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Transition and Default Study – FY24

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India Ratings and Research's (Ind-Ra) ratings are forward-looking opinions on the creditworthiness of issuers, that reflect both qualitative and quantitative factors. Credit rating involves analysis of key factors clubbed under business, financial and management risk parameters of the issuer. This assessment includes factors such as industry risk, operating environment, market position, management and accounting policies, company's policies in relation to operating strategies, acquisitions and divestitures, leverage targets, dividend policy and financial goals. An important component in the analysis is the company's ability to generate cashflows, which is reflected in the ratios that measure profitability and coverage on a cash flow basis. 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, demand, inflation and interest rate. Ind-Ra's ratings are opinions based on all the 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 from other sources deemed credible.

Ind-Ra's Transition and Default (T&D) study is designed to provide an accurate summary of the rating performance of the agency. The methodology incorporates the best of the regulatory prescriptions and global practices. These statistics are based on long-term trends in rating movements experienced by Ind-Ra's co-operating issuer rated universe, comprising publicly rated corporate, financial institutions, infrastructure finance, public finance and structured finance issue/issuer ratings during the specified period.

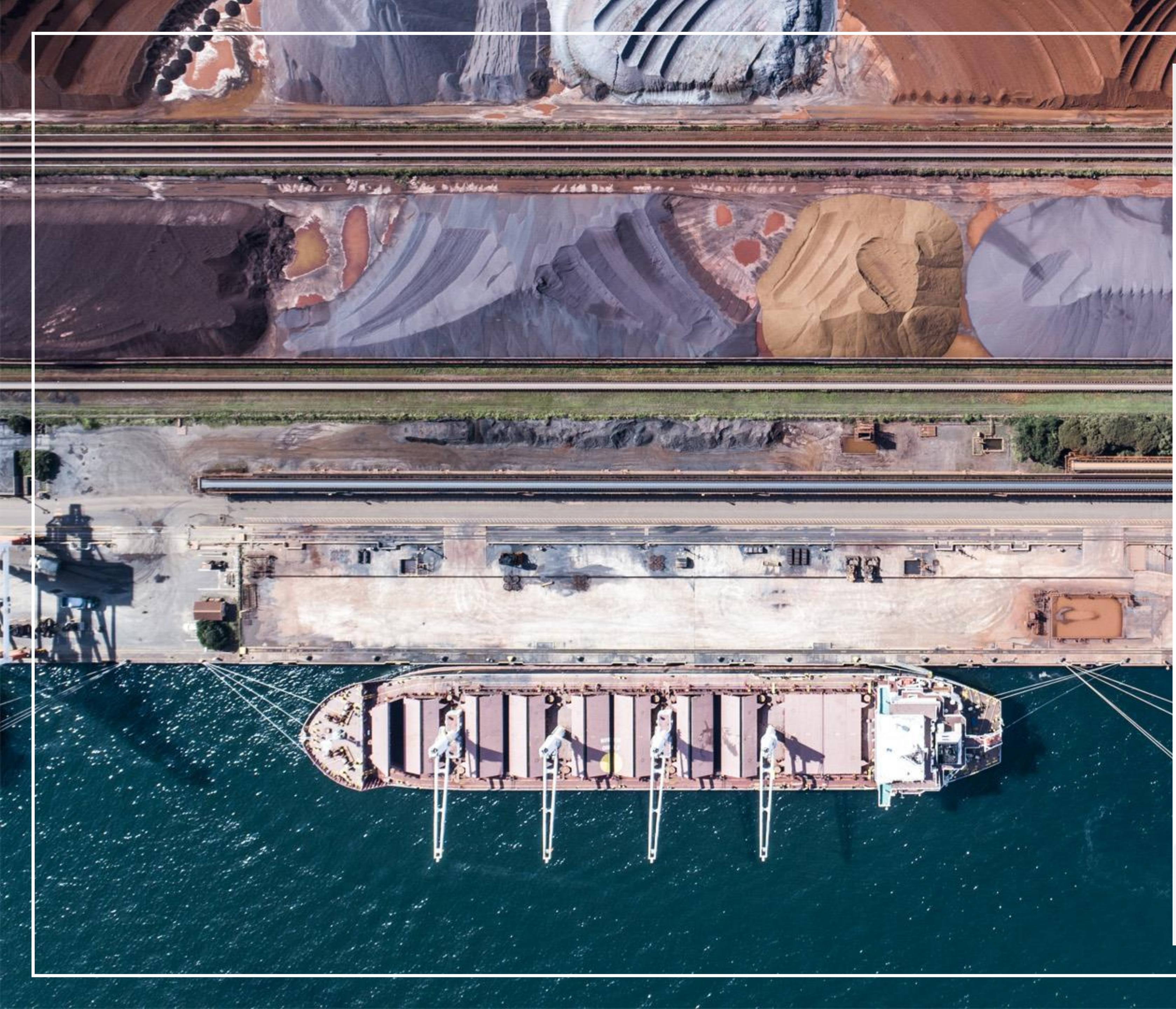
This accurate study will support investors in understanding the credit risks of their exposure and aid in arriving at an informed decision.

