higher than the Rs 5.71 lakh crore in fiscal 2019. This was on account of higher redemption pressure on dated securities creating repayment obligation of Rs 2.37 lakh crore in fiscal 2020.

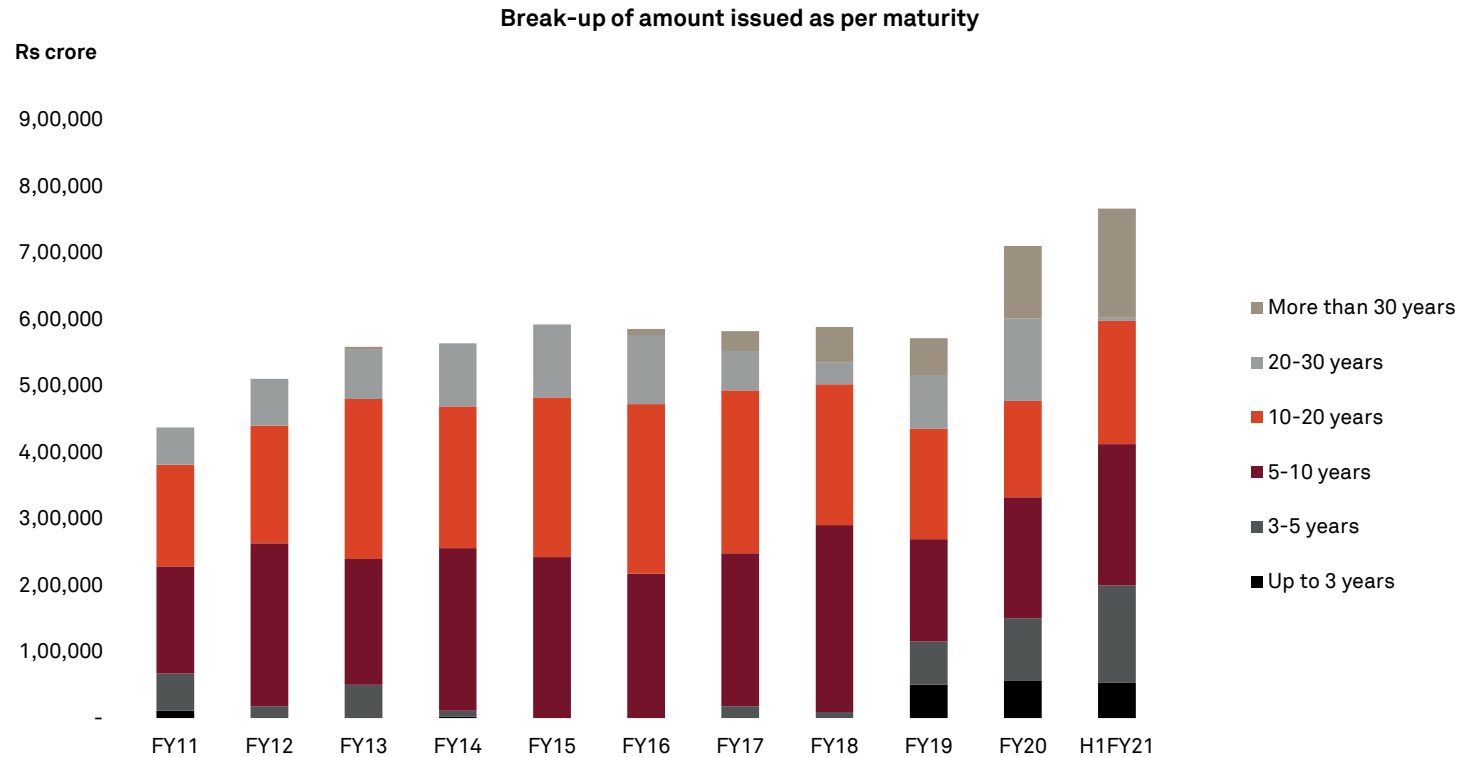
In fiscal 2021, the borrowing was initially budgeted at Rs 7.66 lakh crore, which was revised later to Rs 12.8 lakh crore in the Union Budget 2021-22. The increase in borrowings was because of the Rs 20 lakh crore stimulus package announced to combat Covid-19. The Centre also decided to borrow Rs 1.1 lakh crore on behalf of state governments to meet the GST compensation shortfall.

The amount raised through G-secs as a proportion of GDP increased 50 bps to 3.5% from 3.0% in fiscal 2020.



Source: RBI, CRISIL Research

The government's massive borrowing programme in fiscal 2021 has sharply increased issuances of the above-Rs 5,000 crore category. In the first half of the fiscal, 84% of the total issues was in this bracket, compared with only 28% in fiscal 2020. This had also led to issuance of multiple new 10-year benchmark securities during the year (as outstanding crossed Rs 1 lakh crore mark quickly) and frequent devolvement on primary dealers (PDs) in spite of continued OMO purchases, which were much less in the past. Though increased borrowing pressured yields up, excess liquidity and OMOs acted as checks and kept them range-bound.

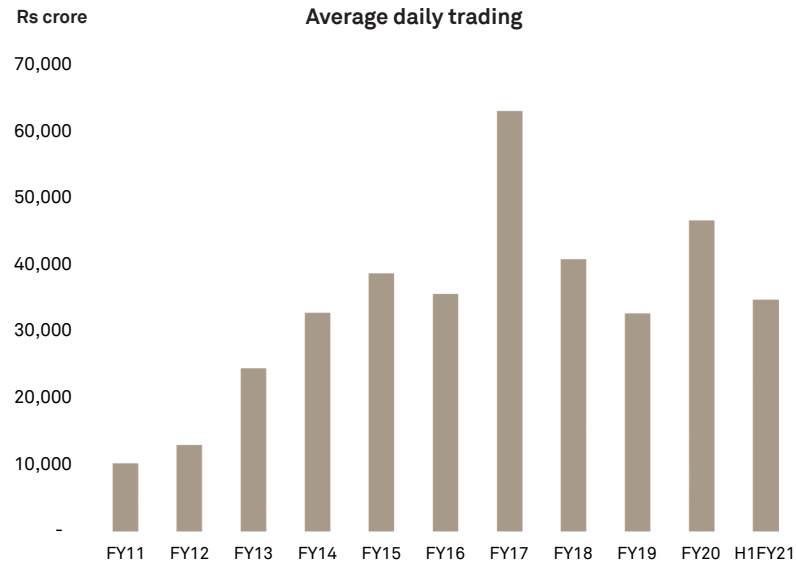


Source: RBI, CRISIL Research

With a share of 26% of the total borrowing through G-secs, the 5-10-year bucket continues to be the preferred segment. However, the share has been consistently declining from fiscal 2018 onwards as the RBI has spread out the issuances evenly across tenures in order to develop a liquid benchmark curve. With falling interest rates, the government's debt issuances for the past few years have been steadily increasing in the above-30-year segment. In the first half of the current fiscal, the segment constituted 21% of the G-sec borrowing as against from 9% in fiscal 2018. The segment

sees strong demand from long-term investors such as insurance companies and pension funds that want to lock in at higher interest rates for tenures matching their long-term liabilities.

Additionally, issuance of floating rate bonds (FRBs), which are an avenue for investors to hedge interest rate risk, has also seen a rise in the past few years. In the past three-and-half years, Rs ~2 lakh crore worth of FRBs have been issued.

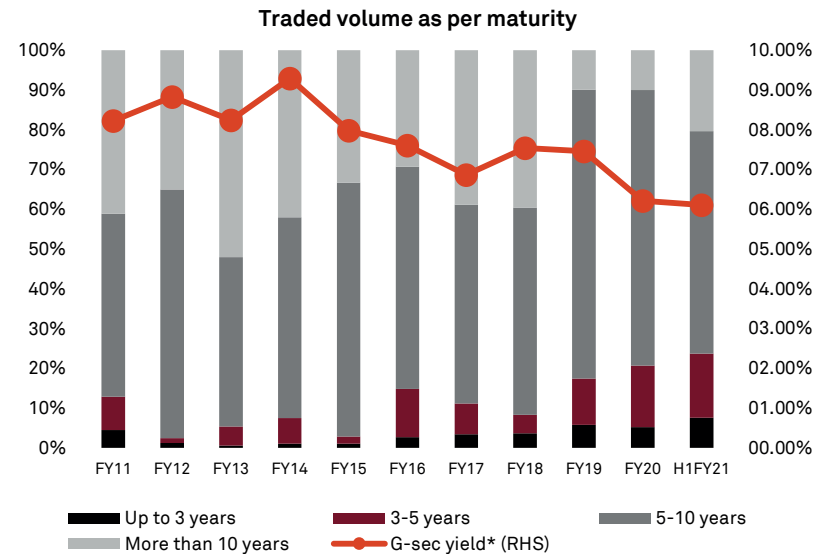


Source: CCIL

During February-October 2019, the Monetary Policy Committee of the RBI cut repo rate in five successive meetings, bringing the policy rate down 135 bps from 6.50% to 5.15%. This boosted the trading volume 42% on-year in fiscal 2020.

In the first half of fiscal 2021, trading volume was considerably higher due to high systemic liquidity, cut in banks' cash reserve ratio (CRR) to 3% from 4% and increase in banks' borrowing limit under marginal standing facility (MSF) to 3% from 2%. In addition to this, repo rate was further cut to 4% from 5.15%, which also boosted the buying interest. Public sector banks continued to be key participants in the market due to excess liquidity and an increase in held-to-maturity (HTM) limit to 22% from 19.5%. Higher demand owing to the pandemic and winding up of debt funds by a large AMC prompted investors to shift to government securities, which are a safer and more liquid investment option.

In spite of all these enabling factors, trading volume is much lower than that of fiscal 2017.



*10-year benchmark G-sec yield as of March-end
 Total annual trading
 Maturity refers to residual maturity of the instruments
 Source: RBI, CCIL

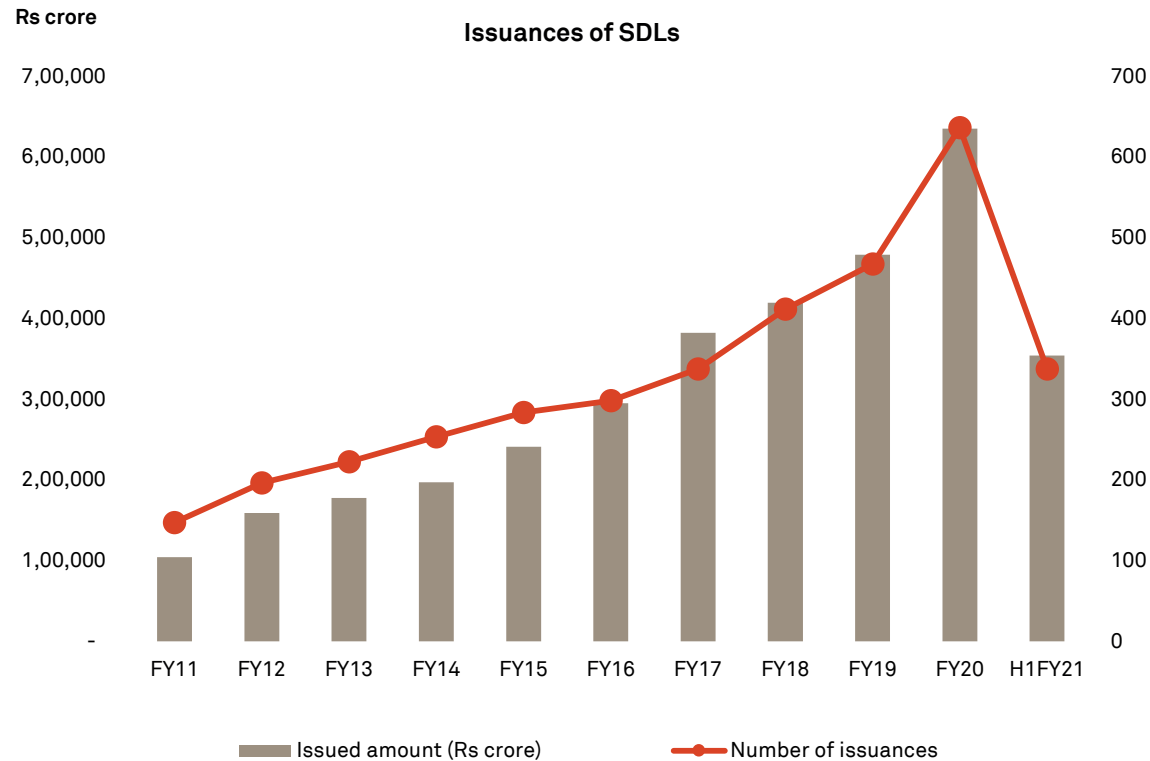
The 5-10-year segment accounted for more than half of the trading volume, given the higher liquidity in this segment. Within the segment, 10-year papers saw the most volume. The economic slowdown in fiscal 2020 forced the RBI to cut its repo rate to 5.15%. This made long-tenure papers more attractive for investors as they expected higher mark-to-market gains with falling interest rate (price is inversely related to yield). The 10-year benchmark G-sec yield declined from a high of around 7.50% to as low as 6% in fiscal 2020 due to surplus liquidity in the banking system, repo rate cuts, subdued crude oil prices and OMOs.

In the first half of the current fiscal, the central bank resorted to tranches of Long Term Repo Operation (LTROs) and OMOs to keep the yields under check.

The cut in CRR, and increases in MSF borrowing limit and HTM limit prevented yields from rising. In fact, they hit a low of 5.76%, giving double-digit return on longer tenure papers.

SDLs in steady uptrend

Both issuances and issued amount continue to soar



Source: RBI, CRISIL Research

Issuances of SDLs have logged a CAGR of 15% over the past 10 years. In fiscal 2020, total issuances increased 33% on-year.

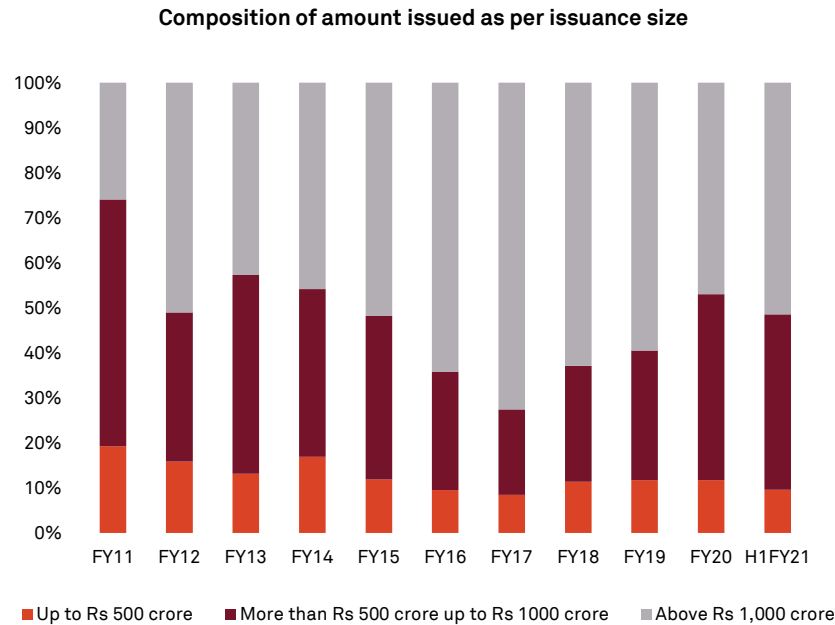
State governments' borrowing in fiscal 2021 is expected to increase 37% on-year as the RBI relaxed the borrowing limits after the pandemic. As a relief for state governments, the Centre has borrowed up to Rs 1.1 trillion in fiscal 2021 and lent it to states under a special window. This is aimed at keeping the Centre's promise to meet the shortfall in state governments' revenue after the implementation of goods and services tax (GST). The extra fund raising is reflected in the borrowing calendar of G-secs released by the RBI and the finance ministry.

