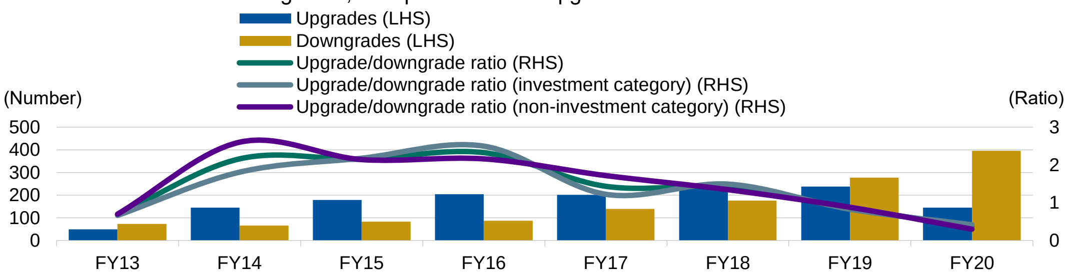
Ind-Ra's FY20 Transition and Default Study

Special Report

Figure 1

Ind-Ra's Historical Rating Activities

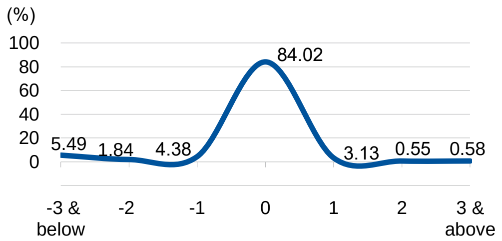
Increment in number of downgrades, slump in number of upgrades



Source: Ind-Ra

Figure 2

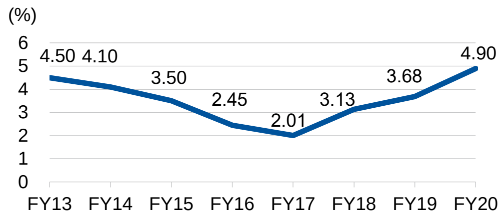
Rating Movement – FY 2020



Note: X-axis represents notch change during year. Includes rating action on non-cooperative issuers and default ratings
Source: Ind-Ra

Figure 3

Ind-Ra's Annual Default Rate



Note: Annual Default rate represents proportion of default ratings in the year as a percentage of the total number of non-default ratings outstanding at begening of the year
Source: Ind-Ra

Net Rating Activity: India Ratings and Research's (Ind-Ra) corporate finance rating activity remained negative for a second consecutive year in FY20. During FY20, the number of issuers downgraded was more than double the number of issuers upgraded, leading to a decline in the upgrade-to-downgrade (U-D) ratio to 0.37:1 in FY20 (FY19: 0.86:1). The FY20 U-D ratio is in contrast to those recorded over FY14-FY18, when the upgrades outpaced downgrades by a significant margin, with the average U-D ratio being 1.90:1. In FY20, the U-D ratio for the investment category dropped to 0.42:1 (FY19: 0.83:1) while for sub-investment category it fell down to 0.30:1 (0.88:1). However, nearly 30% of the total rating downgrades were from issuers which were non-cooperative at the start of the year. Barring these downgrades, the U-D ratio for FY20 stands at 0.52:1.

Annual Default Rate: Ind-Ra's overall corporate finance ratings' annual default rate increased to 4.90% in FY20, highest in a decade. In FY20, the investment-grade default rate remained at 2.2% (FY19: 2.2%) while the sub-investment grade default rate increased to 6.98% (4.8%). Of all the defaults during FY20, 80% carried a sub-investment grade rating at the beginning of the year (FY19: 74%). The average annual default rate for Ind-Ra's corporate finance ratings over FY10-FY20 was 3.37%. During FY20, 54% of the total defaults were from issuers whose ratings were under the non-cooperative category at the beginning of year.

Rating through the Cycle: Ind-Ra follows a rating-through-the-cycle approach that factors in the probable medium-term trends of crucial macroeconomic variables such as commodity prices, currency value, current account, demand, inflation and interest rate. While historical performances act as an input for entity-level forecasts, evolving or expected economic conditions (domestic and global) have a significant bearing on a rating opinion, thus making it forward looking. Ind-Ra's ratings are opinions based on all information known to the agency, including publicly available information and/or non-public documents and information provided by an issuer and other parties. In issuing and maintaining its ratings, Ind-Ra relies on the factual information it receives from issuers and underwriters and from other sources the agency deems credible.

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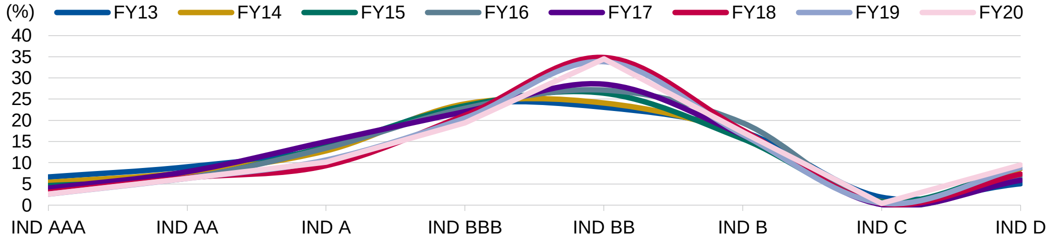
Figure 4

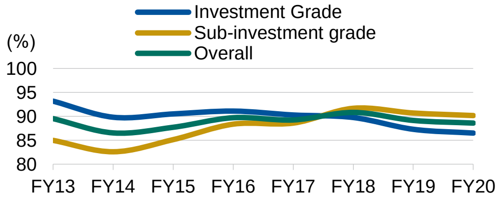
Changing Composition of Ind-Ra's Rating Universe



Note: Distribution is based on ratings which remained alive throughout the financial year. 'IND D' also include those issuers who were in default in the beginning of the year
Source: Ind-Ra

Figure 5

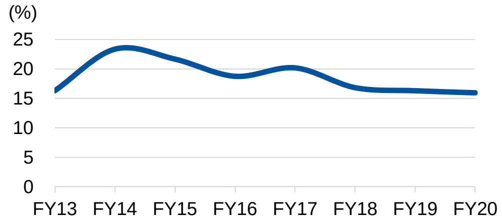
Annual Stability Rate



Note: Annual Stability rates represents proportion of non default ratings that remain unchanged during the period out of ratings that remain outstanding at begining and end of the annual period excluding intercategory movement.
Source: Ind-Ra

Figure 6

Rating Movement



Note: Rating movement is the number of upgrades and downgrades including notch changes as a proportion of the number of ratings outstanding at the beginning of year.
Source:Ind-Ra

Figure 7

Proportion of Issuers Upgraded or Downgraded (%)

	Investment grade		Non-investment grade	
	Upgrade	**Downgrade**	**Upgrade**	**Downgrade**
FY13	5.0	7.5	8.5	12.1
FY14	14.9	8.2	17.1	6.6
FY15	14.9	6.9	14.7	6.9
FY16	15.5	8.1	11.5	3.5
FY17	11.9	9.7	12.0	7.0
FY18	13.0	8.7	7.7	5.8
FY19	9.3	10.9	6.2	7.1
FY20	6.7	16.0	3.3	10.7

Note: Proportion is calculated from ratings outstanding at the beginning of the year and remained active throughout the year
Source: Ind-Ra

Issuer Mix and Impact on Rating Stability

The changing composition of outstanding ratings also impacts rating stability. Ind-Ra's modal rating level had transitioned into the sub-investment grade category i.e. 'IND BB' in FY14, and remained unchanged in FY20. Prior to this, the rating universe was mainly limited to debt market participants, resulting in a higher modal rating level ('IND BBB' from FY10 to FY13). The transition has mainly been due to the initiation of bank loan ratings, which has led to several small issuers being rated only for their bank facilities.

