CRISIL Yearbook On The Indian Debt Market 2018

Analytical contacts

Bhushan Kedar
Director, Funds and Fixed Income Research
CRISIL Research
bhushan.kedar@crisil.com

Ramesh Karunakaran
Director, Criteria and Product Development
CRISIL Ratings
ramesh.karunakaran@crisil.com

Chaitali Nehulkar
Associate Director, Criteria and Product Development
CRISIL Ratings
chaitali.nehulkar@crisil.com

Divya Chandran
Associate Director, Structured Finance
CRISIL Ratings
divya.chandran@crisil.com

Ankit Kala
Manager, Funds and Fixed Income Research
CRISIL Research
ankit.kala@crisil.com

Prasad Koparkar
Senior Director
CRISIL Research
prasad.koparkar@crisil.com

Nagarajan Narasimhan
Senior Director
CRISIL Research
nagarajan.narasimhan@crisil.com

Krishnan Sitaraman
Senior Director
CRISIL Ratings
krishnan.sitaraman@crisil.com

Somasekhar Vemuri
Senior Director
CRISIL Ratings
somasekhar.vemuri@crisil.com

Jiju Vidyadharan
Senior Director
CRISIL Research
jiju.vidyadharan@crisil.com

Rohit Inamdar
Senior Director, Structured Finance
CRISIL Ratings
rohit.inamdar@crisil.com

Contributors
Lalit Dudhane, Bhoomika Dattani, Poorva Saurkar, Shruti Dhaka, Pooja Bandekar, Wazeem A,
Venkatesh Balakrishnan, Shruti Lotlikar, Manavi Prabhu, Ashish Ravalia, Parth Pandya, Shreya Kapse

Editorial
Raj Nambisan, Director
Subrat Mohapatra, Associate Director
Mustafa Hathiari, Lead Editor
Nisha Prabhakaran, Lead Editor

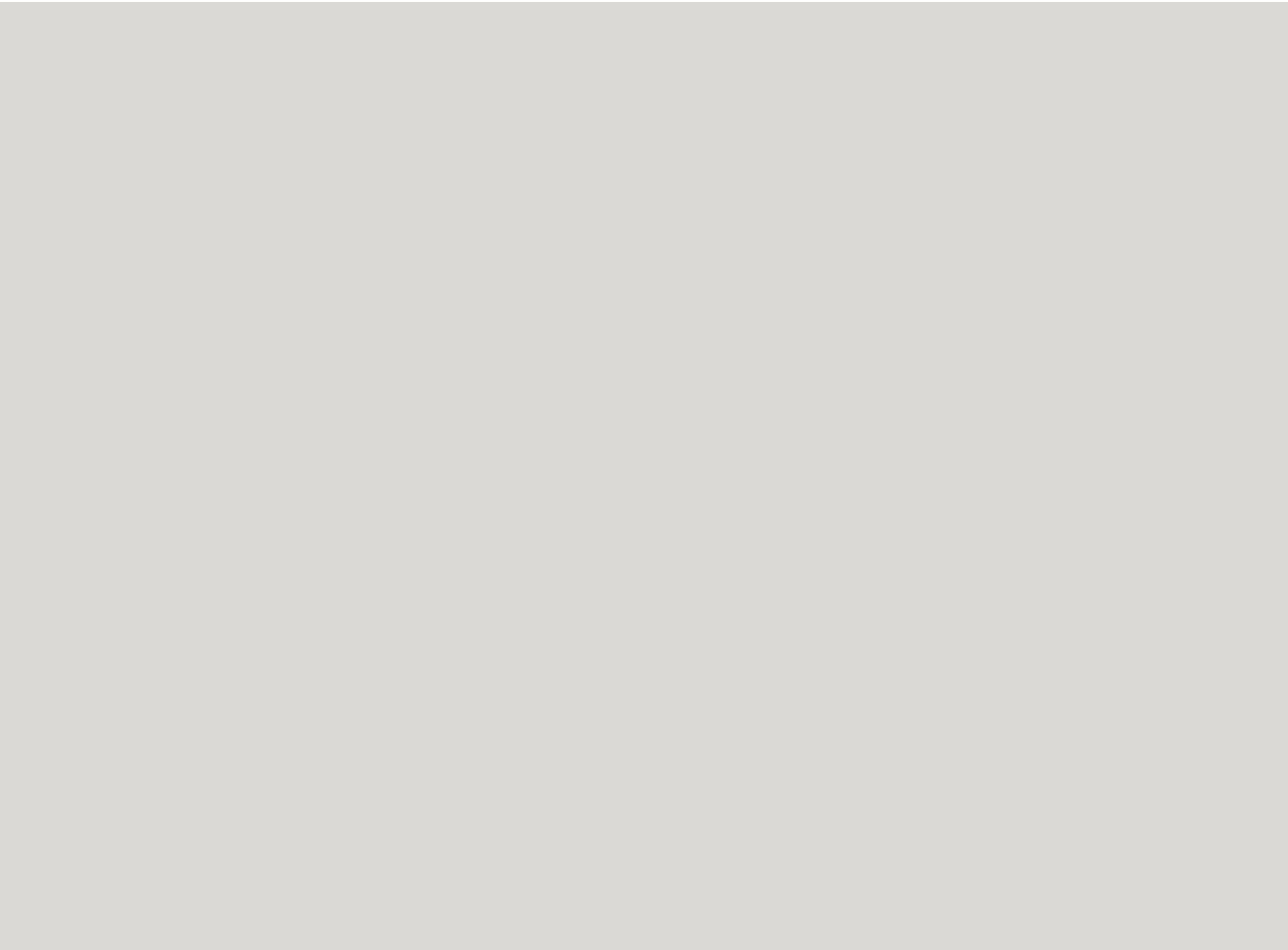
Design
Harshal Bhavsar, Kedarnath Khandalkar

CRISIL Yearbook On The

Indian Debt Market 2018

Contents

Executive summary	9
The demand-supply arithmetic	11
What the market wants	21
Going down the rating curve	27
Securitisation on the rebound	37
Data book, fiscals 2009-2018	41
Chronology of key debt market milestones	74
Annexure	75
Survey results	95



Foreword

The past couple of years have witnessed a marked shift in the domestic corporate bond market, with a number of issuers raising funds as the banking system continued to grapple with rising non-performing assets.

Consequently, corporate bonds accounted for as much as ~30% of outstanding system credit in fiscal 2018, compared with ~21% in fiscal 2013.

Yet, the market in India remains small, accounting for just ~16% of GDP compared with ~46% in Malaysia, ~73% in South Korea and 120% in the US.

While proactive policies and a benign interest rate cycle contributed to growth, some structural issues remain. For example, there is hardly any change in the skew towards higher-rated issuances, especially from the financial sector. But the power sector, led by renewables, recently emerged as the fastest-growing segment.

To realise the domestic corporate bond market's true potential, more dialogue, cooperation and coordination – across the financial ecosystem – is imperative. We believe the time for such holistic facilitation is now because the opportunity cost of lack of economic development is painfully high.

In this edition of the yearbook, we undertook comprehensive assessments of demand and supply of corporate bonds till fiscal 2023. On the supply side, the funding needs of infrastructure, corporates, non-banks and government undertakings were considered, while on the demand side, the investment needs of mutual funds, retirement funds, insurers, banks and foreign portfolio investors were assessed.

In addition, a survey of stakeholders covering 60 institutions – mutual funds, insurers, banks, corporates, alternative investment funds and non-banks – was conducted to gauge concerns on, and recommendations for, developing and deepening the domestic corporate bond market. This was followed up with round-tables of investors and issuers, which deliberated on ways to further develop and deepen the domestic corporate bond market.

The key takeaway from our analysis is that a material gap between demand and supply of corporate bonds could emerge in the near to medium term. To address this, further development of market infrastructure, creation of a liquid secondary market, and deeper engagement with key stakeholders, especially investors, underpinned by innovation, are necessary. And to lend greater depth, facilitating expansion of the issuer base starting with A category ratings will go a long way.

I am sure you will find this edition of the yearbook, and its deep datasets, very insightful.

I hope it becomes food for thought and the basis of discussions in the financial ecosystem, and contributes to the agenda of deepening the domestic corporate bond market.

Season's greetings, and warm regards,

Ashu Suyash
Managing Director & CEO
CRISIL Ltd

Executive summary

Two years back, in August 2016, a committee headed by former Reserve Bank of India (RBI) Deputy Governor H R Khan had made a series of recommendations for the domestic debt market, including changes in regulations, policies, market infrastructure, and innovation as prerequisites to its deepening.

With most of these recommendations getting implemented, the impact is beginning to show: between March 2016 and 2018, corporate bonds outstanding increased ~1.36 times.

In terms of liquidity, average daily trading has almost doubled in the past five years, with the exception of certificates of deposit (CDs), where it has declined due to lower supply.

Growth was also fuelled by a declining interest rate cycle and demonetisation, which led to a liquidity surfeit.

But there are miles to go in terms of footprint on the economy. At less than a fifth of its $2.4 trillion gross domestic product (GDP), India's corporate bonds outstanding hardly registers on the global radar.

Structurally, the debt market remains firmly skewed towards government securities (G-secs). And the corporate bond market remains largely about top-rated financial and public sector issuances.

The good part is, the domestic corporate bond market has done fairly well, fuelled by higher demand as a larger share of financial savings get channelled into the capital market, and favourable supply conditions have emerged because of mounting pressure of non-performing assets (NPAs) at banks.

Successful implementation of the Insolvency and Bankruptcy Code (IBC), the RBI's large borrower framework for enhancing credit supply, the Securities and Exchange Board of India's (SEBI) bond market push for large borrowers, and increasing acceptability of innovation and complexity by investors should lead to more diverse issuers, which would engender a deeper market.

If India is to see rapid economic growth over the long term – which is an absolute social necessity – the corporate bond market will have to play a pivotal role as a funding source.

Over the five fiscals through 2023, CRISIL expects corporate bond outstanding to more than double to Rs 55-60 lakh crore, compared with ~Rs 27 lakh crore at the end of fiscal 2018, driven by large infrastructure investment requirements, growth of non-banking financial institutions, regulatory push, and the inability of banks to crank up corporate lending because of capital constraints.

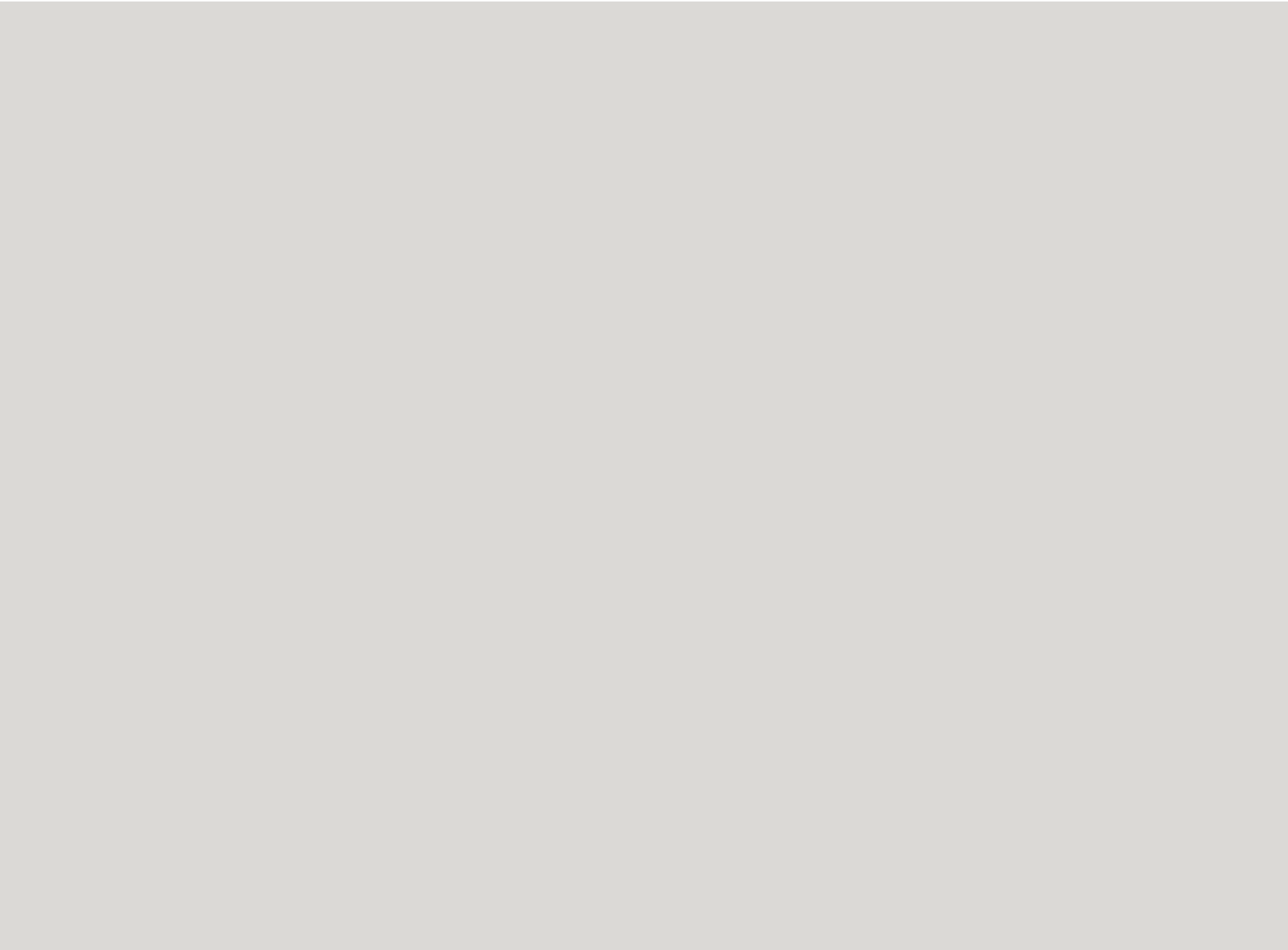
However, demand is expected to be only for Rs 52-56 lakh crore, driven by higher penetration of mutual funds (MFs) and insurance products, increasing retirement subscriptions, growth in corporate investments, and increasing wealth of high networth individuals (HNIs).

As a result, there would be a substantial gap of Rs 3-4 lakh crore between demand and supply of corporate bonds in the next five fiscals.

A slew of measures are required to bridge this gap, and ensure healthy demand-supply dynamics.

While the reforms done so far have been progressive, we need more of it, and then some fine-tuning.

Both facilitations and market infrastructure need to be apace, for the stakes are very high.



The demand-supply arithmetic

Mind the gap

Given that there would be a significant gap of Rs 3-4 lakh crore between demand and supply of corporate bonds, a raft of measures are necessary to bridge it and thus thwart avoidable economic costs.

These include greater synchronicity and synergy among regulators and usher in more confidence on the timelines and processes of the IBC.

Increasing the risk appetite of existing investors and drawing new investors would require encouraging foreign portfolio investors (FPIs) and bank participation, and facilitation of investments by 'patient capital' – or insurers and pension funds.

The other leg that needs, well, a leg-up is retail, and this can be done by reducing distribution cost and ensuring liquidity.

Improving liquidity would also be crucial for intermediaries to play a bigger role in the domestic corporate bond market. This can be done by incentivising institutions for market-making and participation in repos.

In terms of infrastructure, there's a need to promote widely-accepted benchmarks to facilitate hedging of interest rate risks, and refine and recalibrate recent initiatives such as electronic bidding platform (EBP) and re-issuances.

On the innovation side, the time's apposite for a well-capitalised bond guarantee fund that affords credit enhancement for infrastructure projects, and to promote an Expected Loss (EL) scale among banks, insurers and pension funds.

Also handy would be a push to the credit default swaps (CDS) market by encouraging global and local contract-writers.

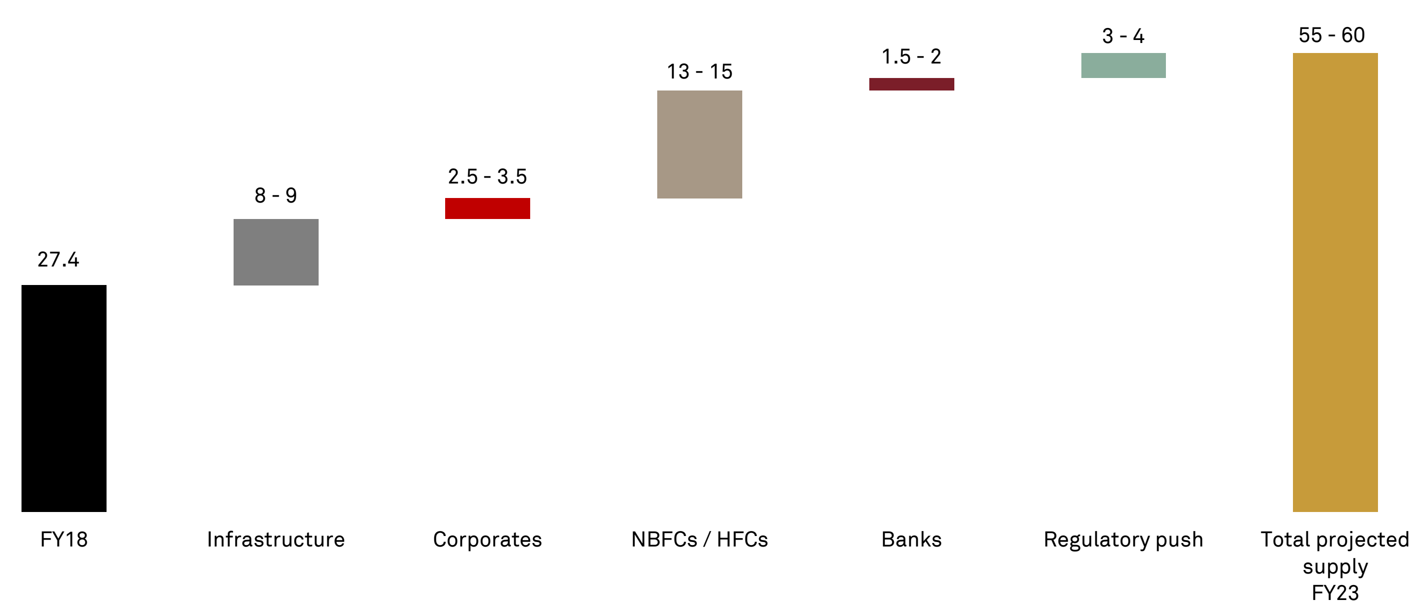
Overall supply seen at Rs 55-60 lakh crore

CRISIL estimates bond issuances in the next five years to more than double from ~Rs 27 lakh crore in the last five years. Supply-driven growth will take the quantum of bonds outstanding to Rs 55-60 lakh crore, which translates to 18-20% of the GDP, compared with 16% as of fiscal 2018.

This growth will ride on:

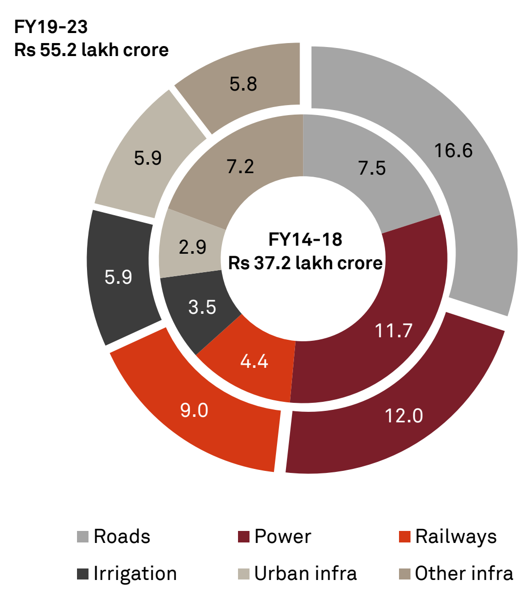
- Capex funding, primarily for infrastructure
- Non-banking finance companies (NBFCs) and housing finance companies (HFCs)
- Regulatory push for incremental funding of large corporates
- Enhanced investor confidence stemming from stabilisation of the IBC process

Expected corporate bond outstanding at the end of FY23 (Rs lakh crore)



Source: CRISIL Research, CRISIL Ratings, Prime Database

Issuances by infrastructure companies seen at Rs 8-9 lakh crore



Source: CRISIL Research
Note: Other infra includes sectors like telecom, ports, airports, and gas downstream

CRISIL estimates total infrastructure capex of Rs 55.2 lakh crore in the next five fiscals, up 48% over the Rs 37.2 lakh crore made in the five years through fiscal 2018. The top five sectors – roads, power (generation, transmission and distribution), railways, irrigation, and urban infrastructure – would account for ~90% of the total spend. Given the significance and nature of the projects, government spending in these sectors is expected to be quite high.

CRISIL expects ~30% debt funding, of which Rs 6-7 lakh crore would come from the bond market – the primary issuers in this space being entities such as National Highways Authority of India (NHAI) and NTPC Ltd.

Once the recovery process under IBC stabilises, CRISIL believes there is a high probability of improved investor confidence in infrastructure bonds. As such, completed infrastructure projects, especially in the roads and renewables sectors, are likely to enjoy high recovery levels in the event of a default. This can help deepen the Indian bond market beyond the AA category.

The successful implementation of IBC can potentially add another Rs 2-3 lakh crore. Overall, CRISIL expects the infrastructure space to incrementally supply Rs 8-9 lakh crore of bonds.

Issuances by non-infra companies seen at Rs 2.5-3.5 lakh crore

CRISIL's analysis shows that major capital-intensive non-infra sectors such as steel, cement, oil and gas upstream, and auto will require ~Rs 10 lakh crore capex in the next five years.

Besides, sectors such as real estate, pharma, retail, FMCG, and holding companies will also raise money through bonds, bolstering the trend of new issuers tapping the market.

Considering all these, CRISIL estimates additional issuance of Rs 2.5-3.5 lakh crore from non-infra corporates over the next five years.

Issuances by non-banks seen at Rs 13-15 lakh crore

The financial sector landscape has changed materially over the past few years with non-banks (NBFCs and HFCs) gaining share in the overall credit pie, even as banks have faced asset quality challenges.

CRISIL expects assets under management (AUM) of non-banks to log 13-15% CAGR over five years through fiscal 2023, compared with 15% in the previous five years.

To achieve this growth, non-banks will require capital of ~Rs 30-33 lakh crore, of which Rs 13-15 lakh crore would be through the bond market.

Despite lower investor confidence of late, CRISIL expects volumes to remain healthy over the long term.

Bank issuances seen at Rs 1.5-2.0 lakh crore

CRISIL expects overall credit growth for banks at 13-14% between fiscals 2019 and 2023. While the availability of bank credit will improve, the focus is expected to shift to retail lending, limiting the funds available for corporates, especially in the infrastructure segment.

For public sector banks, growth will be muted in the near term, given their constrained ability to lend. A sharp fall in profitability has diminished capital generation from internal accruals, while weak performance has impaired their ability to raise capital from external sources.

Private sector banks are expected to capitalise on the opportunity and report very strong growth of 21% CAGR over the next five years, given the resolution of stressed assets problem and limited competition. CRISIL estimates overall capital requirement of ~Rs 4 lakh crore, of which Rs 1.5-2.0 lakh crore is expected to be funded from the bond market.

Issuances because of regulatory push seen at Rs 3-4 lakh crore

As per RBI guidelines on enhancing credit supply for large borrowers through market mechanism, notified on August 25, 2016, banks have to keep their future incremental exposures to large ‘specified borrowers’ within a ‘normally permitted lending limit’ or NPLL.

If the banking system’s lending to specified borrowers exceeds the NPLL, banks have to apply higher provisions and risk weights to their exposure beyond the NPLL, leading to higher borrowing costs. This would push corporates to raise more funds from the capital market. Besides, SEBI approved its framework for enhanced market borrowings by large corporates on September 18, 2018. As per the framework, AA and above categeory listed corporates with long-term borrowings of Rs 100 crore or more have to raise 25% of their incremental long-term borrowings for a year through corporate bonds.

These measures are expected to result in additional issuances of Rs 1.5-2.0 lakh crore over the next five years.

CRISIL believes there is a gap between the push from SEBI and RBI to the corporate bond market, which can be filled by additional regulatory measures, spurring issuances of Rs 2 lakh crore. This is quite a possibility, considering the recovery process under IBC is expected to stabilise, thereby enhancing investor confidence, and can deepen Indian bond markets beyond the AA category, towards A category.

Regulatory void as a driving force

<table>
<tr><th>Parameters</th><th>SEBI framework</th><th>Regulatory void</th><th>RBI guidelines</th></tr>
<tr><td>Size of outstanding borrowings</td><td>Long-term borrowings > Rs 100 crore</td><td rowspan="7">If the regulations are extended to include corporates:
• With ‘total borrowings’ of > Rs 100 crore
• Listed or unlisted
• With rating of A category or above

1,000-1,500 additional corporates can be brought under the mandate of 25% of borrowings from the capital market

This can lead to additional issuances of ~Rs 200,000 crore by fiscal 2023</td><td>Aggregate sanctioned credit limit (ASCL) > Rs 10,000 crore</td></tr>
<tr><td>Definition of outstanding borrowings</td><td>Only long-term borrowings</td><td>ASCL across banking sector</td></tr>
<tr><td>Listing status</td><td>Only listed corporates</td><td>Agnostic to listing status</td></tr>
<tr><td>Rating category</td><td>AA and above</td><td>Agnostic to rating level</td></tr>
<tr><td>Incremental quantum from capital market</td><td>25%</td><td>50%</td></tr>
<tr><td>Impacted companies</td><td>200-250 corporates</td><td>45-55 corporates by fiscal 2023 (investment grade only)</td></tr>
<tr><td>Incremental quantum from capital market</td><td>Rs 40,000 – 50,000 crore by fiscal 2023</td><td>Rs 120,000-130,000 crore by fiscal 2023</td></tr>
</table>

Bankruptcy reforms boosting investor confidence

Bankruptcy reforms have led to material growth in corporate bond markets in many countries. Effective implementation of the IBC in India can lead to more investors gravitating towards lower-rated bonds.

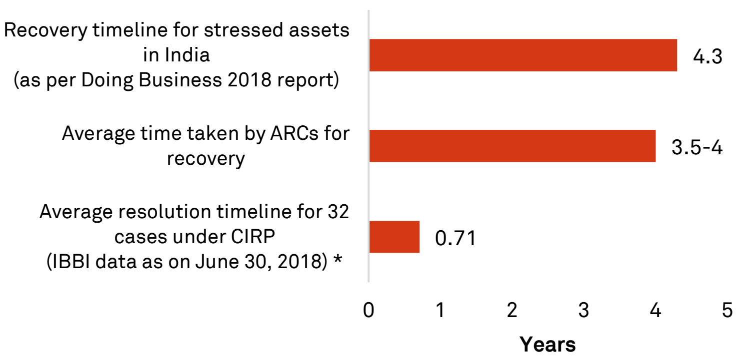
IBC is speeding up bad-loan resolutions. Average resolution timeline for the 32 cases in a CRISIL study was 260 days vis-à-vis the stipulated insolvency resolution timeline of 270 days – better than other mechanisms. Average recovery rate (defined as resolution amount upon total claims admitted) for these 32 cases is 57%.

Corporate bonds to GDP ratio nearly doubles five years after bankruptcy reforms

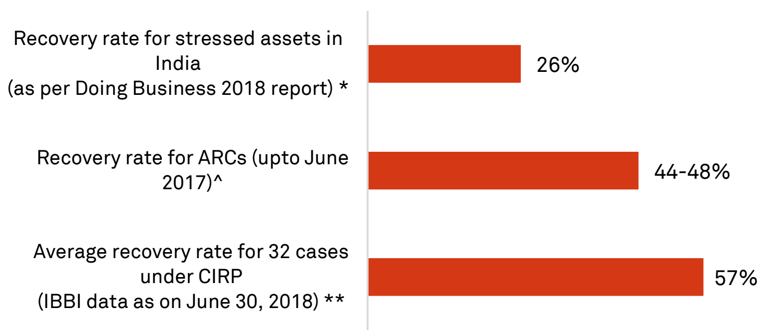
Country	Year of bankruptcy reforms	Pre-reforms*	Post-reforms*
UK	2002	68.4%	106.8%
Brazil	2005	12.7%	26.3%
China	2007	18.8%	33.4%
Russia	2009	8.1%	13.1%
India	2016	13.4%	Effect to be seen

Source: Bureau of International Settlements (BIS)
**Five-year average corporate bonds to GDP ratio*

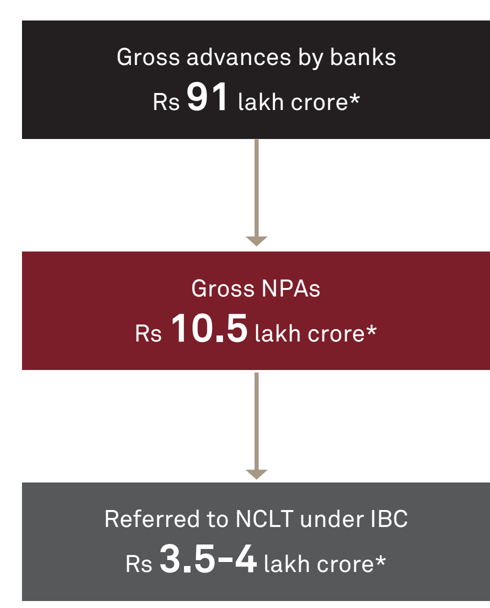
The advent of IBC has been opportune, given that the recovery channels prior to it failed to realise their potential. Of the Rs 10.5 lakh crore of NPAs in the system, Rs 3.5-4.0 lakh crore has already been referred to the National Company Law Tribunal or NCLT. The timelines and recovery of these assets will determine investor confidence and risk appetite for papers below AA category.



*Source: Insolvency & Bankruptcy Board of India (IBBI) data, Doing Business 2018 report and CRISIL estimates; *refers to only resolution timeline, actual recovery timeline could be longer*



**Recovery rate is in present value terms as per the Doing Business 2018 report, ^CRISIL estimates – Actuals + Projected; ** Resolution amount includes ~Rs 48,000 crore for financial creditors and ~Rs 2,000 crore for operational creditors*
CIRP: Corporate Insolvency Resolution Process



**As on March 31, 2018*
Source: CRISIL Ratings

Overall demand seen at Rs 52-56 lakh crore

Demand and profile of investors play a critical role in shaping the market structure. In India, institutions are the key investors in the debt market as there is limited appetite among the retail side given the complexity and ticket size of the products.