Spread of 10-year SDLs over 10-year G-sec reached a high of ~130 bps in April 2020 due to concerns regarding large supply. It normalised to 77 bps by the end of September. Annualised SDL yields have remained higher over benchmark AAA-rated PSU bonds in the 10-year segment since June 2020. Several states have taken advantage of lower interest rates to cut their borrowing burden. To boost states' market borrowing, at the start of the second half of the fiscal the RBI announced OMOs in SDLs for the first time and extended ways and means advances (WMA) limit and overdraft regulation until March 2021.

Classification of states based on amount and frequency of issuance					
		Number of years in which issuances were made in the last 10.5 years			
		<5	5 To 8	9	10-11
Aggregate amount issued in last 10 years	Up to Rs 5,000 crore				Arunachal Pradesh
					Mizoram
	Above Rs 5,000 crore and up to Rs 25,000 crore				Goa
					Nagaland
					Tripura
					Meghalaya
					Union Territory of Puducherry
					Manipur
					Sikkim
	Above Rs 25,000 crore and up to Rs 50,000 crore		Odisha	Assam	Jharkhand
					Jammu & Kashmir
					Uttarakhand
					Himachal Pradesh
	Above Rs 50,000 crore and up to Rs 80,000 crore			Chhattisgarh	
	Above Rs 80,000 crore		Telangana		Maharashtra
					West Bengal
					Tamil Nadu
					Uttar Pradesh
					Andhra Pradesh
					Gujarat
				Karnataka	
				Rajasthan	
				Kerala	
				Haryana	
				Punjab	
			Madhya Pradesh		
			Bihar		

Source: RBI

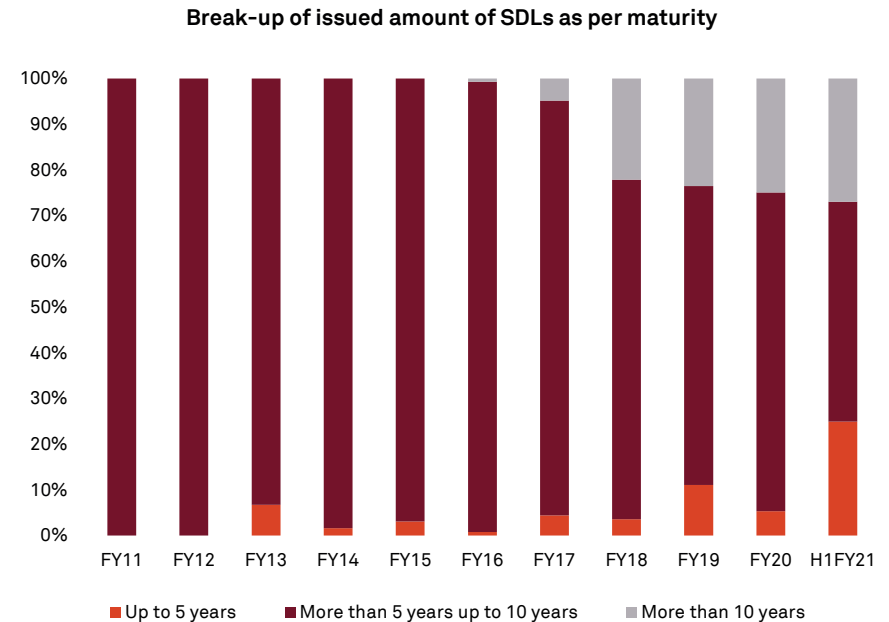
Issuances in Rs 500-1,000 crore bracket gain momentum



Source: RBI, CRISIL Research

The above-Rs 1,000 crore segment continues to be the preferred one. However, as percentage of total issuances, it reduced to 47% in fiscal 2020 from 60% in fiscal 2019 as mid-sized issuances in the Rs 500-1,000 crore bracket gained currency.

Sub-5-year issuances begin to gain traction



Source: RBI, CRISIL Research

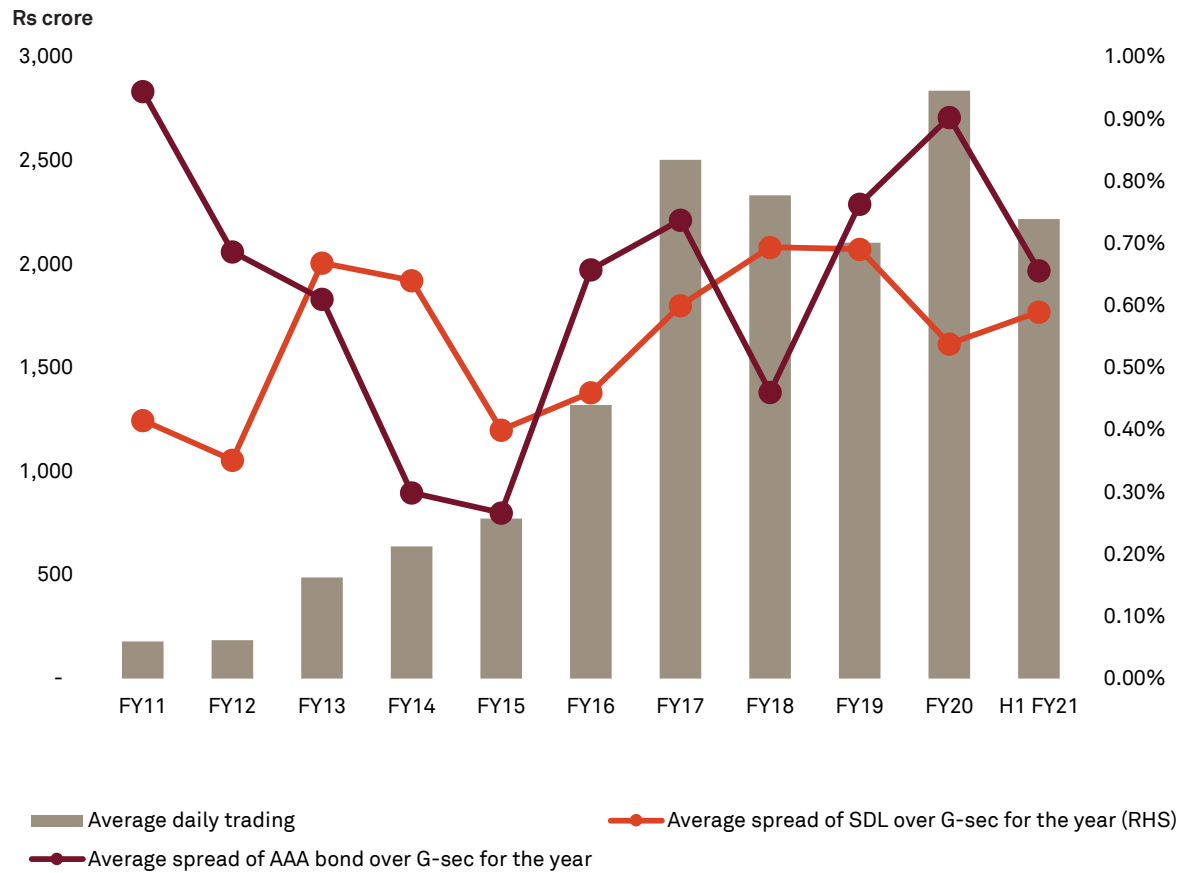
The 5-10-year maturity segment, including 10-year papers, remained the most preferred, accounting for about 70% of the issuances in fiscal 2020. Issuances in this segment increased 41% on-year during the fiscal.

Share of long tenure papers also rose in the past five fiscals. These issuances found favour with insurance companies and pension funds.

The first half of the current fiscal saw a significant increase in sub-5-year papers, which accounted for 25% of the total issuances. Certain states such as Tamil Nadu, Punjab, and Haryana had shown a distinct preference to borrow in the shorter tenure segment. Launch of debt ETFs also picked up trading in these tenures in the first quarter of the current fiscal. As yields hardened in shorter maturities in the second quarter, states such as Punjab, Haryana, and Telangana shifted to longer tenure borrowing.

Overall, in the first half, insurance companies, pension funds and MFs were the buyers of SDLs and PDs and banks were the largest sellers. Selling by PDs accelerated in line with devolvement in G-sec primary auctions in the first half.

Spreads over G-secs narrow amid higher volumes

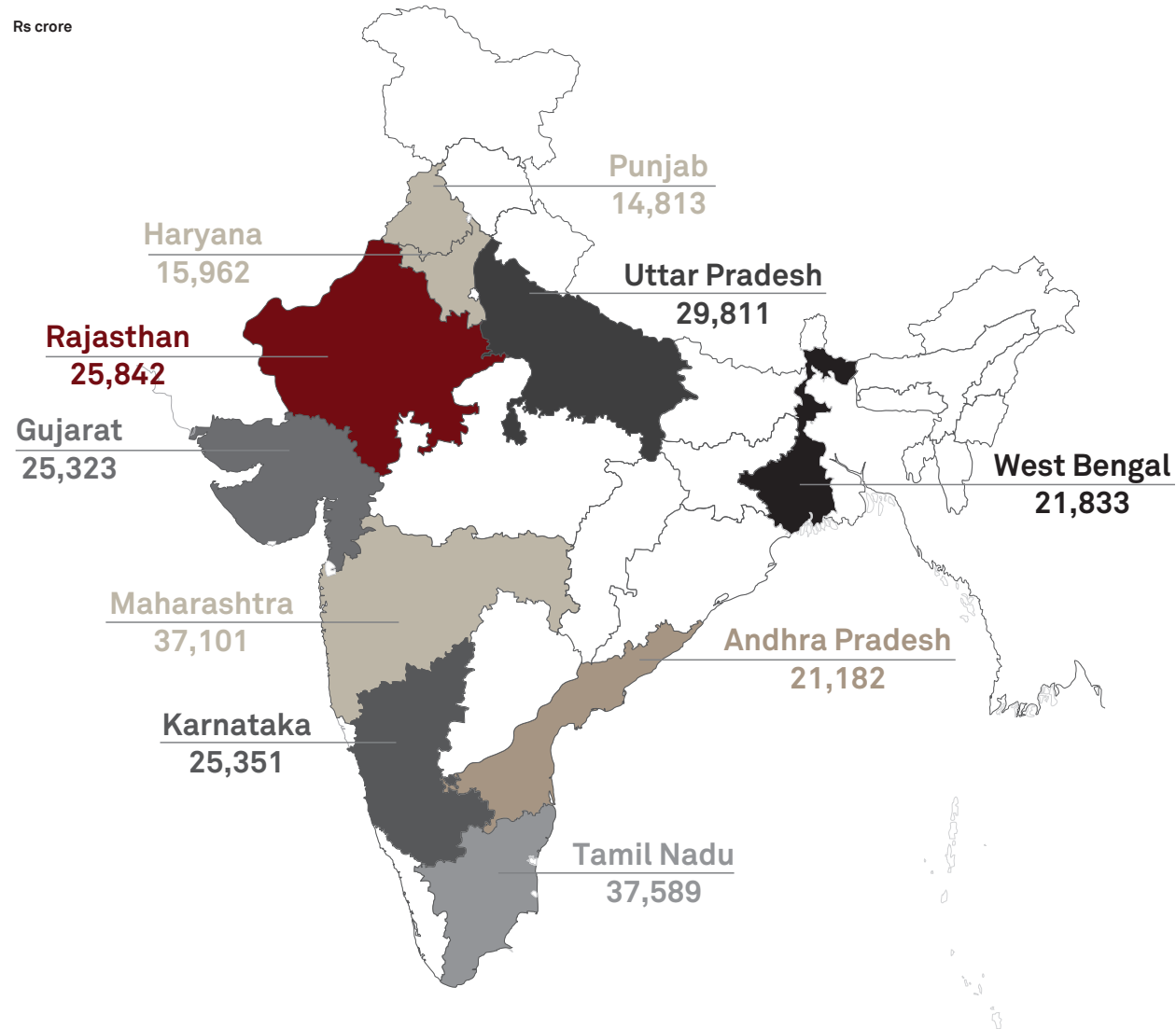


Note: Spreads are for 10-year maturity benchmark securities
 Source: CCIL and CRISIL Research

Liquidity in SDLs increased in fiscal 2020 due to lower yields, and higher demand amid increased supply. Average spreads of SDLs over G-secs shrank over fiscals 2019-2020. Spreads between AAA-rated PSU bonds and SDLs also shrank in the current fiscal with state bonds trading at higher (annualised) yields from June 2020 onwards.