Ratings in investment-grade categories are largely driven by the strength of a business profile, with financial profile either supporting or strengthening the business profile or, in certain cases, constraining the ratings. On the other hand, sub-investment grade ratings are largely driven by the strength of a financial profile and liquidity position with business profile playing second fiddle.

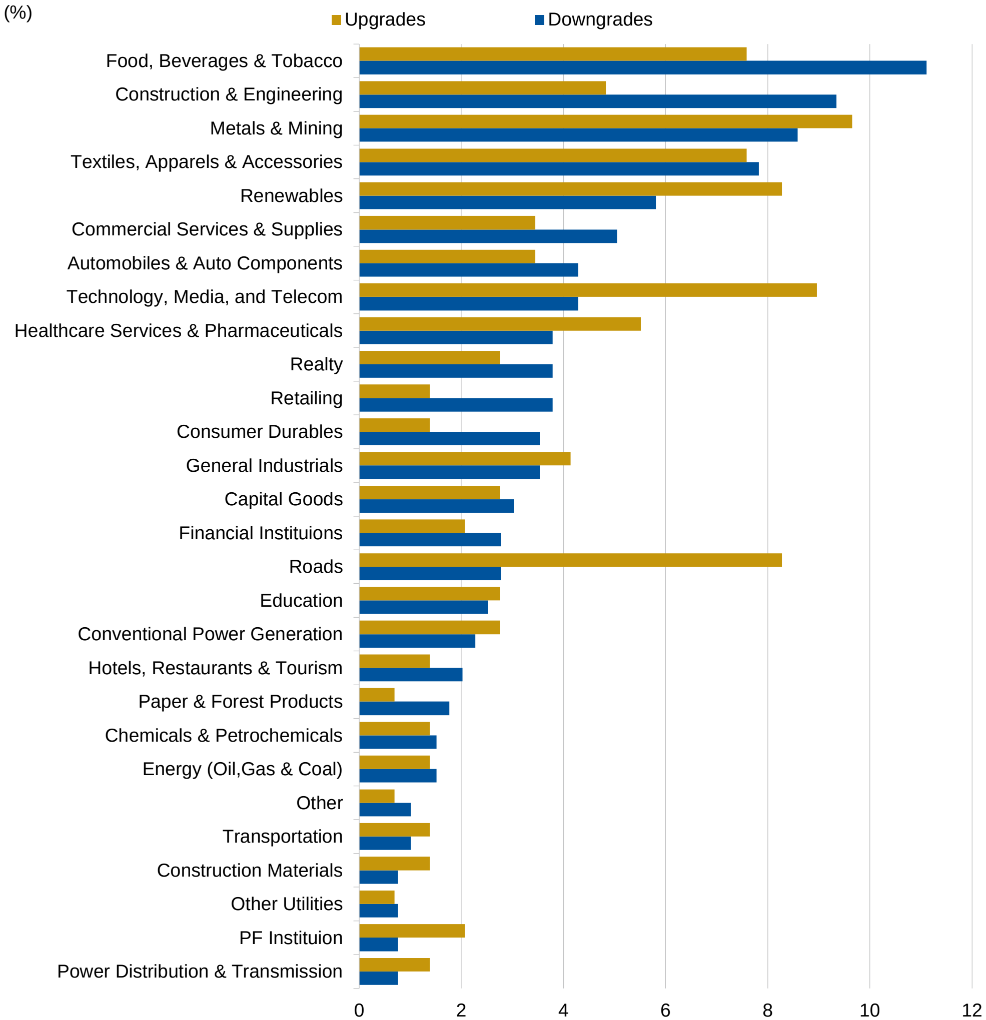
Stability Rate: Ind-Ra's overall corporate finance stability rate was 88.6% in FY20 (FY19: 89.1%). while the stability rate of sub-investment grade corporates was 90.2% in FY20 (FY19: 90.7%), that of investment grade corporates declined to 86.5% (87.3%). The overall corporate finance stability rate for FY20, excluding the ratings that turned non-cooperative during year, stood at 83.2% (FY19: 82.6%), while that of sub-investment grade corporates was 69.4 % (72.3%). Stability rate for investment grade issuers excluding the non-cooperative ones remained unchanged. The gross rating movement (the number of upgrades and downgrades including notch change as a proportion of number of ratings outstanding in the beginning of year) for FY20 was 16.0% (FY19: 16.3%). It peaked at 23.4% during FY14. During FY20, the proportion of downgrades within investment & sub-investment grades increased while the proportion of upgrades in both the categories fell in FY20 over FY19.

Debt Weighted Rating Activity: The overall debt-weighted U-D ratio for corporate finance issuers remained low at 0.28:1 in FY20 (FY19: 0.47:1), largely due to nine issuers collectively accounting for 50% of the total downgraded debt. Excluding these nine issuers, the debt-weighted U-D ratio stood at 0.57:1. During FY20, around 33% of the total downgraded debt pertained to the financial institution sector, and 12% to construction & engineering sector. Nearly 10% of the downgraded debt pertains to the 'C' category (ratings were downgraded from IND C to IND D). During FY20, around 10% of the downgraded issuers accounted for 83% of the downgraded debt volume while around 10% of the upgraded issuers accounted for 67% of the upgraded debt volume. For FY20, 15% of the total upgraded debt pertains to one issuer in the convectional power generation sector.

Ind-Ra's Upgrades and Downgrades – FY20

Figure 8

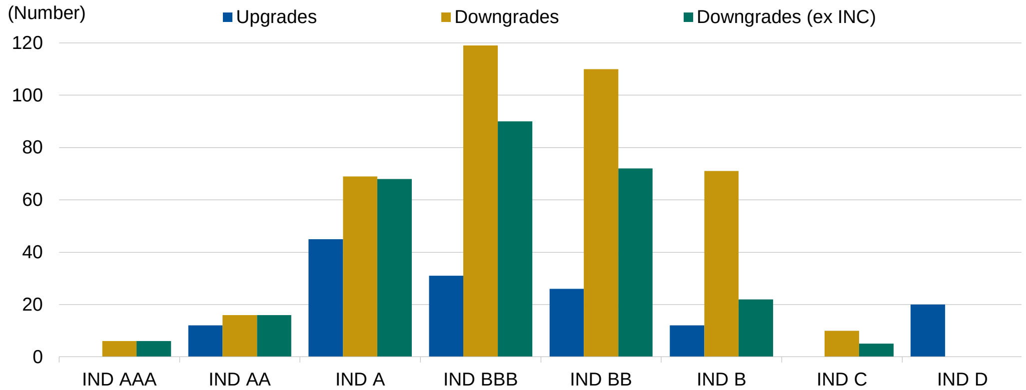
Industry-wise Distribution of Ind-Ra's FY20 Upgrades & Downgrades



Source: Ind-Ra

Figure 9

Rating Category-wise Distribution of Upgrades and Downgrades – FY20



Note: Rating category represent rating at start of year. Includes intercategory movement.
Source: Ind-Ra