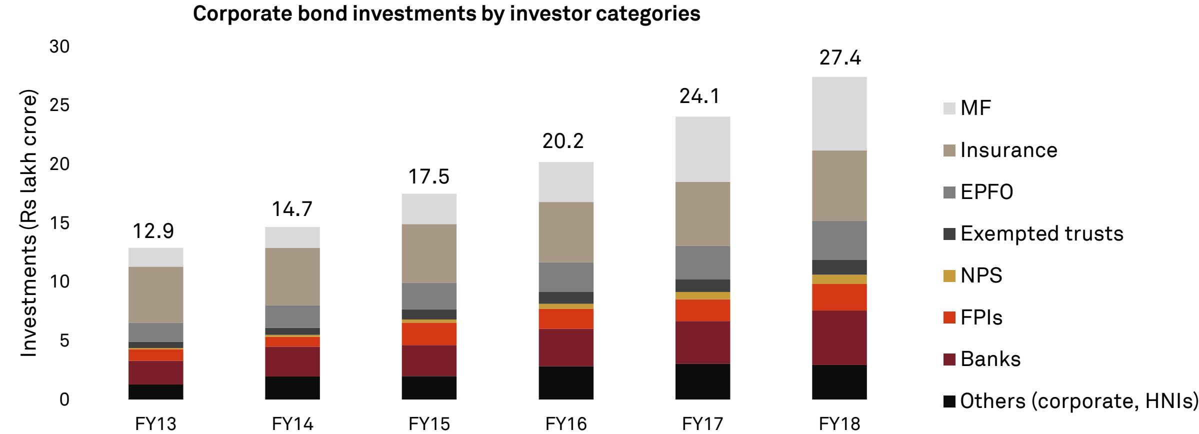
CRISIL has carried out a bottom-up assessment of key investor segments to estimate the potential demand from them for corporate bonds and the factors expected to drive it, and to identify the measures that can boost demand further, and add depth and breadth to the corporate bond market.

Historical trends

MFs, insurance companies, retirement funds [Employees' Provident Fund Organisation (EPFO), exempted trusts, National Pension System (NPS)], banks, FPIs, corporates, HNIs, and alternative investment funds (AIFs) are the key investors in the Indian corporate bond market. Allocations of such investors to corporate bonds are driven by their investment objectives, end-investor mandates and regulatory limits.

The following table shows holding data of corporate bonds outstanding in different investor segments.

Corporate bond investments by investor categories



Investor category	MF	Insurance	EPFO	Exempted trusts	NPS	FPIs	Banks	Others (corporate, HNIs)
5-year CAGR	31.2%	4.7%	15.2%	19.9%	48.3%	17.7%	18.0%	18.4%

Source: SEBI, RBI, EPFO, PFRDA, NSDL and CRISIL Research estimates

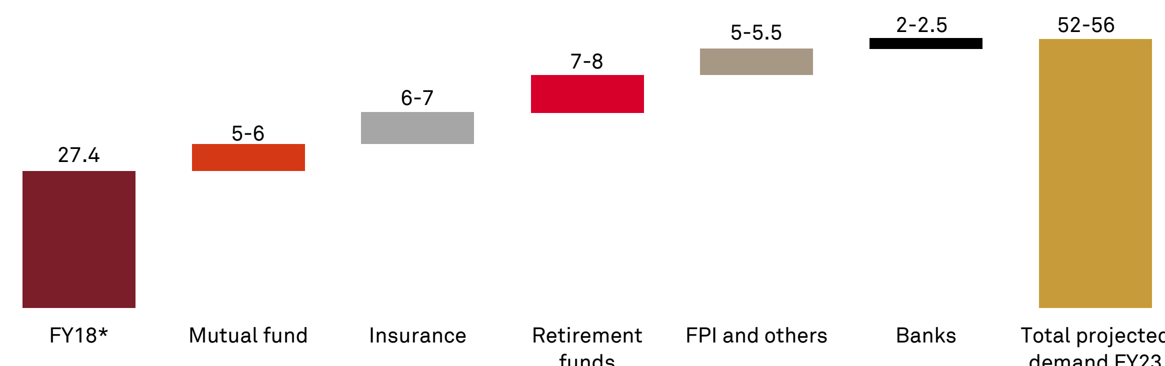
Key takeaways

- As per the latest data available, MFs, insurance companies and banks are the largest holders of corporate bonds
  - Retirement funds (EPFO, exempted trusts and NPS) would stand at the third position, ahead of banks
- Retirement funds have grown the fastest
  - Growth in funds has come on the back of financialisation of households savings, or their being routed into investment products which spiked post demonetisation
  - NPS has grown on the back of more states joining the programme and also the lower base
- The share of insurance companies has dropped over time due to moderate growth in insurance premium and reducing allocation to corporate bonds
- EPFO and exempted trusts have grown steadily on the back of steady growth of subscribers and salary hikes. Between fiscals 2014 and 2017, two key steps by the government – 1) enhancing of the floor from Rs 6,000 to Rs 15,000, and 2) contribution provided for new employees enrolled in the scheme – drove the corpus and thus investment in corporate bonds
- Allocation by banks also surged between fiscals 2014 and 2017. Among other factors, lowered statutory liquidity ratio (SLR), surge in bank deposits post demonetisation, and limited growth in lending book due to weak credit outlook drove investments into corporate bonds
- Investment by FPIs grew sharply post fiscal 2014 owing to political stability. Utilisation of limits jumped to 70-90% from 40-50%

CRISIL's projection of demand from various investor segments

We believe the total corporate bond outstanding by fiscal 2023 will touch Rs 52-56 lakh crore.

Expected demand for corporate bonds (Rs lakh crore)



** Outstanding*
Source: CRISIL Research

We believe the following factors will play an important role at the segment level:

- **MFs**
  - Likely to log 13-15% CAGR on the back of financialisation savings and increased awareness about the product
  - Weak investor sentiment due to recent events is expected to dampen demand for bonds in fiscal 2019, but should pick up to over 15% CAGR in the next four fiscals
  - Key steps that can drive demand significantly
    - Reorientation of fixed maturity plans to compete with other comparable products, such as fixed deposits
    - Reforms such as auto enrolment for pension, plans such as 401(k) invested through MFs
    - Stronger awareness among retail/non-institutional investors

- **Insurance**
  - Growing penetration of insurance products is expected to result in premiums logging 13.5% CAGR, which will push up AUM to 16% for life insurance and 15% for non-life, leading to overall growth of ~15.5%
  - Regulatory encouragement/suasion holds the key to ensure stable or increasing allocation to corporate bonds
  - Crowding out by central and state government securities is also an important factor

- **Retirement funds**
  - Formalisation of employment due to reforms such as the Goods and Services Tax (GST) will drive contributions to the Employees' Provident Fund (EPF). This will also compensate for lowered number of subscribers due to reduction/removal of special incentives by the governement. Allocation by the EPFO and exempted trusts is estimated to grow 16-17%
  - Addition of states such as West Bengal and Tripura will also provide a boost to growth in NPS assets. Given the lower base, we believe investment in corporate bonds by NPS has the potential to rise 32-34%.
  - Elevated levels of state development loans (SDL) and continued large supply can constrain allocation towards corporate bonds
  - Key steps that can drive growth
    - Merger of non-EPF and non-NPS retirement products can help boost investment in bonds significantly, as most of such schemes either do not invest in bonds or have lower allocation to bonds currently
    - Growth of unorganised segment under NPS can help drive the assets significantly, leading to higher inflows for corporate bonds.

- **Banks**
  - Credit is expected to clock a CAGR of 13-14% over the next five years, though factors such as large corporate exposure guidelines and traditional preference of banks to lend through loans will limit or lower the percentage allocation to corporate bonds by banks
  - Key steps that can drive growth:
    - Policy initiatives to explore minimum investment in bonds and allowing repos can boost demand for corporates bonds from banks
    - Active participation by banks in secondary markets can boost liquidity and price discovery of bonds, and thus help primary markets as well

- **FPIs and others**
  - Investment by FPIs is largely driven by regulatory limits, besides currency rates and global interest rates. The limit is expected to continue at the current rate of 9%. This, and the utilisation rates of 68-78% seen recently will allow FPI investment to clock a CAGR of 12-14% over the next five fiscals.
  - Other categories include corporates, HNIs, AIFs, etc. Growth in corporate earnings of 12-14%, rising number of HNIs and growing wealth will create larger corpus for investments in direct (plain and structured) and indirect bonds. This category is expected to grow at 16-18%.

What the market wants

Heard on the street

CRISIL surveyed over 60 issuers of, and investors in, corporate bonds, and the findings were validated and deliberated through two focus-group round-tables attended by 20 leading market participants. Investors said the primary need now is for more policy facilitation, especially to encourage lower-rated bonds, and increasing infrastructure funding.

They wanted regulatory and policy push to some existing policies by making them mandatory or by creating institutional facilitations such as for CDS, corporate bond repos, and corporate bond trading.

The refrain among issuers was for more liberalisation, including raising the limit for FPIs. They felt retail participation would be the most important driver of corporate bond market growth.

Investors, too, pinned retail participation as one of the top three items on their agenda.

Increasing awareness and liquidity were seen as challenges to achieving this.

They saw going digital as the key to lowering the cost of distribution, and tax sops as the key driver of retail investor interest.

Between direct and indirect participation, the chorus was the latter could be a better choice given that corporate bonds can be complex securities.

The IBC is seen moving ahead well. But given its scale and complexity, it is important to give it more time to become very effective and efficient. In this regard, a few marquee cases will be testimony to the solid foundations of the IBC, the survey respondents averred.

As for the regulatory persuasion to shift a chunk of bank loans to corporate bond-based borrowings, there were concerns over the limited ability of non-bank participants to absorb the supply of bonds caused by such transition. Good coordination between regulators, along with the opening up of the corporate bond market to FPIs, were the most preferred solutions for this.

As for platforms for bidding/trading, participants fretted about their lack of user-friendliness and the fragmentation of International Security Identification Numbers (ISINs).

The lack of development of the CDS market was attributed to lack of non-specialised players in the space rather than the trading platform for such instruments.

As for repos in corporate bonds, product-level challenges (such as design and margins) were cited as the reasons for dearth of transactions. And regulatory support for market-making was seen as crucial in the road ahead.

Investor survey findings and round-table feedback*

Priorities

- There is a need for additional regulatory reforms, especially in areas such as lower-rated bonds, infrastructure finance and securitisation

- The IBC may not be as effective in the short-to-medium term in aiding corporate bond market growth. Effective and smooth functioning of the IBC process would require time, and investors also need to develop greater awareness of it

- **Market infrastructure**
  - Trading on the exchange platform is limited owing to fragmentation (large number of ISINs)
  - CDS has not picked up due to lack of specialised players in this space, unlike in the developed markets
  - Challenges on product contours (margins, pricing and securities) need to be addressed for a pick-up in repos

- **For retail participation, awareness and liquidity are crucial**
  - Direct route:
    - Tax sops is the top driver for policy makers to drive more retail participation
    - Digital distribution of bonds can help bring down the cost per issuance
  - Indirect route:
    - Predictability of returns, or yield, key to retail participation
    - Digital distribution of products can help grow demand through this route

- **The shift from bank loans to bonds**
  - Limited, or lack of, demand from non-bank investors/lenders is the biggest concern
  - Stronger and well-planned regulatory coordination is key

- **Regulatory reforms/ policy formation**
  - After a series of reforms/ policy measures, there is a need to enforce/ mandate the existing framework.
  - Institutions for market-making, underwriting and development of derivatives market necessary to address challenges
  - Inter-regulatory collaboration essential to avoid regulatory arbitrage [uniform valuations, Indian Accounting Standards (IND-AS)] and drive market agenda (such as liquidity risk, credit risk)
    - Loans have better structures/covenants than bonds
    - Uniform valuations necessary for consistency. Practices followed by some segments such as matrix-based pricing and held to maturity (HTM) in the case of insurance companies discourages trading
    - Additional roles that can be assumed by leading participants given their strengths:
      - **Banks:** For the development of the secondary market through market-making, bond repos and lending through bonds instead of loans. Banks can also become more active participants in the commercial paper (CP) market
      - **Insurers:** For the development of infrastructure assets and CDS
      - **Pension funds:** For the development of infrastructure assets
  - Prescriptive regulations on investment limits/mandates (such as in the case of EPF and NPS) are restrictive in nature from the perspective of market depth

- **Complexity of products (including aspects such as mark-to-market for indirect investments, and bond terminologies such as coupon, yield, gross price, etc for direct investing) and limited liquidity hinder retail participation in bond markets**
  - Regulations on indicative returns can be reviewed to aid retail investors relate returns from bond products with other investment products
  - Debt-linked savings scheme/Section 80 L exemption on interest income to boost retail participation can also be considered

** Details of survey results can be found from page 98 in Annexure*

- **More on market infrastructure**
  - Dedicated market makers for enhancing liquidity
  - Develop CDS market by permitting FPIs and specialised players such as CDS writers to participate
  - Develop information repositories and credible credit research services for information on issuances, covenants and pass-through certificates (PTCs)
  - EBP – need for greater flexibility
  - Develop credible uniform benchmarks that can be used for pricing

Issuer survey findings and round-table feedback*

Priorities

- Strengthen market infrastructure and improve liquidity
- Modify regulations with respect to restriction in number of ISINs under which debt can be issued in a year
- Increase retail participation
- Ensure inter-regulatory coordination between SEBI, RBI, Insurance Regulatory and Development Authority (IRDA) and Pension Fund Regulatory and Development Authority (PFRDA)

Strengthening market infrastructure and improving liquidity

- Streamlining electronic bidding platform (EBP)
- Reduction in time taken to issue the bonds
  - Simultaneous issue of bonds should be allowed
  - EBP diminishes the role of arrangers, which is not desirable in India, where they match issuer and investor needs

- Corporate repos are critical for ensuring secondary market liquidity
  - Tripartite agreements, which form the base of repos, should be standardised
  - Benchmark indices should be developed so traders can take calls on general yield movements
  - Margins should be lowered as mark-to-market risk is much lower than in equity

Regulatory changes and retail investments also critical

- Restriction in number of ISINs bunches up liabilities, causing refinancing pressure. So balancing issuer and investor interests is important
  - Number of ISINs can be increased from 12
  - Flexibility on ISINs if the quantum of issuance is sizeable

- Increasing retail participation
  - Cost of raising funds should be reduced
  - Flexibility should be allowed in bonds – loans against non-convertible debentures (NCDs) by issuers, debt paper buybacks
  - Differential tax regime (36-month lock-in for long-term capital gains for debt MFs versus 12 months for listed bonds) should be addressed

- Need for inter-regulatory coordination
  - Existing gaps between regulations (e.g. RBI and SEBI's framework for large corporates) should be plugged
  - Prudential norms of large investors regulated by IRDA and PFRDA should be brought in line

- There is a need to develop CDS to improve the risk appetite in the market. CDS market growth is constrained by unattractive pricing and lack of secondary market liquidity. A balanced approach for incentivising domestic and foreign investors participation is required to promote the CDS market

** Details of survey results can be found from page 98 in Annexure*

Reissuance of ISINs

SEBI's framework for consolidation and reissuance of debt securities restricts the number of ISINs maturing in a financial year to 12. The rationale: this would increase the floating stock for each ISIN, which in turn would improve secondary market liquidity.

The main argument against common ISINs is the bunching of liabilities on the same date, leading to asset-liability mismatch and additional cost of carrying idle liquidity to overcome such risks, without any potential benefit.

This can be resolved by spreading out the redemption amount across the year through amortisation of the payments. This manages the issuer's concern on additional liquidity pressure, but will significantly increase complexity of instrument (with multiple payments of principal and interest).

There is also limited flexibility to structure the instrument according to investors' demands and market trends. For instance, MFs typically invest in issuances of 3-5 year tenures, whereas pension and insurance funds may favour longer tenures.

The issuers believe that a large issuance, will be able to garner ample liquidity on its own, without having to be clubbed with other issuances.

However, as per the current framework, issuances have to be clubbed to meet the ISIN restriction, irrespective of the issuance size. This leads to high redemption pressures, which affects the asset-liability management, especially for large issuers. Hence, there could be flexibility on the limit on ISINs based on the issue size.

Other areas that need regulatory intervention

Investment cap disincentivises both issuers and investors

IRDA, the insurance regulator, imposes several restrictions on exposure to debt of a given company – debt investment limit is 20% of the paid-up share capital, free reserves (excluding revaluation reserve) and debentures/ bonds of a public limited infrastructure investee company and is 10%/ 12%/ 15% depending on the size of investment assets of the insurer for the non-infrastructure sector investee company.

Given this lower investment limit per insurer, the issuer faces challenges in attracting a larger number of insurance investors in order to completely place the debentures. Additionally, the lower exposure limit disincentivises insurance companies from investing in the debentures since the due-diligence required for such investments is high, irrespective of the investment size.

This may be reconsidered, and linked to the insurer's capital funds instead.

Requirement that the investee is not a private limited company

The Insurance Act, 1938, provides that an insurer shall not invest in the shares or debentures of any 'private limited' company.

Now, infrastructure SPVs are typically incorporated as 'private limited' companies under the Companies Act, 2013. But these are forced to change their incorporation status to 'public limited' before placing the debentures, in order to attract investments from insurance companies.

This increases the compliance/ disclosure requirements and costs for the SPVs. The requirement for ‘public limited’ incorporation status does not, per se, provide any additional security or comfort from the credit risk perspective. For debenture issuances, the trust deed typically incorporates covenants/ clauses to protect debenture-holders’ rights and monitor cash flows.

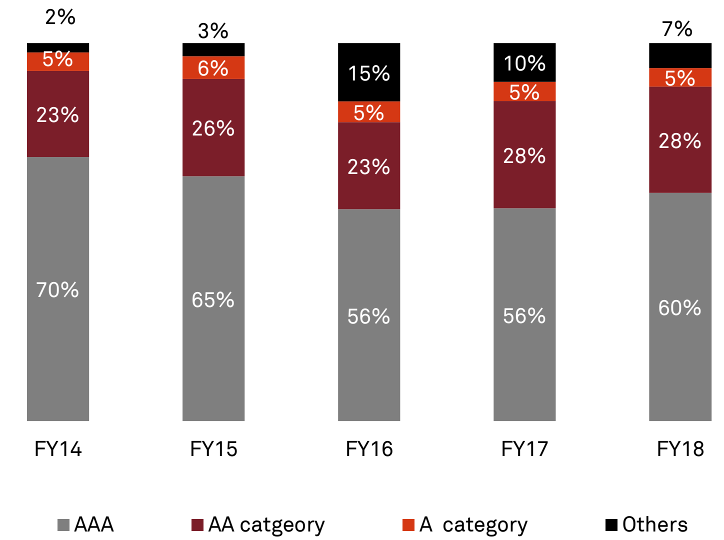
The clause may be reconsidered for SPVs/ investee companies in the infrastructure sector as the debt taken by an operational asset sitting in an SPV is an ideal investment opportunity for an insurer looking for a long-term, steady cash generating investment.

Going down the rating curve

Rs 10 lakh crore opportunity in A rating category bonds

The corporate bond market in India has grown substantially, with issuances rising to Rs 6.6 lakh crore from Rs 3.7 lakh crore over the past five fiscals. The market, however, continues to be dominated by AAA and AA category issuers, which account for 85-90% of the issuances, while A category bonds have a measly twentieth of the pie[1].

Slim pickings in A category



Source: Prime Database

The upshot is that there is a need to develop and deepen the market for A category bonds as this would allow corporates to tap funding at lower interest rates, and enable investors to diversify their portfolio to yield better returns without a substantial increase in the overall portfolio risk.

The Union Budget for this fiscal acknowledged as much, with the Finance Minister Arun Jaitley urging regulators to facilitate the issuance skew from AA to A ratings.

In this regard, effective implementation of the IBC can give a fillip to the market for A category bonds by ushering higher confidence in recoveries through timely resolution, thereby prompting investors and regulators to move down the rating curve.

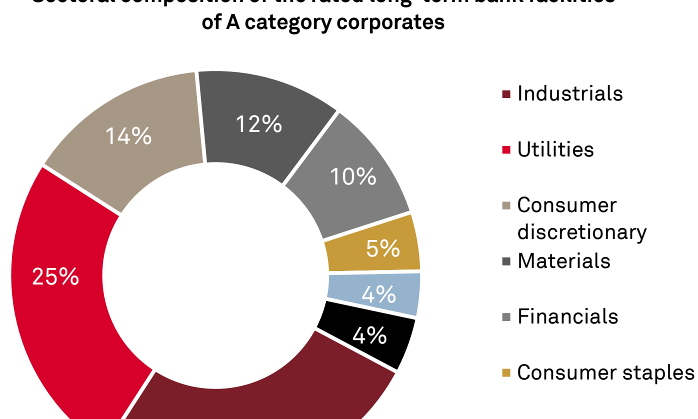
That said, investors must note that all ratings are not equal. Their quality varies across credit rating agencies (CRAs). Factoring this will afford them a better handle on risk-based pricing. 'CRISIL A' category ratings have displayed strong credit quality over the years, as reflected in their low default rates and high stability rates over long periods.

A category bonds have huge market potential

A rating category companies rely heavily on bank financing because of the lack of depth in the corporate bond market. There are ~2,400 of them rated by various CRAs in India, with aggregate rated long-term bank facilities of ~Rs 10 lakh crore. That shows significant potential for incremental corporate bond issuances in the A category. And since these companies belong to diverse sectors, the category can also provide portfolio diversification benefits to investors.

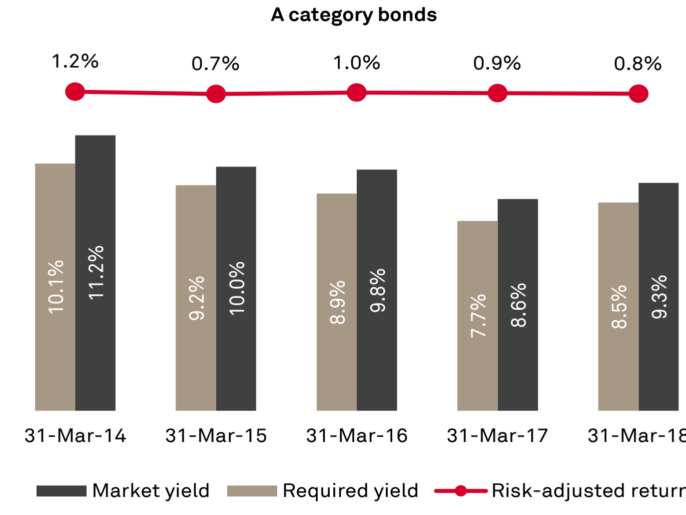
[1] *In this article, AA, A ratings refer to the respective rating categories: AA refers to AA+, AA, AA- ratings; A refers to A+, A, A- ratings*

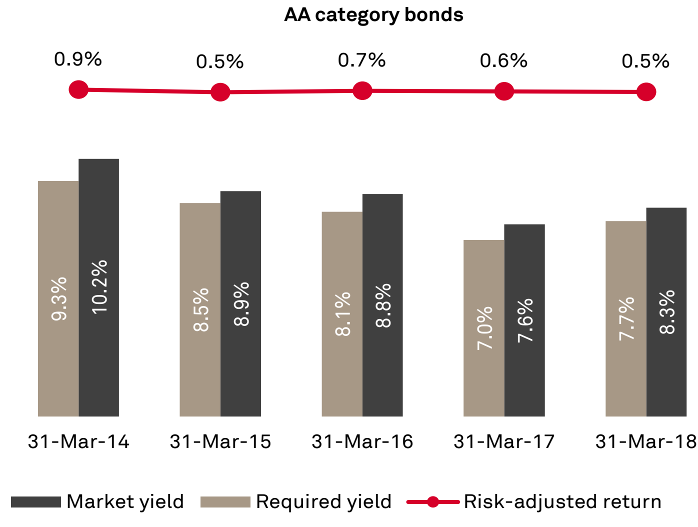
Long-term bank loan facilities of A category corporates shows huge diversification opportunity



Source: Websites of CRAs

In terms of risk-adjusted returns, A scores over AA[2]





A category bonds can yield high returns even after adjusting for credit risks

An analysis of market yields of A category bonds indicate they can yield better risk-adjusted returns (or excess returns offered by a portfolio over the yield required to cover expected and unexpected losses, including default risk) at ~30 basis points (bps) higher than that of AA category bonds.

[2] *Market yield represents the 3-month average of the daily quoted yield on bonds outstanding and maturing within 2-3 years, as per CRISIL bond matrix. Required yield is computed based on the credit risk premium over 3-year G-sec rate, considering the rating of the instrument, observed default rates for the given rating level over the investment period, loss given default, and cost of regulatory capital for the investor.*

Thus, A category bonds compensate investors adequately for the credit risk involved, and present significant opportunity to increase their portfolio returns while maintaining risk levels within manageable limits.

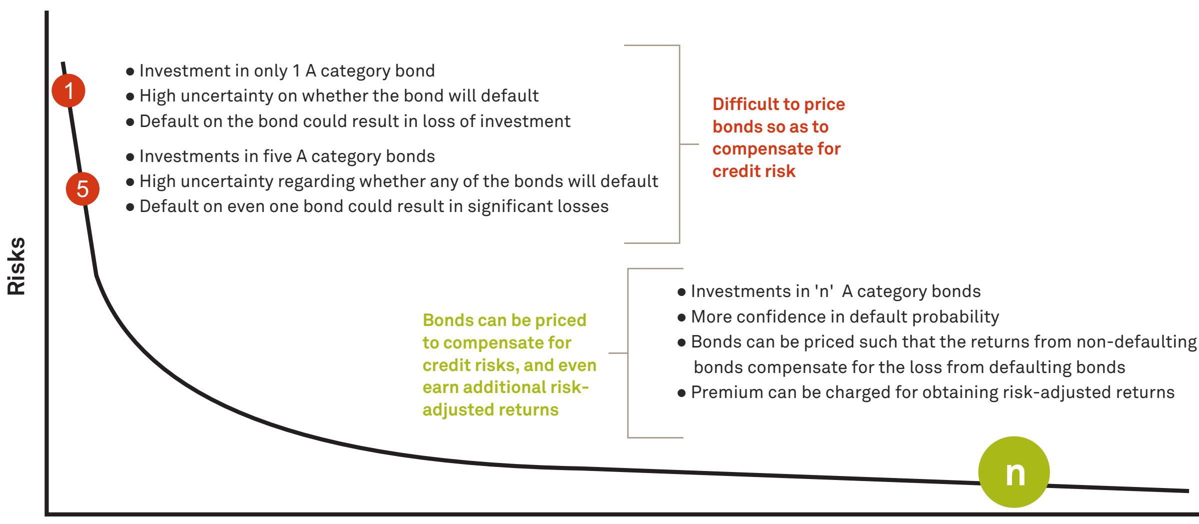
However, it is important to have a well-diversified portfolio of A category bonds in order to ensure that the losses that may be incurred on defaulting papers are recouped from the returns on non-defaulting ones, reiterating the need for the development of the market for A category bonds.

A category bonds are catching the fancy of MFs

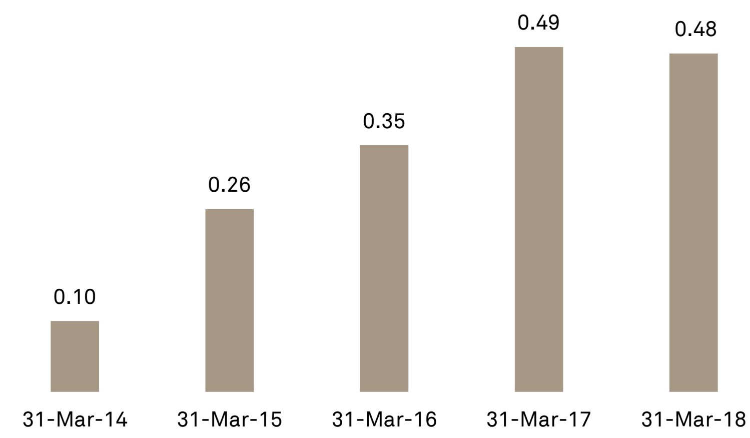
A category bonds are increasingly finding acceptance among MFs, given their high yields and the portfolio diversification benefits on offer. Total investments by MFs in A category bonds has grown almost five times to Rs 0.48 lakh crore as on March 31, 2018, from Rs 0.10 lakh crore as on March 31, 2014.

Issuances of financial sector entities dominate the A category investments by MFs.

Portfolio diversification, appropriate risk-adjusted pricing can help mitigate credit risk



MF investments in A category bonds have risen by almost five times

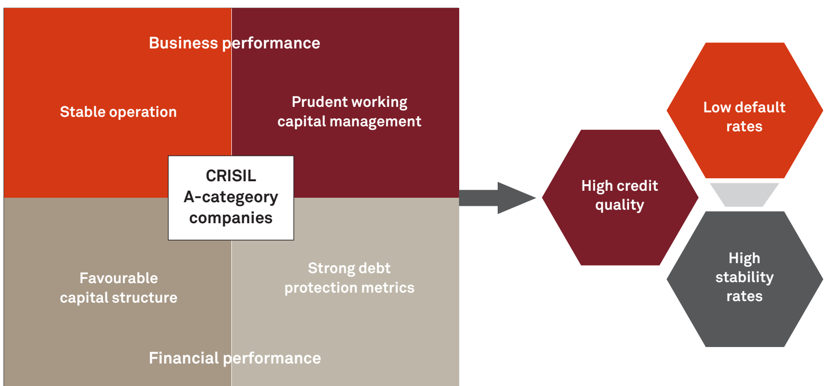


Source: Monthly portfolio disclosure by asset management companies (AMCs)

CRISIL A category ratings marked by high credit quality

CRISIL A category rating is an investment grade rating with adequate degree of safety in terms of timely servicing of financial obligations. CRISIL has A category ratings outstanding on around 700 entities, covering a wide range of sectors. Such ratings are typically assigned to entities with established market position, cost-efficient operations, and healthy financial performance. This has resulted in high credit quality of CRISIL A ratings, reflected in their low default rates and high stability rates.

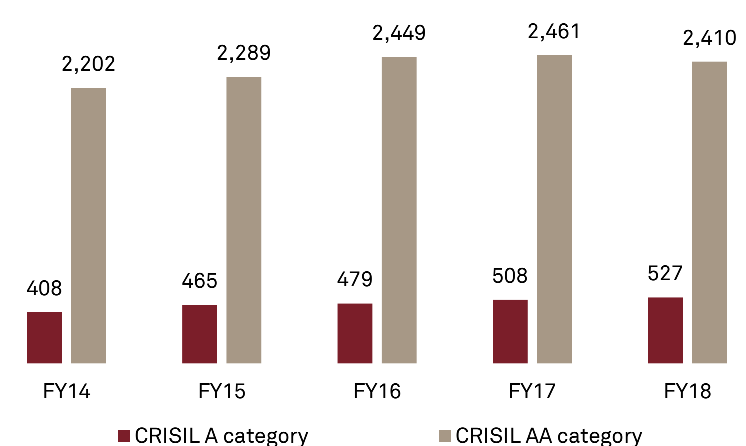
Strong business, financial performance of CRISIL A category companies leading to high credit quality



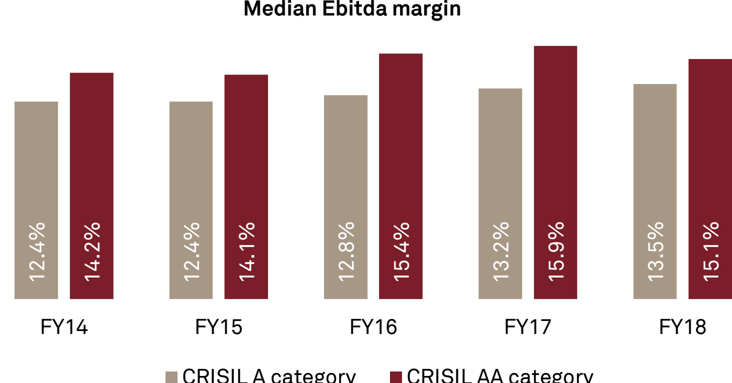
Business performance of CRISIL A category companies[3]

CRISIL A category companies have generated healthy revenues, with median revenues exceeding Rs 500 crore. Their profitability has remained stable, with median Ebitda margins of 12-13%. By contrast, for CRISIL AA category companies, the median revenues are ~Rs 2,500 crore, and Ebitda margins 14-15%.