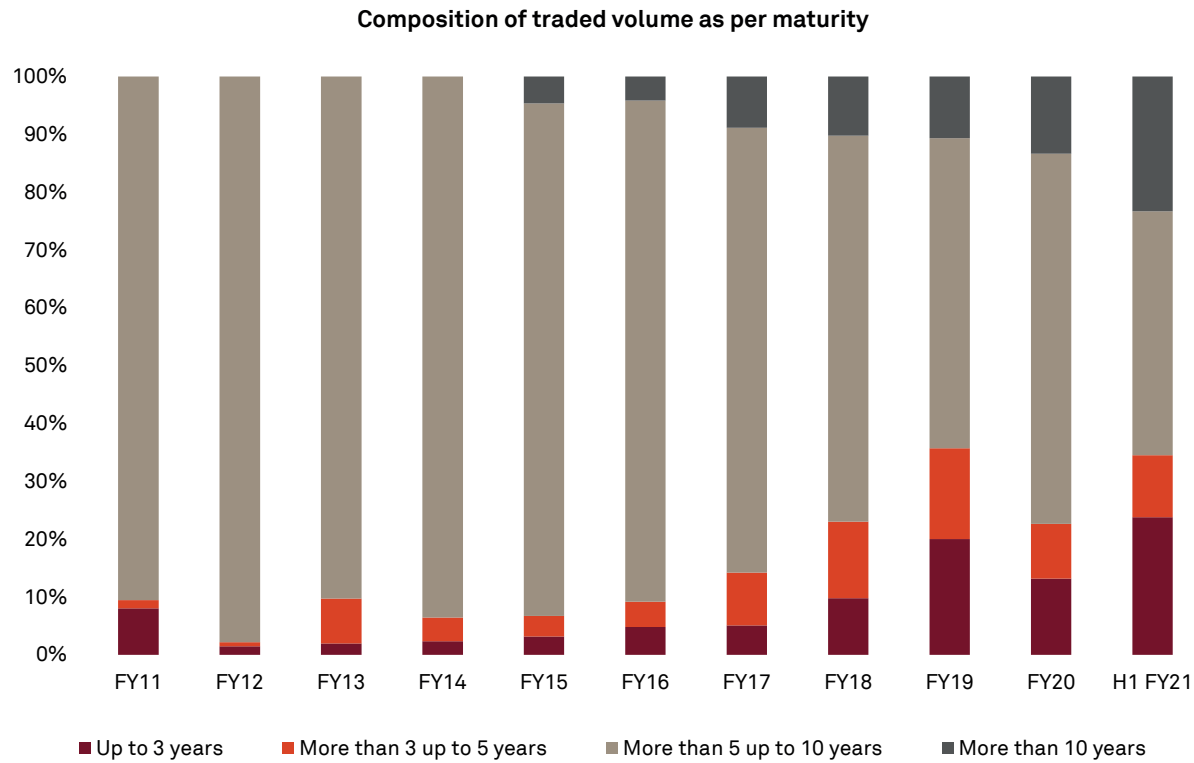
Trading mirrors issuance trends

Rs crore



**Based on average annual traded volume for the last 10.5 years
Source: CCIL, CRISIL Research*

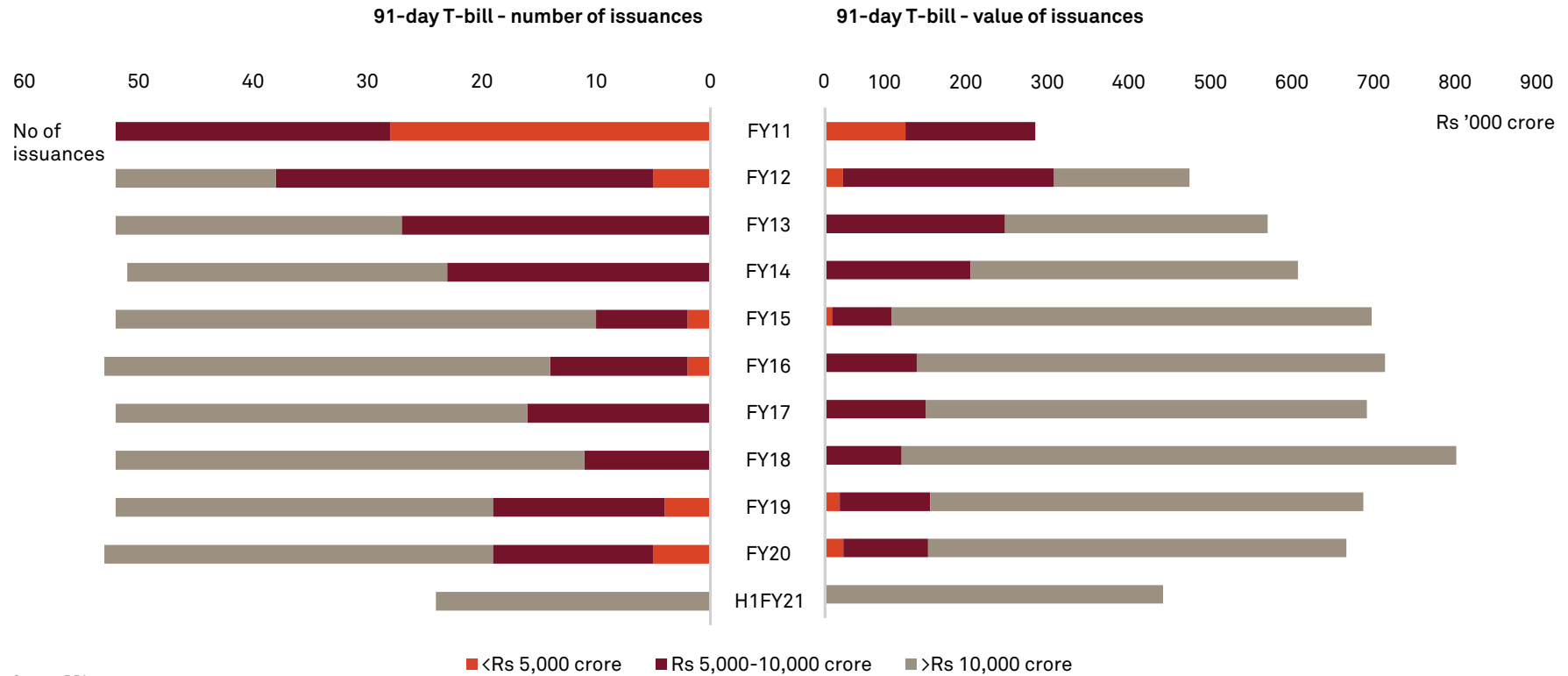
Steady rise in trading volume in sub-3- and above-10-year segments



*Maturity refers to residual maturity of the instruments
Source: CCL, CRISIL Research*

The 5-10-year and above-10-year segments continue to dominate trading, in line with the trend in issuance. Shorter tenures saw increased activity as demand from debt ETFs (with SDLs as underlying) were launched based on the success of Bharat Bond ETF.

T-bill issuances in big-ticket shift



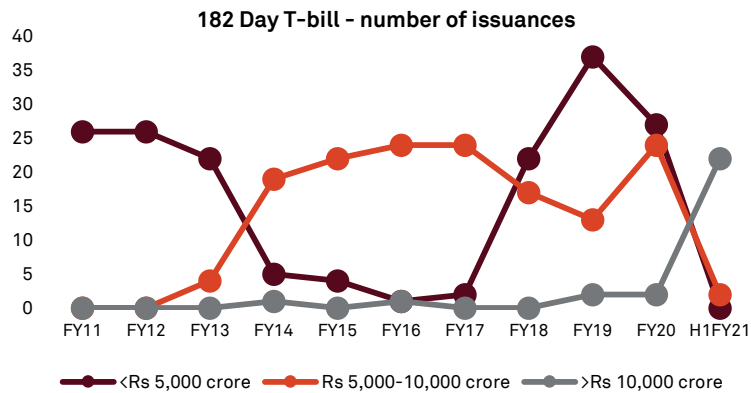
Source: RBI

In fiscal 2020, 73% of the total T-bill issuances happened in the >Rs 5,000 crore bracket. The trend seems to be continuing in fiscal 2021, too, on account of higher government borrowing.

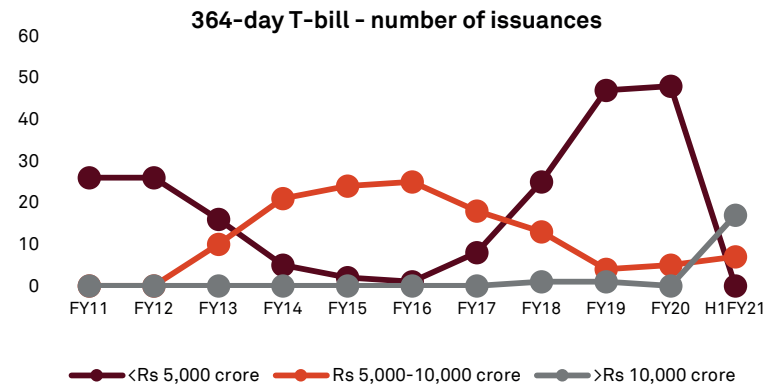
An emerging trend is a decline in the share of 91-day segment in the total government borrowing through T-bills. In fiscal 2018, these instruments accounted for 69% of all government T-bill issuances, which declined to 59% in fiscal 2019 and 54% in fiscal 2020, indicating a shift in the government's borrowing profile. In the

current fiscal, the government's gross T-bill issuances are expected to be 26% higher on year at ~Rs 14.9 lakh crore as against Rs 11.79 lakh crore in fiscal 2020.

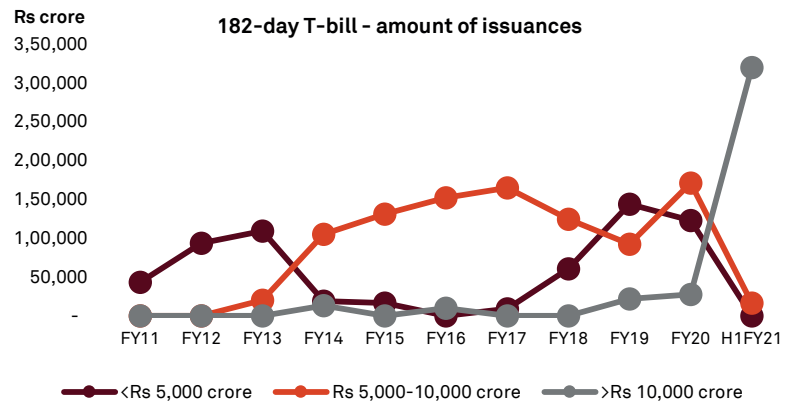
In the first half of this fiscal, the government had already issued Rs 10.35 lakh crore T-bills on gross basis. Net borrowing in the 91-day T-bill category is also expected to increase from (-)Rs 9,600 crore in fiscal 2020 to Rs 3,160 crore in fiscal 2021, as per budgeted estimates.



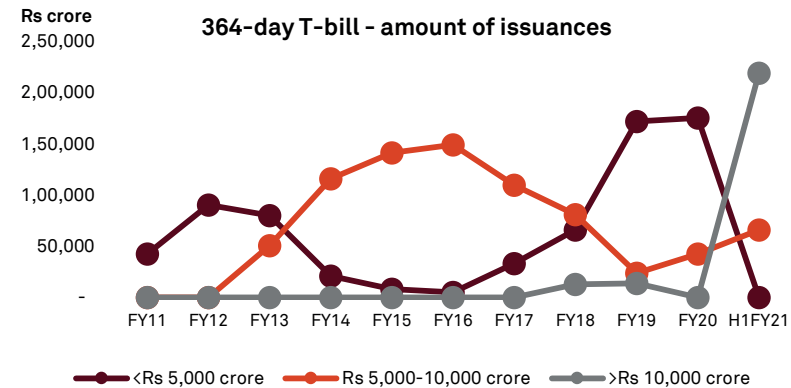
Source: RBI



Source: RBI



Source: RBI



Source: RBI

The 182-day T-bill segment is also witnessing a change in trend. In fiscals 2018 and 2019, smaller issuances were predominant here with more than 50% in the sub-Rs 5,000 crore bracket. In fiscal 2020, this declined to 38%.

In the first half of fiscal 2021, almost 92% of the issuances in the category was in above-Rs 10,000 crore category and all of the 24

auctions in the category was in the above-Rs 5,000 crore bracket due to higher government borrowing and lower interest rates. In the first half of the current fiscal, gross amount borrowed through 182-day T-bills crossed 105% of the corresponding figure in fiscal 2020. However, net borrowing through 182-day T-bills in fiscal 2021 is expected to fall ~64.5% on year as per budgeted estimates.

Over 90% of the issuances in the 364-day segment was in the less than Rs 5,000 crore bracket in fiscals 2019 and 2020, much higher than 64% in fiscal 2018. However, this trend got reversed in the first half of the current fiscal, with all 24 issuances of 364-day T-bills in the above-Rs 5,000 crore bracket.

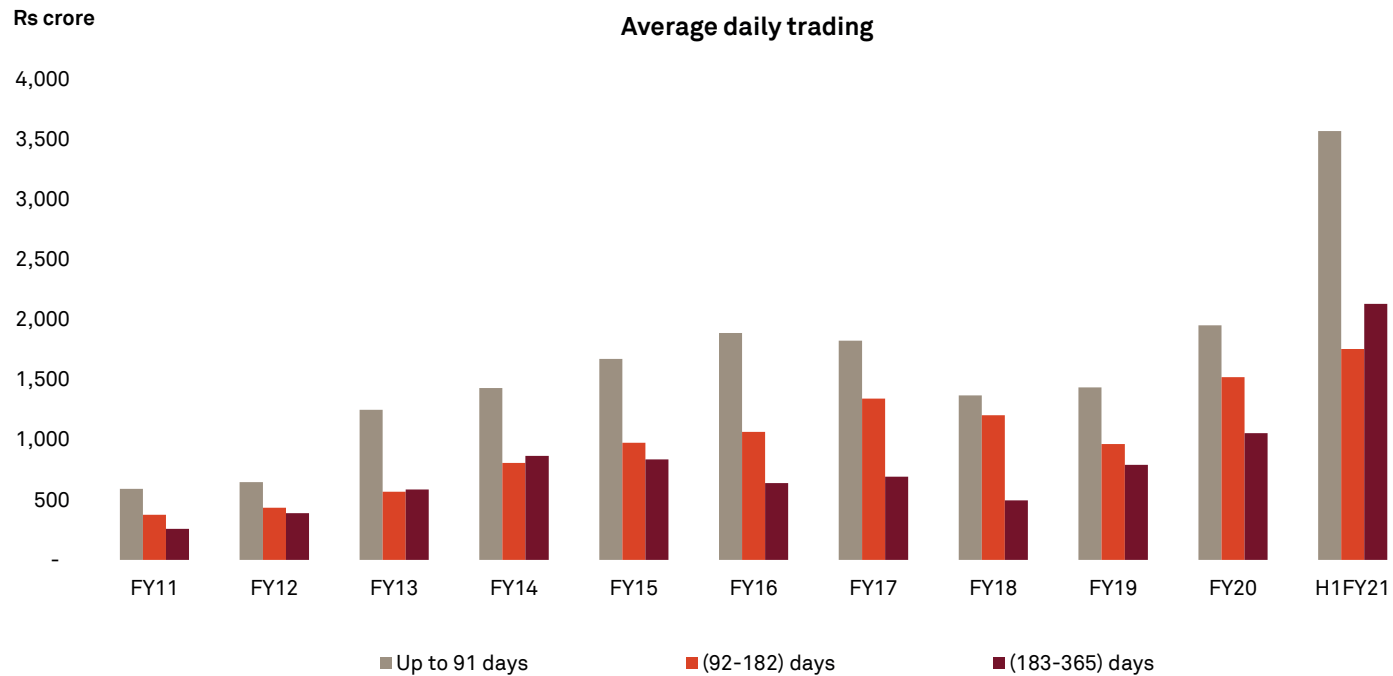
As in the 182-day category, gross issuances in the 364-day segment is also on the rise – an increase of 31% in fiscal 2019 and 4% in fiscal 2020 on year. In the first half of fiscal 2021, the gross issuance was 30% higher than the total amount borrowed in the entire fiscal 2020 in the 364-day segment. However, net borrowing through these instruments for fiscal 2021, budgeted at Rs 8,184.6 crore, is expected to be ~6% lower than Rs 8,775 crore in fiscal 2020.

Closely following the RBI repo rate, yields on T-bills have been on a downward trajectory from fiscal 2015, except in fiscals 2018 and 2019 when they rose, toeing the policy rate. In the first half of the current fiscal, the yields fell below 4% for the first time after fiscal 2009.

With falling interest rates and increasing government borrowing, the share of 182- and 364-day T-bills in the overall T-bill issuance is on the rise. For the first time in a decade, the share of 91-day T-bills fell to less than 50% in the first half of the current fiscal.