Highlights

1. The Adjusted Cumulative Default Rates (CDRs)[a] for FY24 have **improved** across all rating categories.
2. There have never been default in the **IND AAA category in one-, two- or three-year period**, except defaults from **one group due to unprecedented circumstances**.
3. Overall annual default rate for FY24 remained **low** at 0.9%.
4. Downgrade to Upgrade (D-U) ratio stayed **low** at 0.37 in FY24 (0.26 in FY23). Pace of upgrades moderated during FY24.
5. Rating movement was slightly higher at 20.9% in FY24, amid marginal increase in the negative rating actions.
6. Stability rates and Rating Safety[b] for investment grade ratings **exhibited ordinality** across rating categories and remained largely in line with historical long-term trends.
7. CDRs and Transition rates for Structured Finance Instrument ratings **remained robust.**
8. Long-term Gini coefficient for one-year defaults between FY02-24 (22 years) stood at 0.56 compared to 0.54 for FY02-23.

[a] **Adjusted CDRs** have been computed after excluding isolated defaults arising out of unprecedented circumstances. Refer to slide 17 for further details
[b] Ind-Ra defines **Rating Safety** as percentage of ratings that were either upgraded or remained stable. Refer to slide 27 for further details

Contents

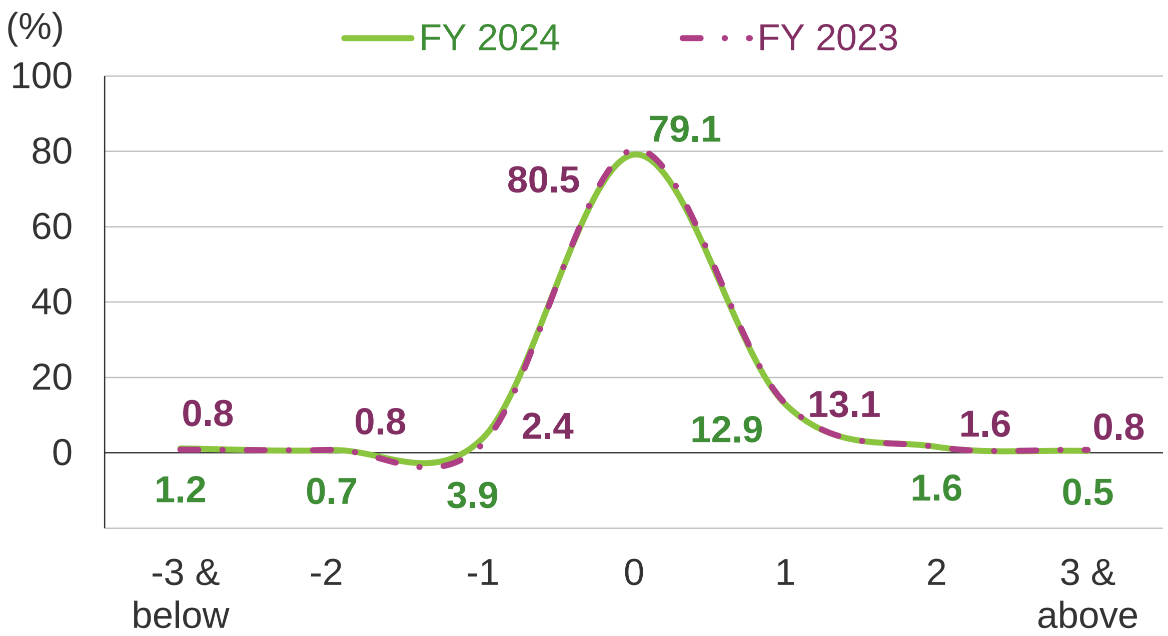


1

Rating Movement and Overall Annual Default Rate

Rating Movement- Negative Rating Actions Marginally Up

Figure 1: Rating Movement



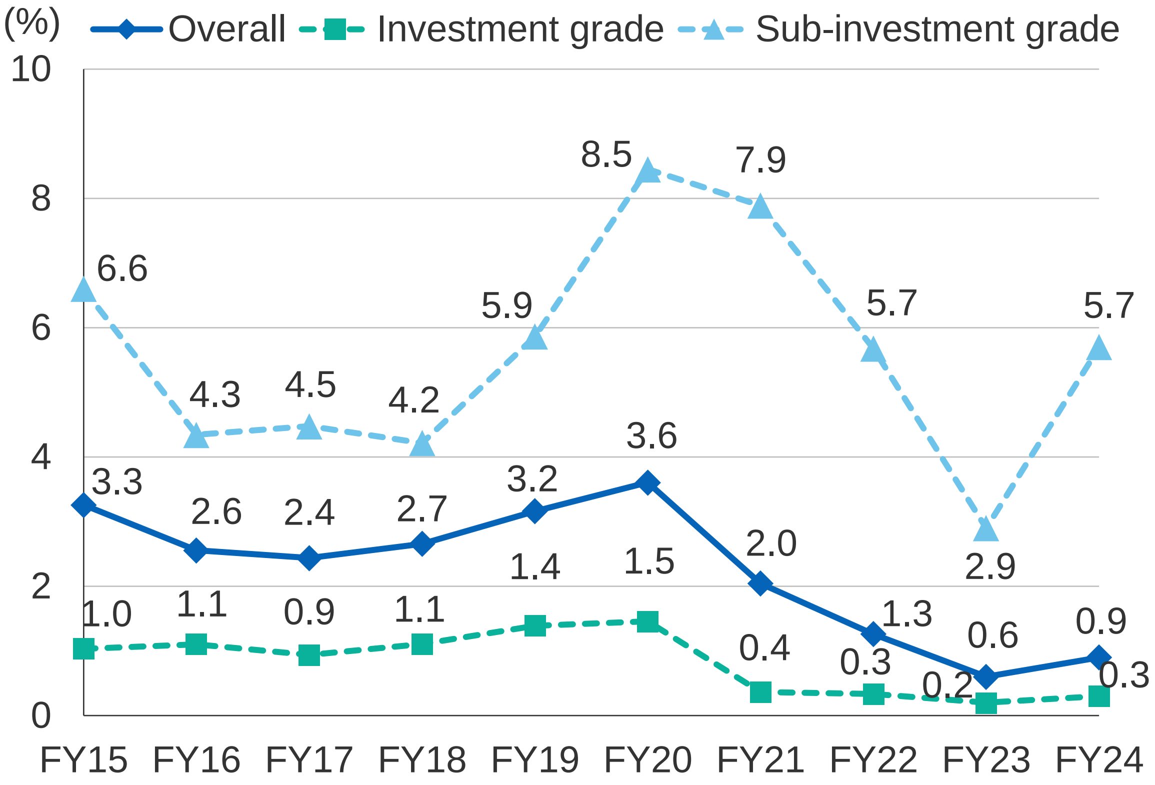
Note: X-axis represents notch change during the year from the outstanding rating level at start of the year. Does not include rating movement of issuers that were non-cooperative at start of FY
Source: Ind-Ra

- Proportion of upgrades at 15.1% in FY24 marginally declined compared to 15.5% during FY23, while the proportion of downgrades slightly increased to 5.8% from 4.0%. Multi-notch downgrades of three and above notches also increased to 1.2% in FY24 from 0.8% in FY23.