CRISIL A category companies have stable median revenues and profitability



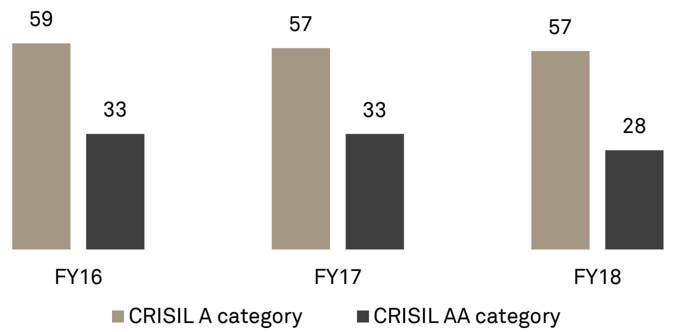
Source: CRISIL Ratings



Source: CRISIL Ratings

CRISIL A category companies also manage their working capital prudently, as reflected in their median working capital cycle[4] of less than 60 days compared with 30-45 days for CRISIL AA category companies.

Prudent working capital management of CRISIL A category companies



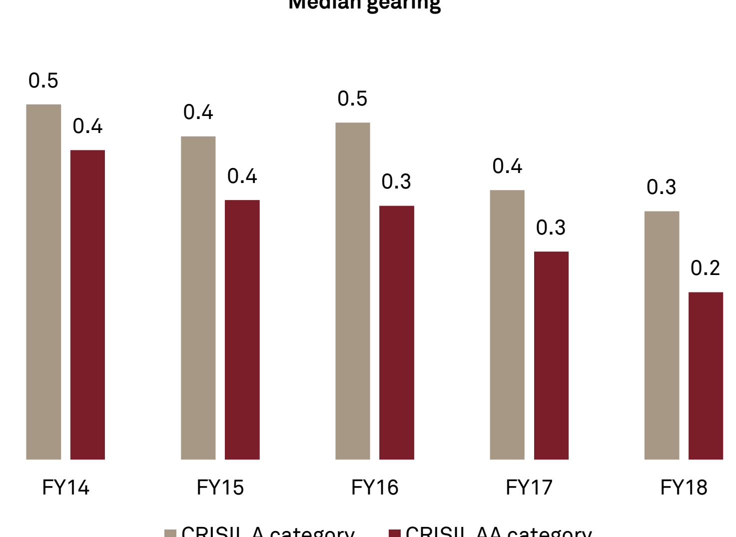
Source: CRISIL Ratings

[3]Data in charts indicate median values for non-financial sector companies with ratings as on financial year-end (excludes notched-up ratings)
[4]Working capital cycle = Debtor days + Inventory days – Creditor days

Financial performance of CRISIL A category companies[5]

CRISIL A category companies have favourable capital structure, reflected in their low median gearing of 0.3 times, which is comparable with the median gearing of 0.2 times for CRISIL AA category companies. Moreover, the median gearing has been declining over time, indicating their increasing focus on sustainable financial policies.

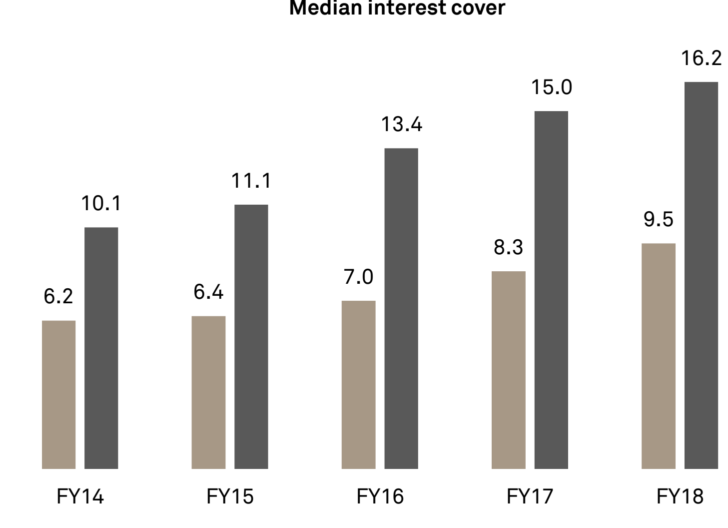
Median gearing comparable for CRISIL A and CRISIL AA category companies



Source: CRISIL Ratings

The debt protection metrics of CRISIL A category companies are also strong, indicating their high ability to ensure full and timely repayment of debt. The median interest cover of these companies was 9.5 times as on March 31, 2018, compared with 16.2 times for CRISIL AA category companies. Interest cover has been rising over time, indicating the increasing debt repayment ability of these companies.

Median interest cover improving for both CRISIL A and CRISIL AA category companies



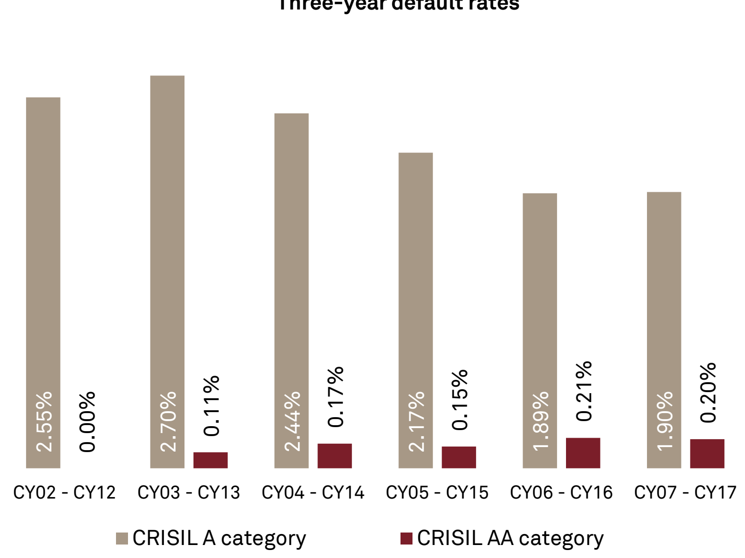
Source: CRISIL Ratings

[5] *Data in charts indicate median values for non-financial sector companies with ratings as on financial year-end (excludes notched-up ratings)*

Credit quality of CRISIL A category companies

The strong business and financial performance of CRISIL A category companies has resulted in high credit quality of these ratings. Over the past decade, only 1.90% of CRISIL A category ratings have defaulted within three years.

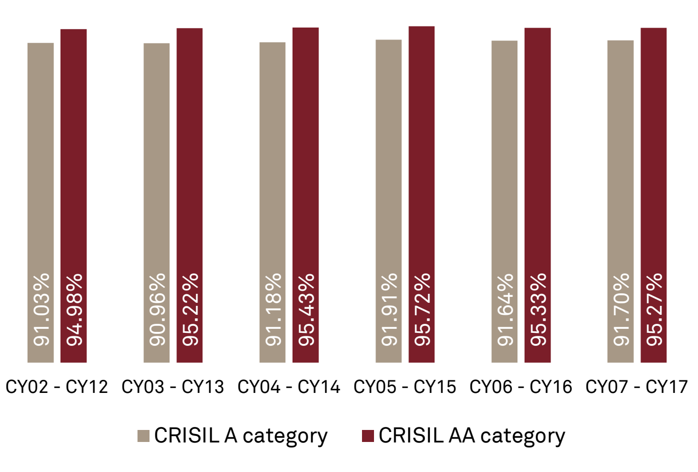
Three-year default rates of CRISIL A and CRISIL AA category ratings



Source: CRISIL Ratings

Over the past decade, the one-year stability rate of CRISIL A category ratings has been 91.70% and the one-year upgrade rate 2.77%. Thus, 94.47% of CRISIL A ratings remained at the same rating category or were upgraded to higher rating categories within a year.

One-year stability rates of CRISIL A and CRISIL AA category ratings



Source: CRISIL Ratings

The development of the market for A category bonds will help these corporates leverage their strong credit quality and reap significant cost savings vis-à-vis bank credit by tapping capital market funding. Though credit risks of A ratings are higher than those of AA ratings, these can be adequately mitigated through portfolio diversification and appropriate risk-adjusted pricing, which will be possible only with a deep and vibrant bonds market for A category issuances.

Regulations can give a fillip to development of the market for A category bonds

A category corporates will be keen to tap the corporate bond market on account of the RBI's guidelines on enhancing credit supply for large borrowers through the market mechanism, notified on August 25, 2016. CRISIL expects Rs 50,000-60,000 crore of A category issuances to potentially hit the market because of the RBI guidelines by fiscal 2023.

The SEBI's framework for enhanced market borrowings by large corporates, if extended down the rating spectrum to A category corporates, can propel issuances of A category papers. CRISIL estimates that Rs 1.2-1.5 lakh crore of A category issuances can potentially hit the market by fiscal 2023 if SEBI reduces the rating threshold to A category, and includes even unlisted companies under the ambit of the framework.

Successful implementation of the IBC can provide the much-needed confidence to concerned regulators to consider investments in A category bonds. It can nudge the regulators of long-term investors such as pension/ provident funds and insurance funds to amend their investment guidelines to enhance the demand for A category bonds.

Pension/ insurance funds may consider investing in A category bonds of companies operating in sectors with low expected loss, such as operational and stabilised projects from roads, renewables and real estate. Such infrastructure projects are well aligned to the investment objectives of these funds considering their long asset life, coupled with higher cash flow stability and recovery rates, leading to low expected loss (EL).

CRISIL EL scale ratings can be used for gauging the expected loss on these entities, which can help in better price discovery for these credits. Regulatory acceptance of the EL scale ratings, along with the traditional probability of default (PD) based ratings, can also help channel investments into A category bonds of infrastructure projects.

Conclusion

The need to develop and deepen the market for A category bonds – which will help optimise interest costs for issuers, and provide a measured means of enhancing returns for investors – can't be over-emphasised.

Such bonds have been gradually drawing investors such as MFs, but there still remains a huge untapped market, which can be unlocked with help from regulations and the successful implementation of the IBC.

Expected loss ratings

CRISIL launched a new credit rating system for rating infrastructure projects in February last year, with a view to plug the funding gaps and enhance participation of long-term investors in the sector.

The new rating scale, based on the (EL) model, provides a different perception of risk for investors in infrastructure projects and has been developed in consultation with the Ministry of Finance and other stakeholders.
While the PD for infrastructure projects is typically high, EL may be lower. Hence, this rating can improve the perceived risks of investors towards infrastructure projects.

Infrastructure projects also carry significant risks such as cost and time overruns during the construction phase, mainly on account of regulatory hurdles.

Empirical evidence shows the risk of default and loss reduces materially once they stabilise, and their credit profiles usually see an improvement.

All the same, cash-flow mismatches arising due to delayed payments from counterparties, and cash-flow variability due to factors such as decline in traffic, could constrain the timely debt-servicing ability of operational projects.

Hence, even operational infrastructure projects which are fundamentally viable but face short-term liquidity mismatches would have constrained credit ratings on the conventional rating scale.

That said, such cash-flow mismatches may not translate into sizeable losses to the investors eventually. In addition, public-private partnership projects have embedded safeguards such as termination payments and contractual protection that limit losses to debt investors.

By construct, conventional credit rating methodology does not take into account this feature of infrastructure projects adequately. That is where the new rating system based on EL fills the gap. It focusses on recovery of dues to investors and lenders over the life cycle of an infrastructure project, by taking into account the possibility of refinance/ restructuring, and through embedded safeguards (such as termination payment).

The raft of merits notwithstanding, Infra EL rating is still in the early stages and its success will depend on acceptance by the investor community.

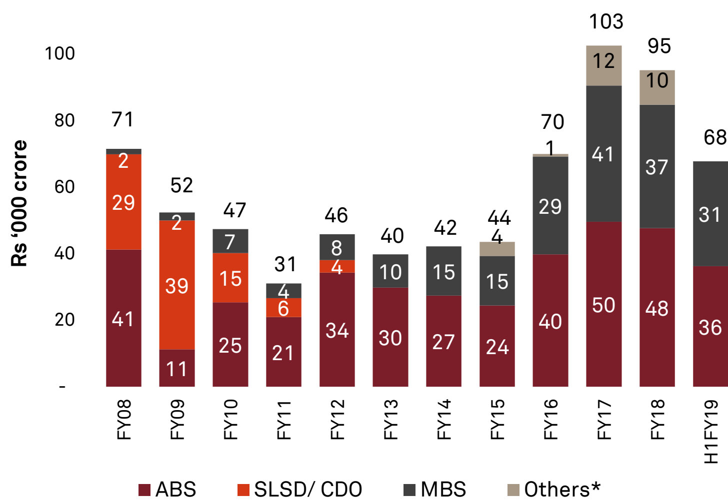
Regulators (PFRDA and IRDA) should play a key role in pushing the acceptance of EL ratings. Given the long gestation of infrastructure projects, it is ideal that insurance and pension money is channelled into these.

But the floor set by the regulators – of A or AA ratings – poses a hurdle to pension and insurance funds coming into these projects. Given the high leverage and risks involved, there aren't many infrastructure projects with ratings of A or AA.

We therefore believe the regulators should use a combination of EL and PD to prescribe rating floors for investments.

Securitisation on the rebound

Showing resilience in spite of roadblocks



*Includes structured transactions such as future flow and commercial mortgage-backed securities transactions
ABS: Asset-backed securities; MBS: Mortgage-backed securities; SLSD: Single loan sell-downs; CDO: Collateralised debt obligations
Source: CRISIL estimates

A long hiatus after, the Indian securitisation market took wing in fiscal 2016, and volume cranked up a compound annual growth rate (CAGR) of 53.5% through fiscal 2017. Growth slipped a notch in fiscal 2018, but has picked up since, with the first half of fiscal 2019 clocking ~80% of fiscal 2018 volume already.

The resilience has been particularly impressive given the multitude of challenges:

- *Introduction of priority sector lending certificates (PSLCs), which are a direct substitute to the securitisation route for meeting the priority sector lending (PSL) mandate of banks* – PSLCs have rapidly gained traction since their introduction in fiscal 2017. It is estimated that Rs 177,500 crore worth of PSLCs were traded in the first half of the current fiscal, compared with Rs 87,200 crore in the corresponding period last fiscal

- *Rising interest rate environment* – Securitisation has been a cost-effective route for fund raising for NBFCs as yields of sub-6% were not unheard of for pass-through certificates (PTCs) backed by PSL eligible assets. However, the ask in terms of PTC yields has risen over the past few quarters in light of the interest rate environment as well as the reduced dependence on securitisation, with the advent of PSLCs to meet the PSL mandate. Consequently, the attractiveness of PSL-backed PTCs has reduced of late

- *Ambiguity over applicability of GST on securitisation transactions* – Early this fiscal, the GST Council issued a clarification that GST is not applicable on securitised assets. The ambiguity had kept some large players away from the market in fiscal 2018, keeping a lid on volume

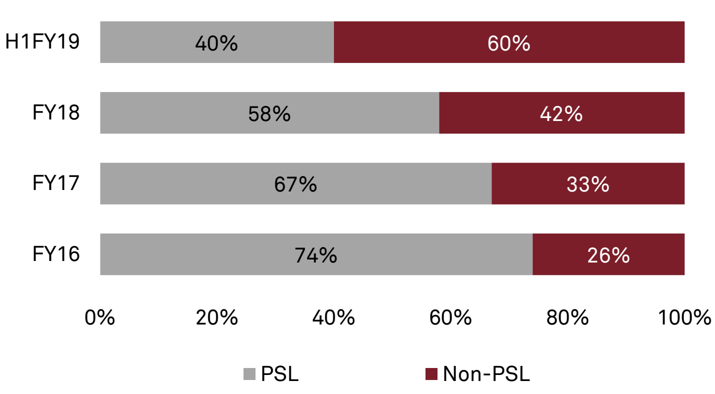
- *Change in accounting treatment under IND AS* – Under IND AS, assets securitised under the PTC route are not eligible for off-balance sheet treatment. Some originators are applying the same capital treatment on securitised on-balance sheet assets as they do for non-securitised assets, effectively eliminating any capital benefit from undertaking securitisation through the PTC route

Despite these roadblocks, volume remained resilient as the market adapted to the changing demand-supply dynamics. Volume rose because of:

- Robust growth in demand for transactions backed by non-PSL assets, partially offsetting the headwinds to PSL-backed securitisation

- Gradual shift in favour of direct assignment (DA) transactions and away from the PTC route of securitisation, triggered by the change in accounting standards

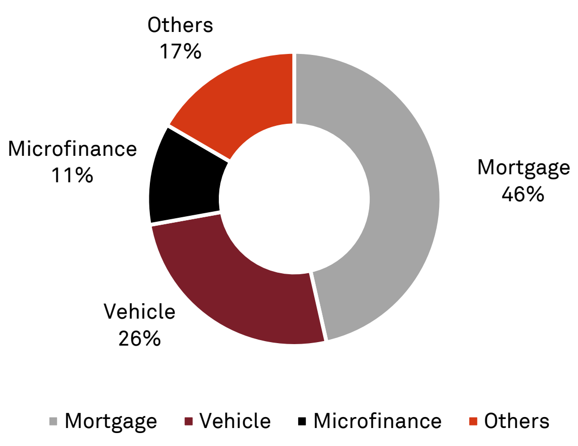
Non-PSL-backed securitisation takes driver's seat



Source: CRISIL estimates

The last few years have seen a sea-change in the composition of assets being securitised in the Indian market. Traditionally, demand for securitisation was driven by banks looking to meet their PSL mandate. However, lately, non-PSL asset securitisation has taken off, benefitting from two demand drivers – (i) demand from banks tapping the DA route of securitisation as a means to bolster their retail book, primarily focusing on the stable mortgage segment, and (ii) demand from MFs, insurers and treasuries of financial institutions through the PTC route, which provides protection from losses, given the existence of credit enhancement at attractive yields in asset segments, ranging from commercial vehicle loans to personal loans.

The trend was also supported by an expansion in the asset class base. Transactions backed by receivables from newer non-PSL assets such as personal loans, consumer durable loans and lease rentals are increasingly finding takers in the market. The 'others' segment, which includes these newer asset classes, formed 17% of the overall market in the first half of the fiscal, up from low single-digits clocked in prior years.

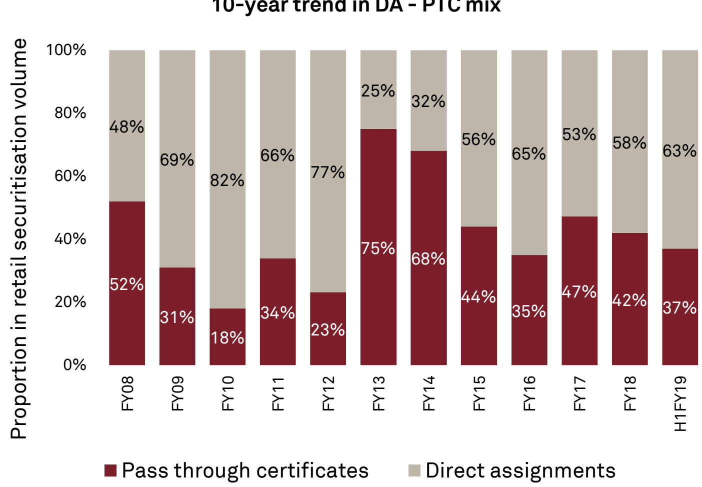


'Others' includes personal loans, lease rentals, gold loans, and small & medium enterprises; 'Vehicle' includes commercial vehicle loans, car loans, passenger vehicle loans, two-wheeler loans and construction equipment loans
Source: CRISIL estimates

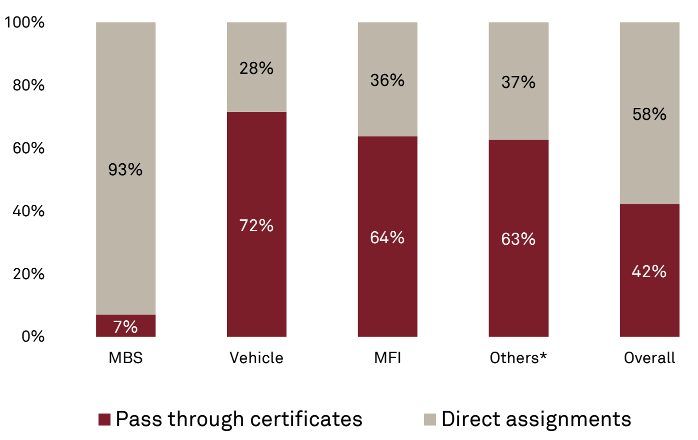
DA transactions on the rise

Over the years, numerous factors, including regulatory dispensations and tax implications have determined the preferred route of securitisation in the Indian market. The sharp shift in favour of PTCs in fiscal 2013 was triggered by the RBI's securitisation guidelines of 2012, which prohibited credit enhancement in direct assignment, or DA, transactions.

However, by fiscals 2015 and 2016, DA transactions were back in favour on account of applicability of dividend distribution tax on PTC transactions. Two years later, in fiscal 2017, the PTC market got a much-needed fillip once the Budget of February 2016 scrapped dividend distribution tax on securitisation trusts.



Source: CRISIL estimates



** Others include personal loans, lease rentals, gold loans, SME, among others; Vehicle includes commercial vehicle loans, car loans, passenger vehicle loans, two-wheeler loans, and construction equipment loans*
Source: CRISIL estimates

Currently, DA transactions have the largest share of the securitisation pie, and the proportion is steadily rising. Demand for DA transactions is supported by public sector banks buying assets through the DA route to grow their retail book. Increasingly, a large number of originators are also favouring the DA route as the capital benefit from the PTC route is unclear at present.

But PTC transactions continue to find takers as non-banks rely mostly on the PTC route to participate in the securitisation market. Many private sector banks and foreign banks also prefer the PTC route to the DA route on account of the lower due diligence requirement and existence of credit enhancement in PTC transactions. Excluding mortgages, all major asset classes are well represented in the PTC market.

Looking ahead

Even in the current environment of rising interest rates and compressing spreads, large NBFCs can rely on securitisation to fund their growth in a cost-efficient fashion. On the demand side, at the right yield, both banks and non-bank investors like MFs will be buyers.

Consequently, we believe the securitisation market will see good traction, driven by growth in non-PSL securitisation and a steady stream of PSL securitisation.

Data book, fiscals 2009-2018

Fiscal 2018: when the rate cycle reversed

In fiscal 2017, improving economic prospects, excess liquidity with banks following demonetisation, low interest rates, and a raft of reforms, including implementation of the GST and passage of the IBC by Parliament, fuelled India's capital markets.

That trend changed in fiscal 2018, as deteriorating macroeconomic conditions and unfavourable global cues such as the US Federal Reserve's announcement of winding down its massive bond portfolio and escalating geopolitical tensions put prolonged upward pressure on interest rates and culled corporate bond issuances.

Yet, total debt outstanding increased 11% on-year to Rs 114 lakh crore in fiscal 2018. Corporate bonds, CDs, treasury bills (T-bills) and SDLs logged growth in excess of 14% on-year, though outstanding CPs declined 6%.

Another change in trend has been the gradual shift of companies to the corporate bond market from heavy reliance on bank credit.

This, even as lenders, particularly public sector banks, turned chary because of mounting NPAs and stringent capital requirements under Basel III norms. Not surprisingly, corporates gravitated to the bond market.

Given the landscape, recent measures taken by the RBI and SEBI, and successful implementation of the IBC should improve the bank loan-to-bond ratio that, at less than 1, is way short of developed markets. In the US, the ratio is more than 7.

Proportion of bank loans to corporate bonds

End of year	United States		South Korea		China		India	
	Banks	Bonds	Banks	Bonds	Banks	Bonds	Banks	Bonds
March 31, 2013	2,068	17,074	739	854	7,902	3,101	496	238
March 31, 2014	2,211	17,483	786	942	8,922	3,439	497	245
March 31, 2015	2,398	18,022	787	945	10,133	4,263	505	281
March 31, 2016	2,645	18,339	791	965	11,271	5,575	499	305
March 31, 2017	2,832	18,694	839	984	11,252	6,296	536	371
March 31, 2018	2,966	19,459	936	1,082	13,365	7,602	561	422

In $ billion
Source: BIS, RBI, SEBI

Yields were on a roller-coaster ride through last fiscal, with contradictory signals emerging along the way. The 10-year benchmark closed the year in the red as its yield hardened 71 bps (100 bps make a percentage point) to 7.4% at March-end.

In contrast, yields were down 108 bps in fiscal 2015, down 28 bps in 2016, and then again down 77 bps in 2017.

Yields began moving north on the RBI's liquidity tightening measures. In its first monetary policy review of the year, the apex bank kept the repo rate unchanged at 6.25%, but raised the reverse repo rate by 25 bps to 6% – thus narrowing the policy corridor – and also revised downward the marginal standing facility (MSF) and bank rate by 25 bps each to 6.5%.

On the macroeconomic front, inflation based on the consumer price index (CPI) declined from 3% in April to a low of 1.5% in June. CPI inflation, however, rose consistently from thereon and touched a high of 5.2% in December before starting to moderate, and wound up March at 4.28%.

Yields and inflation started ascending following concerns over fiscal slippage given the uncertainty in GST collection, global factors such as the Fed's announcement of winding down its gigantic bond portfolio, and escalating geopolitical tensions.

A surge in global crude oil prices on fears the Organization of the Petroleum Exporting Countries would extend its output cut and the government's announcement of additional borrowings through long-term securities exerted some pressure. However, yields eased in mid-March – for the first time in seven months – after the government's borrowing calendar indicated less-than-expected borrowing in the first half of fiscal 2019 and comfortable inflation numbers added to the cheer. Brent crude oil prices closed the year up at $70.27 per barrel from $52.83 at the start of the year.

Credit spread in the 10-year segment narrowed by 33 bps during the year. With the rise in benchmark G-sec yields, credit yields also inched up.

However, the corporate bond debt utilisation of FPIs increased 16 percentage points from 73% of the existing limit of Rs 2.44 lakh crore in fiscal 2017 to 89%. Interestingly, FPIs bid more than the notified amount of auction limits in all but one auction conducted in the previous fiscal. This increased liquidity in the segment, and capped the rise in yields.

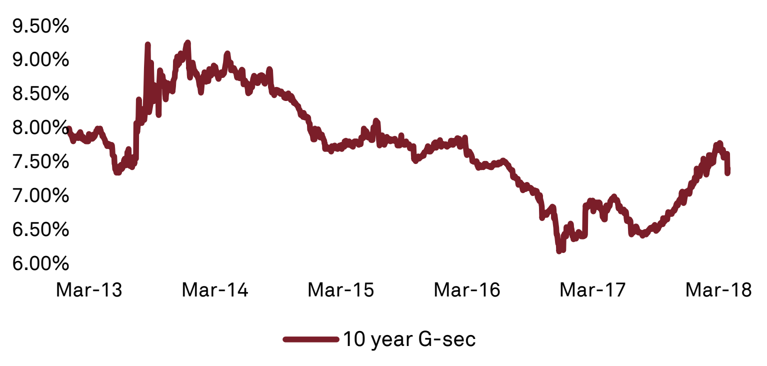
Yields rose 15 bps on CPs, 22 bps on CDs and 34 bps on T-bills.

The excess liquidity that persisted in the initial part of the year as a result of demonetisation started draining after the RBI stepped in and also because demand for physical currency increased. This shrinkage in systemic liquidity led to a rise in money market rates this fiscal.

The year saw several corporate issuers hitting the debt market with CPs and bonds. However, overall bond issuances declined as interest rates started rising and economic growth showed sluggishness.

CRISIL's debt indices captured the market trends and delivered lower returns compared with the previous year's in all categories. Government security (gilt) indices delivered returns between -0.38% and 5.79% in fiscal 2018, significantly below 9.68-11.91% in fiscal 2017, while credit indices clocked 2.89-9.76% returns, compared with 8.82-12.70% in fiscal 2017. Money market indices also delivered lower returns of 5.92-7.63%, compared with 6.70-8.65% in fiscal 2017.

How the benchmark moved



Source: CCIL, CRISIL Research

Key recent events

Monetary policy announcements

Policy rates

Effective date		Fixed-range LAF rates				
	Bank rate (%)	Repo (%)	Reverse (%)	Cash reserve ratio (%)	Marginal standing facility (%)	Statutory liquidity ratio (%)
01-08-2018	6.75	6.50	6.25	-	6.75	-
06-06-2018	6.50	6.25	6.00	-	6.50	-
14-10-2017	-	-	-	-	-	19.5
02-08-2017	6.25	6.00	5.75	-	6.25	-
24-06-2017	-	-	-	-	-	20.00
06-04-2017	6.50	-	6.00	-	6.50	-

Source: RBI

Effective date	Measures
April 6, 2017	Liquidity adjustment facility (LAF) corridor narrowed from 100 bps to 50 bps, and accordingly, reverse repo rate rose from 5.75% to 6%, and MSF rate reduced from 6.75% to 6.50%
June 24, 2017	Statutory liquidity ratio (SLR) reduced from 20.5% of net demand and time liabilities (NDTL) to 20% of NDTL from the fortnight beginning June 24, 2017
August 2, 2017	Repo rate reduced by 25 bps to 6%, reverse repo to 5.75%, and MSF to 6.25%
October 14, 2017	SLR reduced from 20% of NDTL to 19.50% of NDTL, effective October 14, 2017
June 6, 2018	Repo rate increased by 25 bps to 6.25%, reverse repo to 6%, and MSF to 6.50%
August 1, 2018	Repo rate increased by 25 bps to 6.50%, reverse repo rate to 6.25%, and MSF to 6.75% Liquidity coverage ratio (LCR) carve-out from SLR increased: The RBI permitted banks to include an additional 2% of their NDTL under Facility to Avail Liquidity for Liquidity Coverage Ratio within the mandatory SLR requirement, thus raising the total to 13% of their NDTL. Scheduled commercial banks are required to reach the minimum LCR of 100% by January 1, 2019

Source: RBI

Macroeconomic overview

As per provisional estimates of the Central Statistics Office, the Indian economy grew 6.7% in fiscal 2018 compared with 7.1% in fiscal 2017 as the economy received twin shocks of demonetisation and GST implementation. However, India's economic growth has since been on an uptrend, accelerating for four straight quarters, to an eight-quarter high of 7.7% in the fourth quarter of fiscal 2018. This suggests the impact of structural reform measures such as demonetisation and GST is fading.