Year	91-day T-bills		182-day T-bills		364-day T-bills	
	Amount (Rs crore)	Weighted average auction cut-off (%)	Amount (Rs crore)	Weighted average auction cut-off (%)	Amount (Rs crore)	Weighted average auction cut-off (%)
FY11	2,57,983	6.18	43,301	6.48	42,481	6.56
FY12	4,46,804	8.43	93,601	8.42	90,382	8.35
FY13	5,42,926	8.20	1,29,434	8.17	1,30,471	8.05
FY14	5,80,088	8.90	1,37,520	8.86	1,36,956	8.64
FY15	6,70,315	8.50	1,47,610	8.53	1,49,201	8.49
FY16	6,86,667	7.15	1,62,189	7.17	1,54,033	7.43
FY17	6,64,567	6.42	1,74,035	6.52	1,42,526	6.52
FY18	7,74,060	6.19	1,85,417	6.32	1,59,685	6.40
FY19	6,60,165	6.61	2,58,020	6.84	2,08,896	7.04
FY20	6,39,473	5.45	3,21,689	5.61	2,17,670	5.66
H1FY21	4,14,559	3.40	3,36,193	3.58	2,84,980	3.67

Source: RBI, CRISIL Research



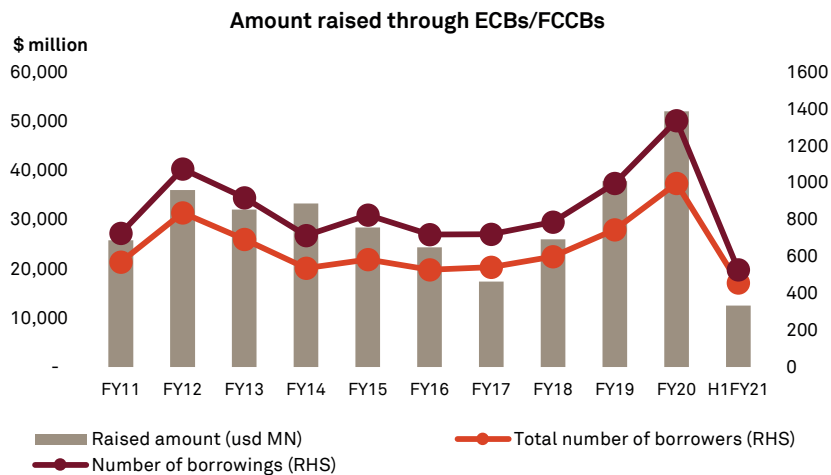
Average daily trading
 Trades are based on original maturity of the instrument
 Note: Trades are based on residual maturity of the instrument
 Source: CCIL, CRISIL Research

T-bills with residual maturity of up to 91 days were the most actively traded over the past decade primarily due to investments by mutual funds' liquid schemes. MFs' keenness on the segment got a further boost with the SEBI directive in fiscal 2021 that liquid funds should hold 20% of their assets in liquid assets (which include

T-bills). Average trading volumes in the 91-day segment jumped a sharp ~42% in fiscal 2020 and ~65% in the first half of the current fiscal on account of excess liquidity, higher issuances of T-bills and preference for safer assets amid the pandemic.

External commercial borrowings/ foreign currency convertible bonds

Overseas borrowing hit a decade-high last fiscal

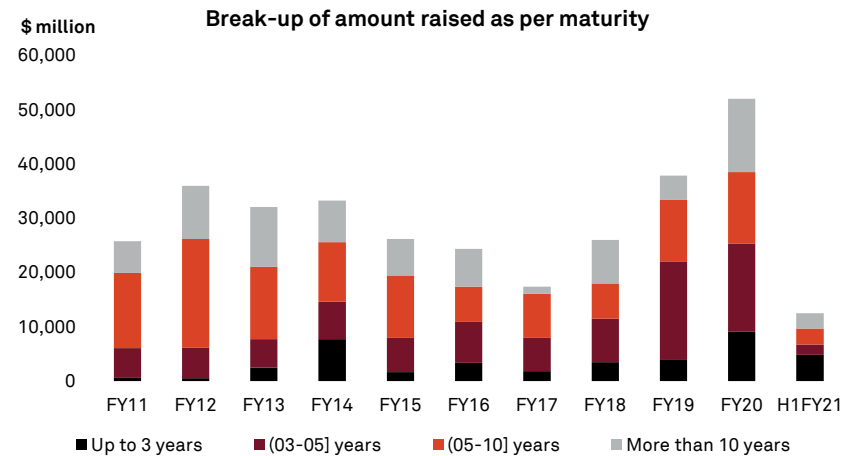


Source: RBI

The amount raised through external commercial borrowings (ECBs) and foreign currency convertible bonds (FCCBs) has trended up ever since the RBI eased restrictions in May 2018. Overseas borrowing touched a decade-high in fiscal 2020 as the amount raised increased 37% and the number of borrowers 34% on-year.

Poor domestic appetite for non-banking financial company (NBFC) and housing finance company (HFC) issuers has caused these entities to borrow more externally. There was a significant increase in borrowing by financial sector entities (NBFC, HFC and public FI) claiming 30% and 25% of share in total borrowing in fiscal 2020 and the first half of this fiscal, respectively.

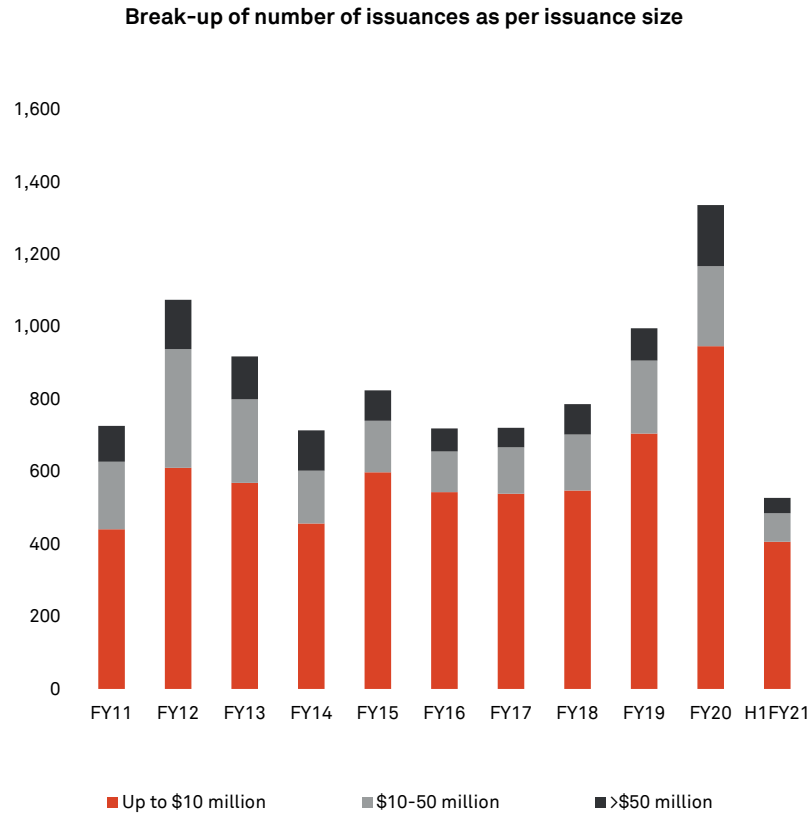
Borrowings have shifted to shorter end of late



Source: RBI

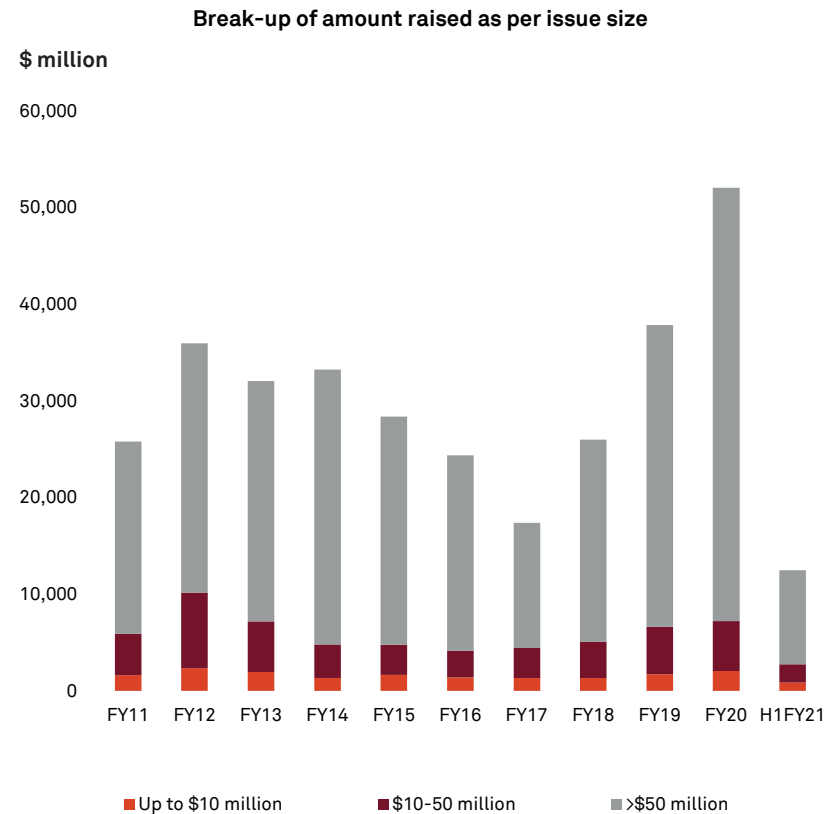
The maturity profile of India's external debt has changed a lot in the past 3 years. The share of issuance in the 'more than 5 years' maturity' segment has reduced gradually since fiscal 2016. In fiscal 2020, issuances were equally split between short- and long-term securities, while fiscal 2021 recorded 54% of issuances in the 'up to 5 year' segment.

Issuances of \$10 million or less dominate



Source: RBI, CRISIL Research

Smaller ticket issues continue to dominate with ~75% of the total number of issuances. However, large issuances of >\$50 million makes up to 80% of the total issued amount in a year, on average. Reliance



Source: RBI, CRISIL Research

Industries had the highest number of issuances in fiscals 2020 and 2021. The top 10 issuances by size accounted for 50% of total issuances in the first half of fiscal 2021.

How CRISIL debt indices have fared

Domestic

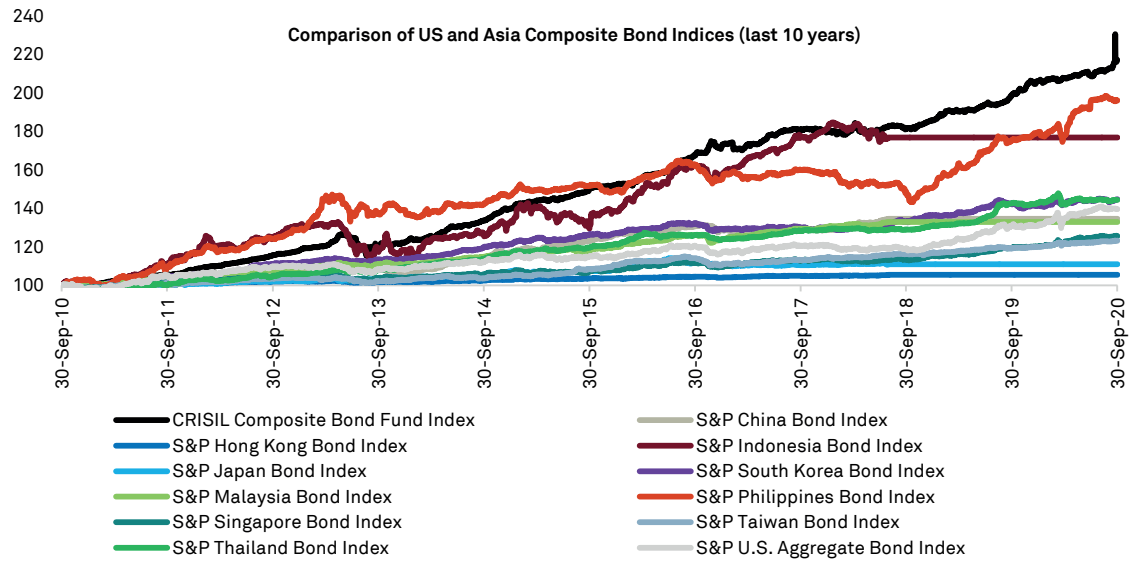
Given the preference for bonds with high credit rating, AAA indices have performed better than their lower-rated peers. CRISIL AAA Long Term Bond Index was the best performing index in the past one year, with a return of 13.43%.

Further, consistent with the easing scenario last year, the long-term category indices have outperformed their counterparts in short-term and medium-term categories. CRISIL Long Term Debt Index has shown the maximum return of 12.93% among its corresponding composite indices.

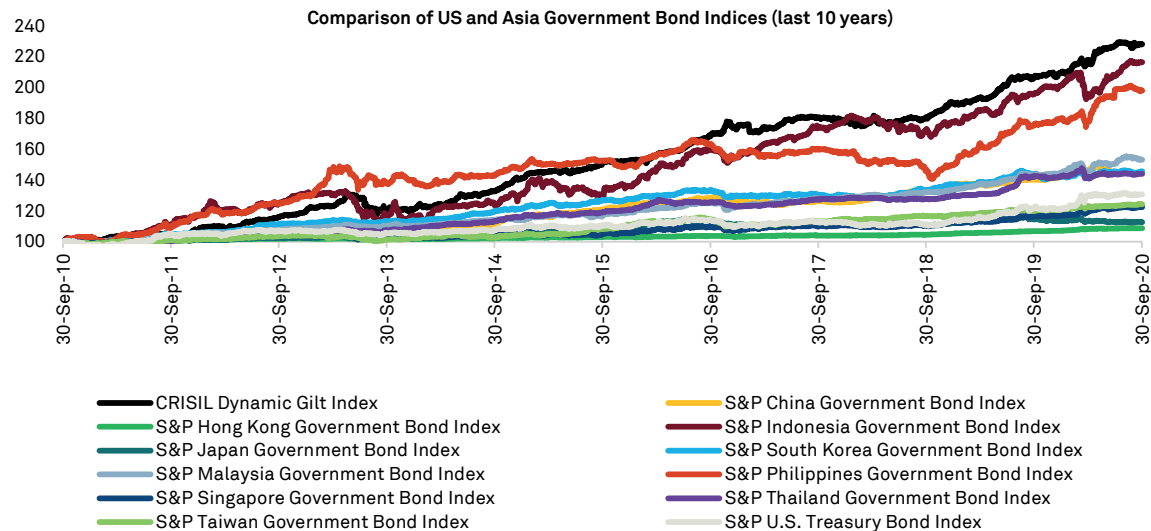
Index category	Index	1 year	3 year	5 year	10 year	Since inception	Inception date
Gilt	CRISIL Short Term Gilt Index	9.55%	8.38%	8.54%	8.38%	7.75%	1-Oct-04
	CRISIL Medium Term Gilt Index	10.91%	8.55%	8.88%	8.41%	7.53%	1-Oct-04
	CRISIL Long Term Gilt Index	12.18%	9.46%	9.64%	9.03%	7.94%	1-Oct-04
	CRISIL Composite Gilt Index	10.54%	8.54%	8.84%	8.60%	7.79%	1-Oct-04
	CRISIL Dynamic Gilt Index	10.72%	8.17%	8.55%	8.61%	10.11%	1-Jan-97
	CRISIL 10 Year Gilt Index	8.27%	6.73%	7.61%	7.19%	7.46%	1-Sep-01
SDL	CRISIL 10 Year SDL Index	8.10%	8.25%	9.03%	9.04%	8.24%	1-Apr-05
Credit(AAA)	CRISIL AAA Long Term Bond Index	13.43%	8.92%	9.60%	9.40%	8.92%	31-Mar-02
	CRISIL AAA Medium Term Bond Index	12.24%	8.63%	9.02%	9.17%	8.61%	31-Mar-02
	CRISIL AAA Short Term Bond Index	10.57%	8.70%	8.64%	8.77%	8.26%	31-Mar-02
Credit(Composite AA)	CRISIL Composite AA Long Term Bond Index	9.30%	4.63%	7.34%	8.65%	8.79%	31-Mar-02
	CRISIL Composite AA Medium Term Bond Index	9.91%	7.35%	8.78%	9.33%	9.16%	31-Mar-02
	CRISIL Composite AA Short Term Bond Index	10.85%	8.82%	9.07%	9.35%	9.19%	31-Mar-02
Credit(A)	CRISIL A Medium to Long Term Bond Index	4.47%	6.94%	8.55%	9.50%	10.50%	31-Mar-02
	CRISIL A Short Term Bond Index	11.30%	10.22%	9.30%	10.19%	10.20%	31-Mar-02
	CRISIL A Medium Term Bond Index	10.14%	9.51%	10.78%	10.70%	10.93%	31-Mar-02
Credit(Banking and PSU)	CRISIL Medium to Long Term Banking Debt Index	11.27%	9.67%	9.58%	9.65%	8.78%	31-Mar-02
	CRISIL Short Term Banking Debt Index	10.53%	9.71%	9.33%	9.39%	8.89%	31-Mar-02
	CRISIL Medium to Long Term PSU Debt Index	13.01%	9.16%	9.52%	9.36%	9.00%	31-Mar-02
	CRISIL Short Term PSU Debt Index	10.13%	8.44%	8.41%	8.84%	8.40%	31-Mar-02