- Rating movement (the number of upgrades and downgrades as a proportion of the number of ratings outstanding during the year) slightly increased to 20.9% in FY24 from 19.5% for FY23 because of the increased proportion of downgrades.
- Sub-investment grade ratings witnessed higher rating movement at 35.2% in FY24 compared to 32.4% in FY23. Investment grade rating movement slightly increased to 18.9% during FY24 from 17.3% during FY23.
- During FY24, positive rating actions in investment grade was nearly same at 14.3% compared to 14.4% in FY23, while it decreased for sub-investment grade to 20.7% from 24.3%.
- Negative rating actions moved up marginally. Increase was primarily due to near doubling of downgrades of sub-investment grade ratings to 14.5% in FY24 (FY23: 8.2%). Investment grade ratings witnessed a marginal increase (FY24: 4.6%, FY23: 2.9%).
- Rating movement during FY24 remained in line with Ind-Ra's expectation of upgrades outpacing downgrades, albeit at a moderate pace.

Overall Annual Default Rate Remained Low

Figure 2: Overall Annual Default Rate



Note: Overall Annual Default rate represents the proportion of default ratings during the year from the total number of non-default cooperative ratings outstanding at beginning of the year excluding withdrawn ratings. Defaults from issuers who were non-cooperative at beginning of FY is not included.
Source: Ind-Ra

- Ind-Ra's overall annual default rate in FY24 remained low at 0.9% (FY23: 0.6%), as corporates, even with lower credit ratings, had access to funds from financial institutions, helping meet their liquidity needs. Soft commodity prices during FY24 supported the rated entities' cash flows, despite the initial concerns on elevated cost of debt and high inflation. Geopolitical issues, be it ongoing wars or weak global economic conditions, have had limited impact on the credit profiles till now. All the defaults, except for five, were rated in the sub-investment grade category mostly because of issuer specific reason and were not from sectoral trends.
- Of the cooperative ratings defaults during FY24, 66% were from sub-investment grade (FY23: 66%). In FY24, the investment-grade default rate remained low at 0.3% (FY23: 0.2%) while the sub-investment grade default rate almost doubled to 5.7% (2.9%). Sub-investment grade ratings are highly susceptible to small changes in the underlying credit risk parameters. Default rate for sub-investment grade ratings are also sensitive to nominal increase in count of defaults because of low number of outstanding cooperative ratings.
- 10-year (FY15-FY24) average annual default rate for Ind-Ra's rated portfolio were at 2.4%.

2

Rating Distribution

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Ind-Ra's Rating Universe – Modal Rating at Investment Grade