Slowdown of the primary and secondary sectors outweighed faster expansion of the services sector and resulted in a slowdown in overall growth. Notably, while consumption remains the biggest driver of GDP growth, investments have started to turn supportive. This is largely attributable to the government's focus on capex as the private corporate sector remains focused on improving its capital structure (reducing leverage).

Meanwhile, inflation based on the CPI came down from 3% in April and touched a low of 1.5% in June. CPI, however, rose consistently from there and touched a high of 5.2% in December before starting to moderate, and closed March at 4.28%. Headline inflation averaged 3.6% in fiscal 2018, a 17-year low, reflecting low food prices on a return to normal monsoon rainfall, agriculture sector reforms, subdued domestic demand, and currency appreciation.

After continuous decline between fiscals 2014 and 2017, India's CAD has started rising again since fiscal 2018. From 0.7% in fiscal 2017, CAD rose sharply to 1.9% in fiscal 2018. The main driver was rising crude oil prices as oil imports constitute the largest share (~23%) in India's imports.

India is returning to the path of gradual fiscal consolidation. This is reflected in the gradual reduction of fiscal deficit from 4.1% in fiscal 2015 to 3.5% in fiscal 2017. For fiscal 2018, the budget estimate of fiscal deficit was 3.2%, which was subsequently revised to 3.5%. The Budget has projected fiscal deficit at 3.3% of GDP for fiscal 2019. Meanwhile, the gross fiscal deficit target of 3% of GDP has been deferred to fiscal 2021.

The volatility in the rupee-dollar exchange rate remained contained in the first half of fiscal 2018. However, during the second half, it fluctuated due to various factors.

In September 2017, the rupee witnessed sharp depreciation as a result of selling by foreign investors due to unwinding of stimulus by the Fed. Again, between December 2017 and January 2018, the rupee regained its strength on the back of significant capital flows before witnessing gradual depreciation in the following months. In fiscal 2018, the rupee touched a low of 65.8 against the US dollar on September 28, 2017, and a high of 63.3 on January 8, 2018. The local currency closed at 65 to the dollar on March 28, 2018 (the last trading day of the year).

During the year, forex reserves increased by ~$54.4 billion from $369.9 billion as on March 31, 2017, to $424.4 billion as on March 30, 2018.

We expect GDP growth to rise 80 bps to 7.5% in fiscal 2019. The weak base of fiscal 2018 will also give a statistical lift to growth. What will help is continued pick-up in investment spending by the government, adequate monsoon-led lift to rural incomes, and the weaker rupee boosting exports.

We see CPI picking up 120 bps to an average 4.8% in fiscal 2019, led by higher crude oil prices, rising consumption demand, and impact of house rent allowance revision on housing inflation. CAD is seen expanding to 2.6% of GDP in fiscal 2019 from 1.9% of GDP in fiscal 2018. While imports will continue to face pressure from higher crude oil prices, exports face risks from uneven global economic recovery, and weaker global trade growth because of escalating trade wars. Higher CAD would also exert pressure on the rupee. The rupee is expected to weaken to 68.5 per dollar by March 2019 from 65 in March 2018. In addition to foreign capital inflows needed to finance the CAD, there are risks from tighter global monetary conditions and geopolitics. A stronger US dollar would add to the pressure.

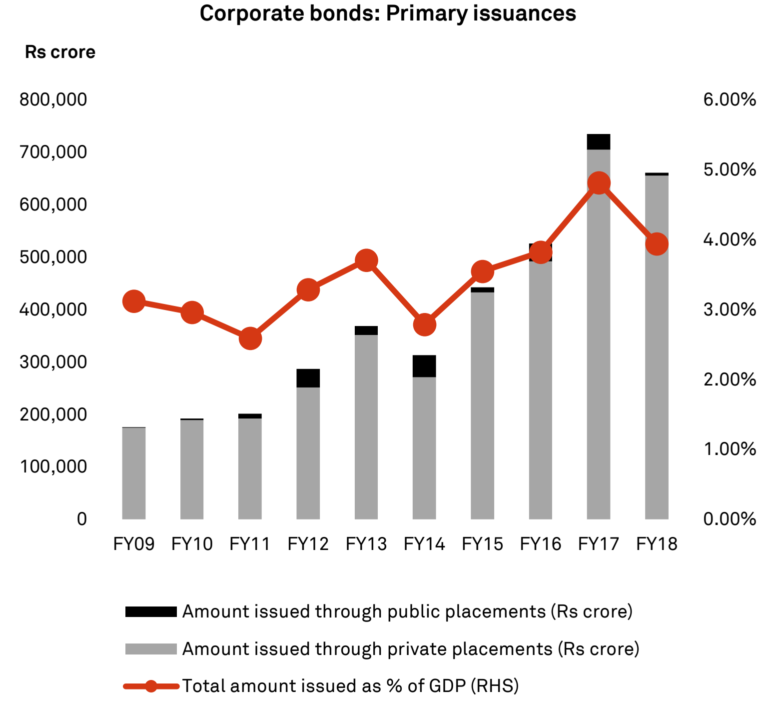
Meantime, the government breached its fiscal deficit target (from 3.2% to 3.5% of GDP) in fiscal 2018 and has budgeted for 3.3% this fiscal, implying a stretch in the fiscal consolidation path. We believe the government will be able to meet its target, but some things to watch out for are GST collections and revenue from spectrum sales.

Key macroeconomic parameters	FY17	FY18	FY19 (F)
CPI inflation (%, average)	4.5%	3.6%	4.8%
Repo rate (%, March-end)	6.25%	6.00%	6.50%
SLR (%, March-end)	20.50%	19.50%	NA
Brent crude oil price ($/bbl, March-end)	51.6	66.0	74-79
Current account deficit (% of GDP)	0.7%	1.9%	2.6%
Fiscal deficit (% of GDP)	3.5%	3.5%	3.3% (BE)
Rupees per dollar (March-end)	64.8	65.0	68.5
GDP growth (on-year %)	7.1%	6.7%	7.5%
Net FPI investment in debt (Rs crore)	-7,292	1,19,036	NA
FPI limit in G-secs (Rs crore)	68,000 for long-term FPIs	65,100 for long term FPIs	NA
	84,000 for non-long term FPIs	1,26,200 for non-long term FPIs	NA
GoI net market borrowing (Rs lakh crore)	3.55	4.79 (RE)	4.07 (BE)

F: Forecast for fiscal 2018; BE: Budget estimate; RE: Revised estimate
Source: RBI, NSDL, CSO, CRISIL Research

Corporate bonds find favour with investors

Private placements keep pushing north

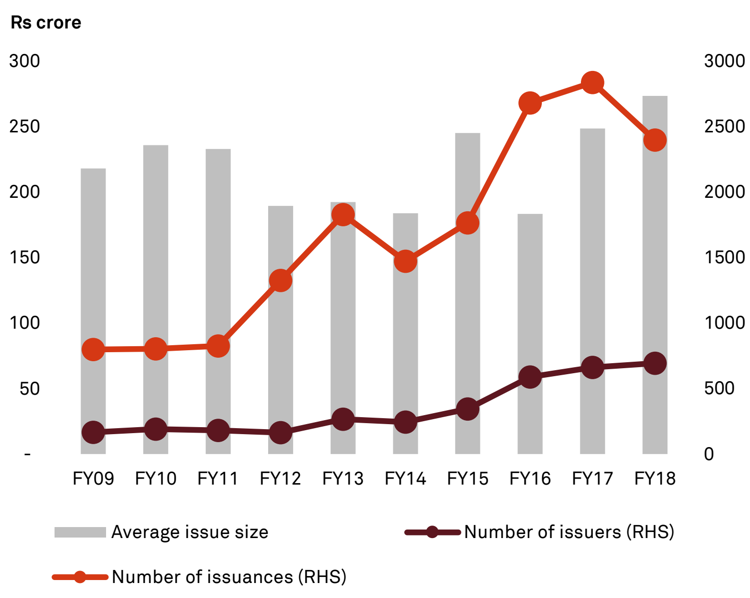


Source: RBI, SEBI, Prime Database

Private placements continue to dominate corporate bond issuances, and accounted for 99.25% of total debt issuances as of fiscal 2018. Ease of issuance is the primary reason corporates prefer this route. At the other end, complex regulatory structures, higher cost of transaction and time-consuming procedures have led to a fall in public placements. In fact, public placements in fiscal 2018 were the lowest in a decade.

Primary issuances come off a notch

Corporate bonds: Private placements



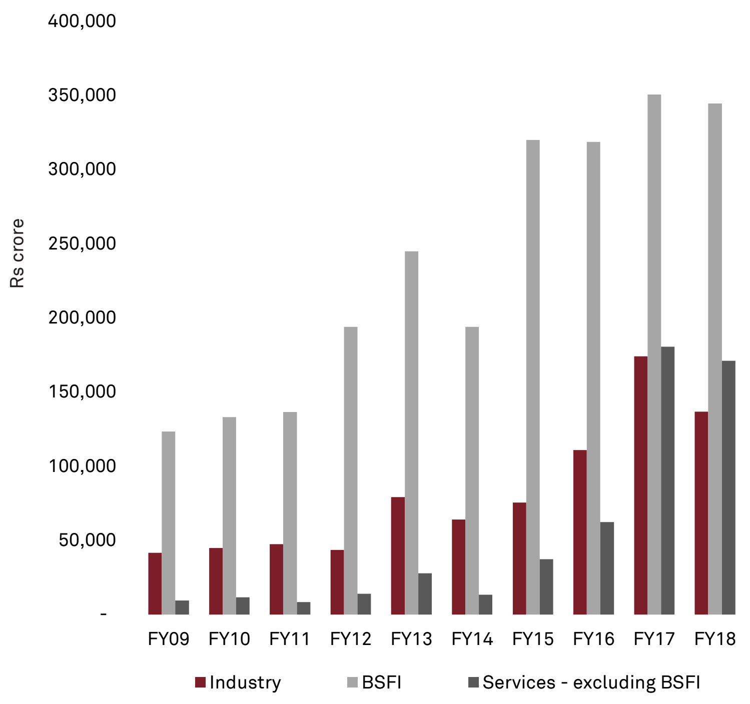
Source: RBI, SEBI, Prime Database

Tighter lending norms for banks amid a rise in their NPAs have whetted corporate bond issuances in recent years, with fiscal 2017 logging a 43% jump. Growing demand from institutional investors such as MFs, insurance companies and pension funds has fuelled growth.

However, in fiscal 2018, issuances fell 10% on-year, reversing a three-year trend. Rising yields in the bond market was a key reason for the decline. Also, SDLs offered higher rates than debt of top-rated public sector companies for most of the year, eroding demand for corporate bonds.

Issuances are likely to pick up again following the implementation of new regulations from SEBI mandating a quarter of borrowings for listed entities through corporate bonds.

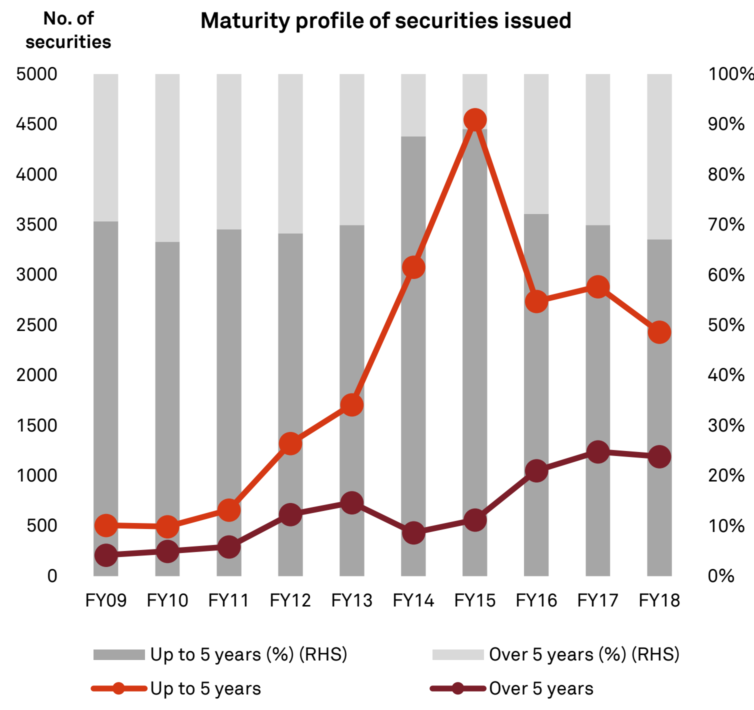
BFSI dominance in issuances continues



Source: Prime Database, CRISIL Research

Most sectors saw a decline in the number of issuances and quantity issued in fiscal 2018. The slide in real estate continued, with the number of issuances falling a further 16% — after a 24% decline seen in fiscal 2017 — on lower demand following demonetisation and regulatory changes. However, power generation and supply saw a 30% spurt in issuances mainly due to focused reforms unleashed by the government in the past three years in the sector.

Market remains skewed towards shorter end

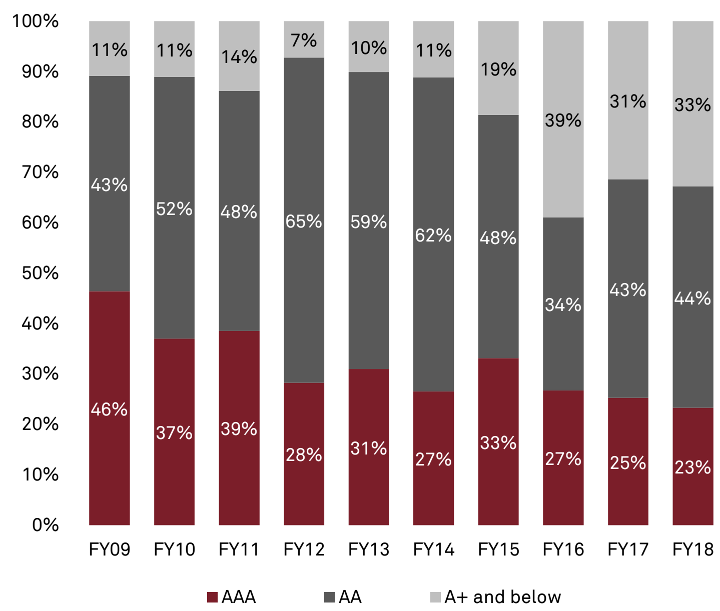


Source: Prime Database

Demand for shorter-tenure securities remained strong due to strong demand from MFs, which are active in the 3-5-year segment. In fiscal 2018, ~41% of the bonds issued were in the 3-5-year bucket.

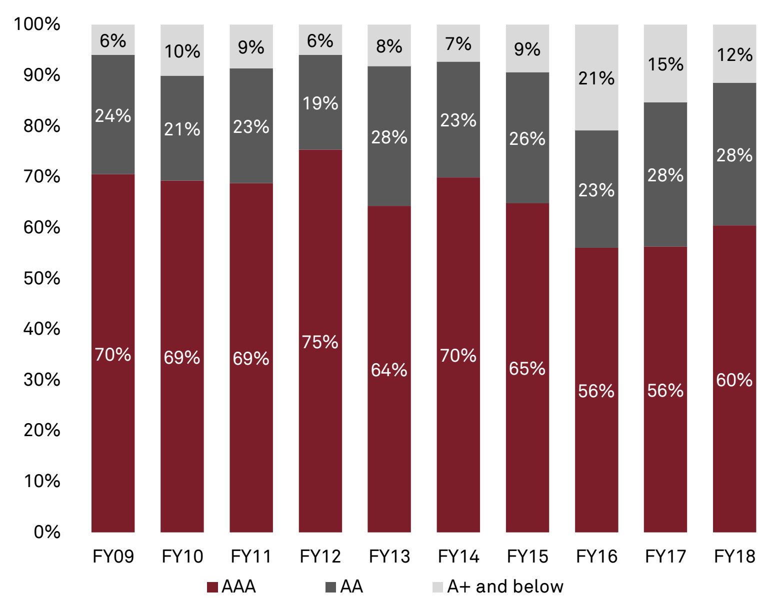
The maturity-wise split in the number of issuances was similar to fiscal 2017, with a marginal 3% increase in the 0-3-year bucket. There were two reasons for this – first, investors shifted to lower durations to reduce their mark-to-market losses in a rising interest rate scenario, and second, the yields on shorter tenure securities were more attractive.

Lower-rated papers have found takers since fiscal 2016 (number of issuances)



Source: Prime Database, CRISIL Research

Higher-rated papers continue to dominate (amount of issuances)



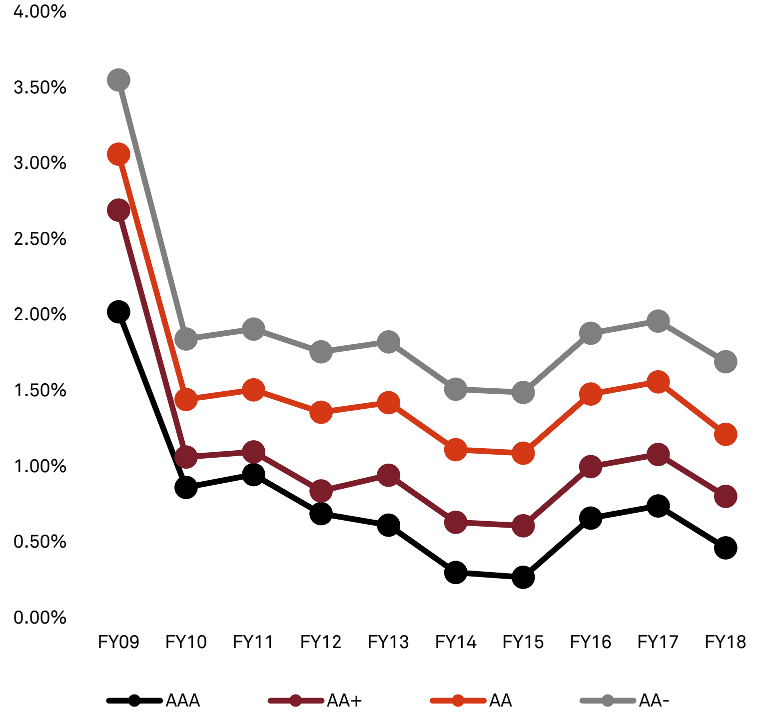
Source: Prime Database, CRISIL Research

Lower-rated bonds have picked up in recent years because of growing interest from credit opportunities funds of MFs, real estate investment trusts (REITs), infrastructure investment trusts (InvITs), and alternative investment funds (AIFs), ensuring availability of cheaper funds for lower-rated corporates.

The corporate bond market in India continues to be dominated by top-rated companies, mainly because there are few takers for lower-rated papers given the restrictive investment mandates of major investors.

In fiscal 2018, the AAA and AA categories together comprised 88% of issuances. The share of AAA was down to 60% from 77% a decade ago, while that of AA was up at 28% compared with 14% a decade ago.

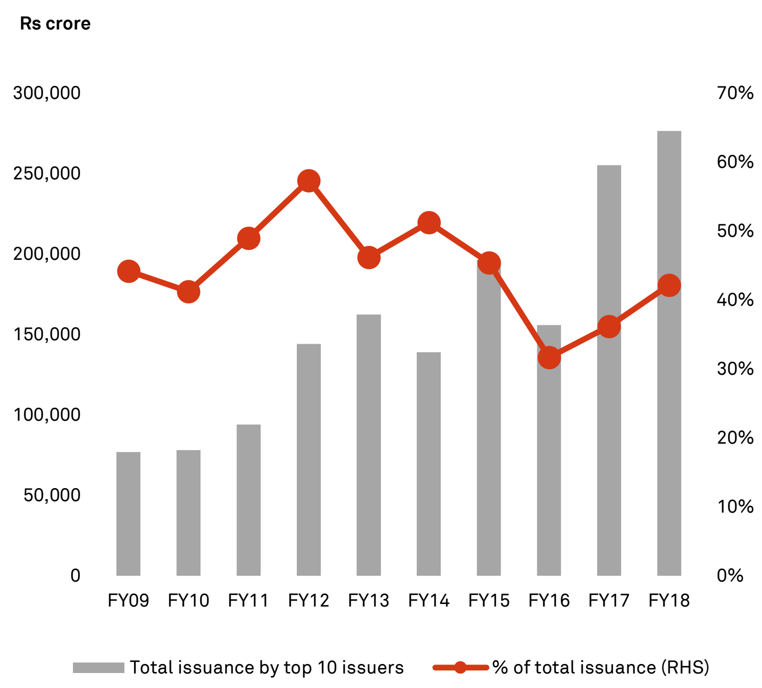
Spread over G-secs compresses across categories



Spread over 10-year benchmark G-sec yield as of March-end
Source: CRISIL Research

Fiscal 2018 saw a compression of spreads across rating categories, given a demand-supply mismatch. The reasons included hesitation of issuers to issue beyond certain yields, lack of appetite of investors, and lack of participation by banks.

Top 10 issuers account for 42% of issuances



Source: Prime Database

Power Finance Corporation (PFC) has topped the table in aggregate issuances over the past 10 years. However, in fiscal 2018, HDFC topped the list, followed by Rural Electrification Corporation (REC), National Bank for Agriculture and Rural Development (NABARD) and PFC. NABARD saw the maximum on-year growth at 73.24%.

Sovereign spread over repo shoots beyond the long-term average

Fiscal year*	Weighted average repo rate (%)	Sovereign yield^ (%)	Difference (%)
2009	5.00	7.13	2.13
2010	5.00	7.98	2.98
2011	6.75	8.23	1.48
2012	8.50	8.82	0.32
2013	7.50	8.24	0.74
2014	8.00	9.29	1.29
2015	7.50	7.98	0.48
2016	6.75	7.60	0.85
2017	6.25	6.86	0.61
2018	6.00	7.54	1.54

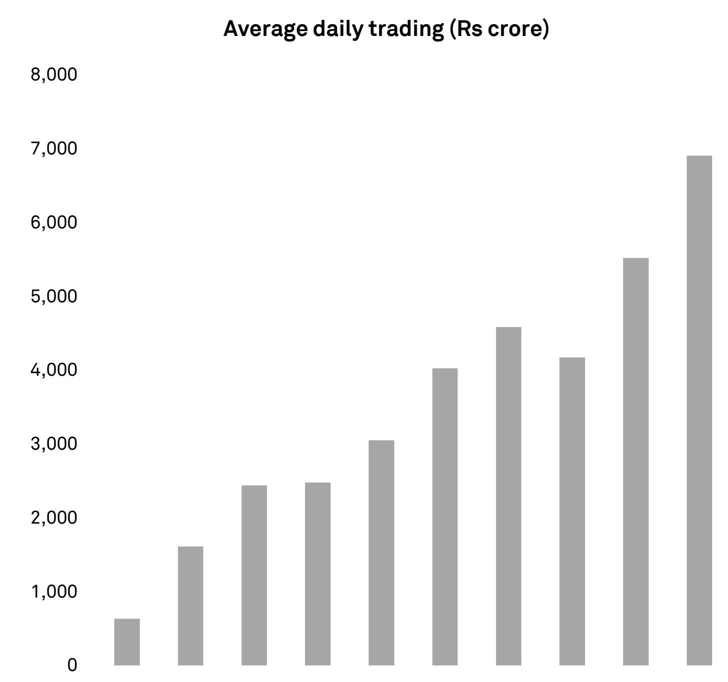
**As on March end, ^ 10-year benchmark G-sec annualised yield as of March-end.*
Source: RBI, CRISIL Research

Yields on 10-year G-secs spurted over 100 bps in fiscal 2018. Yields oscillated between 6.41% and 6.99% till October 2017, but rose thereafter to touch a high of 7.78% in early March 2018, before closing the year at 7.40%.

The 10-year G-sec spread over repo was 40 bps at the start of the fiscal and touched a maximum of 170 bps in early March, which was much higher than the long-term average spread, as markets factored in expectations of a few rate hikes from the RBI, which tamped demand.

Among the reasons for the uptrend in yields was increase in the government borrowing calendar for fiscal 2018, concerns over fiscal slippage, pick-up in inflation due to rise in crude oil prices, expected higher minimum support prices for agriculture, and lower demand from PSU banks – one of the largest participants in G-sec markets.

Traded volume surges



Source: FIMMDA, CRISIL Research

In the secondary market, the trading volume increased ~25% on-year, indicating increasing depth and liquidity. Higher FPI activity also contributed to this trend. Measures taken by regulators on reissuances and limiting the number of fresh ISINs are expected to help improve liquidity of the corporate bond market further.

After five fiscals, CD and CP issuances improve

Certificates of deposit			
Fiscal	Amount issued (Rs crore)	Interest rate range (%)	Outstanding (Rs crore)
FY09	134,712	5.25-21.00	192,867
FY10	428,438	3.09-11.50	341,054
FY11	851,834	4.15-10.72	424,740
FY12	944,996	7.30-11.90	419,530
FY13	865,156	7.85-12.00	389,612
FY14	796,468	7.50-11.95	375,796
FY15	772,847	7.55-10.25	280,968
FY16	629,133	7.00-8.90	210,593
FY17	407,556	5.92-8.53	155,741
FY18	440,275	6.00-8.50	185,732

Note: Outstanding as of March-end.
Source: RBI

Issuance of CDs, which was on a downtrend since fiscal 2012, improved a little in fiscal 2018.

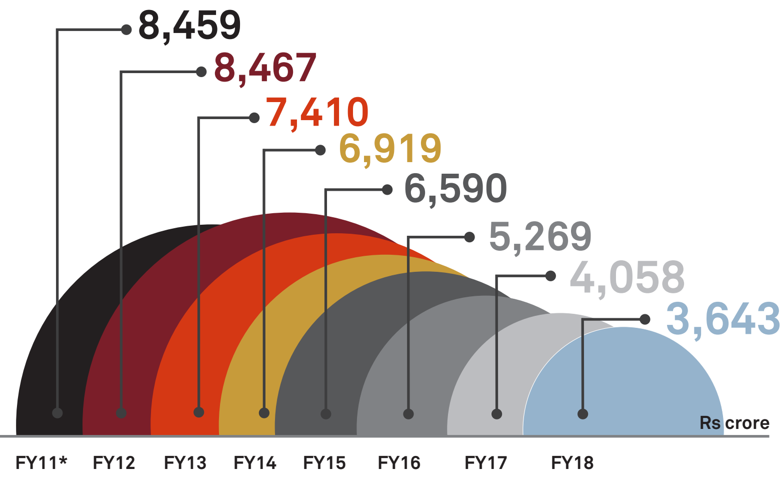
A major reduction was observed in fiscal 2017 when issuances dropped 35% due to easy liquidity post demonetisation and weak credit growth.

Fiscal 2018 saw a marginal increase of 8% as credit growth picked up and cash in circulation improved in the economy. Interest rates also reduced post-demonetisation, and ranged between 6% and 8.50% in the last two fiscals.

Post December 2017, a reduction in surplus liquidity led to three-month CD spreads over repo increasing sharply in January and February, crossing the 100 bps mark, up from 5-40 bps seen between April and December 2017.

The outstanding volume touched a decade low of Rs 82,400 crore in September 2017. However, the outstanding volume increased 16.15% compared with the previous fiscal.

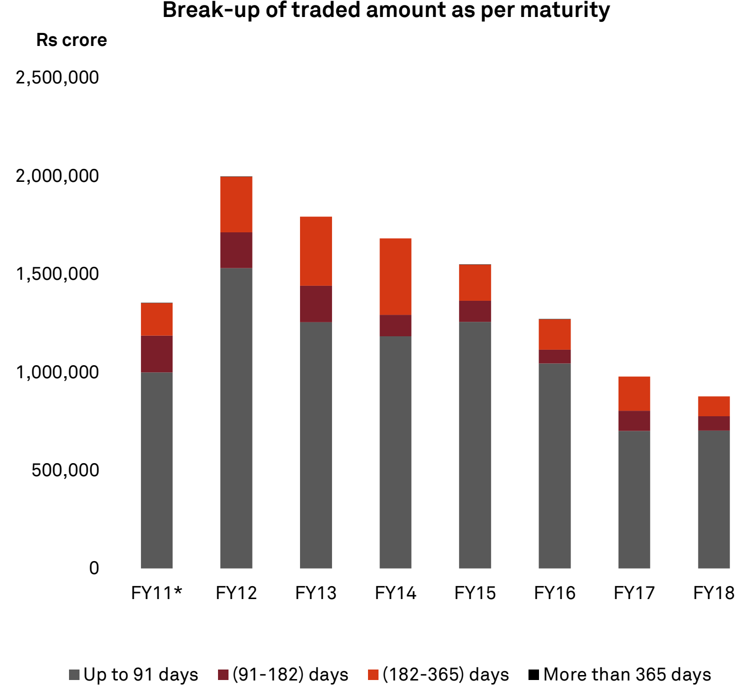
Average daily trading of CDs headed down a slope



**From August 2010*
Source: FIMMDA

Average daily trading of CDs has continued to decline on-year following a decline in issuances. The average trading volume has reduced to half of that in fiscal 2014.

Three-month CDs remain the most active segment



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

The maturity-wise trading pattern remains similar, with three-month CDs being the most active segment – accounting for ~80% of trading activity – mainly because of demand from liquid MFs.

There was some decline in trading volume of the six-month to one-year segment in fiscal 2018 due to liquidity tightness and preference for shorter maturity securities amid fear of rising interest rates.

CP issuances head north

Commercial paper			
Year	Amount issued (Rs crore)	Interest rate range (%)	Outstanding (Rs crore)
FY09	NA	5.25-17.75	NA
FY10	NA	2.83-12.50	NA
FY11	225,453	3.85-18.00	NA
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

Source: RBI

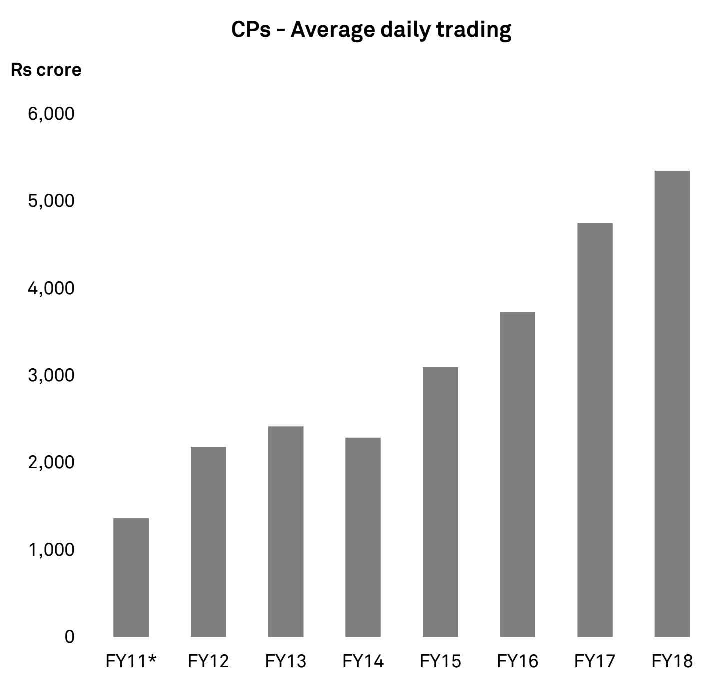
Issuance of CPs has risen ten-fold in the last eight years even as the outstanding volume has quadrupled in the last seven years.