Analysis of Rating Upgrades & Downgrades

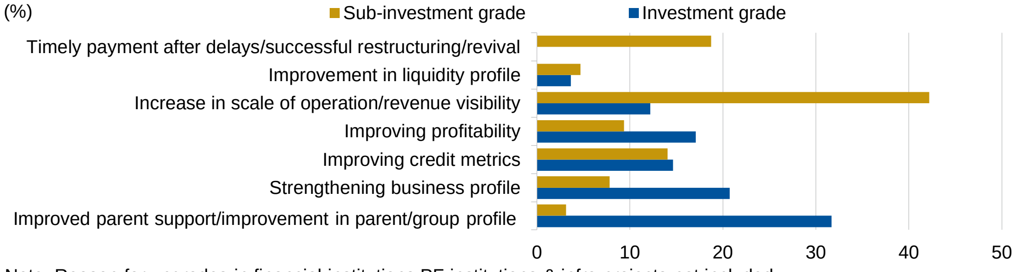
For FY20, out of the total upgrades, 60% were from the investment grade categories while 48% of the total downgrades were from the sub-investment-grade categories. 5% of the total upgrades were from the sub-investment to investment grade categories while 26% of total downgrades were from investment grade to sub-investment categories.

In the investment-grade categories, 21% of the total upgrades were from 'IND BBB' and 30% from 'IND A' while 30% of the total downgrades were from 'IND BBB' and 17% from 'IND A'. Nearly 14% of the total upgrades were from 'IND D'. During FY20, 81% of all downgrades and 41% of all upgrades resulted in a category change. Ratings of six issuers were downgraded from the 'IND AAA' category while those of two issuers were upgraded to the 'IND AAA' category during FY20.

Of the total downgrades in FY20, 30% of downgrades belonged to issuers that were non-cooperative at the beginning of the year. Nearly all of these downgrades were from the 'IND BBB' & below category, based on either limited information available in public domain or full information when the issuer started cooperating.

Figure 10

Ind-Ra's FY20 Corporates Upgrades – Key Reasons



Note: Reason for upgrades in financial institutions,PF institutions & infra projects not included
Source: Ind-Ra

The occurrence and timing of both rating upgrades and downgrades for corporate issuers can be attributed to changes in qualitative and/or quantitative factors. Both measures are used to assess the business and financial risks of corporate issuers. A qualitative analysis includes examining industry risk, operating environment, market position, management, and accounting policies. In contrast, the quantitative aspect of Ind-Ra's corporate ratings focuses on a company's policies in relation to operating strategies, acquisitions and divestitures, leverage targets, dividend policy, and financial goals. Key elements in determining an issuer's overall financial health are profits and cash flow; an important component in the analysis is the company's ability to generate cash, which is reflected in the ratios that measure profitability and coverage on a cash flow basis. The timing of downgrades of non-cooperative issuers based on limited information may not necessarily be attributed to the timely change in qualitative or quantitative factors, as in these cases information might be available with lag.

Among corporate ratings, revenue growth and improved profitability continued to drive rating upgrades of sub-investment grade issuers, while factors not directly linked to the underlying business performance (improved parent support/improvement in parent/group profile) also contributed substantially to the upgrades of investment grade issuers. Upgrades purely on account of improved liquidity and a reduction in debt remained few. Corporate rating downgrades were largely driven by stretched working capital cycles leading to poor liquidity, weakening of parents' profile(s) and deterioration in the credit metrics as against Ind-Ra's expectation, due to factors such as weak financial performance, lower-than-expected operating performance, among others. Some of the downgrades were purely on account of a change in Ind-Ra's rating approach for the guarantee-backed debt ratings. (1.3%of total downgrades).

In the infrastructure segment, a better-than-expected operational and financial performance, timely receipt of annuity from the authority (HAM projects), successful commissioning of projects, creation of a debt service reserve and timely payment after delays were the major reasons for rating upgrades in FY20. The downgrades were driven by deterioration in liquidity profile due to delays in payments from off-taker, absence/weakening of sponsor support, etc.

In the financial sector space, three financial institutions (one non-banking finance company (NBFC), one insurance company and one housing finance company) were upgraded due to the reasons including increased capital base and strengthening of operating and capital buffers & strong risk management systems. During FY20, ratings on instruments of 11 financial institutions were downgraded. Factors such as operational challenges on account of concentrated operations along with capitalisation pressure and weakness in the standalone operations led to the downgrade of ratings on the instruments of two banks while the moratorium imposed by the finance ministry led to the downgrade of ratings on the instruments of one bank. Ratings of two housing finance companies were downgraded due to a challenging operating environment, leading to increasing pressure on asset quality and weakening of parent support. One asset reconstruction company was downgraded because of the weakening credit profile of the primary sponsor. Two NBFCs were downgraded on account of deterioration in the credit profile of parents while two NBFCs were downgraded due to deepened stress in its liquidity situation along with strained funding profile and high leverage along with poor asset quality. One NBFC was downgraded due to deterioration in operating environment and dilution in liquidity buffers. It was subsequently downgraded to default because of pressure of accelerated debt repayment from some lenders and difficulty in mobilising fresh funds, and also on account of inability of shareholders to ensure adequate liquidity.

In the public finance space, the ratings of three state government owned entities were upgraded from 'IND D' upon the timely servicing of debt for three months. Ratings of three state government owned entities (including two downgrades to 'IND D') were downgraded during FY20 from investment grade.

Construction & engineering; food, beverage & tobacco; metals& mining; renewables & textiles, apparels & accessories witnessed more rating activity than other sectors.

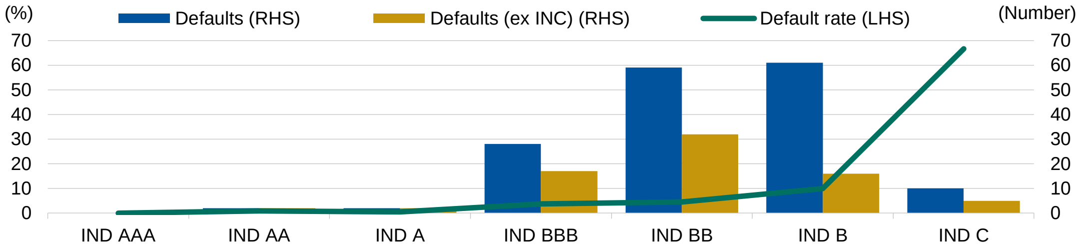
Downgrades in the construction & engineering (majorly small entities) and food, beverage & tobacco industry were because of slower order book growth, lower profitability and increasing working capital pressures. A large number of these downgrades were in the sub-investment grade category. Upgrades in these industries were primarily because of factors not related to business performance such as improved parent support/improvement in parent/group profile.

Renewables faced upgrades and downgrades primarily because of the same reason of counterparty risk. Textiles, apparels & accessories faced rating downgrades because of reduced demand and stretched receivables from their export customers and overcapacity in the denim sub-industry. In metals & mining, downgrades were largely limited to small and non-integrated players facing working capital challenges. Some of large entities in the mining industry were downgraded because of discontinuation of mining operations.