Figure 3: Rating Distribution

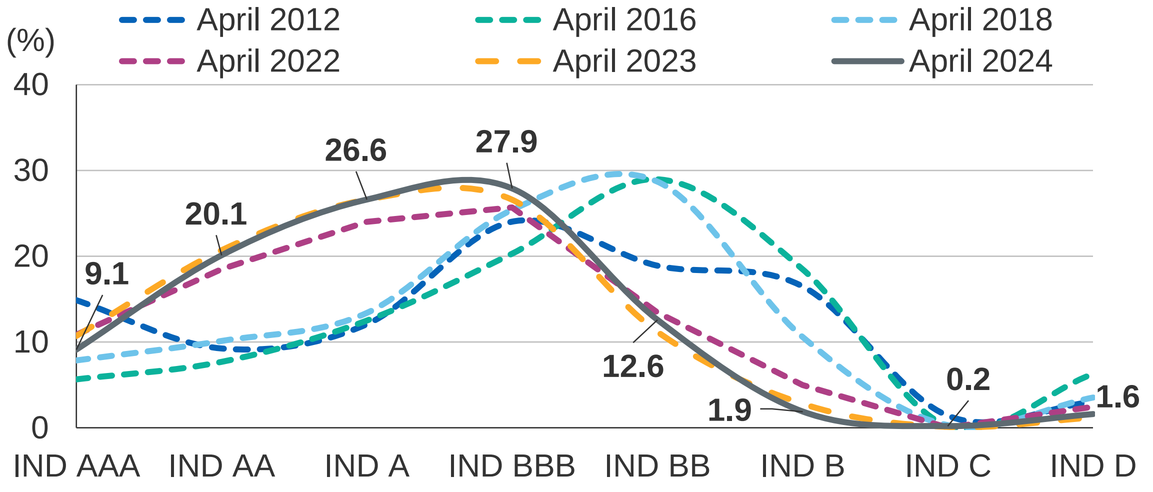
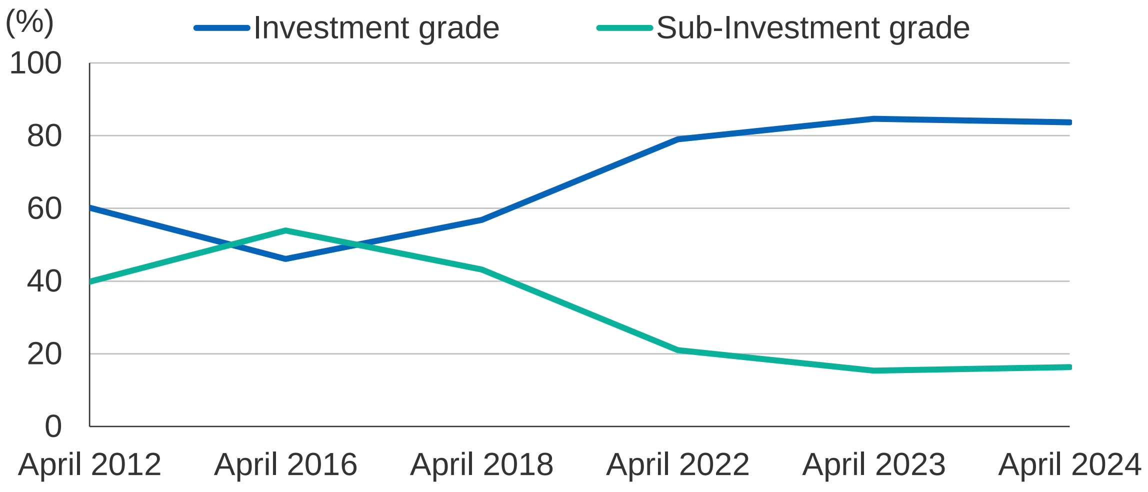


Figure 4: Rating Distribution Mix



Note: Distribution is based on overall cooperative ratings and structured finance ratings as on 1st April of each year. Distribution is on issuer/issue basis
Source: Ind-Ra

- Ind-Ra's modal rating level had transitioned to IND BBB in April 2018 and remained so at beginning of April 2024. The transition has mainly been because of significant rise in non-cooperation by issuers with bank loans ratings in the BB and below categories, which are excluded from the data set. As of April 2024, 84% of Ind-Ra' overall cooperative ratings were in investment grade compared to 46% as of April 2016 (SEBI's "Issuer Not Cooperating" directives came into effect in November 2016).
- Earlier modal rating level had transitioned into the sub-investment grade category i.e. IND BB in April 2014, and remained unchanged till April 2018. This transition has mainly been due an to increase in BLR assignments, which increased the proportion of sub-investment grade issuers rated for their bank loan facilities.