This growth has come on the back of favourable interest rates on CP issuances compared with bank loans, given higher base rate/ marginal cost of lending rate of banks. Volumes spiked during large initial public offerings (IPOs) as corporates issued short-term CPs for IPO financing.

In the last five years, CP issuances clocked a healthy 25% CAGR. Growth, though, was the slowest in fiscal 2018 when issuances increased just 10% on-year, mostly due to lower economic growth and rise in interest rates.

Banks, barred from lending to corporates below base rate and inhibited by their mounting NPAs, provided funds to corporates through investments in CPs; banks' investments in CPs increased to more than 30% of outstanding CPs in fiscal 2018.

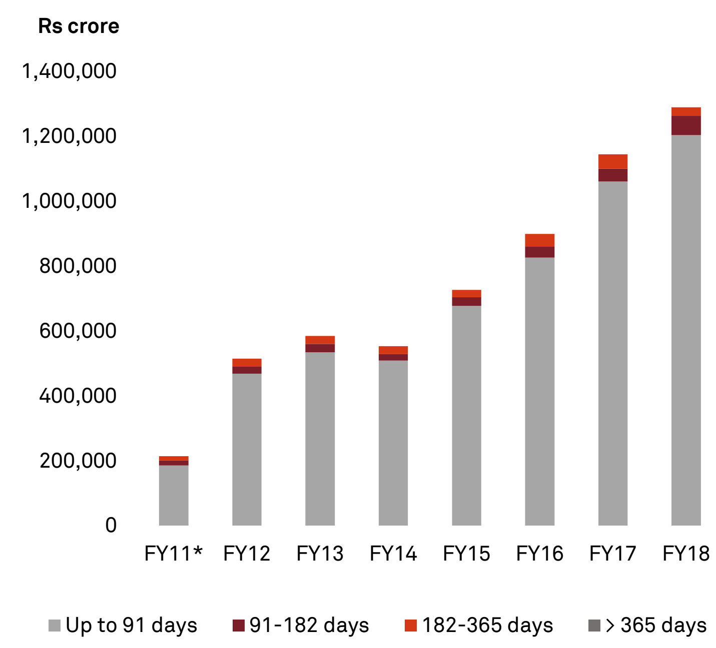
Secondary market trading of CPs also on the rise



**From August 2010*
Source: FIMMDA

Secondary market trading in CPs increased 12.65% on-year in fiscal 2018, mirroring the trend in the primary market.

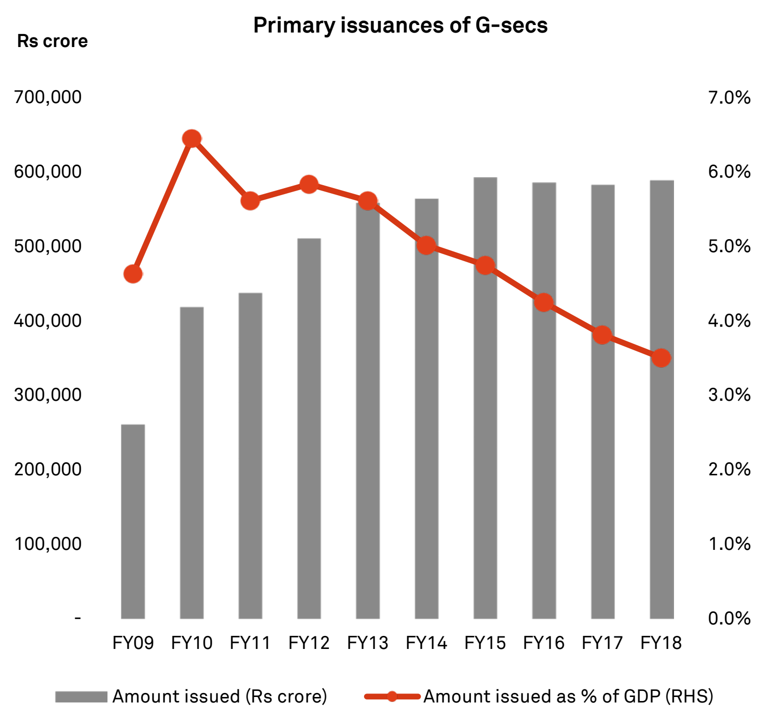
Up to three-month CPs the most traded



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

Maturity-wise trading remains similar, with three-month CPs accounting for 93% of the trading volume in fiscal 2018. Given rising interest rates, the shares of six-month to one-year CPs declined.

G-sec issuances up, but share in GDP drops

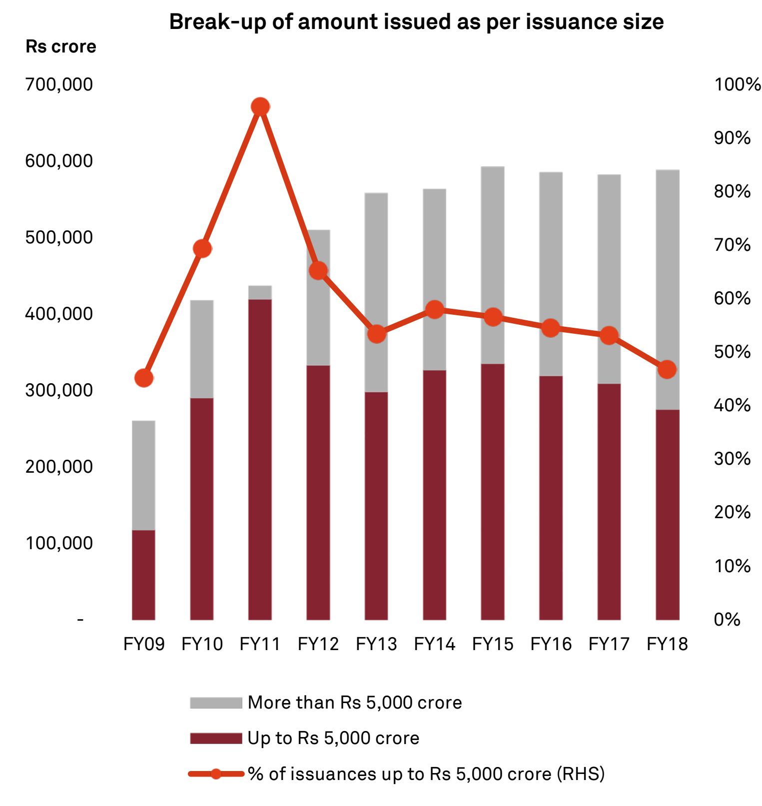


Source: RBI, CRISIL Research

The issued amount increased marginally as the central government borrowed Rs 5.88 lakh crore in fiscal 2018 compared with Rs 5.82 lakh crore in fiscal 2017. The borrowing was initially budgeted at Rs 5.8 lakh crore, but was later revised to Rs 5.99 lakh crore, to compensate for lower-than-expected revenue from collections of GST.

The amount issued as a proportion of GDP, though, declined 30 bps to 3.5% from 3.8% in fiscal 2017, in line with the trend seen since fiscal 2013.

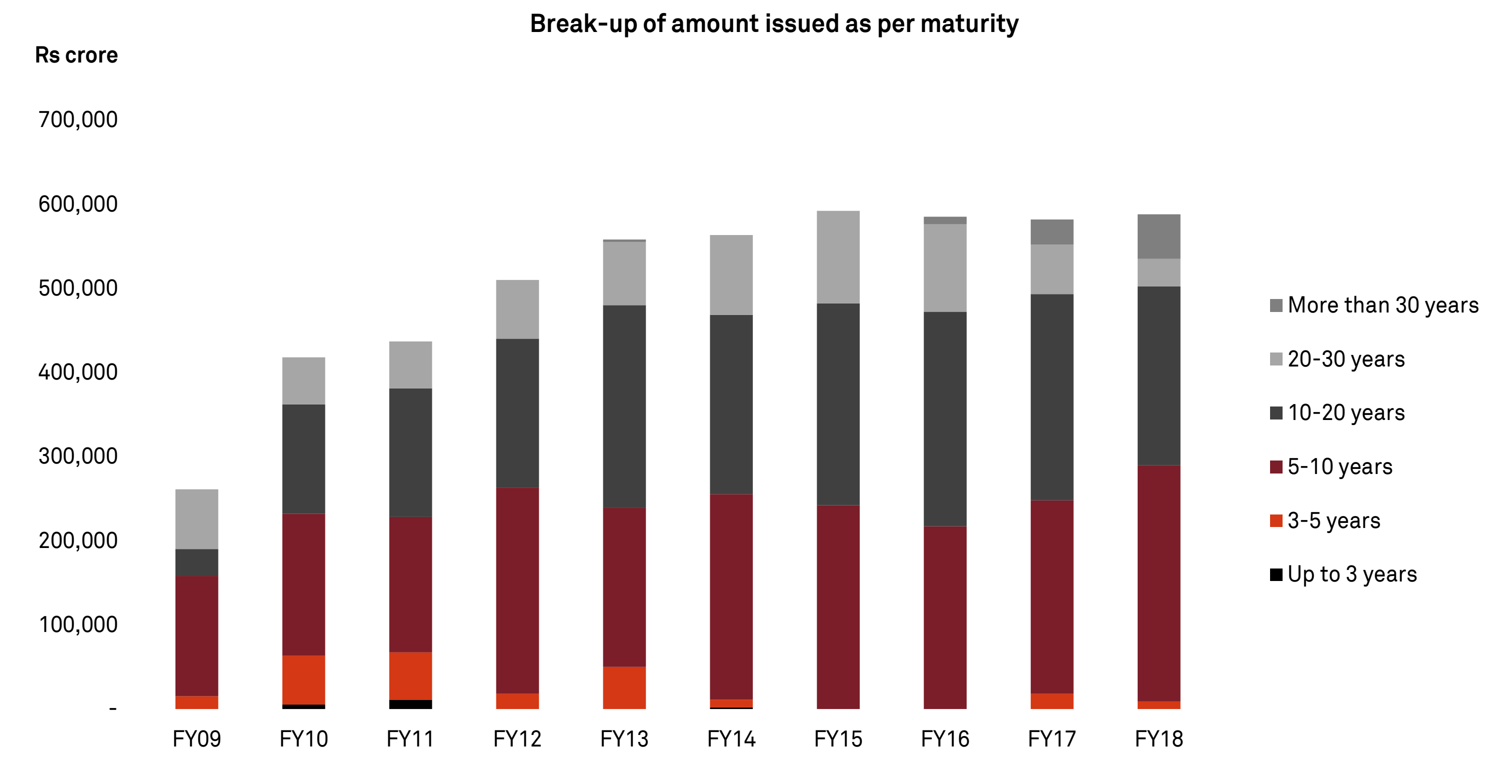
Large issuances increase



Source: RBI, CRISIL Research

Large issuances (greater than Rs 5,000 crore) increased compared with the previous fiscal and accounted for ~53% of total issuances.

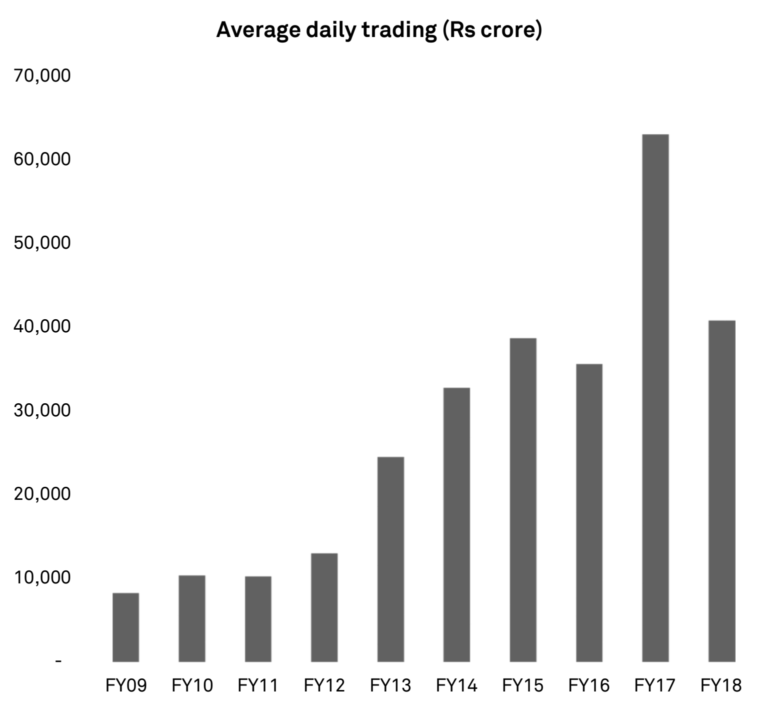
No issuance in short tenures



Source: RBI, CRISIL Research

While overall borrowing increased in fiscal 2018, the issuances were mostly of maturity above five years. There was no issuance in the shorter maturity (0-3 years) bucket. In fiscal 2018, there were no purchases under open market operations, while devolvements on primary dealers shot up 93% on-year. Government debt with tenure greater than 30 years (residual maturity 33 and 37 years) was issued to cater to long-term investors such as insurance companies and pension funds. The weighted average maturity profile of government debt decreased marginally by 0.64 years to 14.13.

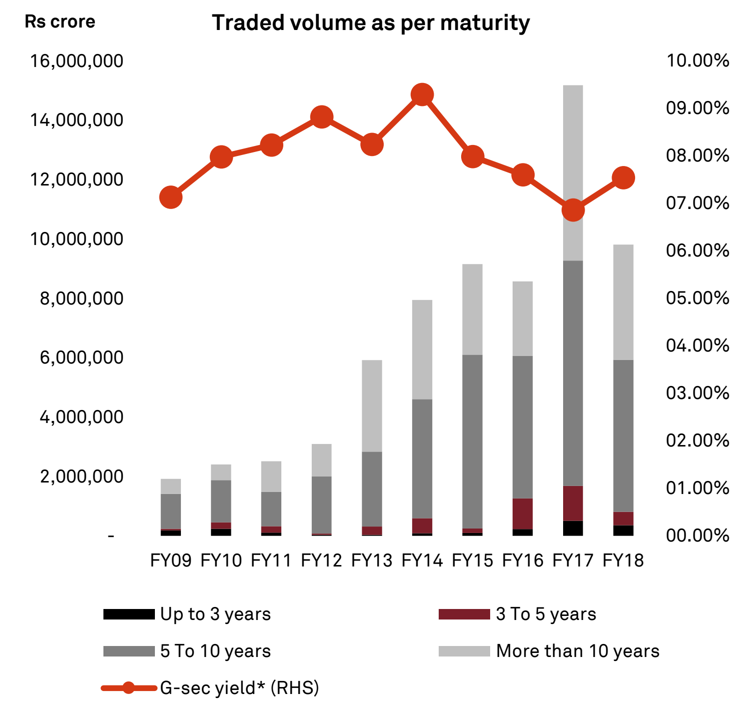
Average daily trading falls sharply



Average daily trading
Source: CCIL

Average daily trading dropped 35% as interest rates rose. This was primarily due to lower participation of public sector banks – the largest player in the G-sec market – given their mounting mark-to-market losses.

Bulk of trades in 5-10-year segment

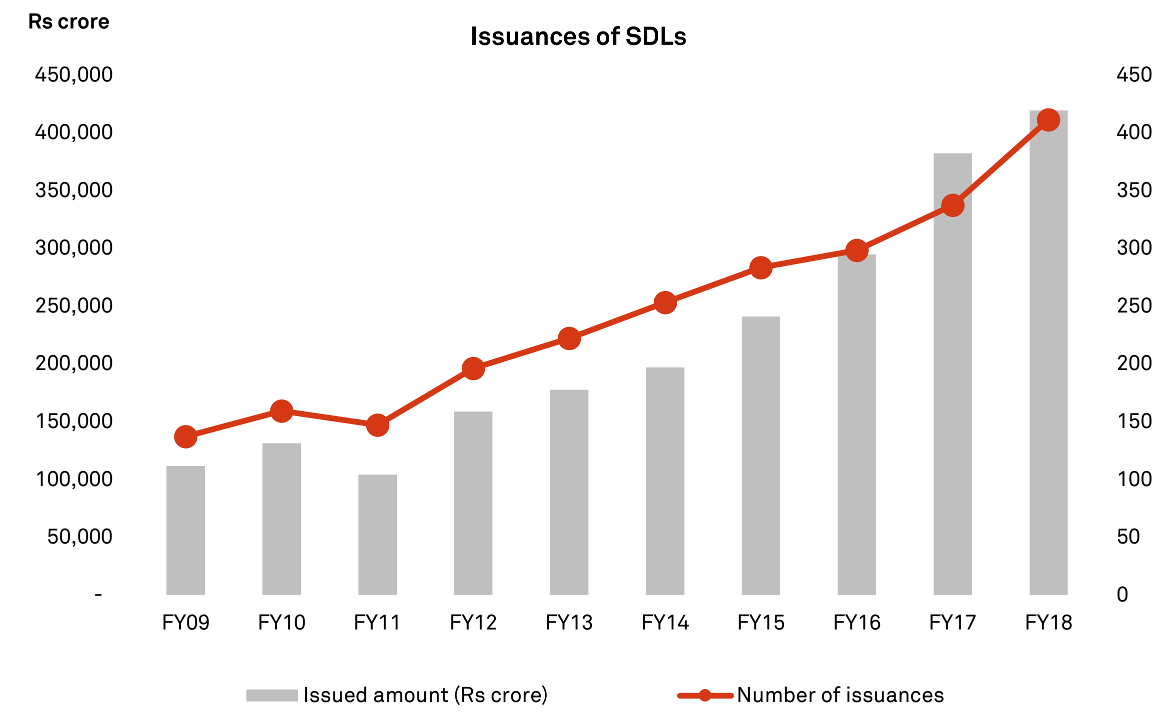


**10-year benchmark G-sec yield as of March-end*
Total annual trading
Maturity refers to residual maturity of the instruments
Source: RBI, CCIL

More than half of the trading volume was concentrated in the 5-10-year segment, given higher liquidity (the 10-year security is the most liquid) and to reduce mark-to-market losses in longer duration securities amid rising interest rates. G-sec yields saw significant hardening during the year, particularly post August 2017, due to increasing global interest rates and rising local inflation. However the yield eased in March 2018 in response to lower and shorter-duration government borrowing in the first half of fiscal 2019, and lower inflation.

State development loans

Both issuances and issued amount soared



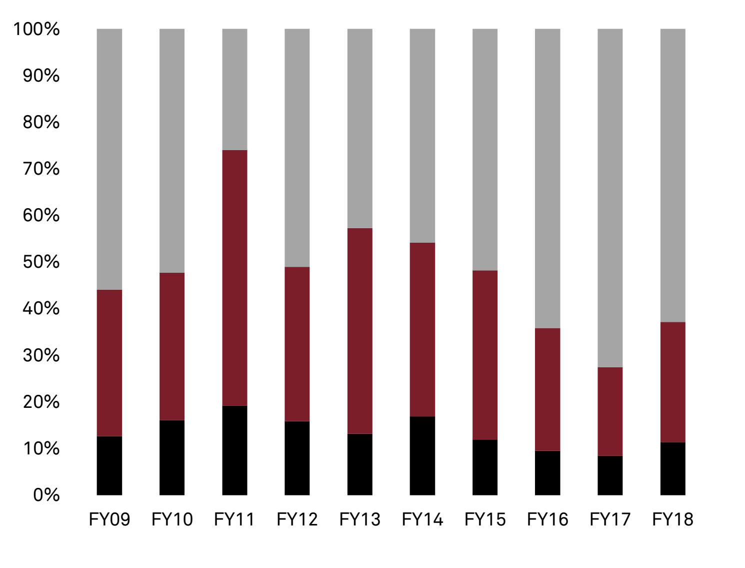
Source: RBI (FY10-18), CRISIL Research (FY09)

Issuances of SDLs have continued to rise, logging a CAGR of 14% over the last 10 years, as states hit the bond market multiple times to fund development. In fiscal 2018, issuances increased 10% compared with the previous fiscal.

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

Source: RBI

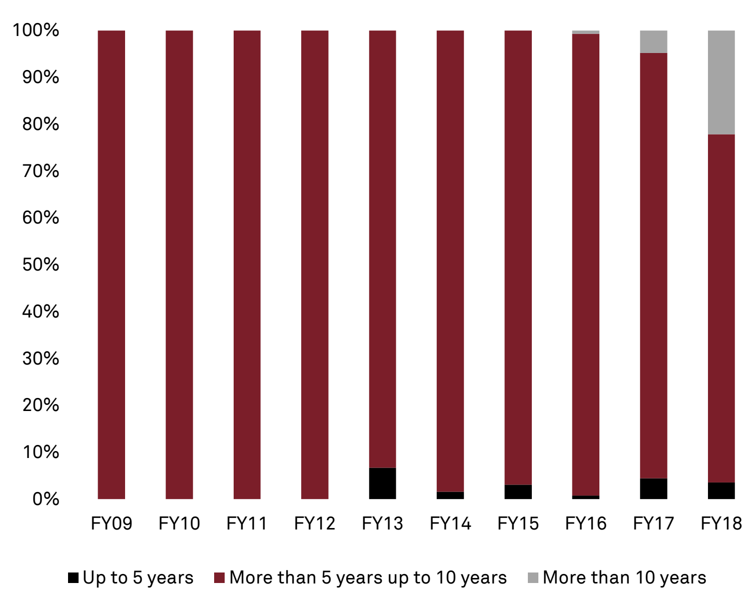
Issuances above Rs 1,000 crore dropped by a tenth



Source: RBI (FY10-18), CRISIL Research (FY09)

The total issued amount increased 10% on-year in fiscal 2018, although large issuances (above Rs 1,000 crore) – which remains the most preferred size – decreased 5%.

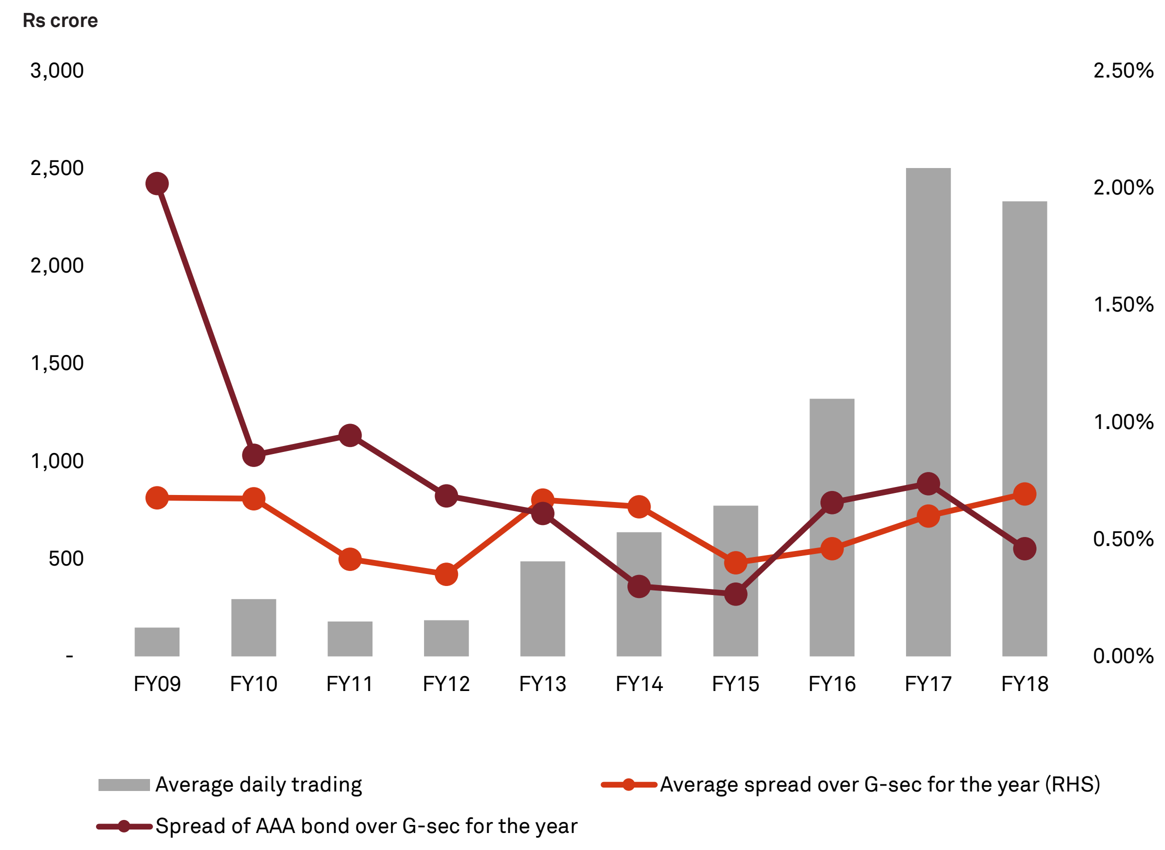
Longer-tenure issuances quadrupled



Source: RBI (FY10-18), CRISIL Research (FY09)

The 5-10-year maturity segment remained the most preferred (considering most issuances are for 10 years), accounting for ~75% of the issuances in fiscal 2018. However, issuances in this segment fell 10% on-year even as those in the 'more than 10 years' maturity segment quadrupled. The longer-tenure issuances found favour with insurance companies and pension funds looking to lock in higher yields for longer-tenure papers.

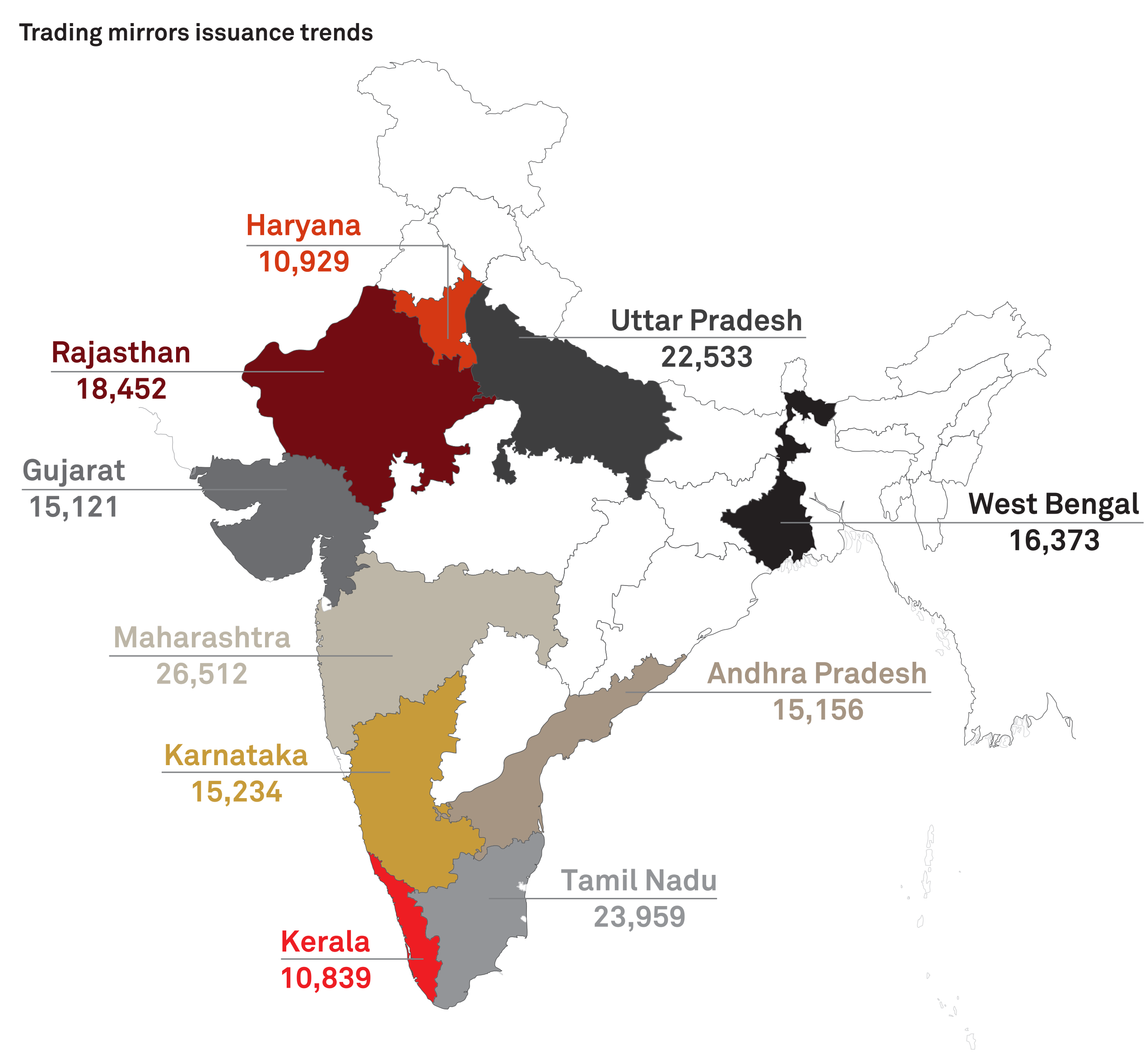
Spreads over G-secs widened; liquidity and volume shrank



Source: CCIL & CRISIL Research

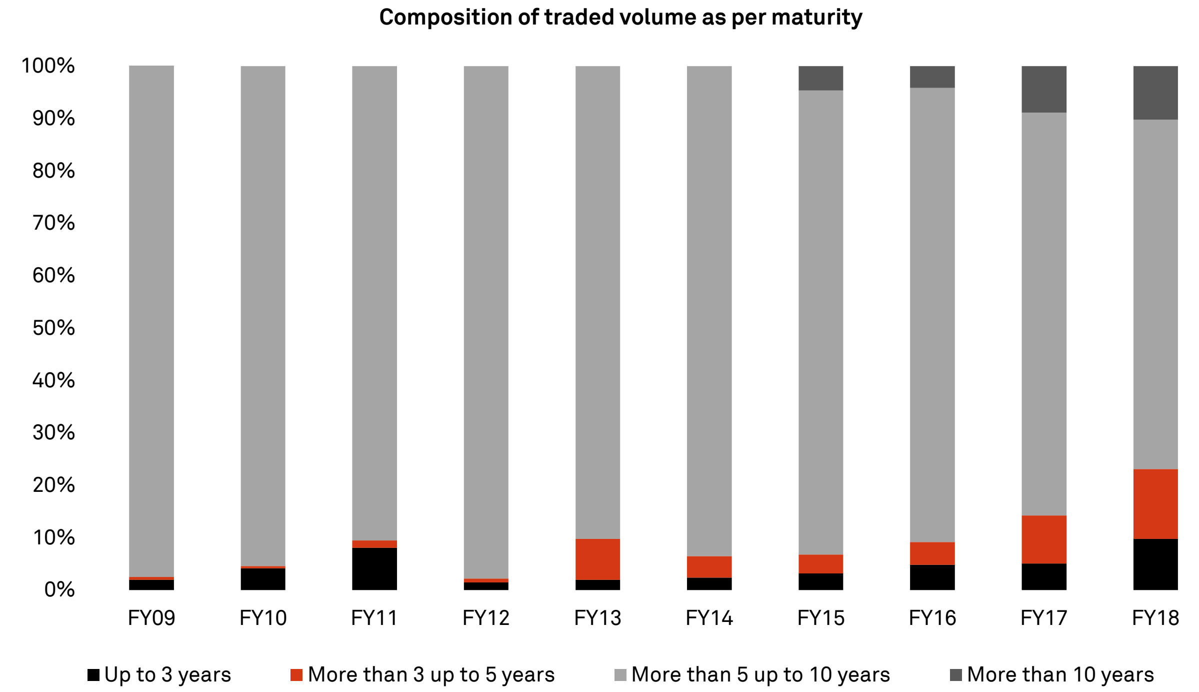
Traded volume and liquidity in SDLs decreased in fiscal 2018 because of rising yields and mounting mark-to-market losses of banks. Spreads of SDLs over G-secs continued to widen.