Defaults During FY20

Figure 11

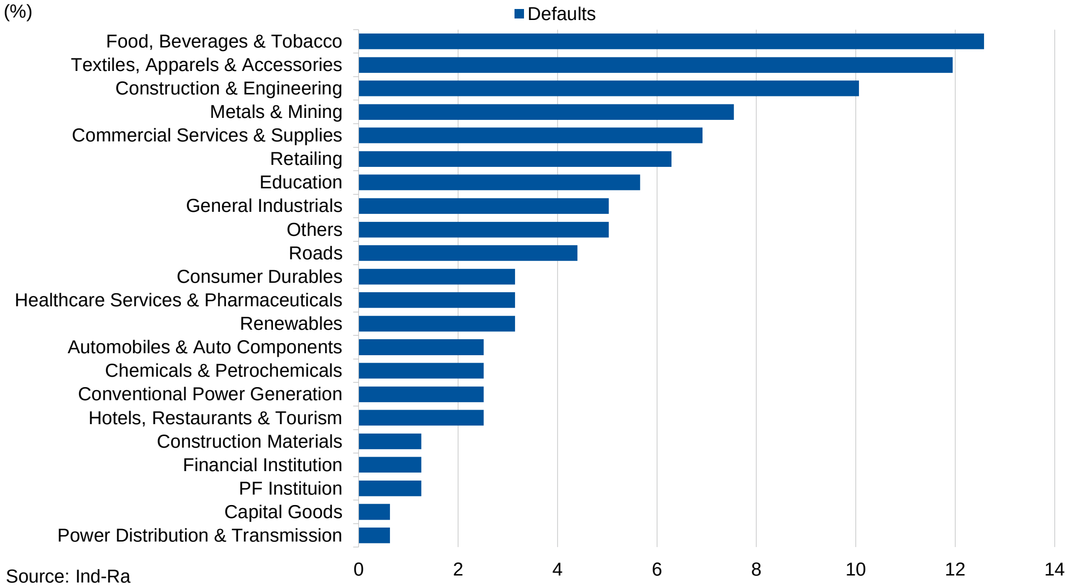
Rating Category-wise Distribution of Defaults in FY20



Note: Default rate: No. of defaults among rated entities in the static pool as a percentage of the total number of entities in the static pool, where static pool comprises of non-defaulted ratings that were outstanding at the beginning of period
Source: Ind-Ra

Figure 12

Industry-wise Distribution of Ind-Ra's FY20 Defaults



Source: Ind-Ra

4.90% of the ratings that were outstanding at the beginning of FY20 were downgraded to the default category during the year. Of the total defaults, around 80% were from the sub-investment grade categories. 17% of defaults were from the 'IND BBB' category while 36% were from 'IND BB' category. 6% of total defaults were from the 'IND C' category. About 40% of downgrades during FY20 were downgrades to default (FY19: 43%). During FY20, two issuers defaulted from the 'IND AA' and 'IND A' categories each.

Out of cooperative issuers at the beginning of FY20, 4.07% defaulted during year (FY19: 3.38%). At the start of FY20, 45% of the outstanding non-default issuers (largely sub investment grade) were non-cooperative; 90% of these have remained non-cooperative during the year. Of all the cooperative issuers which defaulted during FY20, the majority faced working capital pressure primarily because of a delay in receivables, leading to stress in liquidity.

As per the Standard Operating Procedure framed in consultation with The Securities and Exchange Board of India (SEBI), default on an unrated instrument is recognised as default for default rate computation. During FY20, three rated entities (Figure 13) were identified and have been included in computation of default rates.

Figure 13

Sl. No	Name of the rated entity	Date of rating action	Rating prior to revision	Rating post revision
1.	SGR Exim Private Limited	22 July 2019	IND B-(ISSUER NOT COOPERATING)/IND A4 (ISSUER NOT COOPERATING)	IND C(ISSUER NOT COOPERATING)/IND A4 (ISSUER NOT COOPERATING)
2.	Everon Castings Private Limited	12 March 2020	IND BB+(ISSUER NOT COOPERATING)/IND A4+ (ISSUER NOT COOPERATING)	IND C(ISSUER NOT COOPERATING)/IND A4 (ISSUER NOT COOPERATING)
3.	Ved Cellulose Limited	20 March 2020	IND BB(ISSUER NOT COOPERATING)/IND A4+ (ISSUER NOT COOPERATING)	IND C(ISSUER NOT COOPERATING)/IND A4 (ISSUER NOT COOPERATING)

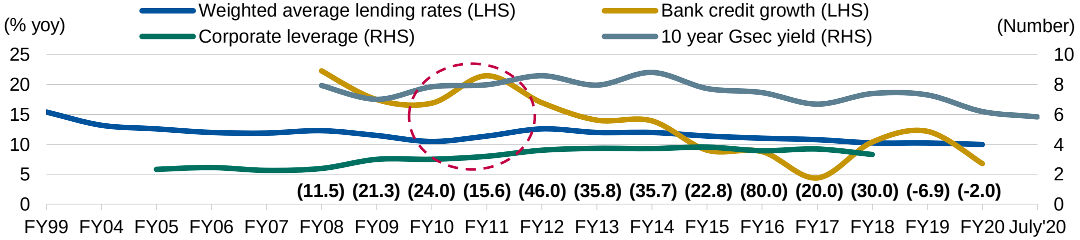
Source: Ind-Ra

Ind-Ra has not recognised default on Yes Bank Ltd., as in the agency's opinion the bank technically was not in default due to the immediate moratorium imposed. In Ind-Ra's opinion, Yes Bank had enough liquidity to honor its obligations. Furthermore, with respect to the AT1 instruments under BASEL III, principal write-down is a part of terms and conditions of issuance, hence a write down of the same, in Ind-Ra's opinion, does not constitute a default.

Figure 14

Bank Credit Growth vs Corporate Leverage vs Lending Rates

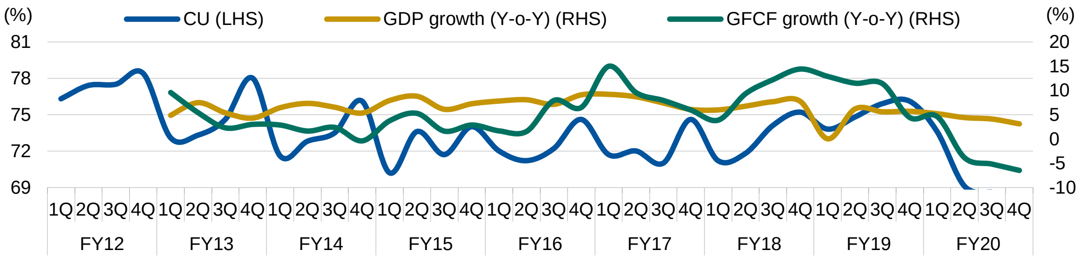
Low lending rates coinciding with peak credit growth and rising leverage



Note: Figures in parentesis repesents NPA growth in the year, Debt/EBITDA has been taken as proxy for Corporate leverage
Source: RBI, CMIE and Ind-Ra

Figure 15

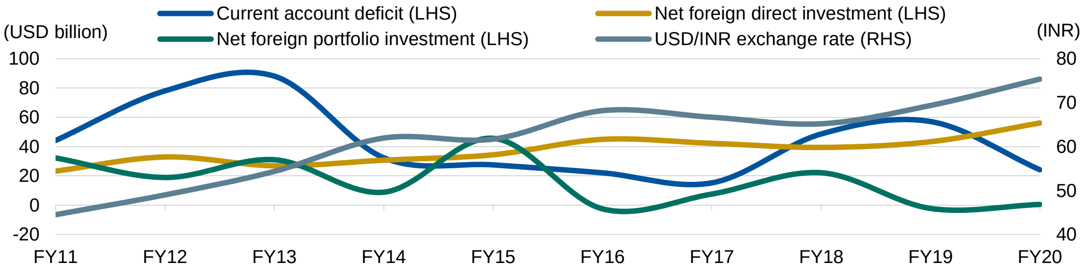
Capacity Utilisation (CU) and GDP & GFCF Growth)