Index category	Index	1 year	3 year	5 year	10 year	Since inception	Inception date
Composite	CRISIL Liquid Fund Index	5.18%	6.58%	6.83%	7.71%	6.76%	31-Mar-02
	CRISIL Ultra Short Term Debt Index	6.67%	7.45%	7.48%	8.31%	7.95%	1-Jan-97
	CRISIL Low Duration Debt Index	7.76%	7.84%	7.98%	8.41%	7.91%	1-Jan-97
	CRISIL Money Market Index	6.08%	7.16%	7.23%	8.05%	7.98%	1-Jan-95
	CRISIL Short Term Bond Fund Index	9.89%	8.23%	8.32%	8.53%	7.46%	31-Mar-02
	CRISIL Medium Term Debt Index	11.97%	8.54%	9.03%	9.15%	8.56%	1-Oct-04
	CRISIL Medium To Long Term Debt Index	12.01%	8.48%	9.04%	8.93%	10.80%	1-Jan-97
	CRISIL Long Term Debt Index	12.93%	8.70%	9.38%	9.18%	8.50%	1-Oct-04
	CRISIL Composite Bond Fund Index	11.38%	8.38%	8.91%	8.70%	7.40%	31-Mar-02
	CRISIL Dynamic Debt Index	11.34%	8.17%	8.75%	8.88%	8.37%	31-Mar-02
	CRISIL Long Term Corporate Bond Index	12.81%	7.82%	9.02%	9.19%	8.86%	31-Mar-02
	CRISIL Medium Term Corporate Bond Index	11.82%	8.36%	8.98%	9.20%	8.72%	31-Mar-02
	CRISIL Short Term Corporate Bond Index	10.69%	8.76%	8.81%	8.94%	8.47%	31-Mar-02
	CRISIL Corporate Bond Composite Index	11.65%	8.16%	8.94%	9.10%	8.76%	31-Mar-02
	CRISIL Short Term Credit Risk Index	10.78%	9.06%	8.97%	9.40%	9.05%	31-Mar-02
	CRISIL Composite Credit Risk Index	11.06%	7.62%	8.83%	9.32%	9.14%	31-Mar-02
CRISIL Banking and PSU Debt Index	10.10%	8.57%	8.65%	9.02%	8.41%	31-Mar-02	

Data as on September 30, 2020



Source: CRISIL Research, S&P Global



Source: CRISIL Research, S&P Global

Global

Indian Indices topped the chart in both government and corporate bond fund categories, outperforming all of its Asian peers in local return terms (domestic investor perspective).

CRISIL Composite Bond Fund Index has seen rapid growth in the past 10 years, surpassing S&P Philippines Index in July 2016 and S&P Indonesia Index in September 2018.

CRISIL Dynamic Gilt Index outperformed the S&P Indonesia Government Bond Index in May 2018, and has been leading its peers since then.

Annexure



Corporate bonds

Outstanding amount for various fixed-income securities

FY	Outstanding (Rs crore)					
	Corporate bonds	CP	CD	G-sec	SDL	T-bills
FY11	8,89,510	80,305	4,24,740	23,65,966	6,05,804	1,41,327
FY12	10,51,639	91,188	4,19,530	27,98,985	7,42,412	2,67,020
FY13	12,90,147	1,09,255	3,93,120	32,67,430	8,89,069	2,99,764
FY14	14,67,397	1,06,614	3,98,103	37,20,804	10,57,036	3,39,134
FY15	17,50,320	1,93,268	3,29,096	41,62,571	12,73,078	3,63,704
FY16	20,19,296	2,60,244	2,44,672	45,66,630	16,39,388	3,64,692
FY17	24,04,911	3,97,965	1,55,741	49,12,816	20,90,052	3,34,802
FY18	27,42,259	3,72,577	1,85,732	53,23,091	24,30,333	3,85,283
FY19	30,67,228	4,83,084	2,72,260	57,46,360	27,78,978	4,20,882
FY20	32,53,922	3,44,527	1,72,996	62,20,351	32,65,990	5,38,411
H1FY21	34,05,776	3,62,310	75,570	68,55,386	35,64,979	9,82,286

Source: SEBI, RBI, CCIL

Primary issuances

Fiscal	Private placements						Mobilised amount through public placements (Rs crore)	Ratio of publicly mobilised amount to privately mobilised amount	Total amount mobilised as % of GDP
	Number of issuers	Number of deals	Number of instruments	Mobilised amount (Rs crore)	Growth in amount mobilised	Amount mobilised as % of GDP			
FY11	182	825	956	1,92,127	1.4%	2.5%	9,451	4.9%	2.6%
FY12	164	1327	1939	2,51,437	30.9%	2.9%	35,611	14.2%	3.3%
FY13	267	1828	2443	3,51,848	39.9%	3.5%	16,982	4.8%	3.7%
FY14	245	1473	3524	2,70,946	-23.0%	2.4%	42,383	15.6%	2.8%
FY15	344	1765	5109	4,32,692	59.7%	3.5%	9,713	2.2%	3.5%
FY16	589	2682	3791	4,92,047	13.7%	3.6%	33,812	6.9%	3.8%
FY17	663	2837	4124	7,05,174	43.3%	4.6%	29,547	4.2%	4.8%
FY18	694	2398	3625	6,55,799	-7.0%	3.8%	4,953	0.8%	3.9%
FY19	568	2551	3333	6,35,239	-3.1%	3.3%	36,679	5.8%	3.5%
FY20	587	2250	3222	6,75,236	6.3%	3.3%	14,984	2.2%	3.39%
H1FY21	398	1182	1640	3,82,746	-43.3%	N.A.	1032	0.3%	N.A.

N.A. Amount mobilised as % of GDP is not available for H1FY21
Source: SEBI, RBI, Prime Database

Sector-wise break-up of number and amount of issuances

Summary of sector-wise issuances (number of issuances)											
Sector	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Agriculture & allied activities	0	1	1	0	1	6	11	7	4	1	2
Industry	119	72	157	141	150	255	350	351	178	267	138
Top 5	Banking/term lending	175	199	247	122	158	149	158	120	114	54
	Financial services	491	1019	1328	1133	1311	1764	1523	1259	1702	1460
	Housing/ civil construction/ real estate	22	13	60	51	107	423	322	270	250	195
	Power generation & supply	24	23	28	41	38	75	114	149	57	98
	Housing finance	0	0	0	0	0	0	382	271	216	139
Services	706	1254	1670	1332	1614	2421	2476	2037	2369	1982	1042
Of which	Financial services	491	1019	1328	1133	1311	1764	1523	1259	1702	1460
	Banking/term lending	175	199	247	122	158	149	158	120	114	54
Grand total	825	1327	1828	1473	1765	2682	2837	2395	2551	2250	1182

Note: Sector-wise break-up of number of issuances and total issuances during the year for a few fiscals may vary due to difference in source
 Source: Prime Database, CRISIL Research

Summary of sector-wise issuances (Rs crore)											
Sector	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Agriculture & allied activities	0	250	400	0	275	250	347	438	235	4	0
Industry	47,421	43,425	78,993	63,971	75,322	1,10,894	1,74,046	1,38,128	1,08,174	1,79,070	1,14,380
Top 5	Banking/term lending	92,029	1,29,161	1,39,084	98,489	1,75,706	1,39,583	2,02,221	1,94,754	1,89,630	2,39,630
	Financial services	44,384	64,682	1,05,662	95,300	1,44,062	1,78,899	1,48,175	1,49,610	1,28,236	1,15,263
	Housing/ civil construction/ real estate	3,855	2,223	9,805	7,057	16,271	28,665	30,967	26,409	51,628	32,726
	Power generation & supply	19,025	23,615	21,408	20,942	35,312	58,499	75,400	49,814	26,013	43,904
	Housing finance	0	0	0	0	0	0	1,14,743	1,21,817	1,16,452	89,101
Services	1,44,706	2,07,762	2,72,455	2,06,975	3,57,094	3,80,693	5,30,781	5,17,233	5,26,830	4,96,162	2,68,366
Of which	Financial services	44,384	64,682	1,05,662	95,300	1,44,062	1,78,899	1,48,175	1,49,610	1,28,236	1,15,263
	Banking/term lending	92,029	1,29,161	1,39,084	98,489	1,75,706	1,39,583	2,02,221	1,94,754	1,89,630	2,39,630
Grand total	1,92,127	2,51,437	3,51,848	2,70,946	4,32,692	4,91,837	7,05,174	6,55,799	6,35,239	6,75,236	3,82,746

Source: Prime Database, CRISIL Research

Detailed sector-wise break-up of primary issuances (Rs crore)											
Sector	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
State financial institutions	1,425	1574.65	5,394	1,482	883.23	0	275	250	0	250	2,040
Public sector undertakings	12,850	27,176	39,851	31,784	31,769	32,551	69,816	44,772	41,844	1,35,367	48,332
State-level undertakings	1,981	4183.5	8583.98	3,686	5,757	23,848	20,489	10,389	2,990	293	0
Banks	19,481	14,974	24,495	14,388	47,881	44,676	88,035	56,227	33,067	36,463	25,146
NBFCs	15,333	28,854	48,113	40,379	68,009	98,836	1,42,764	1,50,000	1,25,181	1,09,839	67,454
HFCs	29,801	36,367	57,850	55,106	73,938	80,987	1,09,803	1,20,070	1,15,912	88,936	50,408
Financial institutions and others	69,656	1,11,363	1,08,409	81,454	1,25,522	92,222	1,14,502	1,40,470	1,79,364	1,85,824	1,00,394
Private – non-financial sector	41,599	26,946	59,152	42,666	78,932	1,18,927	1,59,490	1,33,621	1,36,881	1,18,264	88,972
Grand total	1,92,127	2,51,437	3,51,848	2,70,946	4,32,692	4,92,047	7,05,174	6,55,799	6,35,239	6,75,236	3,82,746

Source: Prime Database, CRISIL Research

Size-wise break-up of number and amount of issuances

Number of issues											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Rs 10 crore & below	192	375	496	477	394	575	566	678	773	1054	391
Rs 10 crore -25 crore	102	297	290	218	256	507	447	258	292	202	149
Rs 25 crore - 50 crore	93	166	235	184	238	427	376	264	254	195	142
Rs 50 crore -100 crore	45	58	134	108	139	407	363	284	262	150	114
Rs 100 crore & above	393	431	673	486	738	766	1,085	914	707	649	386
Grand total	825	1,327	1,828	1,473	1,765	2,682	2,837	2,398	2,288	2,250	1,182

Note: The size-wise breakup of number of issuances and total issuances during the year for a few fiscals may vary due to difference in source

Source: Prime Database, CRISIL Research

Amount (Rs crore)											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Rs 10 crore & below	1,197	2,408	2,109	2,160	1,936	3,017	2,851	2,086	2,770	2,225	699
Rs 10 crore -25 crore	2,171	5,415	5,613	4,251	4,689	9,957	8,702	4,885	5,473	3,656	3,170
Rs 25 crore - 50 crore	4,268	6,572	9,729	7,609	9,806	16,779	15,634	10,984	10,225	7,554	6,307
Rs 50 crore -100 crore	3,330	4,183	9,292	7,594	9,892	33,632	30,155	23,967	20,741	12,094	10,039
Rs 100 crore & above	1,81,161	2,32,859	3,25,105	2,49,333	4,06,369	4,28,662	6,47,832	6,13,876	5,96,030	6,49,707	3,62,529
Grand total	1,92,127	2,51,437	3,51,848	2,70,946	4,32,692	4,92,047	7,05,174	6,55,799	6,35,239	6,75,236	3,82,746

Source: Prime Database, CRISIL Research

Private sector vs non-private sector

Amount garnered (Rs crore)											
Issuer category	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Non-private sector	1,32,088	1,93,303	2,38,111	1,81,343	2,72,372	2,55,665	3,76,524	3,42,134	3,47,333	4,37,667	2,15,250
Private sector	60,039	58,134	1,13,737	89,603	1,60,319	2,36,382	3,28,651	3,13,665	2,87,905	2,37,569	1,67,495
Grand total	1,92,127	2,51,437	3,51,848	2,70,946	4,32,692	4,92,047	7,05,174	6,55,799	6,35,239	6,75,236	3,82,746
% of private sector	31%	23%	32%	33%	37%	48%	47%	48%	45%	35%	44%