Trading mirrors issuance trends



**Based on average annual traded volume for the last 10 years*
Source: CCIL , CRISIL Research

Trading volume dipped in 5-10-year segment

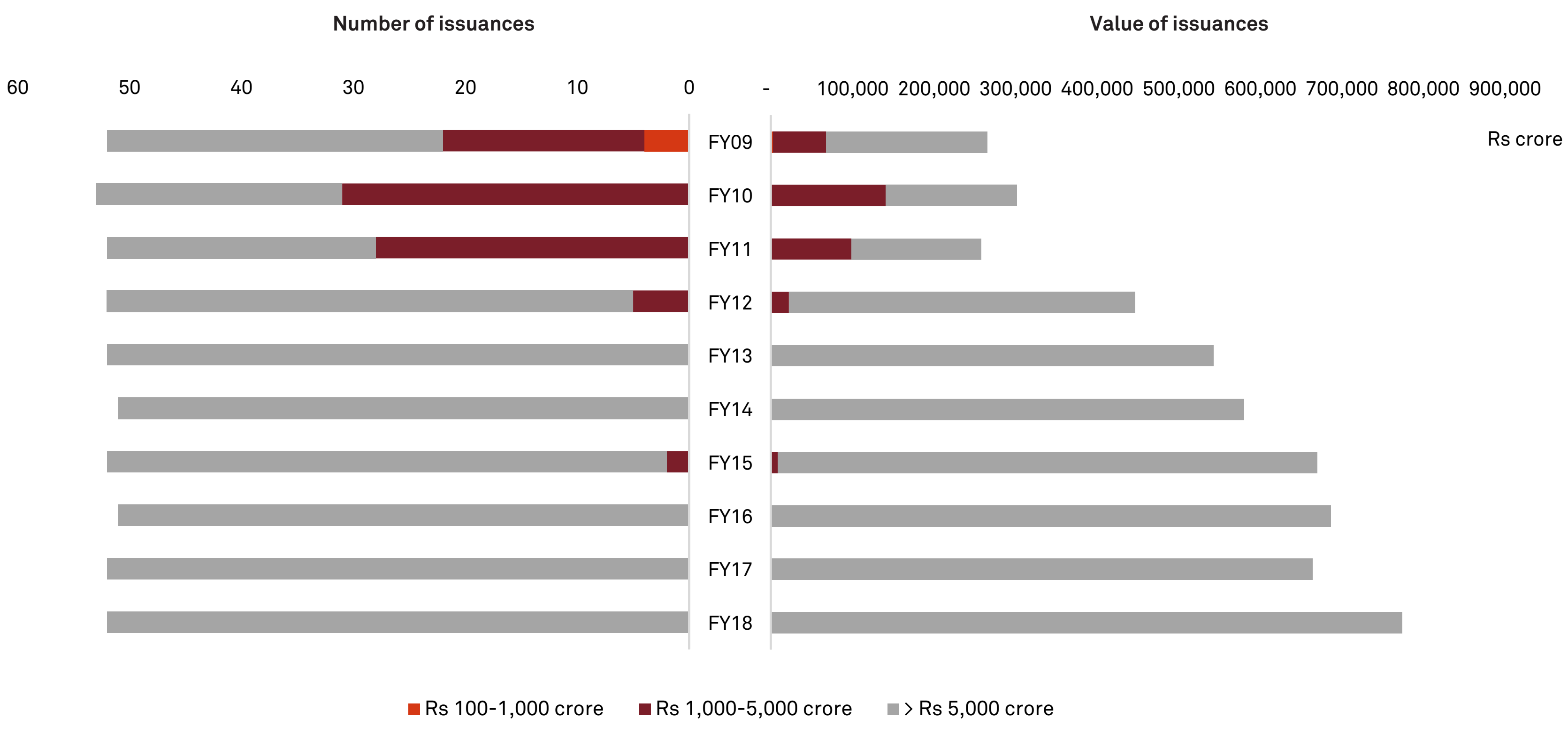


Maturity refers to residual maturity of the instruments
Source: CCIL (FY09-18)

The 5-10-year segment remained the most active maturity for SDLs, accounting for 62% of traded volume, albeit down from 77% in fiscal 2017.

Treasury bills

Number of issuances unchanged from last year

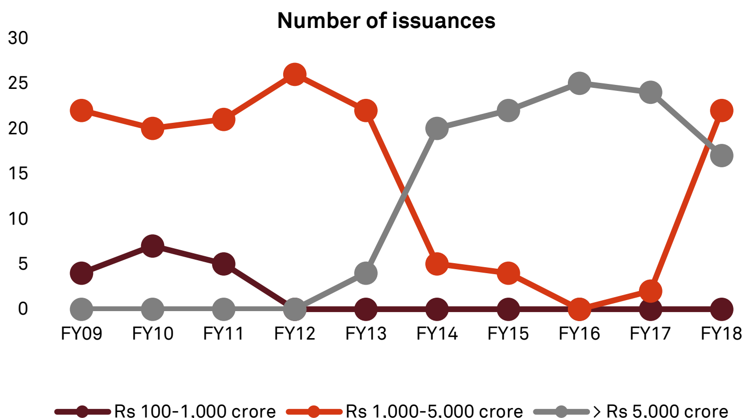


Source: RBI

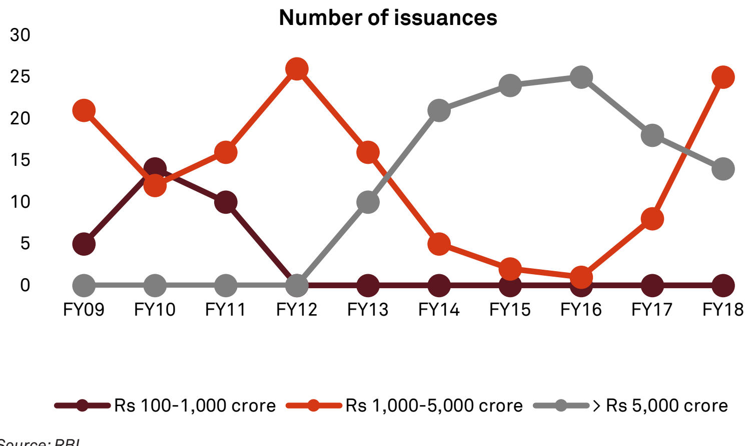
There were 52 issuances during fiscal 2018 – the same as the previous year – each of over Rs 5,000 crore. The 91-day T-bill accounted for 69% of the total borrowing.

In order to absorb excess liquidity in the banking system following demonetisation in November 2016, the limit for the RBI's Market Stabilisation Scheme, or MSS, was increased to Rs 6 lakh crore for fiscal 2017. For fiscal 2018, the ceiling for gross issuance under MSS was fixed at Rs 1 lakh crore.

In 182-day bills, issuances of smaller amounts increase



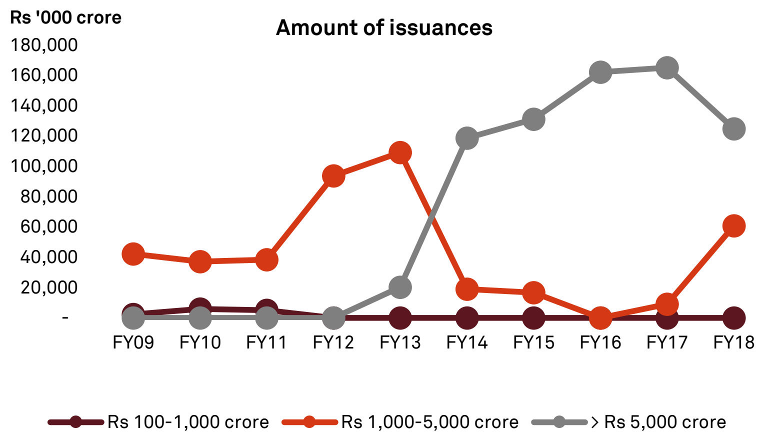
Source: RBI



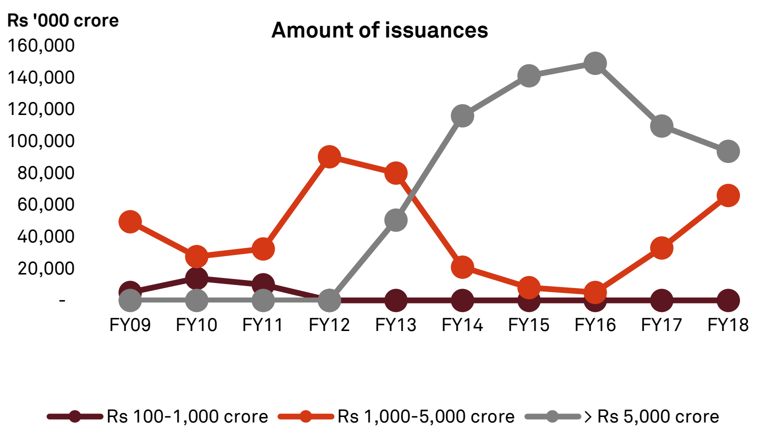
Source: RBI

The number of auctions with amount over Rs 5,000 crore dropped from 92% in fiscal 2017 to 44% in fiscal 2018 for 182-day T-bills, and from 69% to 36% for 364-day T-bills.

In 364-day bills, issuances of Rs 5,000 crore and above decrease



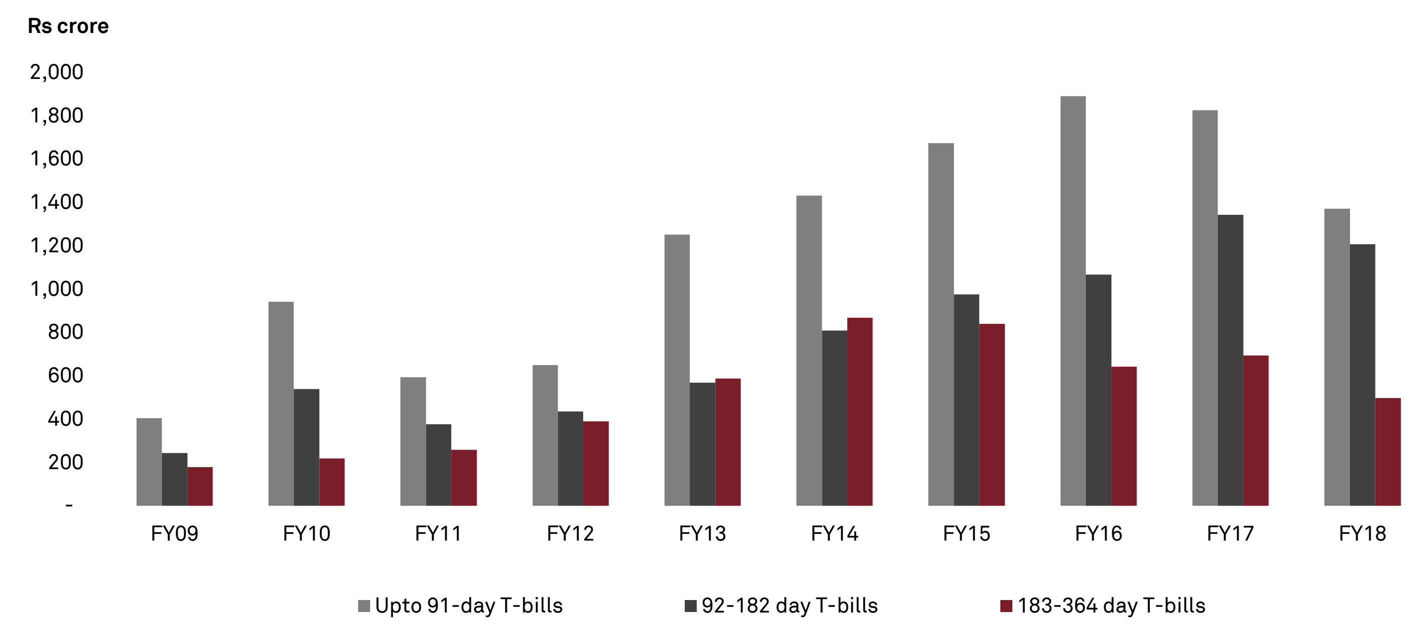
Source: RBI



Source: RBI

However, total issuance in the 182-day segment increased 6.5%, and that in the 364-day segment by 12%.

Average daily trading was lower by a fifth

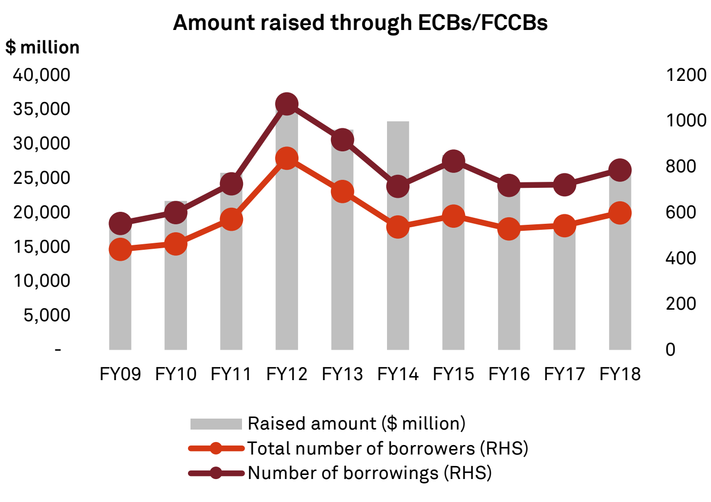


Average daily trading
Trades are based on original maturity of the instrument
Source: CCIL (FY09-18)

Among the segments, 91-day T-bills were the most actively traded and 364-day T-bills the least traded. Average traded volume dropped 21%, with 91-day and 364-day T-bills showing a decline of 25% and 30%, respectively, while for 182-day T-bills, the decline was less at 11%.

External commercial borrowings/ foreign currency convertible bonds

ECBs turn around, though still off peaks



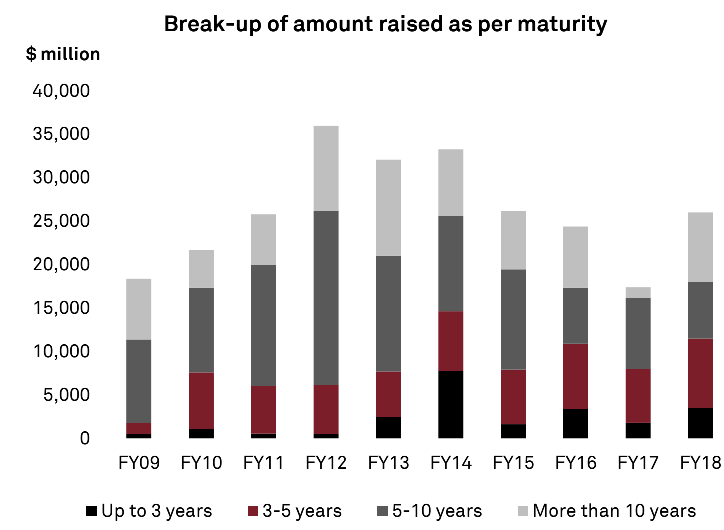
Source: RBI

External commercial borrowings (ECBs) picked up again in fiscal 2018 as volume increased 49% on-year. Issuers tapped the market multiple times as the number of borrowers increased 11% and the number of borrowings by 9%.

However, the figures fare poorly compared with the period prior to fiscal 2015 when lower domestic interest rates allowed Indian companies to borrow at a cheaper cost from home, obviating the need to raise money abroad. Also, slow growth, stagnant capital expenditure, and end-use restrictions on ECBs limited the ability of Indian companies to access overseas markets.

The RBI eased the restrictions in May 2018. Despite this, tapping ECBs will be a challenge, given that interest rates in the US are rising and volatility in exchange rates is increasing the cost of funding for issuers.

Long-term borrowings up sharply



Source: RBI

The maturity profile of India's external debt remains skewed towards the long term. Post a slump in fiscal 2017, as issuance picked up, the highest increase seen was in the 'more than 10 years' maturity segment, which increased by a whopping 529%, whereas the 5-10-year bucket saw a decline of 20%. The trend is in line with that observed in fiscal 2016. Stable currency and higher spread between the US and Indian 10-year securities was the key driver for issuers to move to the offshore market.

Masala bonds

- The first issuance of masala bonds in fiscal 2018 was from NTPC. Masala bonds were generally issued for five years initially, but this came down to three years for lack of demand from FPIs. But all fiscal 2018 issuances have been for five years, making it the average issued tenure in this space.

- The top issuers by amount issued in fiscal 2018 were:
  - Shriram Transport Finance Co Ltd
  - Housing Development Finance Corporation Ltd
  - National Highways Authority of India
  - NTPC Ltd
  - Indian Renewable Energy Development Agency Ltd
  - Fullerton India Credit Co Ltd
  - Nissan Renault Financial Services India Pvt Ltd

- Most masala bond issuances have been at lower yields compared with prevalent yields in the domestic market, highlighting good demand for such securities. However, issuances have declined after SEBI, in July 2017, barred FPIs from investing in masala bond issuances until they freed up the limits.

How CRISIL debt indices have fared

Index category	Index	1-year	3-year	5-year	10-year	Since inception	Inception date
Gilt	CRISIL Long Term Gilt Index	3.24%	7.46%	7.84%	7.87%	7.21%	01-Oct-04
	CRISIL Medium Term Gilt Index	2.78%	7.55%	7.63%	7.45%	7.00%	01-Oct-04
	CRISIL Short Term Gilt Index	5.79%	7.99%	8.18%	7.83%	7.47%	01-Oct-04
	CRISIL Dynamic Gilt Index	2.91%	7.16%	7.80%	7.90%	10.11%	01-Jan-97
	CRISIL Composite Gilt Index	2.65%	7.26%	7.71%	7.83%	7.26%	01-Oct-04
	CRISIL 10 Year Gilt Index	-0.38%	6.36%	6.42%	6.52%	7.20%	01-Sep-01
SDL	CRISIL 10 Year SDL Index	4.53%	8.13%	8.98%	8.95%	7.91%	01-Apr-05
Credit (AAA)	CRISIL AAA Long Term Bond Index	6.36%	8.70%	9.25%	9.70%	8.70%	31-Mar-02
	CRISIL AAA Medium Term Bond Index	6.46%	8.43%	9.19%	9.30%	8.45%	31-Mar-02
	CRISIL AAA Short Term Bond Index	6.84%	8.09%	8.62%	8.90%	8.09%	31-Mar-02
Credit (Composite AA)	CRISIL Composite AA Long Term Bond Index	9.76%	10.38%	10.59%	10.39%	9.48%	31-Mar-02
	CRISIL Composite AA Medium Term Bond Index	7.79%	9.96%	10.36%	10.09%	9.38%	31-Mar-02
	CRISIL Composite AA Short Term Bond Index	7.39%	8.91%	9.40%	9.81%	9.18%	31-Mar-02
Credit (A)	CRISIL A Medium to Long Term Bond Index	8.70%	10.11%	10.89%	11.27%	11.05%	31-Mar-02
	CRISIL A Short Term Bond Index	2.89%	8.66%	10.11%	10.45%	10.17%	31-Mar-02
Credit (Banking & PSU)	CRISIL Medium to Long Term Banking Debt Index	9.48%	9.75%	9.93%	9.59%	8.66%	31-Mar-02
	CRISIL Medium to Long Term PSU Debt Index	5.82%	8.57%	9.19%	9.53%	8.76%	31-Mar-02
	CRISIL Short Term Banking Debt Index	9.07%	8.98%	9.18%	9.30%	8.77%	31-Mar-02
	CRISIL Short Term PSU Debt Index	6.70%	7.98%	8.57%	8.92%	8.31%	31-Mar-02
Composite	CRISIL Liquid Fund Index	6.84%	7.34%	8.09%	7.57%	6.81%	31-Mar-02
	CRISIL Ultra Short Term Debt Index	7.04%	7.64%	8.32%	8.13%	8.01%	01-Jan-97
	CRISIL Low Duration Debt Index	6.78%	8.08%	8.67%	7.65%	7.89%	01-Jan-97
	CRISIL Money Market Index	6.92%	7.49%	8.14%	7.80%	8.07%	01-Jan-95
	CRISIL Short Term Bond Fund Index	6.17%	7.91%	8.56%	8.09%	7.23%	31-Mar-02
	CRISIL Medium Term Debt Index	6.63%	8.69%	9.28%	9.25%	8.39%	01-Oct-04
	CRISIL Medium To Long Term Debt Index	5.21%	8.30%	8.70%	8.87%	10.91%	01-Jan-97
	CRISIL Long Term Debt Index	5.29%	8.33%	8.79%	9.00%	8.15%	01-Oct-04
	CRISIL Composite Bond Fund Index	5.11%	8.12%	8.61%	7.77%	7.03%	31-Mar-02
	CRISIL Dynamic Debt Index	5.12%	8.05%	8.63%	8.85%	8.19%	31-Mar-02
	CRISIL Long Term Corporate Bond Index	7.04%	9.09%	9.54%	9.85%	8.86%	31-Mar-02
	CRISIL Medium Term Corporate Bond Index	6.72%	8.78%	9.43%	9.46%	8.64%	31-Mar-02

Index category	Index	1-year	3-year	5-year	10-year	Since inception	Inception date
Composite	CRISIL Short Term Corporate Bond Index	7.06%	8.40%	8.87%	9.13%	8.34%	31-Mar-02
	CRISIL Corporate Bond Composite Index	6.92%	8.82%	9.27%	9.64%	8.72%	31-Mar-02
	CRISIL Short Term Credit Risk Index	6.57%	8.78%	9.55%	9.74%	9.00%	31-Mar-02
	CRISIL Composite Credit Risk Index	7.60%	9.69%	10.17%	10.18%	9.33%	31-Mar-02
	CRISIL Banking and PSU Debt Index	7.15%	8.42%	8.99%	9.01%	8.32%	31-Mar-02

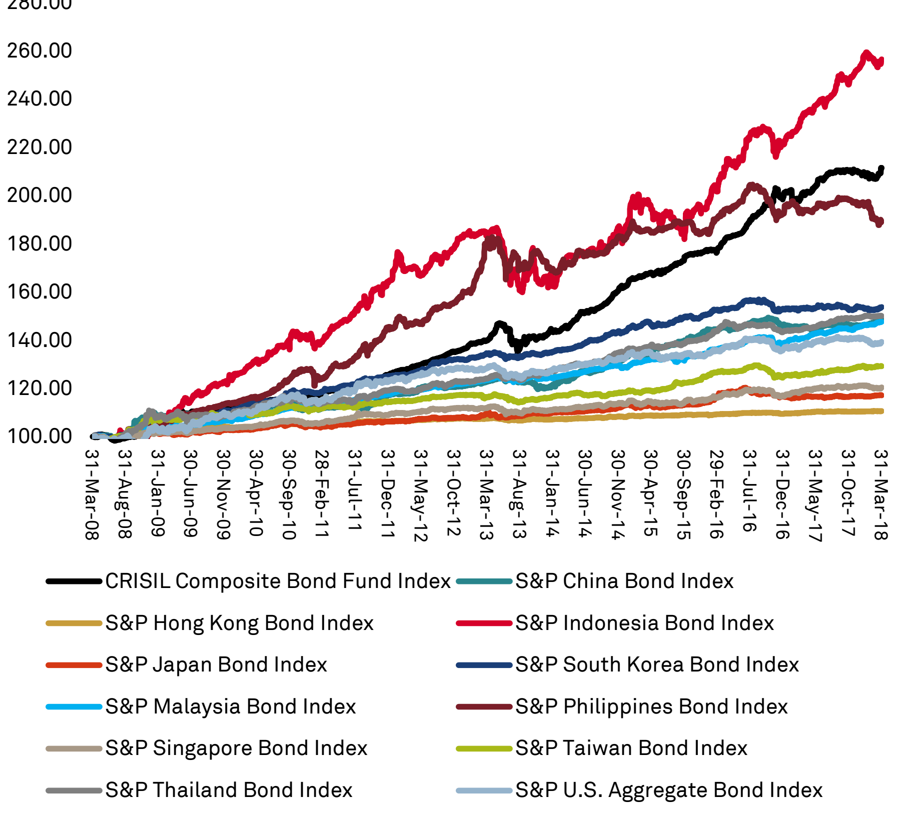
Source: CRISIL Research, Data as on March 31, 2018

CRISIL Short Term Gilt Index has outperformed its longer duration counterparts in the past year amid a hardening scenario, with a return of 5.79%.

Credit indices clocked 2.89-9.76% returns in fiscal 2018, with CRISIL Composite AA Long Term Bond Index giving 9.76% returns compared with an average of 7.04% by all other credit indices.

CRISIL A Medium to Long Term Bond Index has outperformed all other indices in the past 10 years, with a whopping annualised return of 11.27%.

...Compared with US and Asia composite bond indices

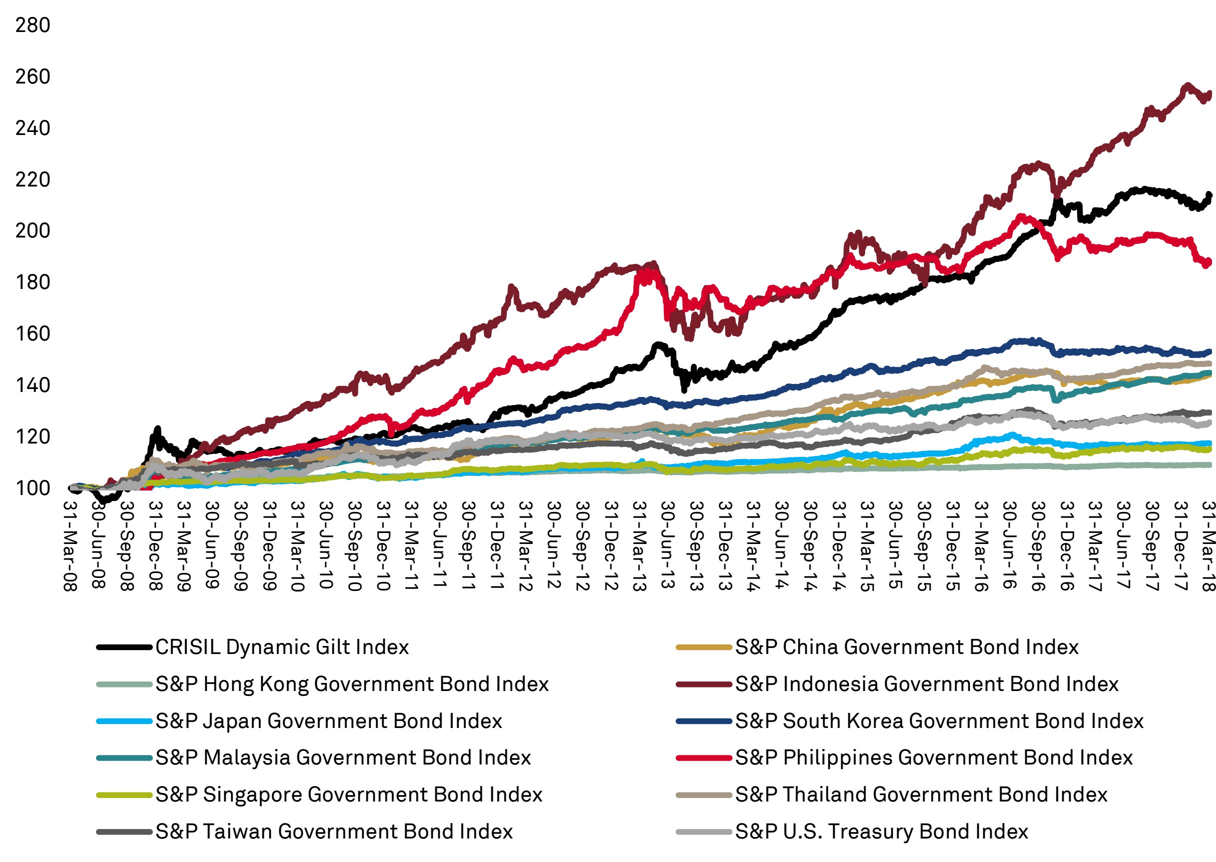


Source: CRISIL Research and S&P Global

CRISIL Composite Bond Fund Index has shown rapid growth in the past 10 years. The index surpassed the S&P Philippines Bond Index in mid-July, 2016, and has soared closer to the S&P Indonesia Bond Index, the only other Asian Composite Bond Index to have consistently outperformed it.

CRISIL Dynamic Gilt Index is among the three Asian government bond indices that have logged rapid growth in an otherwise stagnant index pool, though it has come off a notch post mid-July 2017, due to increasing yields on government securities. The only other Asian government bond index to have outperformed it most of the times is the S&P Indonesia Government Bond Index.

...Compared with US and Asia government bond indices



Source: CRISIL Research and S&P website

Debt-oriented funds still hog lion's share of industry assets

AUM of debt-oriented funds – including debt, infrastructure debt, liquid, and gilt funds – logged a CAGR of 13.74% in the decade through March 31, 2018, to close at Rs 11.35 trillion, riding on mark-to-market gains and inflows.

The category continues to dominate with 53% of the industry asset pie. However, its share has reduced from 62% a decade ago as equity-oriented peers have found favour.

Investor interest has waxed and waned based on movement in the underlying interest rate. For instance, the category saw a spurt in inflows in fiscal 2017 as interest rates trended down. But in fiscal 2018, a sharp spike in yields resulted in negative flows.

Assets of liquid funds, which account for nearly 30% of all debt fund assets, grew 3.75 times in the past decade, while those of gilt funds, which are only 1% of total debt fund assets, grew four times.