Note: Based on latest round of surveys
Source: RBI, MOSPI and Ind-Ra

Figure 16

Indicators



Note: USD/INR rate pertains to last day of FY and month
Source: RBI, SEBI and Ind-Ra

Macro Perspective

Ind-Ra has revised its FY21 GDP forecast to negative 5.3%, due to COVID-19 and expects that it will continue to impact the economic activity in an adverse manner and that a variety of sectors will not be able to return normal functioning till such time an effective remedy is found. Indian economy prior to the COVID-19 event was already suffering from lack of demand, both on the consumption and investment fronts, as reflected by a downward GDP growth during FY20. For FY20, sharp and sudden changes in macroeconomic parameters were more than Ind-Ra's expectations. The scenario has not been encouraging on the international trade front too, where Indian exports have been on a low key due to subdued global economic conditions, among other things. The headroom available to the government to create a meaningful demand is limited, given the budget constraints and Ind-Ra expects the fiscal deficit to worsen considerably in the near term.

While the NPA growth in the recent past appears to have slowed down, the Indian banking system continues to reel under the backdrop of high NPAs experienced, which continues to exert strain on the capital and as a result lending capacity and growth. The recent NBFC crisis also exerted pressure on liquidity, resulting in a further stressed credit environment. Ind-Ra expects slippages to increase in the financial system, exacerbated by the COVID-19 crisis. While the Reserve Bank of India has so far successfully addressed the challenges of liquidity by easing tight monetary conditions, credit in general is not easily available in our opinion, largely due to risk averseness by lenders. This could also pose refinancing challenges. Furthermore, with the central government expected to borrow more, rates are likely to remain sticky. Corporate leverage remains high, as reflected in sectors such as construction & real estate, telecom, metals, infrastructure and other areas of manufacturing. As a result, capital formation i.e. investment is expected to remain low. Furthermore, capacity utilisation has remained low for quite some time, further disincentivising investment. Capital formation is also expected to remain low, due to the overall weak economic environment that prevails, both domestically and globally.

On the external front, the current account deficit seems benign, driven by a weak economic environment. Low imports, especially crude, at low prices and low exports have kept the current account deficit in control. Any pull back in commodity prices not followed by a rise in exports can exert pressure on the Indian rupee, especially in a loosening fiscal deficit scenario. Increased capital flows, if any, may be able to offer some respite.

The weak economic environment, worsened by COVID-19, will continue to keep corporate credit profiles stretched. Also, Ind-Ra expects the financial sector to remain subdued with preservation of capital as the key goal. Any meaningful demand pick-up is likely to have been put off by at least a year to two, with little appetite for more vulnerabilities in the corporate sector. Readers may refer to Ind-Ra's approach to rating during these extraordinary times and our view on path to recovery.

Figure 17

Ind-Ra's Non-SF Average CDR (FY10-FY20)

(%)	Year One	Year Two	Year Three
IND AAA	0.60	1.31	1.88
IND AA	0.22	0.56	1.08
IND A	1.18	3.28	5.82
IND BBB	2.83	6.63	10.57
IND BB	4.47	8.68	12.76
IND B	6.28	12.78	20.49
IND C	23.91	35.69	40.49

Note: CDR: Cumulative Default Rates; SF: Structured Finance
Source: Ind-Ra

CDR have been computed as per the Marginal Default Rate & Monthly Cohort methodology as described in this report. Same has been prescribed by SEBI. These CDRs may not be strictly comparable with CDR tables published in earlier T&D reports. CDR based on earlier methodology are at Annexure IV.

These CDRs are different from regulatory disclosures (Annexure III) in sense that it is confined to non-SF issuer/issues while regulatory disclosures include SF issues.

Figure 18

Ind-Ra's One-Year Long-term Ratings (Non-SF) Transition Rates: FY20

(%)	IND AAA	IND AA	IND A	IND BBB	IND BB	IND B	IND C	IND D	Total
IND AAA	93.3	5.6	0	1.1	-	-	-	-	100
IND AA	-	94.0	2.8	-	1.9	0.5	-	0.9	100
IND A	0.6	2.3	84.1	11.5	0.3	0.6	-	0.6	100
IND BBB	-	-	1.8	84.6	8.6	0.5	0.3	4.2	100
IND BB	-	-	-	0.7	91.9	2.3	0.3	4.8	100
IND B	-	-	-	-	1.2	88.1	0.5	10.2	100
IND C	-	-	-	-	-	-	33.3	66.6	100

Source: Ind-Ra

Figure 19

Ind-Ra's Average Annual Short-term Ratings Transition Rates: FY10-FY20

(%)	IND A1+	IND A1	IND A2	IND A3	IND A4	IND D	Total
IND A1+	96.9	1.7	0.3	0.2	0.4	0.5	100
IND A1	10.9	80.2	6.7	0.6	0.7	0.7	100
IND A2	0.7	7.4	83.5	3.3	2.9	2.1	100
IND A3	-	0.4	4.6	85.4	7.2	2.5	100
IND A4	-	-	0.1	2.1	93.2	4.7	100

Source: Ind-Ra

Cumulative Default Rates and Transition Rates

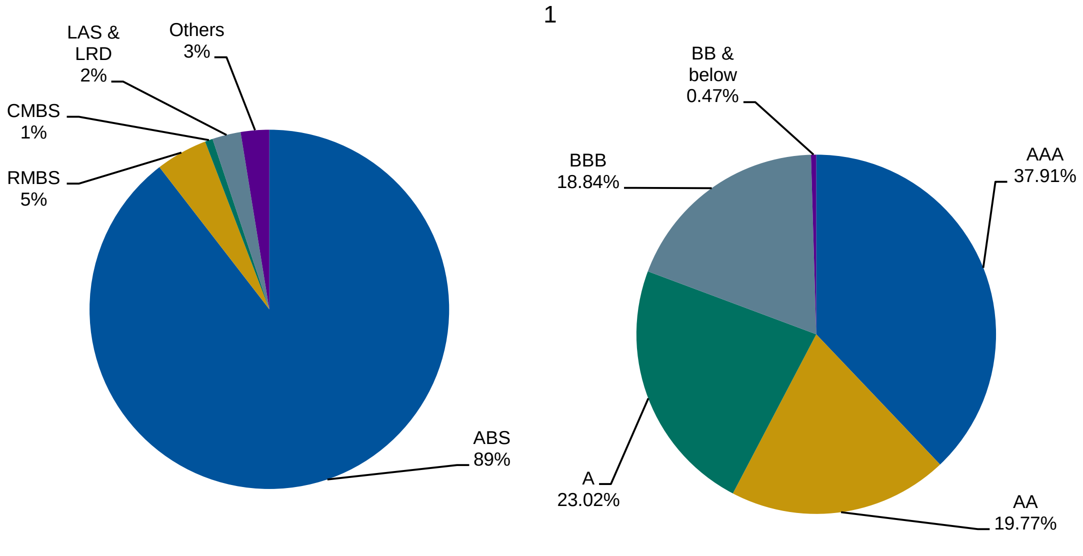
Ind-Ra has changed its methodology for computation of cumulative default rates. Figure 17 represent CDR based on new methodology described latter in this report. These CDRs may not be comparable with CDR tables published in earlier T&D reports. Figure 17 shows the movement of ratings across rating categories, as against to the modifier level, which counts each notch change. The left-hand column identifies ratings outstanding at the beginning of FY20, while each row provides information on the migration pattern of those ratings by end-FY20.