Source: Prime Database

Rating-wise break-up of number and amount of issuances

Number of issues											
Rating category	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
AAA equivalent	318	375	566	391	585	717	716	542	599	513	242
AA+ equivalent	226	574	536	520	451	433	481	385	204	72	60
AA equivalent	87	151	222	207	330	397	637	528	811	295	149
AA- equivalent	80	131	320	190	72	92	113	111	128	282	137
A+ equivalent	53	23	31	29	57	105	112	43	65	41	86
A equivalent	16	21	67	38	46	64	57	41	53	47	81
A- equivalent	5	12	20	7	65	46	46	22	64	90	98
BBB+ equivalent	2	4	5	17	41	34	32	32	27	28	27
BBB equivalent	5	1	8	12	30	47	43	20	33	37	50
BBB- equivalent	3	3	6	21	26	31	55	48	26	21	22
BB+ equivalent	1	0	3	12	19	27	20	10	10	9	2
BB equivalent	0	2	2	3	17	24	24	25	18	18	5
BB- equivalent	1	0	7	10	12	41	27	8	9	16	5
B+ equivalent	0	0	2	8	3	13	7	4	6	3	2
B equivalent	0	0	2	1	6	7	10	6	2	2	1
B- equivalent	0	0	0	1	1	5	5	5	3	4	0
C equivalent	0	1	4	4	1	1	1	2	4	2	0
D equivalent	0	0	0	0	0	0	1	1	2	7	3
A1+ equivalent	0	0	0	0	0	3	0	0	0	2	0
A1 equivalent	0	0	0	0	0	0	0	0	0	0	0
Not rated	28	29	28	2	5	597	451	496	487	761	212
Grand total	825	1327	1829	1473	1767	2684	2838	2329	2551	2250	1182

Note: The rating-wise breakup of number of issuances and total issuances during the year for a few fiscals may vary due to difference in source
 Source: Prime Database

Amount (Rs crore)											
Rating category	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
AAA equivalent	1,32,075	1,89,447	2,26,311	1,89,396	2,80,348	2,75,798	3,96,964	3,96,201	4,56,187	5,09,847	2,86,523
AA+ equivalent	18,775	28,054	54,742	36,917	60,466	54,366	94,038	1,05,122	44,060	33,153	23,929
AA equivalent	10,851	12,587	25,351	15,360	24,345	29,975	86,471	51,089	40,574	38,216	33,603
AA- equivalent	13,856	6,237	16,946	9,404	26,707	29,163	19,536	27,910	19,762	17,044	12,305
A+ equivalent	8,178	2,167	3,735	5,880	12,637	13,766	24,395	21,045	11,670	7,857	6,817
A equivalent	5,844	6,175	12,015	5,207	7,826	9,284	6,544	8,595	9,723	5,156	5,877
A- equivalent	890	3,414	2,536	2,243	5,357	3,986	4,912	2,800	5,067	4,084	3,479
BBB+ equivalent	150	918	208	453	2,859	1,252	1,769	3,449	3,915	1,889	611
BBB equivalent	507	32	884	1,104	1,481	3,273	1,838	2,622	1,058	2,226	556
BBB- equivalent	445	323	518	2,501	2,566	2,992	4,785	3,088	980	957	245
BB+ equivalent	250	0	192	450	2,367	2,673	1,466	1,194	737	478	280
BB equivalent	0	495	95	98	2,963	2,142	2,957	2,010	1,046	3,723	493
BB- equivalent	84	0	2,935	791	988	870	1,906	244	241	426	28
B+ equivalent	0	0	198	444	98	412	462	154	137	355	25
B equivalent	0	0	155	6	805	560	425	708	780	100	5
B- equivalent	0	0	0	17	25	922	254	676	432	125	0
C equivalent	0	53	477	571	142	8	45	79	624	16	0
D equivalent	0	0	0	0	0	0	228	59	56	34	91
A1+ equivalent	0	0	0	0	0	252	0	0	0	548	0
A1 equivalent	0	0	0	0	0	0	0	0	0	0	0
Not rated	222	1,535	4,977	103	714	60,379	56,179	28,753	38,190	49,004	7,880
Grand total	1,92,127	2,51,437	3,52,272.25	2,70,946	4,32,692	4,92,072	7,05,174	6,55,799	6,35,239	6,75,236	3,82,746

Note: The rating-wise breakup of total issuances during the year for a few fiscals may vary due to difference in source
Source: Prime Database

Maturity-wise number of issuances

Number of instruments											
Maturity (years)	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to 3 (0-3)	466	1096	1203	2609	3805	1180	1196	937	1093	1029	565
(03-05)	195	228	505	472	744	1557	1688	1494	1401	1144	646
(05-10)	178	386	577	354	454	625	771	721	536	763	201
>10	117	229	158	81	106	429	469	473	303	286	105
Total	956	1939	2443	3516	5109	3791	4124	3625	3333	3222	1517

Source: Prime Database

Interest rates and sovereign yields for the past 10 years

Fiscal	Interest rate*	Sovereign yield^	Difference
FY11	6.75%	8.23%	1.48%
FY12	8.50%	8.82%	0.32%
FY13	7.50%	8.24%	0.74%
FY14	8.00%	9.29%	1.29%
FY15	7.50%	7.98%	0.48%
FY16	6.75%	7.60%	0.85%
FY17	6.25%	6.86%	0.61%
FY18	6.00%	7.54%	1.54%
FY19	6.25%	7.46%	1.21%
FY20	4.40%	6.22%	1.82%
H1FY21	4.00%	6.10%	2.10%

*repo rate as on March end

^10-year benchmark G-sec yield as on March end

Source: RBI, CRISIL Research

Rating-wise spreads

Fiscal year	3 Year AAA PSU Spread over G-sec	5 Year AAA PSU Spread over G-sec	10 Year AAA PSU Spread over G-sec
FY11	1.48%	1.23%	0.94%
FY12	1.21%	0.74%	0.69%
FY13	0.79%	0.70%	0.61%
FY14	0.54%	0.54%	0.30%
FY15	0.24%	0.30%	0.27%
FY16	0.37%	0.61%	0.66%
FY17	0.67%	0.42%	0.74%
FY18	0.34%	0.35%	0.46%
FY19	0.81%	0.70%	0.76%
FY20	0.73%	0.73%	0.90%
H1FY21	0.16%	0.42%	0.66%

Source: CRISIL Research

Average spread

All sectors							
Rating	31-Mar-15	31-Mar-16	31-Mar-17	28-Mar-18	29-Mar-19	31-Mar-20	30-Sep-20
AAA	00.62%	01.10%	01.19%	00.82%	01.44%	02.07%	01.51%
AA	01.62%	02.13%	02.09%	01.56%	02.43%	03.94%	03.83%
A	03.25%	03.97%	03.95%	03.31%	03.73%	05.80%	07.00%
Public sector undertakings, corporates, banks, manufacturing and services							
Rating	31-Mar-15	31-Mar-16	31-Mar-17	28-Mar-18	29-Mar-19	31-Mar-20	30-Sep-20
AAA	00.44%	00.87%	01.02%	00.70%	01.21%	01.60%	01.17%
AA	01.42%	01.85%	01.88%	01.40%	02.11%	03.15%	03.38%
A	03.00%	03.40%	03.69%	03.05%	03.61%	04.92%	05.69%
HFCs							
Rating	31-Mar-15	31-Mar-16	31-Mar-17	28-Mar-18	29-Mar-19	31-Mar-20	30-Sep-20
AAA	00.60%	01.10%	01.11%	00.85%	01.45%	01.80%	00.86%
AA	01.90%	02.40%	02.62%	01.35%	02.37%	03.68%	02.77%
A	03.78%	05.09%	04.51%	03.31%	03.26%	06.16%	05.83%
NBFCs							
Rating	31-Mar-15	31-Mar-16	31-Mar-17	28-Mar-18	29-Mar-19	31-Mar-20	30-Sep-20
AAA	01.19%	01.79%	01.73%	01.21%	01.85%	02.93%	02.22%
AA	01.86%	02.38%	02.25%	01.90%	02.99%	05.30%	04.71%
A	03.68%	04.34%	04.37%	03.96%	03.78%	06.82%	08.91%

Note: Average spread over G-sec
Source: CRISIL Research

Top 10 issuers in the past 10 years (Rs crore)

Issuer	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Housing Development Finance Corp	13,865	20,895	33,180	24,269	29,170	22,276	44,546	42,250	49,103	46,190	30,943
Power Finance Corporation	13,756	28,605	30,277	24,698	46,920	23,587	41,115	32,459	22,499	37,488	38,417
Rural Electrification Corp Ltd	13,227	22,862	21,782	24,253	34,538	22,303	26,260	39,653	44,178	53,813	21,564
National Bank for Agriculture & Rural Development	8,020	17,914	17,414	0	9,850	14,730	20,371	35,291	56,069	47,276	14,584
LIC Housing Finance	11,373	10,420	15,656	20,850	24,791	26,412	26,874	28,777	35,113	27,010	3,770
National Highways Authority of India	907	2,512	2,902	4,244	3,343	9,981	33,118	27,532	22,217	53,490	16,094
Indian Railway Finance Corp Ltd	5,990	5,116	2,214	3,000	2,625	5,218	14,920	15,166	19,200	26,715	10,755
Reliance Industries Ltd	500	0	0	0	0	0	0	20,000	19,000	0	24,955
IDFC	11,457	10,458	11,329	7,398	15,114	7,042	480	0	0	0	0
Indiabulls Housing Finance Ltd	0	375	1,732	3,273	7,443	9,857	13,566	21,174	8,902	120	2,780

*Based on aggregate issuances in last 10.5 years

*IDFC Ltd changed to IDFC Bank Ltd and further as IDFC First Bank Ltd

Source: Prime Database

FPI net investment in debt

Fiscal	Amount (Rs crore)
FY11	36,317
FY12	49,988
FY13	28,334
FY14	(28,060)
FY15	1,66,127
FY16	(4,004)
FY17	(7,292)
FY18	1,19,036
FY19	(42,357)
FY20	(48,710)
H1FY21	(38,860)

Source: NSDL

Average daily trading

Fiscal	Average daily trading (Rs crore)
FY11	2,437
FY12	2,476
FY13	3,047
FY14	4,025
FY15	4,584
FY16	4,171
FY17	5,520
FY18	6,907
FY19	7,147
FY20	8,117
H1FY21	8,189

Source: FIMMDA, CRISIL Research

Maturity-wise annual trading

Residual maturity (years)	FY11		FY12		FY13		FY14		FY15		FY16		FY17	
	Rs crore	% of total	Rs crore	% of total	Rs crore	% of total	Rs crore	% of total	Rs crore	% of total	Rs crore	% of total	Rs crore	% of total
Up to 3	4,02,614	66.90	3,44,841	58.52	3,39,693	46.07	4,73,347	48.20	5,29,827	48.77	4,46,648	44.43	5,88,899	44.27
(03-05)	55,504	9.22	74,523	12.65	1,47,973	20.07	2,26,315	23.04	2,03,296	18.71	2,43,631	24.24	2,59,579	19.51
(05-10)	85,629	14.23	1,17,147	19.88	1,82,262	24.72	1,89,858	19.33	2,83,405	26.08	2,33,691	23.25	3,41,615	25.68
>10	58,097	9.65	52,711	8.95	67,450	9.15	92,567	9.43	69,946	6.44	81,243	8.08	1,40,192	10.54
Grand total	6,01,844	100.00	5,89,222	100.00	7,37,378	100.00	9,82,088	100.00	10,86,474	100.00	10,05,212	100.00	13,30,285	100.00

Residual maturity (years)	FY18		FY19		FY20		H1FY21	
	Rs crore	% of total	Rs crore	% of total	Rs crore	% of total	Rs crore	% of total
Up to 3	8,14,826	48.95	10,31,088	59.62	10,87,955	55.39	5,80,875	57.67
(03-05)	3,30,483	19.85	2,79,658	16.17	2,57,841	13.13	1,31,287	13.03
(05-10)	3,25,472	19.55	3,40,636	19.69	4,80,156	24.44	1,99,867	19.84
>10	1,93,746	11.64	78,175	4.52	1,38,307	7.04	95,262	9.46
Grand total	16,64,527	100.00	17,29,558	100.00	19,64,260	100.00	10,07,291	100.00

Source: FIMMDA, NSE, BSE

Certificates of deposit

Average daily trading (Rs crore)

Fiscal	CDs
FY11*	8,459
FY12	8,467
FY13	7,410
FY14	6,918
FY15	6,590
FY16	5,269
FY17	4,058
FY18	3,643
FY19	4,652
FY20	3,829
H1FY21	1,000

*From August 2010
 Source: FIMMDA

CD issuances and outstanding

Fiscal	Issuance amount (Rs crore)	Interest rate range (%)	Outstanding* (Rs crore)
FY11	8,51,834	4.15-10.72	4,24,740
FY12	9,44,996	7.30-11.90	4,19,530
FY13	8,65,156	7.85-12.00	3,93,120
FY14	7,96,468	7.50-11.95	3,98,103
FY15	7,72,847	7.55-10.25	3,29,096
FY16	6,29,133	7.00-8.90	2,44,672
FY17	4,07,556	5.92-8.53	1,55,741
FY18	4,40,275	6.00-8.50	1,85,732
FY19	5,65,253	6.25-9.65	2,72,260
FY20	3,88,256	4.93-8.80	1,72,996
H1FY21	51,658	3.37-7.94	75,570

*Outstanding as on March-end.
 Source: RBI

Maturity-wise annual trading

Maturity buckets (days) CD	Amount (Rs crore)										
	FY11*	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to 91 days	9,99,952	15,30,341	12,54,389	11,83,295	12,56,828	10,44,387	7,01,507	7,03,279	8,66,944	6,27,923	75,048
(91-182) days	1,86,891	1,82,213	1,85,701	1,09,702	1,08,142	70,114	1,02,260	72,625	98,977	92,683	17,702
(182-365) days	1,66,294	2,83,796	3,53,011	3,88,186	1,83,585	1,54,987	1,74,290	1,01,940	1,59,897	2,05,897	29,781
More than 365 days	360	1,815	0	0	50	438	0	0	0	0	510
Total	13,53,498	19,98,165	17,93,101	16,81,182	15,48,605	12,69,925	9,78,057	8,77,843	11,25,818	9,26,502	1,23,040

*From August 2010
 Source: FIMMDA

Detailed sector-wise annual trading

Amount (Rs crore)											
Sector	FY11*	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Public Sector Banks	11,06,830	16,20,479	14,24,295	13,25,694	12,36,991	8,84,243	4,54,611	63,109	2,75,636	3,79,490	41,042
Private Sector Banks	2,45,487	3,75,938	3,65,586	3,51,860	3,06,616	3,74,921	4,79,872	7,73,631	7,78,109	4,16,559	53,105
FIs & Others	201	982	2,001	983	1,793	8,247	38,229	34,554	65,858	1,27,414	28,654
Foreign Bank	980	766	1,219	2,646	3,205	2,514	5,345	3,400	2,401	1,743	100
Small Finance Banks	0	0	0	0	0	0	0	3,150	3,813	1,297	139
Grand Total	13,53,498	19,98,165	17,93,101	16,81,182	15,48,605	12,69,925	9,78,057	8,77,843	11,25,818	9,26,502	1,23,040

*From August 2010
Source: FIMMDA, CRISIL Research

Commercial papers

Average daily trading (Rs crore)

Fiscal	CPs
FY11*	1,360
FY12	2,181
FY13	2,416
FY14	2,285
FY15	3,093
FY16	3,732
FY17	4,749
FY18	5,350
FY19	6,190
FY20	3,881
H1FY21	1,867

*From August 2010
 Source: FIMMDA

CP issuances and outstanding (Rs crore)