Month-end assets (Rs billion)	Mar-09	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18
Debt funds	1973	3117	2920	2908	3960	4607	5158	5655	7438	7856
Infrastructure debt funds	-	-	-	-	-	9	12	17	19	25
Liquid/ money market funds	906	781	737	804	934	1333	1626	1994	3141	3355
Gilt funds	64	34	34	37	81	61	146	163	149	114
Total debt-oriented funds	2944	3932	3691	3749	4975	6009	6941	7829	10747	11350

Source: AMFI

Net flows (Rs billion)	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Debt funds	-322	966	-367	-185	830	405	49	147	1206	-59
Infrastructure debt funds	-	-	-	-	-	9	2	4	-	3
Liquid/ money market funds	-36	-121	-35	-71	32	241	98	171	958	-29
Gilt funds	36	-33	-1	-	40	-19	77	8	-33	-33
Total debt-oriented funds	-322	812	-403	-257	902	636	226	330	2132	-117

Source: AMFI

Performance

Credit opportunities funds, which aim to generate higher yields from lower credit rating spectrum, have managed to generate bigger returns compared with other debt-oriented funds in the three years ended March 2018.

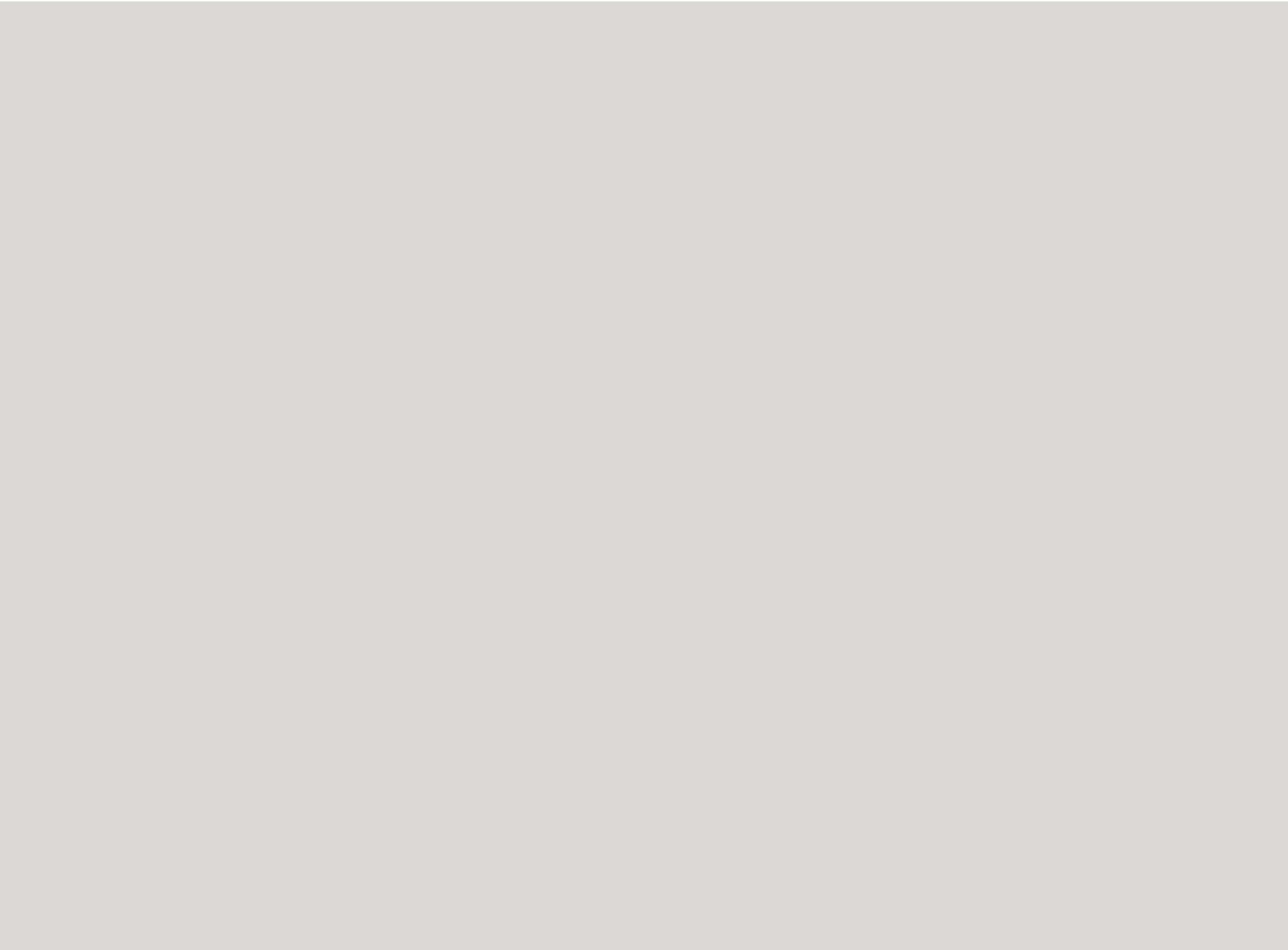
Long-tenure funds, such as income and gilt funds, have done well in easing interest rate scenarios as they benefit by taking duration calls. For instance, in the phase of declining yields during 2014 to 2016, gilts and income funds generated higher returns compared with short-tenure funds. However, in rising interest rate phases, short-tenure funds have outperformed their long-tenure peers.

	Percentage					
Category	**1 year**	**2 years**	**3 years**	**5 years**	**7 years**	**10 years**
Credit opportunities funds*	7.06	8.71	8.41	NA	NA	NA
CRISIL – AMFI Gilt Fund Performance Index	3.73	8.20	7.39	8.21	8.21	7.72
CRISIL – AMFI Income Fund Performance Index	4.21	7.59	6.89	7.67	8.26	8.16
CRISIL – AMFI Short Term Debt Fund Performance Index	6.13	7.70	7.80	8.40	8.75	8.20
CRISIL – AMFI Ultra Short Fund Performance Index	6.81	7.62	7.87	8.42	8.60	7.99
CRISIL – AMFI Liquid Fund Performance Index	6.67	6.96	7.37	8.08	8.32	7.69

**Based on asset-weighted returns of CRISIL-ranked credit opportunities funds*
Returns as on March 28, 2018
Returns for periods over one year are annualised, otherwise absolute

Market phase analysis	**Flat or high interest rate Apr 2004 -Jul 2008**	**Sharp correction in yields Jul 2008-Dec 2008^**	**Flat or high interest rate Dec 2008- Sep 2014**	**Declining yields Oct 2014- Jun 2016**	**Recent increase in yields Jun 2016-Mar 2018#**
Category	**%**	**%**	**%**	**%**	**%**
Credit opportunities funds*	NA	NA	NA	10.39	6.68
CRISIL – AMFI Gilt Fund Performance Index	3.25	25.71	3.48	15.50	0.65
CRISIL – AMFI Income Fund Performance Index	4.20	19.18	5.73	13.29	1.43
CRISIL – AMFI Liquid Fund Performance Index	6.42	3.79	7.59	8.13	6.69
CRISIL – AMFI Short Term Debt Fund Performance Index	6.42	5.13	7.90	10.21	5.43
CRISIL – AMFI Ultra Short Fund Performance Index	NA	3.91	7.80	8.91	6.70

**Based on asset-weighted returns of CRISIL-ranked credit opportunity funds*
^Absolute returns; returns for market phase of more than one year is annualised
#Data till March 28, 2018
Categories consist of CRISIL-ranked funds



Annexure

Corporate bonds

Outstanding amount of various fixed-income securities

Type of security	Amount outstanding as on March 31, 2018 (Rs crore)
Corporate bonds	2,742,259
Government securities	5,323,091
SDLs	2,430,333
T-bills	385,283
CDs	185,732
CPs	372,577
Total	11,439,276

Source: RBI, SEBI, CCIL

Primary issuances

Private placements							Mobilised amount through public placements (Rs crore)	Ratio of publicly mobilised amount to privately mobilised amount (%)	Total amount mobilised as percentage of GDP
Fiscal year	Number of issuers	Number of deals	Number of Instruments	Mobilised amount (Rs crore)	Growth in amount mobilised (%)	Amount mobilised as percentage of GDP			
FY09	167	799	874	174,327	51	3.1	1,500	1	3.1
FY10	192	803	879	189,478	9	2.9	2,500	1	3.0
FY11	182	825	956	192,127	1	2.5	9,451	5	2.6
FY12	164	1327	1939	251,437	31	2.9	35,611	14	3.3
FY13	267	1828	2443	351,848	40	3.5	16,982	5	3.7
FY14	245	1473	3524	270,946	-23	2.4	42,383	16	2.8
FY15	344	1765	5109	432,692	60	3.5	9,713	2	3.5
FY16	589	2682	3791	492,047	14	3.6	33,812	7	3.8
FY17	663	2837	4124	705,174	43	4.6	29,547	4	4.8
FY18	694	2398	3625	655,799	-7	3.9	4,953	1	3.94

Source: SEBI, RBI, Prime Database

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

Summary of sector-wise issuances (number of issuances)											
Sector		FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
	Agriculture & allied activities	-	-	-	1	1	-	1	6	11	7
	Industry	95	109	119	72	157	141	150	255	350	335
Top 5	Banking/term lending	146	199	175	199	247	122	158	149	158	150
	Financial services	522	446	491	1,019	1,328	1,133	1,311	1,764	1,523	1,259
	Housing/ civil construction/ real estate	14	21	22	13	60	51	107	423	322	270
	Power generation & supply	21	25	24	23	28	41	38	75	114	149
	Housing finance	-	-	-	-	-	-	-	-	382	271
	Services	704	694	706	1,254	1,670	1,332	1,614	2,421	2,476	2,029
Of which	Financial services	522	446	491	1,019	1,328	1,133	1,311	1,764	1,523	1,259
	Banking/term lending	146	199	175	199	247	122	158	149	158	150
Total		**703**	**691**	**712**	**1,254**	**1,663**	**1,347**	**1,614**	**2,411**	**2,499**	**2,099**

Source: Prime Database, CRISIL Research

Summary of sector-wise issuances (Rs crore)											
		FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
	Agriculture & allied activities	-	-	-	250	400	-	275	250	347	438
	Industry	41,614	44,789	47,421	43,425	78,993	63,971	75,322	110,894	174,046	136,612
Top 5	Banking/term lending	91,916	93,778	92,029	129,161	139,084	98,489	175,706	139,583	202,221	194,754
	Financial services	31,335	39,271	44,384	64,682	105,662	95,300	144,062	178,899	148,175	149,610
	Housing/ civil construction/ real estate	2,430	3,723	3,855	2,223	9,805	7,057	16,271	28,665	30,967	26,409
	Power generation & supply	12,671	16,474	19,025	23,615	21,408	20,942	35,312	58,499	75,400	49,814
	Housing finance	-	-	-	-	-	-	-	-	114,743	121,817
	Services	132,713	144,688	144,706	207,762	272,455	206,975	357,094	380,693	530,781	515,453
Of which	Financial services	31,335	39,271	44,384	64,682	105,662	95,300	144,062	178,899	148,175	149,610
	Banking/term lending	91,916	93,778	92,029	129,161	139,084	98,489	175,706	139,583	202,221	194,754
Total		**174,327**	**189,478**	**192,127**	**251,437**	**351,848**	**270,946**	**432,692**	**491,837**	**705,174**	**655,799**

Source: Prime Database, CRISIL Research

Detailed sector-wise break-up of primary issuances										
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
State financial institutions	254	1337.21	1,425	1,575	5394.04	1,482	883	0	275	250
Public sector undertakings	11,814	22,450	12,850	27,176	39,851	31,784	31,769	32,551	69,816	44,972
State-level undertakings	4,738	2084.59	1981.35	4,184	8,584	3,686	5,757	23,848	20,489	10,189
Banks	38,596	38,679	19,481	14,974	24,495	14,388	47,881	44,676	88,035	56,227
NBFCs	18,655	18,768	15,333	28,854	46,942	39,754	68,009	96,751	142,394	148,055
Housing finance companies	12,719	16,805	29,801	36,367	57,850	55,106	73,938	80,987	109,803	120,070
Financial institutions and others	53,016	52,817	69,656	111,363	108,409	81,454	125,522	92,222	114,502	140,470
Private – non-financial sector	34,533	36,672	41,599	26,946	60,323	43,291	78,932	121,012	159,860	135,566
Total	**174,327**	**189,613**	**192,127**	**251,437**	**351,848**	**270,946**	**432,692**	**492,047**	**705,174**	**655,799**

Source: Prime Database, CRISIL Research

Issuances by size, amount raised and rating category

Number of issues										
Issue size	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Rs 10 crore & below	172	158	192	375	496	477	394	575	566	678
Rs 10-25 crore	140	95	102	297	290	218	256	507	447	258
Rs 25-50 crore	129	98	93	166	235	184	238	427	376	264
Rs 50-100 crore	38	54	45	58	134	108	139	407	363	284
Rs 100 crore & above	320	398	393	431	673	486	738	766	1085	914
Total	**799**	**803**	**825**	**1327**	**1828**	**1473**	**1765**	**2682**	**2837**	**2398**

Source: Prime Database, CRISIL Research

Amount raised (Rs crore)										
Issue size	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Rs 10 crore & below	1,162	904	1,197	2,408	2,109	2,160	1,936	3,017	2,851	2,086
Rs 10-25 crore	2,722	1,904	2,171	5,415	5,613	4,251	4,689	9,957	8,702	4,885
Rs 25-50 crore	5,629	4,366	4,268	6,572	9,729	7,609	9,806	16,779	15,634	10,984
Rs 50-100 crore	2,650	3,918	3,330	4,183	9,292	7,594	9,892	33,632	30,155	23,967
Rs 100 crore & above	162,164	178,386	181,161	232,859	325,105	249,333	406,369	428,662	647,832	613,876
Total	**174,327**	**189,478**	**192,127**	**251,437**	**351,848**	**270,946**	**432,692**	**492,047**	**705,174**	**655,799**

Source: Prime Database, CRISIL Research

Private sector versus non-private sector issuers

	Amount garnered (Rs crore)									
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Non-private sector	119,693	134,300	132,088	193,303	238,111	181,343	272,372	255,665	376,524	342,134
Private sector	54,634	55,178	60,039	58,134	113,737	89,603	160,319	236,382	328,651	313,665
Total	**174,327**	**189,478**	**192,127**	**251,437**	**351,848**	**270,946**	**432,692**	**492,047**	**705,174**	**655,799**
Percentage of private sector	31	29	31	23	32	33	37	48	47	48

Source: Prime Database

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

	Number of issues									
Rating category	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
AAA equivalent	371	297	318	375	566	391	585	717	716	542
AA+ equivalent	176	279	226	574	536	520	451	433	481	385
AA equivalent	136	84	87	151	222	207	330	397	637	528
AA- equivalent	29	54	80	131	320	190	72	92	113	111
A+ equivalent	16	38	53	23	31	29	57	105	112	43
A equivalent	10	19	16	21	67	38	46	64	57	41
A- equivalent	3	6	5	12	20	7	65	46	46	22
BBB+ equivalent	9	5	2	4	5	17	41	34	32	32
BBB equivalent	3	-	5	1	8	12	30	47	43	20
BBB- equivalent	-	1	3	3	6	21	26	31	55	48
BB+ equivalent	-	-	1	-	3	12	19	27	20	10
BB equivalent	-	2	-	2	2	3	17	24	24	25
BB- equivalent	-	-	1	-	7	10	12	41	27	8
B+ equivalent	-	-	-	-	2	8	3	13	7	4
B equivalent	-	-	-	-	2	1	6	7	10	6
B- equivalent	-	-	-	-	-	1	1	5	5	5
C equivalent	-	-	-	1	4	4	1	1	1	2
D equivalent	-	-	-	-	-	-	-	-	1	1
A1+ equivalent	38	-	-	-	-	-	-	3	-	-
A1 equivalent	1	-	-	-	-	-	-	-	-	-
Not rated	7	18	28	29	28	2	5	597	451	496
Total	**799**	**803**	**825**	**1,327**	**1,829***	**1,473 ***	**1,767**	**2,684**	**2,838**	**2,329**

**Note: The rating-wise issuances are 1,829, whereas total issuances are 1,828 during the year*
Source: Prime Database

Amount (Rs crore)										
Rating category	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
AAA equivalent	122,856	131,208	132,075	189,447	226,311	189,396	280,348	275,798	396,964	396,201
AA+ equivalent	21,349	19,758	18,775	28,054	54,742	36,917	60,466	54,366	94,038	105,122
AA equivalent	16,393	14,285	10,851	12,587	25,351	15,360	24,345	29,975	86,471	51,089
AA- equivalent	3,235	5,023	13,856	6,237	16,946	9,404	26,707	29,163	19,536	27,910
A+ equivalent	3,171	8,911	8,178	2,167	3,735	5,880	12,637	13,766	24,395	21,045
A equivalent	1,131	4,498	5,844	6,175	12,015	5,207	7,826	9,284	6,544	8,595
A- equivalent	200	2,168	890	3,414	2,536	2,243	5,357	3,986	4,912	2,800
BBB+ equivalent	1,485	705	150	918	208	453	2,859	1,252	1,769	3,449
BBB equivalent	987	-	507	32	884	1,104	1,481	3,273	1,838	2,622
BBB- equivalent	-	83	445	323	518	2,501	2,566	2,992	4,785	3,088
BB+ equivalent	-	-	250	-	192	450	2,367	2,673	1,466	1,194
BB equivalent	-	275	-	495	95	98	2,963	2,142	2,957	2,010
BB- equivalent	-	-	84	-	2,935	791	988	870	1,906	244
B+ equivalent	-	-	-	-	198	444	98	412	462	154
B equivalent	-	-	-	-	155	6	805	560	425	708
B- equivalent	-	-	-	-	-	17	25	922	254	676
C equivalent	-	-	-	53	477	571	142	8	45	79
D equivalent	-	-	-	-	-	-	-	-	228	59
A1+ equivalent	1,368	-	-	-	-	-	-	252	-	-
A1 equivalent	25	-	-	-	-	-	-	-	-	-
Not rated	2,127	2,564	222	1,535	4,977	103	714	60,379	56,179	28,753
Total	**174,327**	**189,478**	**192,127**	**251,437**	**352272.25#**	**270,946**	**432,692**	**492,072**	**705,174**	**655,799**

#Rating-wise issuances total up to Rs 352,272 crore, whereas total issuances are Rs 351,848 crore during the year
Source: Prime Database

Issuances by maturity

Number of instruments										
Maturities	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Up to 3	317	335	466	1096	1203	2609	3805	1180	1196	937
3-5	190	160	195	228	505	472	744	1557	1688	1494
5-10	151	172	178	386	577	354	454	625	771	721
>10	59	76	117	229	158	81	106	429	469	473
N.A.	157	136	-	-	-	-	-	-	-	-
Total	**874**	**879**	**956**	**1939**	**2443**	**3516**	**5109**	**3791**	**4124**	**3625**

N A: Not available
Source: Prime Database

Interest rates and sovereign yields for the last 10 years

Fiscal year	Weighted average repo rate* (%)	Sovereign yield^ (%)	Difference (%)
FY09	5.00	7.13	2.13
FY10	5.00	7.98	2.98
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

*As of March-end
^ 10-year benchmark G-sec annualised yield as of March-end
Source: RBI, CRISIL Research

Rating-wise spreads

	Rating-wise spreads^ (%)			
Fiscal year	AAA	AA+	AA	AA-
FY09	2.02	2.69	3.06	3.55
FY10	0.86	1.06	1.44	1.84
FY11	0.94	1.09	1.50	1.90
FY12	0.69	0.84	1.36	1.76
FY13	0.61	0.94	1.42	1.82
FY14	0.30	0.63	1.11	1.51
FY15	0.27	0.61	1.09	1.49
FY16	0.66	1.00	1.48	1.88
FY17	0.74	1.08	1.56	1.96
FY18	0.46	0.80	1.21	1.69

^Average spread over 10-year benchmark G-sec yield as of March-end
Source: CRISIL Research

Top 10 issuers in the last 10 years*

Issuer	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Power Finance Corp Ltd	12,809	12,289	13,756	28,605	30,277	24,698	46,920	23,587	41,115	32,459
Housing Development Finance Corp Ltd	5,250	6,800	13,865	20,895	33,180	24,269	29,170	22,276	44,546	42,250
Rural Electrification Corp Ltd	11,367	14,254	13,227	22,862	21,782	24,253	34,538	22,303	26,260	39,653
LIC Housing Finance Ltd	4,485	7,365	11,373	10,420	15,656	20,850	24,791	26,412	26,874	28,777
National Bank for Agriculture & Rural Development	4,879	-	8,020	17,914	17,414	-	9,850	14,730	20,371	35,291
National Highways Authority of India	1,552	610	907	2,512	2,902	4,244	3,343	9,981	33,118	27,532
IDFC Bank Ltd	3,136	8,172	11,457	10,458	11,329	7,398	15,114	7,042	480	-
Indiabulls Housing Finance Ltd	-	-	-	375	1,732	3,273	7,443	9,857	13,566	21,174
Power Grid Corp of India Ltd	3,698	5,478	6,368	9,698	8,830	9,091	10,887	7,326	13,481	9,130
Indian Railway Finance Corp Ltd	5,971	5,591	5,990	5,116	2,214	3,000	2,625	5,218	14,920	15,166

*Based on aggregate issuances in last 10 years
Note: IDFC Ltd changed to IDFC Bank Ltd.
Source: Prime Database

Average daily trading

Fiscal year	Average daily trading (Rs crore)
FY09	630
FY10	1,613
FY11	2,437
FY12	2,476
FY13	3,047
FY14	4,025
FY15	4,584
FY16	4,171
FY17	5,520
FY18	6,907

Source: FIMMDA

Residual maturity (years)	FY09		FY10		FY11		FY12		FY13		FY14		FY15		FY16		FY17		FY18	
	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	Rs crore	% of total	Rs crore	% of total	Rs crore	% of total
Up to 3	41,877	28.54	2,24,664	58.54	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	8,14,826	48.95
(03-05)	29,467	20.08	53,962	14.06	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	3,30,483	19.85
(05-10)	59,761	40.72	77,943	20.31	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	3,25,472	19.55
>10	15,639	10.66	27,231	7.10	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	1,93,746	11.64
Total	1,46,744	100.00	3,83,801	100.00	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	16,64,527	100.00

NA: Not available
Source: FIMMDA, NSE, BSE

Certificate of deposit

Average daily trading

Financial year	Certificates of deposit (Rs crore)
FY11*	8,459
FY12	8,467
FY13	7,410
FY14	6,919
FY15	6,590
FY16	5,269
FY17	4,058
FY18	3,643

*From August 2010
Source: FIMMDA

Maturity-wise annual trading

	Amount (Rs crore)							
Maturity buckets	FY11*	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Up to 91 days	1,000,007	1,530,341	1,254,390	1,183,495	1,256,828	1,044,387	701,507	703,404
91-182 days	186,812	182,189	185,702	109,702	108,142	70,114	102,260	72,500
182-365 days	166,320	283,821	353,011	388,186	183,585	154,987	174,290	101,940
More than 365 days	360	1,816	-	-	50	438	-	-
Total	**1,353,498**	**1,998,165**	**1,793,102**	**1,681,383**	**1,548,605**	**1,269,925**	**978,057**	**877,843**

*From August 2010
Source: FIMMDA

Commercial paper

Average daily trading

Fiscal year	Commercial paper (Rs crore)
FY11*	1,360
FY12	2,181
FY13	2,417
FY14	2,285
FY15	3,094
FY16	3,732
FY17	4,749
FY18	5,350

*From August 2010
Source: FIMMDA

Maturity-wise annual trading

	Amount (Rs crore)							
Maturity buckets	FY11*	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Up to 91 days	186,200	469,050	535,065	509,450	677,419	826,637	1,061,121	1,204,378
91-182 days	15,061	22,625	24,789	19,025	26,837	34,255	39,431	58,659
182-365 days	13,502	23,015	24,918	24,495	22,614	38,473	43,936	26,220
Total	**214,763**	**514,690**	**584,772**	**552,970**	**726,870**	**899,366**	**1,144,488**	**1,289,256**

*From August 2010
Source: FIMMDA

G-secs

Primary issuances

Central G-secs				
Year	Issuance amount (Rs crore)	Amount issued as a percentage of GDP	Range (%)	Weighted average yield (%)
FY09	261,000	4.6	7.69 - 8.81	7.69
FY10	418,000	6.5	6.07 - 8.43	7.23
FY11	437,000	5.6	5.98 - 8.67	7.92
FY12	510,000	5.8	7.80 - 10.01	8.52
FY13	558,000	5.6	7.86 - 8.82	8.36
FY14	563,500	5.0	7.16 - 9.40	8.45
FY15	592,000	4.7	7.65 - 9.42	8.51
FY16	585,000	4.3	7.54 - 8.27	7.89
FY17	582,000	3.8	6.13 - 7.87	7.16
FY18	588,000	3.5	6.18 - 7.96	6.98

Source: RBI, CRISIL Research

Size-wise amount issued

	Amount (Rs crore)									
Issue size	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Up to Rs 5,000 crore	118,000	290,000	419,000	333,000	298,000	326,500	335,000	319,000	309,000	275,000
More than Rs 5,000 crore	143,000	128,000	18,000	177,000	260,000	237,000	257,000	266,000	273,000	313,000
Total	261,000	418,000	437,000	510,000	558,000	563,500	592,000	585,000	582,000	588,000
Percentage of issuances up to Rs 5,000 crore	45	69	96	65	53	58	57	55	53	47

Source: RBI, CRISIL Research

Maturity-wise amount issued

	Amount (Rs crore)									
Maturity (years)	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Up to 3	-	5,000	11,000	-	-	2,000	-	-	-	-
3-5	15,000	58,000	56,000	18,000	50,000	9,000	-	-	18,000	9,000
5-10	143,000	169,000	161,000	245,000	189,000	244,500	242,000	217,000	230,000	281,000
10-20	32,000	130,000	153,000	177,000	241,000	213,000	240,000	255,000	245,000	212,000
20-30	71,000	56,000	56,000	70,000	75,000	95,000	110,000	104,000	59,000	33,000
> 30	-	-	-	-	3,000	-	-	9,000	30,000	53,000
Total	**261,000**	**418,000**	**437,000**	**510,000**	**558,000**	**563,500**	**592,000**	**585,000**	**582,000**	**588,000**

Source: RBI, CRISIL Research

	Maturity-wise issuance as a percentage of total									
Maturity (years)	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Up to 3	0.00	1.20	2.52	0.00	0.00	0.35	0.00	0.00	0.00	0.00
3-5	5.75	13.88	12.81	3.53	8.96	1.60	0.00	0.00	3.09	1.53
5-10	54.79	40.43	36.84	48.04	33.87	43.39	40.88	37.09	39.52	47.79
10-20	12.26	31.10	35.01	34.71	43.19	37.80	40.54	43.59	42.10	36.05
20-30	27.20	13.40	12.81	13.73	13.44	16.86	18.58	17.78	10.14	5.61
> 30	0.00	0.00	0.00	0.00	0.54	0.00	0.00	1.54	5.15	9.01
Total	**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

Financial Year	Average daily trading (Rs crore)
FY09	8,254
FY10	10,353
FY11	10,238
FY12	12,973
FY13	24,462
FY14	32,710
FY15	38,645
FY16	35,560
FY17	62,973
FY18	40,739

Source: CCIL

Maturity-wise annual trading

	Amount (Rs crore)									
Residual maturity (years)	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Up to 3	189,193	241,551	113,212	36,798	31,955	87,110	98,347	227,214	514,374	362,858
3-5	51,424	218,251	210,690	39,235	284,693	506,321	159,076	1,041,060	1,175,152	449,168
5-10	1,179,318	1,423,186	1,158,779	1,937,553	2,522,769	4,012,652	5,849,135	4,791,877	7,586,440	5,117,163
> 10	503,175	529,168	1,035,778	1,087,067	3,080,326	3,342,498	3,052,312	2,509,720	5,900,512	3,888,795
Total	**1,923,110**	**2,412,156**	**2,518,459**	**3,100,652**	**5,919,743**	**7,948,581**	**9,158,870**	**8,569,870**	**5,176,478**	**9,817,984**

Source: CCIL

State development loans

Primary issuances

State government securities				
Year	Issuance amount (Rs crore)	Amount issued as a percentage of GDP	Range at which coupon placed (%)	Weighted average yield (%)
FY09	111,396	2.0	5.80 - 9.90	7.87
FY10	131,121	2.0	7.04 - 8.58	8.11
FY11	104,039	1.3	8.05 - 8.58	8.39
FY12	158,632	1.8	8.36 - 9.49	8.79
FY13	177,279	1.8	8.42 - 9.31	8.84
FY14	196,664	1.8	7.57 - 9.94	9.18
FY15	240,842	1.9	8.00 - 9.66	8.58
FY16	294,560	2.1	7.95 - 8.88	8.28
FY17	381,979	3.1	6.62 - 8.09	7.48
FY18	419,100	2.5	6.81 - 8.45	7.59

Source: RBI (FY10-18), CRISIL Research (FY09)

State-wise break-up of amount issued

	Amount (Rs crore)									
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Andhra Pradesh	10,934	15,383	12,000	15,500	20,000	22,412	18,000	18,050	19,500	22,800
Arunachal Pradesh	26	79	-	33	170	230	306	130	453	888
Assam	2,506	1,910	800	-	300	-	2,950	3,150	3,090	7,760
Bihar	3,397	3,000	2,600	4,000	7,100	6,500	8,100	11,500	17,700	10,000
Chhattisgarh	-	700	-	-	1,500	3,000	4,200	4,850	4,200	8,100
Goa	500	600	300	550	850	990	800	1,450	1,320	1,800
Gujarat	8,534	9,000	11,500	16,500	15,546	15,493	14,920	16,260	24,720	24,000
Haryana	2,795	4,000	4,450	6,357	9,330	11,446	13,200	14,100	15,800	16,640
Himachal Pradesh	1,912	1,420	645	1,325	2,360	2,367	2,345	2,450	3,400	4,600
Jammu & Kashmir	1,757	1,609	2,808	2,975	2,150	2,080	1,400	2,250	2,790	6,200
Jharkhand	1,485	1,844	500	1,254	3,600	2,950	4,950	5,350	5,154	6,000
Karnataka	5,917	6,000	2,000	7,500	10,760	14,997	18,500	16,188	28,007	22,098
Kerala	5,516	5,456	5,500	8,880	11,583	12,800	13,200	15,000	17,300	20,500
Madhya Pradesh	4,495	5,821	3,900	4,000	4,500	5,000	10,300	14,700	16,100	15,000
Maharashtra	13,762	15,500	11,500	21,000	17,500	23,600	25,083	32,500	40,000	45,000