The average annual transition rates and average three-year cumulative transition rates are provided in Annexure I. The diagonal value reflects the stability of each rating category. The rating stability for issuers rated 'IND BB' or below over the long term is low. Lower stability at the lower end of rating categories is due to multiple factors. The participation of lower rated issuers in the Indian bond market is less and these issuers generally depend on banks/financial institutions for their credit needs. Credit discipline/culture is less established with these issuers. Small issuers are also more prone to adversities in the money market and a credit squeeze.

The ratings on the short-term scale mirror the movements in the long-term ratings. The stability across the short-term scale has remained robust as depicted in Figure 19.

Structured Finance (SF) Ratings

Figure 20
Composition of Ind-Ra's SF Ratings Universe – FY20



Note: Composition as on 31 March 2020
Source: Ind-Ra

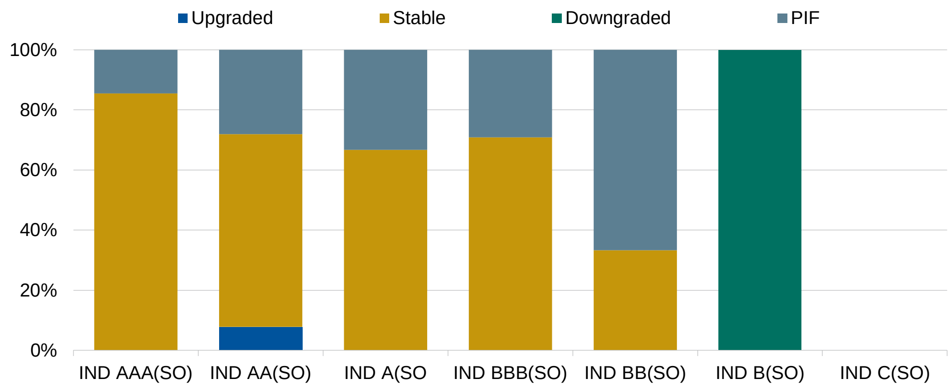
Figure 21
Ind-Ra's One-Year SF Long-term Ratings Transition Rates: FY20

(%)	IND AAA(SO)	IND AA(SO)	IND A(SO)	IND BBB(SO)	IND BB(SO)	IND B(SO)	IND C(SO)	IND D(SO)	Total
IND AAA(SO)	100.00	-	-	-	-	-	-	-	**100**
IND AA(SO)	-	100.00	-	-	-	-	-	-	**100**
IND A(SO)	-	-	100.00	-	-	-	-	-	**100**
IND BBB(SO)	-	-	-	100.00	-	-	-	-	**100**
IND BB(SO)	-	-	-	-	100.00	-	-	-	**100**
IND B(SO)	-	-	-	-	-	-	-	100.00[a]	**100**
IND C(SO)	-	-	-	-	-	-	-	-	**n.a.**

Note: On account of one issue
Source: Ind-Ra

Figure 22

Activity Across Rating Category – FY20



Note: Include intercategory movement, excludes upgrades/downgrades that were paid in full during year.
Source: Ind-Ra

Ind-Ra's SF overall stability rate for FY20 remained robust and stood at 99.61% (FY19: 97.56%) (excluding inter category movements). During the year, the rating of one instrument, rated at 'IND B (SO)' at the start of the year was downgraded to 'IND D'. Please refer to structured finance pool performance report for further analysis.

Scope & Coverage

The analysis above comprises ABS, RMBS, CMBS & other ratings, a total of 430 ratings in FY20. The study excludes short-term ratings. Non-securitized transaction ratings that carry 'SO' symbol have been included in corporate finance ratings. Ratings of mutual funds carrying the suffix 'mfs' are also excluded from analysis.

The average annual transition rates and average three-year cumulative transition rates for Ind-Ra's SF long-term ratings are provided in Annexure II.

Figure 23

Average Time to Default for Ind-Ra's Corporate Finance Ratings

Rating category	Months to default
IND AAA	94[a]
IND AA	65
IND A	56
IND BBB	35
IND BB	27
IND B	28
IND C	15

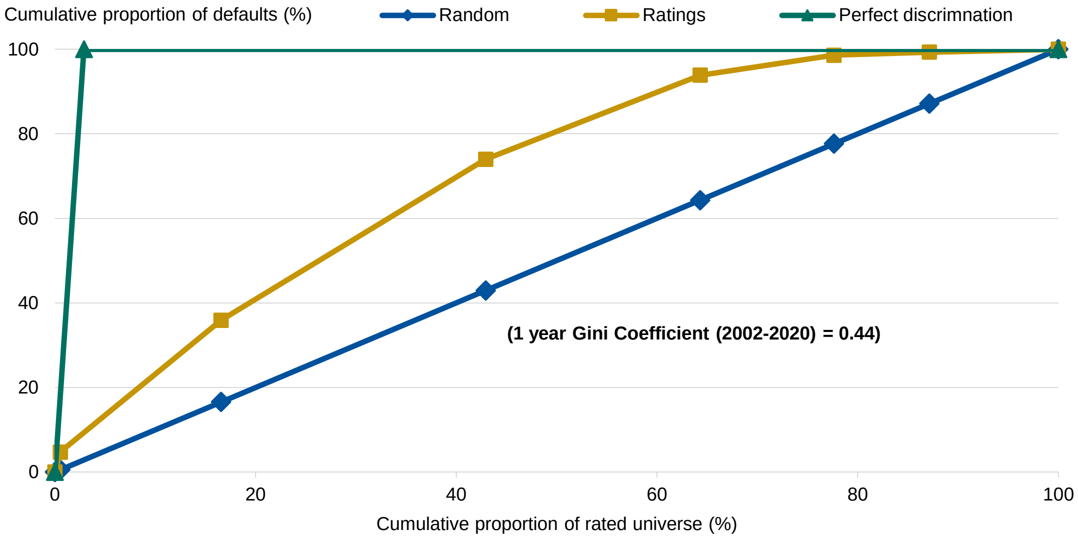
[a] On account of default by five issuers
Note: The study covers 576 defaults which happened during 2005-2020.
Source: Ind-Ra

Average Time to Default

Of the 576 defaults over FY05-FY20, four issuers were initially rated at 'IND AAA'. The average time to default for the investment-grade categories was 42 months while that of the sub-investment categories was 27 months.

Figure 24

Gini Coefficient for Ind-Ra's Ratings



For one-year defaults between 2002 & 2020 across Ind-Ra's Rating Universe
Source: Ind-Ra

Gini Coefficient

For Ind-Ra's overall ratings universe, the Gini coefficient for one–year defaults between FY02 and FY20 stood at 0.44.

The Gini coefficient (also known as the accuracy ratio) is a widely used measure of discriminatory power. It is defined as the area under the cumulative accuracy profile (CAP curve) of the rating model in relation to the area under the CAP curve of a hypothetical perfectly discriminating rating model. However, Ind-Ra does not follow a simple fixed model for assigning ratings. The ratings assigned by Ind-Ra are opinions based on established criteria and methodologies that the agency continuously evaluates and updates. The Gini coefficient, when being applied on Ind-Ra's ratings, provides a summary statistic only for a snapshot of ratings. The Gini coefficient also provides a measure of discrimination between defaults and non-defaults, i.e. of the ability to differentiate relative risks. Just as Ind-Ra's ratings do not imply or convey a specific statistical probability of default, the Gini coefficient does not make a statement about the ratings' correspondence with historical default probabilities. Furthermore, ratings are not facts, and therefore cannot be described as being accurate or inaccurate. Correspondingly, the Gini coefficient (despite its widely used alias) does not constitute a measure of ratings accuracy, but of a measure of degree of discrimination.