Fiscal	Issuance amount	Interest rate range (%)	Outstanding*
FY11	2,25,453	3.85-18.00	80,305
FY12	5,21,175	6.39-15.25	91,188
FY13	7,65,355	7.37-15.25	1,09,255
FY14	7,28,157	7.36-14.31	1,06,614
FY15	11,50,061	7.36-14.92	1,93,268
FY16	16,28,763	6.52-13.14	2,60,244
FY17	20,81,644	5.68 -14.92	3,97,965
FY18	22,92,547	5.48-37.73	3,72,577
FY19	25,96,441	6.03-17.49	4,83,084
FY20	21,96,894	4.75-14.47	3,44,527
H1FY21	7,86,963	2.98-13.35	3,62,310

*Outstanding as on March-end
 Source: RBI

Maturity-wise annual trading

Amount (Rs crore)											
Maturity buckets (days)	FY11*	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to 91	1,86,184	4,69,049	5,35,065	5,09,424	6,77,419	8,26,637	10,61,121	12,03,588	13,85,227	8,56,120	2,02,517
91-182	15,060	22,700	24,789	19,025	26,837	34,255	39,431	59,059	62,091	35,710	9,068
182-365	13,502	22,939	24,918	24,494	22,614	38,473	43,936	26,610	50,714	47,317	18,110
Total	2,14,747	5,14,688	5,84,771	5,52,943	7,26,869	8,99,366	11,44,488	12,89,256	14,98,031	9,39,147	2,29,695

*From August 2010
 Source: FIMMDA

Amount (Rs crore)											
Sector	FY11*	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
FIs & Others	33,014	55,965	67,184	78,453	1,21,778	1,68,180	1,93,419	2,44,145	2,98,658	1,63,305	32,212
HFC	15,905	40,636	50,309	53,718	1,07,983	1,67,821	1,42,865	1,96,859	2,98,305	1,21,208	23,386
NBFC	1,05,022	2,51,572	2,34,661	2,45,805	3,27,491	3,72,509	5,46,375	4,68,035	3,15,965	1,39,525	25,782
Private – Non Financial sector	36,684	44,869	72,232	1,00,068	1,39,788	1,62,671	2,16,895	3,37,372	4,17,389	2,72,004	64,640
Public Sector Undertakings	24,122	1,21,647	1,60,385	74,900	29,830	28,186	44,933	42,845	1,67,714	2,43,106	83,676
Grand Total	2,14,747	5,14,688	5,84,771	5,52,943	7,26,869	8,99,366	11,44,488	12,89,256	14,98,031	9,39,147	2,29,695

*From August 2010

Source: FIMMDA, CRISIL Research

CPs - maturity wise issuance			
FY	FY19	FY20	H1FY21
Upto 91 Days	91%	90%	85%
(091-182)	6%	5%	4%
(182-365)	4%	6%	10%
Grand Total	100%	100%	100%

Source: CCIL, CRISIL Research

CPs - sector wise issuance			
FY	FY19	FY20	H1FY21
FIs & Others	11%	8%	8%
HFC	15%	7%	5%
NBFC	30%	25%	23%
Private – Non Financial sector	33%	41%	34%
PSU	12%	19%	29%
Grand Total	100%	100%	100%

Source: CCIL, CRISIL Research

Government securities

Primary issuances

Fiscal	Issuance amount (Rs crore)	Amount issued as a percentage of GDP (%)	Issuance yield - range (%)	Weighted average yield (%)
FY11	4,37,000	5.6	5.98 - 8.67	7.92
FY12	5,10,000	5.8	7.80 - 10.01	8.52
FY13	5,58,000	5.6	7.86 - 8.82	8.36
FY14	5,63,500	5.0	7.16 - 9.40	8.45
FY15	5,92,000	4.7	7.65 - 9.42	8.51
FY16	5,85,000	4.3	7.54 - 8.27	7.89
FY17	5,82,000	3.8	6.13 - 7.87	7.16
FY18	5,88,000	3.4	6.42 - 7.67	6.97
FY19	5,71,000	3.0	6.57 - 8.42	7.78
FY20	7,10,000	3.5	5.57 - 7.78	6.85
H1FY21	7,66,000	N.A.	3.96 - 7.19	5.71

N.A. Amount issued as a % of GDP is not available for H1FY21
 Source: RBI, CRISIL Research

Size-wise amount issued

Issue size	Amount (Rs crore)										
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to Rs 5,000 crore	4,19,000	3,33,000	2,98,000	3,26,500	3,35,000	3,19,000	3,09,000	2,75,000	5,55,000	5,13,000	1,21,055
More than Rs 5,000 crore	18,000	1,77,000	2,60,000	2,37,000	2,57,000	2,66,000	2,73,000	3,13,000	16,000	1,97,000	6,44,945
Total	4,37,000	5,10,000	5,58,000	5,63,500	5,92,000	5,85,000	5,82,000	5,88,000	5,71,000	7,10,000	7,66,000
% of issuances up to Rs 5,000 crore	96	65	53	58	57	55	53	47	97	72	16

Source: RBI, CRISIL Research

Maturity-wise amount issued

Amount (Rs crore)											
Maturity (years)	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to 3	11,000	0	0	2,000	0	0	0	0	50,000	56,000	53,055
(3 to 5)	56,000	18,000	50,000	9,000	0	0	18,000	9,000	65,000	94,000	1,46,000
(5 to 10)	1,61,000	2,45,000	1,89,000	2,44,500	2,42,000	2,17,000	2,30,000	2,81,000	1,54,000	1,82,000	2,13,000
(10 to 20)	1,53,000	1,77,000	2,41,000	2,13,000	2,40,000	2,55,000	2,45,000	2,12,000	1,66,000	1,45,000	1,85,000
(20 to 30)	56,000	70,000	75,000	95,000	1,10,000	1,04,000	59,000	33,000	81,000	1,24,000	5,000
> 30	0	0	3,000	0	0	9,000	30,000	53,000	55,000	1,09,000	1,63,945
Grand total	4,37,000	5,10,000	5,58,000	5,63,500	5,92,000	5,85,000	5,82,000	5,88,000	5,71,000	7,10,000	7,66,000

Source: RBI, CRISIL Research

Maturity-wise issuance as a % of total											
Maturity (years)	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to 3	2.52%	0.00%	0.00%	0.35%	0.00%	0.00%	0.00%	0.00%	8.76%	7.89%	6.93%
3 to 5	12.81%	3.53%	8.96%	1.60%	0.00%	0.00%	3.09%	1.53%	11.38%	13.24%	19.06%
5 to 10	36.84%	48.04%	33.87%	43.39%	40.88%	37.09%	39.52%	47.79%	26.97%	25.63%	27.81%
10 to 20	35.01%	34.71%	43.19%	37.80%	40.54%	43.59%	42.10%	36.05%	29.07%	20.42%	24.15%
20 to 30	12.81%	13.73%	13.44%	16.86%	18.58%	17.78%	10.14%	5.61%	14.19%	17.46%	0.65%
> 30	0.00%	0.00%	0.54%	0.00%	0.00%	1.54%	5.15%	9.01%	9.63%	15.35%	21.40%
Grand total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: RBI, CRISIL Research

Average daily trading

Fiscal	Average daily trading (Rs crore)
FY11	10,238
FY12	12,973
FY13	24,462
FY14	32,710
FY15	38,645
FY16	35,560
FY17	62,973
FY18	40,739
FY19	32,628
FY20	46,558
H1FY21	34,717

Source: CCIL

Maturity-wise annual trading

Amount (Rs crore)												
Residual maturity (years)	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21	
Up to 3	1,13,212	36,798	31,955	87,110	98,347	2,27,214	5,14,374	3,62,858	4,58,042	5,86,353	4,61,983	
3 to 5	2,10,690	39,235	2,84,693	5,06,321	1,59,076	10,41,060	11,75,152	4,49,168	9,20,759	17,43,462	9,84,276	
5 to 10	11,58,779	19,37,553	25,22,769	40,12,652	58,49,135	47,91,877	75,86,440	51,17,163	57,29,990	78,06,661	34,14,575	
> 10	10,35,778	10,87,067	30,80,326	33,42,498	30,52,312	25,09,720	59,00,512	38,88,795	7,87,159	11,30,462	12,43,617	
Total	25,18,459	31,00,652	59,19,743	79,48,581	91,58,870	85,69,870	1,51,76,478	98,17,984	78,95,950	1,12,66,938	61,04,450	

Source: CCIL

State development loans

Primary issuances

Fiscal	Issuance amount (Rs crore)	Amount issued as a percentage of GDP	Range at which coupon placed (%)	Weighted average yield (%)
FY11	1,04,039	1.3	8.05 - 8.58	8.39
FY12	1,58,632	1.8	8.36 - 9.49	8.79
FY13	1,77,279	1.8	8.42 - 9.31	8.84
FY14	1,96,664	1.8	7.57 - 9.94	9.18
FY15	2,40,842	1.9	8.00 - 9.66	8.58
FY16	2,94,560	2.1	7.95 - 8.88	8.28
FY17	3,81,979	3.1	6.62 - 8.09	7.48
FY18	4,19,100	2.5	6.81 - 8.45	7.67
FY19	4,78,323	2.5	7.13 - 8.86	8.32
FY20	6,34,521	3.1	5.78 - 8.23	7.24
H1FY21	3,53,596	N.A.	4.39 - 8.96	6.42

N.A. Amount issued as a % of GDP is not available for H1FY21

Source: RBI, CRISIL Research

State-wise break-up of amount issued

State	Amount (Rs crore)										
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Andhra Pradesh	12,000	15,500	20,000	22,412	18,000	18,050	19,500	22,800	30,200	42,415	31,250
Arunachal Pradesh	0	33	170	230	306	130	453	888	719	1,366	428
Assam	800	0	300	0	2,950	3,150	3,090	7,760	10,595	12,906	3,300
Bihar	2,600	4,000	7,100	6,500	8,100	11,500	17,700	10,000	14,300	25,601	12,000
Chhattisgarh	0	0	1,500	3,000	4,200	4,850	4,200	8,100	12,900	11,680	2,000
Goa	300	550	850	990	800	1,450	1,320	1,800	2,350	2,600	1,500
Gujarat	11,500	16,500	15,546	15,493	14,920	16,260	24,720	24,000	36,971	38,900	19,780
Haryana	4,450	6,357	9,330	11,446	13,200	14,100	15,800	16,640	21,265	24,677	18,500
Himachal Pradesh	645	1,325	2,360	2,367	2,345	2,450	3,400	4,600	4,210	6,580	500
Jammu & Kashmir	2,808	2,975	2,150	2,080	1,400	2,250	2,790	6,200	6,684	7,869	4,705
Jharkhand	500	1,254	3,600	2,950	4,950	5,350	5,154	6,000	5,509	7,500	0
Karnataka	2,000	7,500	10,760	14,997	18,500	16,188	28,007	22,098	39,600	48,500	29,000
Kerala	5,500	8,880	11,583	12,800	13,200	15,000	17,300	20,500	19,500	18,073	15,930
Madhya Pradesh	3,900	4,000	4,500	5,000	10,300	14,700	16,100	15,000	20,496	22,371	11,000
Maharashtra	11,500	21,000	17,500	23,600	25,083	32,500	40,000	45,000	20,869	48,498	48,500

Amount (Rs crore)											
State	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Manipur	258	150	275	350	463	600	630	525	970	1,757	700
Meghalaya	190	310	385	340	545	680	1,001	1,116	1,122	1,344	800
Mizoram	267	300	186	260	230	200	170	424	0	900	442
Nagaland	355	505	655	535	600	950	1,070	1,135	822	1,000	500
Odisha	0	0	0	0	3,000	4,473	7,620	8,438	5,500	7,500	3,000
Punjab	4,928	8,200	9,700	9,000	8,950	10,800	13,600	17,470	22,115	27,355	12,110
Rajasthan	6,180	4,500	8,041	8,800	12,300	15,800	16,054	24,914	33,178	39,092	27,450
Sikkim	0	40	94	215	330	580	744	995	1,088	809	615
Tamil Nadu	9,981	14,500	17,997	20,749	25,550	29,775	37,250	40,965	43,125	62,425	48,000
Telangana	0	0	0	0	8,200	13,850	21,861	24,600	26,740	37,109	22,961
Tripura	285	300	645	550	150	575	990	1,137	1,543	2,928	400
Union Territory of Puducherry	600	533	302	500	470	450	525	825	825	970	225
Uttar Pradesh	12,000	15,830	9,500	8,000	17,500	30,000	41,050	41,600	46,000	69,703	13,500
Uttarakhand	992	1,400	1,750	2,500	2,400	3,900	5,450	6,660	6,300	5,100	2,500
West Bengal	9,500	22,191	20,500	21,000	21,900	24,000	34,431	36,911	42,828	56,992	22,000
Total	1,04,039	1,58,632	1,77,279	1,96,664	2,40,842	2,94,560	3,81,979	4,19,100	4,78,323	6,34,521	3,53,596

Source: RBI, CRISIL Research

Classification of states based on amount and frequency of issuance					
		Number of years in which issuances were made in the last 10.5 years			
		<5	5 To 8	9	10-11
Aggregate amount issued in the last 10 years	Up to Rs 5,000 crore				Arunachal Pradesh
					Mizoram
	Above Rs 5,000 crore and up to Rs 25,000 crore				Goa
					Nagaland
					Tripura
					Meghalaya
					Union Territory of Puducherry
					Manipur
					Sikkim
	Above Rs 25,000 crore and up to Rs 50,000 crore		Odisha	Assam	Jharkhand
					Jammu & Kashmir
					Uttarakhand
	Above Rs 50,000 crore and up to Rs 80,000 crore			Chhattisgarh	Himachal Pradesh
		Above Rs 80,000 crore		Telangana	
					West Bengal
					Tamil Nadu
					Uttar Pradesh
					Andhra Pradesh
					Gujarat
					Karnataka
				Rajasthan	
				Kerala	
				Haryana	
				Punjab	
				Madhya Pradesh	
			Bihar		

Source: RBI

Size-wise break-up of number and amount of issuances

Number of issues											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to Rs 500 crore	65	88	82	111	107	99	116	147	165	214	95
>Rs 500 crore up to Rs 1000 crore	64	58	92	83	96	85	79	124	152	279	145
>Rs 1,000 crore	18	50	48	59	80	114	152	140	150	143	97
Grand total	147	196	222	253	283	298	347	411	467	636	337

Source: RBI

Amount (Rs crore)											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to Rs 500 crore	20,026	25,163	23,371	33,271	28,689	28,088	32,309	47,672	56,203	74,610	33,960
>Rs 500 crore up to Rs 1000 crore	57,023	52,523	78,237	73,277	87,425	77,450	72,662	1,08,040	1,37,572	2,61,923	1,37,700
>Rs 1,000 crore	26,991	80,946	75,671	90,116	1,24,728	1,89,023	2,77,008	2,63,387	2,84,549	2,97,987	1,81,936
Grand total	1,04,039	1,58,632	1,77,279	1,96,664	2,40,842	2,94,560	3,81,979	4,19,100	4,78,323	6,34,521	3,53,596