Amount (Rs crore)										
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Manipur	303	503	258	150	275	350	463	600	630	525
Meghalaya	260	274	190	310	385	340	545	680	1,001	1,116
Mizoram	157	155	267	300	186	260	230	200	170	424
Nagaland	467	577	355	505	655	535	600	950	1,070	1,135
Odisha	-	-	-	-	-	-	3,000	4,473	7,620	8,438
Punjab	5,061	4,985	4,928	8,200	9,700	9,000	8,950	10,800	13,600	17,470
Rajasthan	5,863	7,500	6,180	4,500	8,041	8,800	12,300	15,800	16,054	24,914
Sikkim	293	328	-	40	94	215	330	580	744	995
Tamil Nadu	8,848	12,599	9,981	14,500	17,997	20,749	25,550	29,775	37,250	40,965
Tripura	156	350	285	300	645	550	150	575	990	1,137
Puducherry	350	500	600	533	302	500	470	450	525	825
Uttar Pradesh	12,693	13,877	12,000	15,830	9,500	8,000	17,500	30,000	41,050	41,600
Uttarakhand	1,011	600	992	1,400	1,750	2,500	2,400	3,900	5,450	6,660
West Bengal	12,398	16,552	9,500	22,191	20,500	21,000	21,900	24,000	34,431	36,911
Telangana	-	-	-	-	-	-	8,200	13,850	21,861	24,600
Total	111,396	131,121	104,039	158,632	177,279	196,664	240,842	294,560	381,979	419,100

Source: RBI (FY10-18), CRISIL Research (FY09)

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

Number of issues										
Issue size	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Up to Rs 500 crore	65	69	65	88	82	111	107	99	116	147
More than Rs 500 crore up to Rs 1,000 crore	41	48	64	58	92	83	96	85	79	124
Above Rs 1,000 crore	35	42	18	50	48	59	80	114	152	140
Total	**141**	**159**	**147**	**196**	**222**	**253**	**283**	**298**	**347**	**411**

Source: RBI (FY10-18), CRISIL Research (FY09)

Issue size	Amount (Rs crore)									
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Up to Rs 500 crore	14,075	21,026	20,026	25,163	23,371	33,271	28,689	28,088	32,309	47,672
More than Rs 500 crore up to Rs 1,000 crore	35,074	41,605	57,023	52,523	78,237	73,277	87,425	77,450	72,662	108,040
Above Rs 1,000 crore	62,247	68,491	26,991	80,946	75,671	90,116	124,728	189,023	277,008	263,387
Total	**111,396**	**131,121**	**104,039**	**158,632**	**177,279**	**196,664**	**240,842**	**294,560**	**381,979**	**419,100**

Source: RBI (FY10-18), CRISIL Research (FY09)

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

Rank		Amount (Rs crore)										
		FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	Total
1	Maharashtra	13,762	15,500	11,500	21,000	17,500	23,600	25,083	32,500	40,000	45,000	245,445
2	West Bengal	12,398	16,552	9,500	22,191	20,500	21,000	21,900	24,000	34,431	36,911	219,382
3	Tamil Nadu	8,848	12,599	9,981	14,500	17,997	20,749	25,550	29,775	37,250	40,965	218,214
4	Uttar Pradesh	12,693	13,877	12,000	15,830	9,500	8,000	17,500	30,000	41,050	41,600	202,050
5	Andhra Pradesh	10,934	15,383	12,000	15,500	20,000	22,412	18,000	18,050	19,500	22,800	174,579
6	Gujarat	8,534	9,000	11,500	16,500	15,546	15,493	14,920	16,260	24,720	24,000	156,473
7	Karnataka	5,917	6,000	2,000	7,500	10,760	14,997	18,500	16,188	28,007	22,098	131,967
8	Kerala	5,516	5,456	5,500	8,880	11,583	12,800	13,200	15,000	17,300	20,500	115,735
9	Rajasthan	5,863	7,500	6,180	4,500	8,041	8,800	12,300	15,800	16,054	24,914	109,952
10	Haryana	2,795	4,000	4,450	6,357	9,330	11,446	13,200	14,100	15,800	16,640	98,117

Source: RBI, CRISIL Research

Aggregate amount issued by top 10 issuers* as a percentage of GSDP

	Amount (Rs crore)									
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Total amount issued by top 10 issuers* (Rs crore)	87,260	105,867	84,611	132,757	140,757	159,297	180,153	211,673	274,111	NA
Total GSDP of top 10 issuer states (Rs crore)	3,663,175	4,236,897	5,095,077	5,993,207	6,847,073	7,761,027	8,585,785	8,657,862	9,712,383	NA
Issued amount as percentage of GSDP	2.4	2.5	1.7	2.2	2.1	2.1	2.1	2.4	2.8	NA

**Based on aggregate amount issued in the last 10 years*
NA: Data not available
Source: MOSPI, RBI, CRISIL Research

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

State	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Maharashtra	1.8	1.8	1.1	1.6	1.2	1.4	1.4	1.6	1.8	NA
West Bengal	3.6	4.1	2.0	4.1	3.3	3.0	2.7	NA	NA	NA
Tamil Nadu	2.2	2.6	1.8	1.9	2.1	2.1	2.4	2.6	2.9	NA
Uttar Pradesh	2.9	2.7	2.0	2.2	1.2	0.9	1.7	2.7	3.3	3.1
Andhra Pradesh	2.6	3.2	2.1	4.1	4.9	4.8	3.4	3.0	2.8	NA
Gujarat	2.3	2.1	2.2	2.7	2.1	1.9	1.6	1.6	2.1	NA
Karnataka	1.9	1.8	0.5	1.2	1.5	1.8	2.0	1.6	2.5	1.7
Kerala	2.7	2.4	2.0	2.4	2.8	2.8	2.6	2.7	2.8	NA
Rajasthan	2.5	2.8	1.8	1.0	1.6	1.6	2.0	2.3	2.1	3.0
Haryana	1.5	1.8	1.7	2.1	2.7	2.9	3.0	2.9	2.9	NA

**Based on aggregate amount issued in the last 10 years*
NA: Data not available
Source: MOSPI, RBI, CRISIL Research

Maturity-wise amount issued

	Amount (Rs crore)									
Maturity (years)	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Up to 5	-	-	-	-	11,906	3,130	7,500	2,300	16,900	14,979
>5-10	111,396	131,121	104,039	158,632	165,372	193,534	233,342	290,260	346,593	311,418
>10	-	-	-	-	-	-	-	2,000	18,486	92,703
Total	**111,396**	**131,121**	**104,039**	**158,632**	**177,279**	**196,664**	**240,842**	**294,560**	**381,979**	**419,100**

Source: RBI (FY10-18), CRISIL Research (FY09)

Average daily trading

	Average traded volume (Rs crore)
FY09	147
FY10	294
FY11	179
FY12	185
FY13	487
FY14	637
FY15	772
FY16	1,320
FY17	2,502
FY18	2,332

Source: CCIL (FY09-18)

Top 10 most actively traded SDLs*

	Amount (Rs crore)
Maharashtra	26,512
Tamil Nadu	23,959
Uttar Pradesh	22,533
Rajasthan	18,452
West Bengal	16,373
Karnataka	15,234
Andhra Pradesh	15,156
Gujarat	15,121
Haryana	10,929
Kerala	10,839

**Based on average annual traded volume for the last 10 years*
Source: CCIL (FY09-18)

Maturity-wise annual trading

	Amount (Rs crore)									
Maturity buckets	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Up to 3	658	2,850	3,253	656	2,345	3,697	5,826	15,429	30,664	55,071
>3-5	198	302	579	321	9,192	6,309	6,569	13,839	55,104	74,641
>5-10	33,246	65,398	36,629	43,237	106,429	144,737	162,133	275,691	463,858	374,887
>10	-	-	-	-	-	-	8,504	13,196	53,416	57,471
Total	**34,103**	**68,549**	**40,462**	**44,214**	**117,966**	**154,743**	**183,032**	**318,154**	**603,042**	**562,070**

Source: CCIL (FY09-18)

Treasury bills

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

Number of issues										
Issuance size	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Rs 100-1,000 crore	4	-	-	-	-	-	-	-	-	-
Rs 1,000-5,000 crore	18	31	28	5	-	-	2	-	-	-
> Rs 5,000 crore	30	22	24	47	52	51	50	51	52	52
Total	**52**	**53**	**52**	**52**	**52**	**51**	**52**	**51**	**52**	**52**

Source: RBI

Issuances amount (Rs crore)										
Issuance size	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Rs 100-1,000 crore	2,623	-	-	-	-	-	-	-	-	-
Rs 1,000-5,000 crore	65,578	141,000	98,765	22,358	-	-	8,753	-	-	-
> Rs 5,000 crore	197,358	160,503	159,218	424,445	542,926	580,088	661,562	686,667	664,567	774,060
Total	**265,559**	**301,503**	**257,983**	**446,804**	**542,926**	**580,088**	**670,315**	**686,667**	**664,567**	**774,060**

Source: RBI

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

Number of issues										
Issuance size	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Rs 100-1,000 crore	4	7	5	0	0	0	0	0	0	0
Rs 1,000-5,000 crore	22	20	21	26	22	5	4	0	2	22
> Rs 5,000 crore	0	0	0	0	4	20	22	25	24	17
Total	**26**	**27**	**26**	**26**	**26**	**25**	**26**	**25**	**26**	**39**

Source: RBI

Issuances amount (Rs crore)										
Issuance size	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Rs 100-1,000 crore	2,175	5,875	5,000	-	-	-	-	-	-	-
Rs 1,000-5,000 crore	42,128	37,000	38,301	93,601	109,192	19,000	16,639	-	9,005	60,771
> Rs 5,000 crore	-	-	-	-	20,242	118,520	130,971	162,189	165,030	124,646
Total	**44,303**	**42,875**	**43,301**	**93,601**	**129,434**	**137,520**	**147,610**	**162,189**	**174,035**	**185,417**

Source: RBI

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

Number of issues										
Issuance size	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Rs 100-1,000 crore	5	14	10	0	0	0	0	0	0	0
Rs 1,000-5,000 crore	21	12	16	26	16	5	2	1	8	25
> Rs 5,000 crore	0	0	0	0	10	21	24	25	18	14
Total	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**39**

Source: RBI

Issuances amount (Rs crore)										
Issuance size	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Rs 100-1,000 crore	5,000	14,000	10,000	-	-	-	-	-	-	-
Rs 1,000-5,000 crore	49,550	27,497	32,481	90,382	80,000	20,903	8,079	5,000	33,004	66,001
> Rs 5,000 crore	-	-	-	-	50,471	116,054	141,122	149,033	109,522	93,684
Total	**54,550**	**41,497**	**42,481**	**90,382**	**130,471**	**136,956**	**149,201**	**154,033**	**142,526**	**159,685**

Source: RBI

Average daily trading

Amount (Rs crore)										
	FY09	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
91-day T-bills	404	941	592	650	1,250	1,432	1,673	1,891	1,824	1,370
182-day T-bills	242	538	376	435	567	808	975	1,067	1,343	1,206
364-day T-bills	178	218	259	389	587	868	839	642	693	497
Total	**825**	**1,697**	**1,227**	**1,473**	**2,405**	**3,108**	**3,487**	**3,600**	**3,860**	**3,073**

Source: CCIL (FY09-18)

External commercial borrowings/ foreign currency convertible bonds

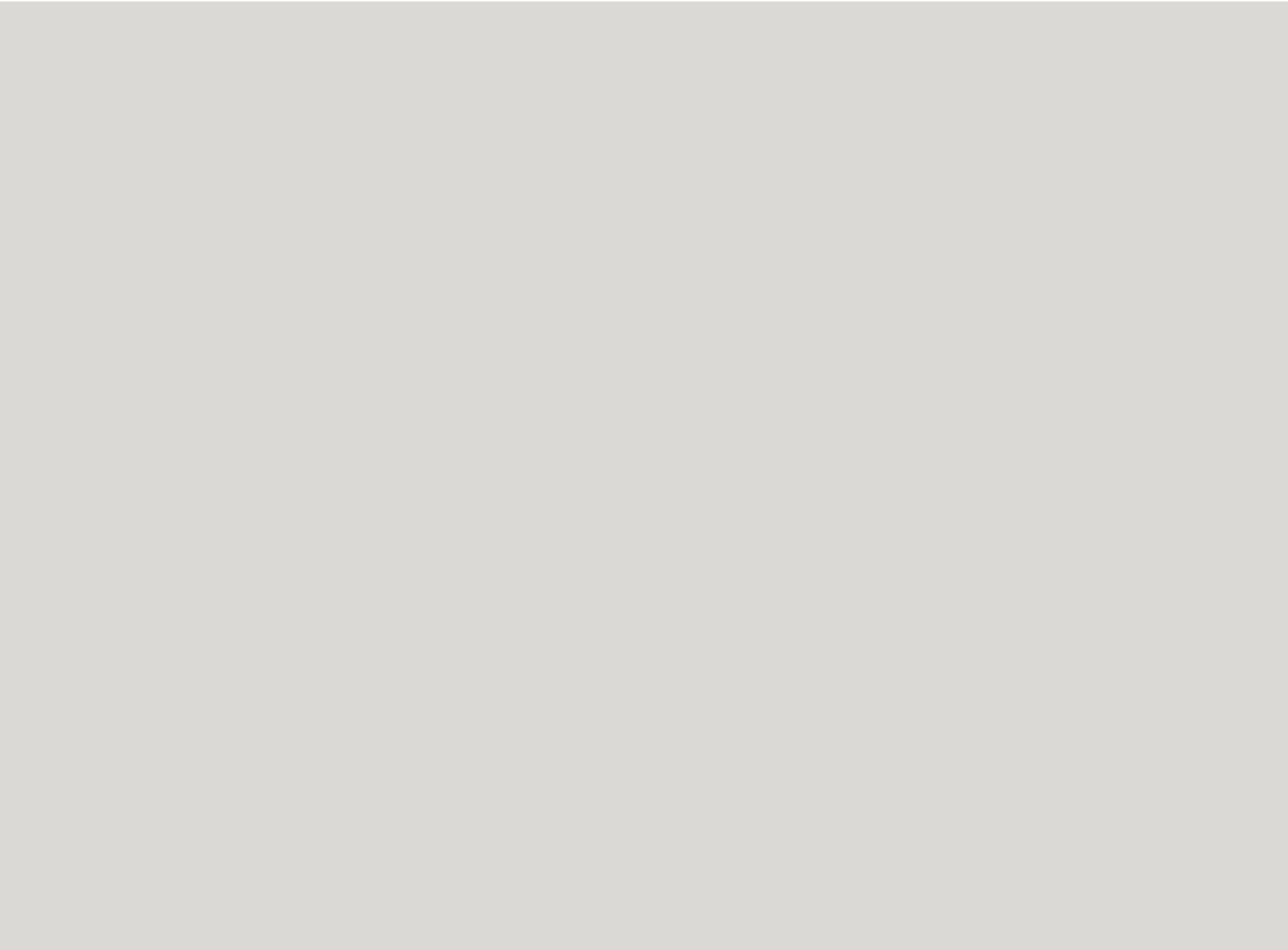
Fiscal year	Number of issuers	Number of issues	Amount ($ million)
FY09	439	553	18,363
FY10	463	600	21,669
FY11	570	726	25,776
FY12	837	1,074	35,967
FY13	692	918	32,058
FY14	537	714	33,238
FY15	584	824	28,384
FY16	528	719	24,373
FY17	542	721	17,391
FY18	599	786	25,993

Source: RBI

Maturity-wise break-up of amount issued

	Amount ($ million)									
Maturity buckets	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Up to 3 years	495	1,129	563	521	2,457	7,739	1,634	3,357	1,815	3,497
3-5 years	1,273	6,470	5,500	5,614	5,253	6,900	6,308	7,567	6,133	7,992
5-10 years	9,603	9,767	13,875	20,044	13,333	10,957	11,501	6,442	8,171	6,509
> 10 years	6,991	4,303	5,837	9,787	11,015	7,641	6,730	7,007	1,272	7,995
N A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2,211	-	-	-
Total	**18,362**	**21,669**	**25,775**	**35,966**	**32,058**	**33,237**	**28,384**	**24,373**	**17,391**	**25,993**

Source: RBI



Survey results

CRISIL's survey of issuers and investors saw participation from both financial and non-financial corporates active in the Indian debt market. We asked 17 questions to investors and 11 to issuers, and requested them to rank their responses in terms of priority, or relative importance.

Investor survey

CRISIL's survey of investors saw participation from mutual funds, insurance companies, pension funds, banks and corporates. We asked them 17 questions and requested them to rank their responses in terms of priority, or relative importance.

The results are as follows:

What facilitations can provide the necessary impetus to the Indian corporate bond market?

Priority	Enabler
1	Facilitate growth of lower-rated issuances - regulatory framework, resolution process, CDS
2	Balance regulatory liberalism and investor risk appetite – rethink caps prescribed by regulators on investing in corporate bonds, and facilitation of investors wanting to put money below such caps
3	Improve retail participation through awareness drives, overcoming distribution challenges (regulatory and others)
4	The regulatory suasion to shift a chunk of loans to bonds - large borrowers' framework (of the RBI as well as SEBI)
5	Effective and smooth implementation of the IBC

A large number of infrastructure projects and assets (roads, renewables, airports, transmission and real estate) have the potential to increase bond issuances. What are the enablers needed for investments in bonds of such assets to happen?

Priority	Enabler
1	Regulatory restrictions on investments (such as rating limits and investments in private sector special purpose vehicles)
2	Development of supportive infrastructure such as credit enhancements, mechanism for estimating loss, given defaults/expected credit losses, creditor rights and derivatives
3	Development of a strong framework that facilitates risk-based pricing
4	Internal investment guidelines do not permit moving down the credit curve

What are the enablers needed to build appetite for bonds of infrastructure and lower-rated assets?

Priority	Enabler
1	Liberalise rating limits and company level restrictions
2	Facilitate credit enhancements
3	Ensure robust IBC framework
4	Adopt the Infrastructure Expected Loss scale

Securitisation is a good mode to shift from loans to the corporate bond market. While we have seen growth in securitisation over the past few years, a large chunk of transactions still happen through the direct assignment route and not via PTCs. What facilitations are needed to accelerate growth of the PTC segment?

Priority	Enabler
1	Creation of secondary market for PTCs
2	Increase in awareness about benefits of PTC transactions vis-à-vis direct assignments
3	Greater clarity on applicability of GST to these transactions
4	Enhancement in limits/ liberalisation in rating thresholds for investing in PTCs

Data suggests regulatory limits on bonds are often not fully utilised and investors therefore allocate such monies to SLR securities (G-secs and SDLs) instead of bonds, resulting in a crowding-out effect. What are the reasons behind this?

Priority	Enabler
1	Mandate does not require taking an additional (credit) risk over SLR
2	Liquidity is a key concern
3	Unavailability of effective hedge for credit risk (CDS, etc)

What are the facilitations required to reduce the crowding-out effect of rampant G-sec and SDL issuances?

Priority	Enabler
1	Higher floor for corporate bond allocation
2	Well-functioning market-making and corporate bond repo mechanism
3	Availability of CDS protection

There is extremely limited participation by retail investors in bond markets today, both in direct and indirect (MFs, insurance, etc) form. What are the key reasons causing limited demand from retail for corporate bonds?

Priority	Enabler
1	Awareness
2	Liquidity
3	No significant benefit when compared with a bank FD
4	Risk-adjusted yields compared with comparable products (PPF, bank FDs)
5	Cost and efficacy of the distribution system
6	Flexibility of products in maturity and risk profile terms

Do you think the cost of distribution of bonds is higher than comparable investment products? What can help bring it down?

Priority	Enabler
1	Encourage digital distribution of bonds
2	Cost of distribution is, in fact, lower or comparable
3	Encourage distribution through banks/post offices
4	Minimise intermediation

What steps should the government/policy makers take to encourage direct retail participation in bond issuance?

Priority	Enabler
1	Tax sops
2	Launch awareness campaign
3	Facilitation of lifecycle products by way of supportive tax and product legislation

What can help boost investments through the indirect route (MFs, insurance, pension and provident fund products)

Priority	Enabler
1	Predictability of returns/yields
2	Risk-adjusted yields vis-à-vis comparable products
3	Awareness
4	Flexibility of products in terms of maturity and risk profile

Do you think the cost of distribution of bonds is higher than comparable investment products? What can help bring it down?

Priority	Enabler
1	Encourage digital distribution of bonds
2	Encourage distribution through banks/post offices
3	Minimise intermediation
4	Cost of distribution is, in fact, lower or comparable

The IBC is expected to be a game-changer for the corporate bond market. Do you think it is in the shape and form needed? What are the concerns, if any?

Priority	Enabler
1	Regulatory framework – still evolving and yet to achieve complete clarity
2	Implementation challenges – efficiency and effectiveness
3	Enablers are in place – need to monitor to evaluate its effectiveness

Bond trading on the exchanges was introduced years ago and the infrastructure for it has been created. We are, however, yet to see significant activity on these platforms. What is hindering activity?

Priority	Enabler
1	Large number of ISINs and fragmented data
2	Mismatch between need for specific profile of security (issuer, maturity and rating) and its availability
3	Transaction process not user-friendly and is time consuming

CDS as a product has not picked up despite several attempts by policy makers. What are the reasons for this?

Priority	Enabler
1	Lack of specialised CDS protection providers on the lines of bond insurers globally
2	Lack of platform to facilitate such trade
3	Pricing of CDS protection offered
4	Limitations of the regulatory framework

Stock exchanges are in the process of launching exchanged-settled corporate bond repo products. As an investor, how do you view this development? Do you envisage any challenges in offtake of this product?

Priority	Enabler
1	Product-level challenges – haircuts, pricing, securities – need to be addressed
2	Regulatory framework needs to enable and encourage market-making
3	There is a dearth of lenders/borrowers

The RBI is persuading large borrowers to shift half of their borrowings to the corporate bond market. SEBI is also looking at a framework that will make corporates shift 25% of their borrowings through corporate bonds. What do you think are potential challenges in this regard?

Priority	Enabler
1	Limited/lack of demand from non-bank institutions to meet the supply of bonds likely to arise due to such transition
2	Concerns of risk-adjusted pricing for non-bank investors
3	Risk appetite of non-bank investors
4	Inter-regulatory coordination to deal with such issues
5	Impact due to mark-to-market valuations

What steps can be taken to achieve the proposed transition of bank loans to bonds?

Priority	Enabler
1	Stronger and well-planned regulatory coordination
2	Opening of markets to newer investors such as the FPIs
3	Government incentives
4	Availability of products for credit risk management such as the CDS

Issuer survey

CRISIL's survey of issuers saw participation from non-banks (non-banking finance companies and housing finance companies) and corporates, including those into infrastructure. We asked them 11 questions and requested them to rank their responses in terms of priority, or relative importance.

The results are as follows:

What are the facilitations that would provide the necessary impetus to the Indian corporate bond market?

Priority	Enabler
1	Improve retail participation – through awareness drives, overcoming distribution challenges (regulatory and others)
2	Balance regulatory liberalism and investor risk appetite – rethink caps prescribed by regulators on investing in corporate bonds, and facilitation of investors wanting to put money below such caps
3	The regulatory suasion to shift a chunk of loans to bonds - large borrowers' framework (of the RBI), 25% for large borrowers (Union Budget 2018-19)
4	Facilitate growth of lower-rated issuances - regulatory framework, resolution process, CDS
5	Effective and smooth implementation of IBC

There is extremely limited participation of retail investors in the corporate bond market today through both direct and indirect routes. What are the reasons for this?

Priority	Enabler
1	Awareness
2	Liquidity
3	Cost and efficacy of the distribution system
4	Flexibility of products in maturity and risk profile terms
5	No significant benefit when compared with bank FDs
6	Risk-adjusted yields compared with comparable products (public provident fund, bank FDs)

What can boost investments through the indirect route (MFs, insurance, pension and provident fund products)?

Priority	Enabler
1	Awareness
2	Risk-adjusted yields vis-à-vis comparable products
3	Predictability of returns/yields
4	Flexibility of products in terms of maturity and risk profile

Do you think the cost of distribution of corporate bonds is higher than comparable investment products? What can help bring the cost down?

Priority	Enabler
1	Encourage digital distribution of bonds
2	Encourage distribution through banks/post offices
3	Minimise intermediation
4	Cost of distribution is, in fact, lower or comparable

What steps should the government/policy makers take to encourage direct retail participation in bond issuance?

Priority	Enabler
1	Launch awareness campaign
2	Tax sops
3	Facilitation of lifecycle products by way of supportive tax and product legislation

The IBC is expected to be a game-changer for the Indian corporate bond market. Do you think it is in the shape and form needed? What are the concerns, if any?

Priority	Enabler
1	Implementation challenges – efficiency and effectiveness
2	Regulatory framework – still evolving and yet to achieve complete clarity
3	Enablers are in place – need to monitor to evaluate its effectiveness

Corporate bond trading on stock exchanges was introduced years ago and the infrastructure for it has been created. We are, however, yet to see significant activity on these platforms. What are the reasons?

Priority	Enabler
1	Transaction process not user-friendly and is time-consuming
2	Mismatch between need for specific profile of security (issuer, maturity and rating) and its availability
3	Large number of ISINs and fragmented data

CDS has not picked up despite several attempts by policy makers. What are the reasons for this?

Priority	Enabler
1	Lack of platform to facilitate such trade
2	Pricing of CDS protection offered
3	Lack of specialised CDS protection providers on the lines of bond insurers globally
4	Limitations of the regulatory framework

Stock exchanges are in the process of launching exchanged-settled corporate bond repo products. As an issuer, how do you view this development? Do you envisage any challenges in the uptake?

Priority	Enabler
1	Regulatory framework needs to enable and encourage market-making
2	There is a dearth of lenders/borrowers
3	Product-level challenges – haircuts, pricing, securities – need to be addressed

The RBI is persuading large borrowers to shift half of their borrowings to the corporate bond market. SEBI is also looking at a framework that will make corporates shift 25% of their borrowings through corporate bonds. What do you think are potential challenges in this regard?

Priority	Enabler
1	Limited/lack of demand from non-bank institutions to meet the supply of bonds likely to arise due to such transition
2	Inter-regulatory coordination to deal with such issues
3	Impact due to mark-to-market valuations
4	Risk appetite of non-bank investors
5	Concerns of risk-adjusted pricing for non-bank investors

What steps can be taken to achieve the proposed transition of bank loans to bonds?

Priority	Enabler
1	Opening of markets to newer investors such as FPIs
2	Stronger and well-planned regulatory coordination
3	Government incentives
4	Availability of products for credit risk management such as CDS

Abbreviations

Abbreviation	Full form
ABS	Asset-backed security
ADB	Asian Development Bank
AMC	Asset management company
APMC	Agricultural produce marketing committee
ARC	Asset reconstruction company
BFSI	Banking, financial services and insurance
BGFI	Bond Guarantee Fund of India
BIFR	Board for Industrial and Financial Reconstruction
CAD	Current account deficit
CCIL	Clearing Corporation of India Ltd
CD	Certificate of deposit
CDS	Credit default swap
CP	Commercial paper
CPI	Consumer Price Index
CRR	Cash reserve ratio
DDT	Dividend distribution tax
ECB	External commercial borrowing
ECR	Export credit refinance
EPFO	Employees' Provident Fund Organisation
ETCD	Exchange traded currency derivatives
ETF	Exchange traded fund
EXIM Bank	Export Import Bank of India
FCCB	Foreign currency convertible bond
FCNR	Foreign currency non-resident
FI	Financial institution

Abbreviation	Full form
FII	Foreign institutional investor
FIMMDA	Fixed Income Money Market and Derivatives Association of India
FMP	Fixed maturity plan
FPI	Foreign portfolio investors
GDP	Gross domestic product
GNPA	Gross non-performing advances
GSDP	Gross state domestic product
G-secs	Government securities
HFC	Housing finance company
HDFC	Housing Development Finance Corporation
HTM	Held to maturity
IDFC	Infrastructure Development Finance Company
IMF	International Monetary Fund
InvITs	Infrastructure investment trust
IRDA	Insurance Regulatory and Development Authority
LAF	Liquidity adjustment facility
MBS	Mortgage-backed security
MFI	Micro finance institution
MOSPI	Ministry of Statistics and Programme Implementation
NABARD	National Bank for Agriculture and Rural Development
NBFC	Non-banking finance company
NDS	Negotiated dealing system
NDTL	Net demand and time liabilities
NPA	Non-performing asset
NSDL	National Securities Depository Ltd
PCE	Partial credit enhancement
PFC	Power Finance Corporation
PFRDA	Pension Fund Regulatory and Development Authority

Abbreviation	Full form
PGC	Power Grid Corporation
PSU	Public sector unit
PTC	Pass through certificate
RBI	Reserve Bank of India
REC	Rural Electrification Corporation
REITs	Real Estate Investment Trust
SBI	State Bank of India
SDL	State development loan
SEBI	Securities and Exchange Board of India
SICA	Sick Industrial Companies Act
SLR	Statutory liquidity ratio
SME	Small and medium-sized enterprises
SPV	Special purpose vehicle
T-bill	Treasury bill
UPI	Unified Payments Interface

About CRISIL Limited
CRISIL is a leading, agile and innovative global analytics company driven by its mission of making markets function better.

It is India's foremost provider of ratings, data, research, analytics and solutions with a strong track record of growth, culture of innovation, and global footprint.

It has delivered independent opinions, actionable insights, and efficient solutions to over 100,000 customers through businesses that operate from India, the US, the UK, Argentina, Poland, China, Hong Kong and Singapore.

It is majority owned by S&P Global Inc, a leading provider of transparent and independent ratings, benchmarks, analytics and data to the capital and commodity markets worldwide.

CRISIL Privacy
CRISIL respects your privacy. We may use your contact information, such as your name, address, and email id to fulfil your request and service your account and to provide you with additional information from CRISIL. For further information on CRISIL's privacy policy please visit www.crisil.com/privacy.

Disclaimer
CRISIL Research, a Division of CRISIL Limited, has taken due care and caution in preparing this Report. Information has been obtained by CRISIL from sources which it considers reliable. However, CRISIL does not guarantee the accuracy, adequacy or completeness of any information and is not responsible for any errors or omissions or for the results obtained from the use of such information. CRISIL is not liable for investment decisions which may be based on the views expressed in this Report. CRISIL especially states that it has no financial liability whatsoever to the subscribers/ users/ transmitters/ distributors of this Report. CRISIL Research operates independently of, and does not have access to information obtained by CRISIL's Ratings Division, which may, in its regular operations, obtain information of a confidential nature which is not available to CRISIL Research. No part of this Report may be published/reproduced in any form without CRISIL's prior written approval.

Argentina | China | Hong Kong | **India** | Poland | Singapore | UK | USA | UAE
CRISIL Limited: CRISIL House, Central Avenue, Hiranandani Business Park, Powai, Mumbai – 400076. India
Phone: + 91 22 3342 3000 | Fax: + 91 22 3342 3001 | www.crisil.com
in /company/crisil @CRISILLimited f /CRISILLimited /user/CRISILLimited Follow us on @lifeatcrisil