Ind-Ra's Transition and Default Methodology

All Ind-Ra's ratings, comprising publicly rated, corporate, financial institutions, project and public finance long-term issuer/issue ratings from 2010 to the present are included in transition and default rate statistics. These do not include short-term ratings and structured finance ratings, for which computations have been shown separately. The study includes corporates, banks, NBFCs, subnational and infrastructure companies: a total of 3,702 corporate finance issuer/issue ratings in FY20.

As per a circular by SEBI, around 52% of the outstanding non-default ratings remained in the non-cooperative category at end-FY20. Majority (84%) of these non-cooperative issuers belong to the sub-investment grade. Issuers migrated to the non-cooperative category are monitored based on the best available information as per the regulations and were included while computing transition and default rates. Computation and statistics which excluded non-cooperative issuers have been indicated in the report.

Ind-Ra's continuing data enhancement efforts may result in different statistics than in previously published studies. Therefore, this most recent study supersedes all previous versions. In addition, comparisons with earlier Ind-Ra's transition and default studies should be viewed within the context of the differing methodologies, whether rating movements were analysed across the broad rating categories or at both the modifier and flat levels.

Transition Rates

To calculate transition rates, Ind-Ra examines the performance of ratings outstanding at the beginning and end of a fiscal year. Withdrawn ratings are excluded from the transition table calculations since they do not fit these criteria; namely, the ratings must be outstanding over a full year or over the full period under observation. For the purpose of computation, Paid in Full - PIF issues are treated as withdrawn ratings. Issuer ratings may reside in multiple cohorts, as long as their ratings are outstanding at the beginning and end of the year, or multiple-year horizons under observation. For example, the annual performance of an issuer rating initiated in 2009 and therefore outstanding at the beginning of 2010 and withdrawn in 2012 would be included in the 2010 and 2011 cohorts. The rating's performance over multiple-year horizons would also be included in the two-year and three-year transition rates for each of the cohorts noted, but excluded from four-year transition rates since the rating was withdrawn in year four, and was not outstanding for four full years as part of any cohort. The occurrence and timing of both rating upgrades and downgrades for corporate issuers can be attributed to changes in qualitative and/or quantitative factors. Both measures are used to assess the business and financial risks of corporate issuers.

The rating transitions outlined in this study represent a distinct historical period, and may not therefore represent future rating migration patterns. Transition rates are influenced by a number of factors, including macroeconomic variables, credit conditions, and corporate strategy. It is useful to examine the performance of Ind-Ra's ratings on a relative scale within each rating category. In addition, it is important to point out that while transition matrices are presented in this study at the flat levels, some statistical analysis was conducted at the modifier level, unless noted otherwise.

Default Rates

Ind-Ra's default rates are calculated on an issuer/issue basis, rather than by Indian rupee amount. From FY20, Ind-Ra has changed its methodology for computation of default statistics and aligned the same to as prescribed by SEBI. Earlier, Ind-Ra used a different methodology, also as prescribed by SEBI.

Ind-Ra employs a static pool approach in calculating its default rates. Static pools are created by grouping ratings according to the month in which the ratings were active and outstanding during the period. These static pools are adjusted for bank loan withdrawals as directed by SEBI. Withdrawn bank loan ratings during the period are excluded from static pool. Issuers newly rated by Ind-Ra in any given month are included in the following month's cohort. For example, the performance of ratings initiated in May 2010 would be followed as part of the June 2010 and future cohorts.

A monthly static pool is formed with respect to each month for different periods, known as cohorts (one year, two year and so on). The 10-year averaging period will have 120 monthly cohorts of one year each. Defaults are then identified for each static pool and individual rating category. For example, if May 2012 static pool consisted of 2,000 issuer ratings outstanding at the beginning of the cohort and if 25 issuers defaulted in next one year, the Marginal Default Rate (MDR1) for first year for May 2012 cohort would be 1.3%. Out of 2,000 issuers, 1,975 issuers that survived the first year and will form base for the second year. If 20 issuers defaulted in the second year, the resultant MDR2 for the second year would be 20/1975=1.01%. Similarly for the third year, 1,955 issuers which survived two years will form base for the third year. If 10 issuers defaulted in the third year, resulting MDR3 for the third year would be 10/1930=0.51%.

For the averaging period under consideration, average MDR1, MDR2 & MDR3 are computed by weighting each cohort's MDRs by the number of ratings outstanding at the beginning of the given cohort, relative to the number of total ratings outstanding for all cohorts i.e. Sum of (MDR for each static pool * issuers outstanding at the beginning of each static pool) / Sum of issuers outstanding at the beginning of the static pool.

To arrive at CDR
1 year CDR: CDR1 = Weighted average MDR_1
2 year CDR: CDR 2 = CDR1 + (1 – CDR1) * Weighted average MDR_2
3 year CDR: CDR 3 = CDR2 + (1 – CDR2) * Weighted average MDR_3

Annexure I

Figure 25

Ind-Ra's Corporate Ratings Average Annual Transition Rates: FY10-FY20

(%)	IND AAA	IND AA	IND A	IND BBB	IND BB	IND B	IND C	IND D	Total
IND AAA	97.05	1.86	0.31	0.16	-	-	0.16	0.47	**100.00**
IND AA	1.16	95.18	2.57	0.33	0.33	0.08	-	0.33	**100.00**
IND A	0.10	4.16	88.40	5.00	0.64	0.20	0.50	0.99	**100.00**
IND BBB	-	-	4.13	87.04	5.26	0.19	0.30	3.07	**100.00**
IND BB	-	-	0.08	3.05	90.57	1.81	0.14	4.35	**100.00**
IND B	-	-	-	0.03	5.52	87.60	0.14	6.71	**100.00**
IND C	-	-	-	-	-	5.13	57.69	37.18	**100.00**

Source: Ind-Ra

Figure 26

Ind-Ra's Corporate Ratings Average Two-Year Transition Rates: FY10-FY20

(%)	IND AAA	IND AA	IND A	IND BBB	IND BB	IND B	IND C	IND D	Total
IND AAA	94.65	3.39	0.53	0.18	-	-	0.18	1.07	**100.00**
IND AA	2.55	90.00	5.31	0.71	0.51	0.20	-	0.71	**100.00**
IND A	0.19	8.61	78.83	7.40	1.28	0.13	0.45	3.13	**100.00**
IND BBB	-	0.08	8.48	75.19	7.93	0.62	0.58	7.12	**100.00**
IND BB	-	-	0.18	6.27	81.95	2.78	0.27	8.56	**100.00**
IND B	-	-	-	0.41	10.55	76.25	0.10	12.67	**100.00**
IND C	-	-	-	-	4.55	2.27	43.18	50.00	**100.00**