Source: RBI

Top 10 issuer states based on aggregate amount issued in the past 10 years

Amount (Rs crore)													
Rank	State	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21	Total
1	Tamil Nadu	9,981	14,500	17,997	20,749	25,550	29,775	37,250	40,965	43,125	62,425	48,000	3,50,318
2	Maharashtra	11,500	21,000	17,500	23,600	25,083	32,500	40,000	45,000	20,869	48,498	48,500	3,34,050
3	West Bengal	9,500	22,191	20,500	21,000	21,900	24,000	34,431	36,911	42,828	56,992	22,000	3,12,252
4	Uttar Pradesh	12,000	15,830	9,500	8,000	17,500	30,000	41,050	41,600	46,000	69,703	13,500	3,04,683
5	Andhra Pradesh	12,000	15,500	20,000	22,412	18,000	18,050	19,500	22,800	30,200	42,415	31,250	2,52,127
6	Karnataka	2,000	7,500	10,760	14,997	18,500	16,188	28,007	22,098	39,600	48,500	29,000	2,37,150
7	Gujarat	11,500	16,500	15,546	15,493	14,920	16,260	24,720	24,000	36,971	38,900	19,780	2,34,589
8	Rajasthan	6,180	4,500	8,041	8,800	12,300	15,800	16,054	24,914	33,178	39,092	27,450	1,96,309
9	Kerala	5,500	8,880	11,583	12,800	13,200	15,000	17,300	20,500	19,500	18,073	15,930	1,58,266
10	Haryana	4,450	6,357	9,330	11,446	13,200	14,100	15,800	16,640	21,265	24,677	18,500	1,55,764

Source: RBI, CRISIL Research

Amount (Rs crore)											
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Total amount issued by top 10 issuers* (Rs crore)	84,611	1,32,757	1,40,757	1,59,297	1,80,153	2,11,673	2,74,111	2,95,428	3,33,536	4,49,275	NA
Total GSDP of top 10 issuer states (Rs crore)	50,95,077	59,73,870	68,12,520	77,39,283	85,07,709	94,94,291	1,06,81,733	1,19,48,963	1,33,89,785	94,18,690	NA
Issued amount as % of GSDP	2.4%	2.5%	1.7%	2.2%	2.1%	2.1%	2.1%	2.4%	2.8%	8.6%	NA

*Based on aggregate amount issued in last 10 years

NA: Data not available

Source: Ministry of Statistics and Programme Implementation, RBI, CRISIL Research

State-wise amount issued by top 10 issuers* as a percentage of GSDP

State	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
Tamil Nadu	1.8%	1.9%	2.1%	2.1%	2.4%	2.5%	2.9%	2.8%	2.6%	3.4%
Maharashtra	1.1%	1.6%	1.2%	1.4%	1.4%	1.7%	1.8%	1.9%	0.8%	NA
West Bengal	2.0%	4.3%	3.5%	3.1%	3.0%	3.0%	3.9%	3.8%	3.9%	4.5%
Uttar Pradesh	2.0%	2.2%	1.2%	0.9%	1.7%	2.6%	3.2%	2.8%	2.8%	3.9%
Andhra Pradesh	2.1%	4.1%	4.9%	4.8%	3.4%	3.0%	2.8%	2.9%	3.5%	4.4%
Karnataka	0.5%	1.2%	1.5%	1.8%	2.0%	1.5%	2.3%	1.6%	2.6%	2.9%
Gujarat	2.2%	2.7%	2.1%	1.9%	1.6%	1.6%	2.1%	1.8%	2.5%	NA
Rajasthan	1.8%	1.0%	1.6%	1.6%	2.0%	2.3%	2.1%	3.0%	3.5%	3.8%
Kerala	2.0%	2.4%	2.8%	2.8%	2.6%	2.7%	2.7%	2.9%	2.5%	NA
Haryana	1.7%	2.1%	2.7%	2.9%	3.0%	2.8%	2.8%	2.6%	2.9%	3.0%

*Based on aggregate amount issued in last 10 years

NA: Data not available

Source: Ministry of Statistics and Programme Implementation, RBI, CRISIL Research

Maturity-wise amount issued

Amount (Rs crore)											
Maturity bucket	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to 5 years	0	0	11,906	3,130	7,500	2,300	16,900	14,979	52,819	33,923	88,275
More than 5 years up to 10 years	1,04,039	1,58,632	1,65,372	1,93,534	2,33,342	2,90,260	3,46,593	3,11,418	3,13,130	4,42,518	1,69,944
More than 10 years	0	0	0	0	0	2,000	18,486	92,703	1,12,374	1,58,080	95,377
Total	1,04,039	1,58,632	1,77,279	1,96,664	2,40,842	2,94,560	3,81,979	4,19,100	4,78,323	6,34,521	3,53,596

Source: RBI, CRISIL Research

Average daily trading

Year	Average traded volume (Rs crore)
FY11	179
FY12	185
FY13	487
FY14	637
FY15	772
FY16	1,320
FY17	2,502
FY18	2,332
FY19	2,102
FY20	2,836
H1 FY21	2,217

Source: CCIL

Top 10 most actively traded SDLs*

State	Amount (Rs crore)
Tamil Nadu	37,589
Maharashtra	37,101
Uttar Pradesh	29,811
Rajasthan	25,842
Karnataka	25,351
Gujarat	25,323
West Bengal	21,833
Andhra Pradesh	21,182
Haryana	15,962
Punjab	14,813

*Based on average annual traded volume for the past 10.5 years
Source: CCIL

Maturity-wise annual trading

Maturity buckets	Amount (Rs crore)										
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1 FY21
Up to 3 years	3,253	656	2,345	3,697	5,826	15,429	30,664	55,071	1,01,895	90,577	1,00,720
>3 years up to 5 years	579	321	9,192	6,309	6,569	13,839	55,104	74,641	79,864	64,979	45,448
>5 years up to 10 years	36,629	43,237	1,06,429	1,44,737	1,62,133	2,75,691	4,63,858	3,74,887	2,72,878	4,39,492	1,78,622
>10 years	0	0	0	0	8,504	13,196	53,416	57,471	54,138	91,328	98,448
Grand total	40,461	44,214	1,17,966	1,54,743	1,83,032	3,18,154	6,03,042	5,62,070	5,08,775	6,86,376	4,23,238

Source: CCIL

Treasury bills

Size-wise break-up of number and amount of issuances (91-day T-bills)

Number of issues											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
<5,000 crore	28	5	0	0	2	2	0	0	4	5	0
Rs 5,000-10,000 crore	24	33	27	23	8	12	16	11	15	14	0
>Rs 10,000 crore	0	14	25	28	42	39	36	41	33	34	24
Total	52	52	52	51	52	53	52	52	52	53	24

Source: RBI

Issuances amount (Rs crore)											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
<5,000 crore	98,765	22,358	0	0	8,753	0	0	0	18,200	22,601	0
Rs 5,000-10,000 crore	1,59,218	2,58,508	2,20,658	1,78,476	73,088	1,12,578	1,23,840	94,067	1,10,666	1,03,744	0
>Rs 10,000 crore	0	1,65,938	3,22,267	4,01,611	5,88,474	5,74,089	5,40,727	6,79,993	5,31,300	5,13,127	4,14,559
Total	2,57,983	4,46,804	5,42,926	5,80,088	6,70,315	6,86,667	6,64,567	7,74,060	6,60,165	6,39,473	4,14,559

Source: RBI

Size-wise break-up of number and amount of issuances (182-day T-bills)

Number of issues											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
<5,000 crore	26	26	22	5	4	1	2	22	37	27	0
Rs 5,000-10,000 crore	0	0	4	19	22	24	24	17	13	24	2
>Rs 10,000 crore	0	0	0	1	0	1	0	0	2	2	22
Total	26	26	26	25	26	26	26	39	52	53	24

Source: RBI

Issuances amount (Rs crore)											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
<5,000 crore	43,301	93,601	1,09,192	19,000	16,639	0	9,005	60,771	1,43,825	1,23,000	0
Rs 5,000-10,000 crore	0	0	20,242	1,05,112	1,30,971	1,52,187	1,65,030	1,24,646	92,372	1,70,889	16,455
>Rs 10,000 crore	0	0	0	13,408	0	10,002	0	0	21,823	27,800	3,19,738
Total	43,301	93,601	1,29,434	1,37,520	1,47,610	1,62,189	1,74,035	1,85,417	2,58,020	3,21,689	3,36,193

Source: RBI

Size-wise break-up of number and amount of issuances (364-day T-bills)

Number of issues											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
<5,000 crore	26	26	16	5	2	1	8	25	47	48	0
Rs 5,000-10,000 crore	0	0	10	21	24	25	18	13	4	5	7
>Rs 10,000 crore	0	0	0	0	0	0	0	1	1	0	17
Total	26	26	26	26	26	26	26	39	52	53	24

Source: RBI

Issuances amount (Rs crore)											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
<5,000 crore	42,481	90,382	80,000	20,903	8,079	5,000	33,004	66,001	1,71,854	1,75,370	0
Rs 5,000-10,000 crore	0	0	50,471	1,16,054	1,41,122	1,49,033	1,09,522	80,984	23,542	42,300	65,930
>Rs 10,000 crore	0	0	0	0	0	0	0	12,700	13,500	0	2,19,050
Total	42,481	90,382	1,30,471	1,36,956	1,49,201	1,54,033	1,42,526	1,59,685	2,08,896	2,17,670	2,84,980

Source: RBI

Fiscal	91-day T-bills		182-day T-bills		364-day T-bills	
	Amount (Rs crore)	Weighted average auction cut off yield (%)	Amount (Rs crore)	Weighted average auction cut off yield (%)	Amount (Rs crore)	Weighted average auction cut off yield (%)
FY11	2,57,983	6.18	43,301	6.48	42,481	6.56
FY12	4,46,804	8.43	93,601	8.42	90,382	8.35
FY13	5,42,926	8.20	1,29,434	8.17	1,30,471	8.05
FY14	5,80,088	8.90	1,37,520	8.86	1,36,956	8.64
FY15	6,70,315	8.50	1,47,610	8.53	1,49,201	8.49
FY16	6,86,667	7.15	1,62,189	7.17	1,54,033	7.43
FY17	6,64,567	6.42	1,74,035	6.52	1,42,526	6.52
FY18	7,74,060	6.19	1,85,417	6.32	1,59,685	6.40
FY19	6,60,165	6.61	2,58,020	6.84	2,08,896	7.04
FY20	6,39,473	5.45	3,21,689	5.61	2,17,670	5.66
H1FY21	4,14,559	3.40	3,36,193	3.58	2,84,980	3.67

Source: RBI

Average daily trading

Amount (Rs crore)											
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to 91 days	592	650	1,250	1,432	1,673	1,891	1,824	1,370	1,438	1,953	3,571
92-182 days	376	435	567	808	975	1,067	1,343	1,206	966	1,522	1,756
183-365 days	259	389	587	868	839	642	693	497	791	1,057	2,132
Total	1,227	1,473	2,405	3,108	3,487	3,600	3,860	3,073	3,195	4,532	7,459

Source: RBI

External commercial borrowings/ foreign currency convertible bonds

Issuances

Fiscal	Number of issuers	Number of issues	Amount (\$ million)
FY11	570	726	25,776
FY12	837	1074	35,967
FY13	692	918	32,058
FY14	537	714	33,238
FY15	584	824	28,384
FY16	528	719	24,373
FY17	542	721	17,391
FY18	599	786	25,993
FY19	744	996	37,837
FY20	997	1336	52,036
H1FY21	456	527	12,485

Source: RBI

Maturity-wise break-up of amount issued

Amount (\$ million)											
Maturity buckets	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to 3 years	563	521	2,457	7,739	1,634	3,357	1,815	3,497	3,895	9,091	4,818
3-5 years	5,500	5,614	5,253	6,900	6,308	7,567	6,133	7,992	18,148	16,247	1,920
5-10 years	13,875	20,044	13,333	10,957	11,501	6,442	8,171	6,509	11,335	13,155	2,917
>10 years	5,837	9,787	11,015	7,641	6,730	7,007	1,272	7,995	4,459	13,542	2,830
N A	N.A.	N.A.	N.A.	N.A.	2,211	0	0	0	0	0	0
Total	25,775	35,966	32,058	33,237	28,384	24,373	17,391	25,993	37,837	52,036	12,485

N A: Not available
Source: RBI

Size-wise breakup of number and amount of issuances

Number of issuances											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to \$10 million	441	610	569	457	598	543	539	548	705	946	406
\$10-50 million	186	328	230	145	142	112	128	154	201	221	79
>\$50 million	99	136	119	112	84	64	54	84	90	169	42
Grand total	726	1074	918	714	824	719	721	786	996	1336	527

Source: RBI

Amount (\$ million)											
Issue size	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	H1FY21
Up to \$10 million	1,603	2,344	1,934	1,325	1,644	1,386	1,322	1,308	1,721	2,032	842
\$10-50 million	4,294	7,806	5,250	3,466	3,114	2,733	3,125	3,767	4,884	5,192	1,888
>\$50 million	19,878	25,817	24,873	28,446	23,625	20,254	12,944	20,917	31,233	44,812	9,755
Grand Total	25,776	35,967	32,058	33,238	28,384	24,373	17,391	25,993	37,837	52,036	12,485

Source: RBI

Abbreviations

Abbreviation	Full form
AIF	Alternative investment fund
AMC	Asset management company
AMFI	Association of Mutual Funds in India
AUM	Assets under management
BFSI	Banking, financial services, and insurance
CAGR	Compound annual growth rate
CCIL	The Clearing Corporation of India Limited
CD	Certificate of deposit
CP	Commercial paper
CPI	Consumer Price Index
CRR	Cash reserve ratio
ECB	External commercial borrowings
EL	Expected loss
ELSS	Equity linked savings scheme
EPFO	Employees' Provident Fund Organisation
ESG	Environmental, Social and Governance
ETF	Exchange traded fund
FCCB	Foreign currency convertible bond
FI	Financial institution
FIMMDA	Fixed Income Money Market and Derivatives Association of India
FPI	Foreign portfolio investor
FRB	Floating rate bond
GDP	Gross domestic product
G-sec	Government security

Abbreviation	Full form
GST	Goods and Services Tax
HAM	Hybrid annuity model
HDFC	Housing Development Finance Corporation
HFC	Housing finance company
HNI	High networth individual
HTM	Held to maturity
IL&FS	Infrastructure Leasing & Financial Services
InvIT	Infrastructure investment trust
IPO	Initial public offering
IRDAI	Insurance Regulatory and Development Authority of India
LTRO	Long-term repo operations
MF	Mutual funds
MFI	Micro-finance institutions
MSF	Marginal standing facility
NBFC	Non-banking financial company
NIP	National Infrastructure Pipeline
NPS	National Pension Scheme
NSDL	National Securities Depository Ltd
OMO	Open market operations
PCGS	Partial Credit Guarantee Scheme
PD	Primary dealer
PFC	Power Finance Corporation
PFRDA	Pension Fund Regulatory and Development Authority Act
PMS	Portfolio management service
PSU	Public sector unit
RBI	Reserve Bank of India
REC	Rural Electrification Corporation

Abbreviation	Full form
REIT	Real estate investment trust
SDL	State development loan
SEBI	Securities and Exchange Board of India
SLR	Statutory liquidity ratio
SLS	Special liquidity scheme
T-Bill	Treasury bill
TLTRO	Targeted long-term repo operations
ULIPS	Unit linked insurance plan
WMA	Ways and means advances

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