Source: Ind-Ra

Figure 27

Ind-Ra's Corporate Ratings Average Three-Year Transition Rates: FY10-FY20

(%)	IND AAA	IND AA	IND A	IND BBB	IND BB	IND B	IND C	IND D	Total
IND AAA	93.59	4.49	0.64	0.21	-	-	-	1.07	**100.00**
IND AA	4.31	85.15	7.74	1.14	0.63	0.25	-	0.76	**100.00**
IND A	0.42	12.41	70.36	8.33	1.67	0.17	0.58	6.08	**100.00**
IND BBB	-	0.24	13.63	65.43	8.26	1.30	0.83	10.32	**100.00**
IND BB	-	-	0.30	9.75	73.45	3.23	0.35	12.93	**100.00**
IND B	-	-	0.08	0.93	15.57	64.55	-	18.87	**100.00**
IND C	-	-	-	4.76	9.52	-	47.62	38.10	**100.00**

Source: Ind-Ra

Annexure II

Figure 28

Ind-Ra's Structured Finance Ratings' Average Annual Transition Rates: FY10-FY20

(%)	IND AAA(SO)	IND AA(SO)	IND A(SO)	IND BBB(SO)	IND BB(SO)	IND B(SO)	IND C(SO)	IND D	Total
IND AAA(SO)	100.00	-	-	-	-	-	-	-	**100.00**
IND AA(SO)	2.02	97.64	-	-	-	0.34	-	-	**100.00**
IND A(SO)	1.69	10.13	86.92	0.42	0.84	-	-	-	**100.00**
IND BBB(SO)	1.10	3.66	14.29	80.95	-	-	-	-	**100.00**
IND BB(SO)	-	-	-	21.43	78.57	-	-	-	**100.00**
IND B(SO)	-	-	-	-	-	66.67	-	33.33	**100.00**
IND C(SO)	-	-	-	-	-	-	-	100.00	**100.00**

Source: Ind-Ra

Figure 29

Ind-Ra's Structured Finance Ratings' Average Three-Year Transition Rates: FY10-FY20

(%)	IND AAA(SO)	IND AA(SO)	IND A(SO)	IND BBB(SO)	IND BB(SO)	IND B(SO)	IND C(SO)	IND D	Total
IND AAA(SO)	100.00	-	-	-	-	-	-	-	**100.00**
IND AA(SO)	-	96.55	-	-	-	1.72	-	1.72	**100.00**
IND A(SO)	-	47.62	52.38	-	-	-	-	-	**100.00**
IND BBB(SO)	11.11	17.46	44.44	26.98	-	-	-	-	**100.00**
IND BB(SO)	-	-	-	-	-	-	-	-	**100.00**
IND B(SO)	-	-	-	-	-	-	-	-	**100.00**
IND C(SO)	-	-	-	-	-	-	-	-	**100.00**

Source: Ind-Ra

Annexure III: Regulatory Disclosures of Default and Transition Rates

1. Disclosure of Default Rates as per SEBI Circular SEBI/HO/MIRSD/DOS3/CIR/P/2019/70 dated 13 June 2019

Figure 30
1. Long-run Average Default Rates for Long-term Instruments (%)

Rating category	1-year default rate	2-year cumulative default rate	3-year cumulative default rate
AAA	0.21	0.45	0.63
AA	0.17	0.47	0.93
A	0.98	2.72	4.88
BBB	2.54	5.90	9.25
BB	4.44	8.60	12.63
B	6.24	12.69	20.24
C	25.03	36.64	41.37

Source: Ind-Ra

Figure 32
2. Long-run Average Default Rates for Short-term Instruments (%)

Rating category	1-year default rate
A1+	0.40
A1	1.14
A2	1.93
A3	2.06
A4	3.52

Source: Ind-Ra

Figure 31
1. Short-run Average Default Rates for Long-term Instruments (%)

Rating category	1-year default rate	2-year cumulative default rate	3-year cumulative default rate
AAA	0.77	1.39	1.76
AA	0.46	1.03	1.78
A	1.05	3.09	5.66
BBB	3.07	6.56	9.88
BB	4.50	7.79	11.21
B	5.94	11.81	20.50
C	45.26	43.15	48.53

Source: Ind-Ra

Figure 33
4. Short-run Average Default Rates for Short-term Instruments (%)

Rating category	1-year default rate
A1+	0.70
A1	1.35
A2	2.10
A3	3.11
A4	4.80

Source: Ind-Ra

Note: Disclosures made are as per SEBI circular “SEBI/HO/MIRSD/DOS3/CIR/P/2019/70”, dated 13 June 2019. Though methodology employed has been consistent, it may not be comparable with default rates published under Figure 17 & Annexure IV. These disclosures include SF ratings while computing default rates and should be used for comparison with the benchmarks. Non co-operative issuers are included while computing CDRs.

2. Disclosure of Average one-year transition rates for long-term ratings for the last five Financial Years, as per SEBI Circular SEBI/HO/MIRSD/DOS3/CIR/P/2018/140 Dated 13 November 2018

Figure 34

Average One-year Transition Rates for Long-term Ratings[a] for the Last 5-Financial Year Period Ending March 2020 (%)

Rating category	AAA	AA	A	BBB	BB	B	C	D
AAA	97.69	1.49	0.14	0.14	0.0	0.0	0.14	0.41
AA	1.19	95.12	2.29	0.40	0.40	0.20	0.0	0.40
A	0.13	4.58	88.46	4.97	0.40	0.13	0.27	1.06
BBB	0.0	0.05	5.04	86.82	5.28	0.15	0.10	2.57
BB	0.0	0.0	0.06	4.85	84.73	2.98	0.06	7.33
B	0.0	0.0	0.0	0.23	11.15	79.73	0.11	8.78
C	0.0	0.0	0.0	0.0	0.0	0.0	31.82	68.18

[a] Long-term ratings include ratings on structured instruments, however in case of a significantly higher number of tranches of differing seniority but same rating, a cap of three tranches per rating category per issuer has been applied.
Source: Ind-Ra

Note: Above transition table have been computed on issuer/issue basis and excluded issuers that turned non-cooperative during the year, as per SEBI circular SEBI/HO/MIRSD/DOS3/CIR/P/2018/140 dated 13 November 2018. These may not be comparable with transition table as published in Annexure II and elsewhere in report.

Annexure IV

Figure 35

Average Cumulative Default Rates (FY10-FY20)

(%)	Year One	Year Two	Year Three	Year Four	Year Five
AAA	0.48	1.01	0.95	0.85	0.98
AA	0.33	0.64	0.77	1.18	1.88
A	0.95	2.78	4.91	6.53	6.80
BBB	2.71	5.49	7.45	9.11	11.27
BB	3.83	6.61	8.89	9.95	11.43
B	5.82	9.25	12.35	14.15	16.48
C	29.79	23.17	18.31	19.40	20.00
Investment Grade	**1.71**	**3.62**	**5.07**	**6.22**	**7.20**
Speculative Grade	**4.82**	**7.78**	**10.35**	**11.79**	**13.68**
All	**3.37**	**5.76**	**7.67**	**8.84**	**10.02**

Note: The cumulative default rate (CDR) presented here are as per old methodology and may not be comparable to as presented in Figure 17 & Annexure III. The CDR represents the likelihood of an entity that was rated at the beginning of any multi-year period defaulting at any time during the multi-year period.

- CDR for rating category X = No. of issuers which defaulted over the multi-year period/static pool.
- Static pool comprises non-defaulted issuers outstanding at the beginning of the multi-year period.
- All averaging across static pools for default rate computations are based on the weighted average method where the weights are the number of ratings in each static period.

Source: Ind-Ra