3

FY24 Rating Performance

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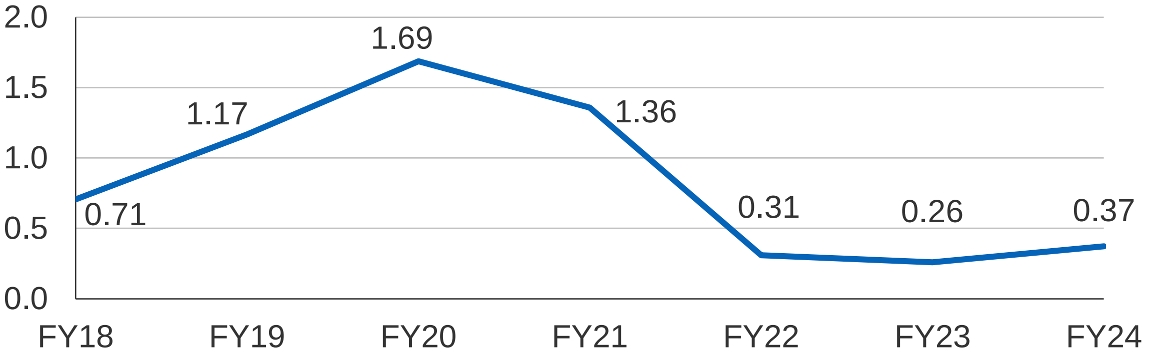
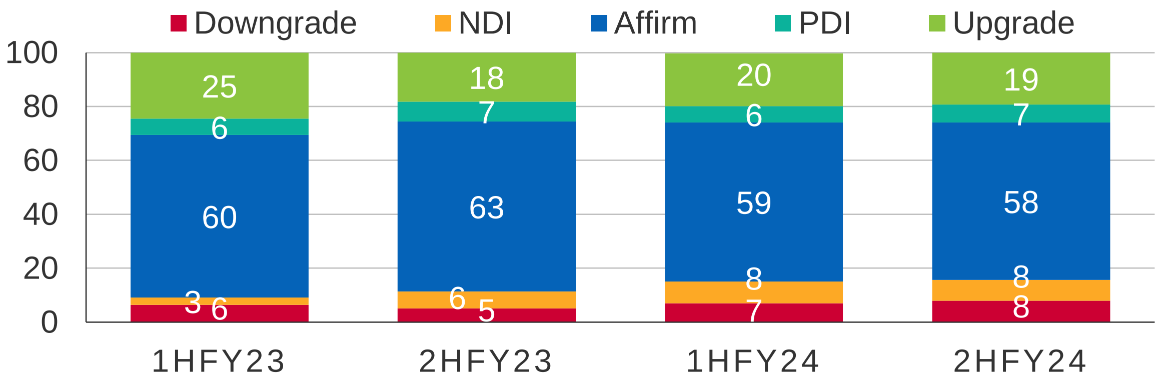
Corporate Credit Profile – FY24: Upgrades Fueled by India's Growth Story

Figure 5: D/U Ratio



Source: Ind-Ra

Figure 6: Half Yearly Rating Action Distribution



Source: Ind-Ra

Direction indicators are Outlooks and Rating Watches

NDI- Negative movement in Directional Indicator, PDI- Positive movement in Directional Indicator

- Corporate downgrade to upgrade (D-U) ratio remained low at 0.37 of the co-operative reviewed ratings in FY24 (FY23: 0.26).
- FY24 commenced with global macroeconomic challenges, multi-decade high inflation & tighter financial conditions
- However, sound domestic consumption demand, especially in the premium segment, continued government focus on capex spending and strong services growth supported robust economic growth.
- Corporate India's performance were supported by
  - Deleveraged balance sheets
  - Soft commodity prices supporting margins
  - Financial discipline
- Ind-Ra upgraded a total of 312[a] issuers vs 114 downgrades.
- Please refer to Ind-Ra's report Corporate Credit Profile FY24: Upgrades Fueled by India's Continued Growth Story for a detailed analysis.

[a] Analysis includes only co-operative reviewed ratings during FY24, and excludes withdrawn and non-co-operative ratings. Pass through certificates are not included in this count

Industry-wise: Positive Actions Across Sectors

- Net positive rating actions were seen largely across all the sectors, except Textiles
- 19% of reviewed ratings were upgraded in FY24; 7% downgraded
- Three-fourths of reviewed portfolio were affirmed in FY24 (FY23: 73%) – Financial Services and Information Technology amid top affirmed sectors
- Highest number of upgrades in renewable power. Supported by
  - improving operating performance
  - successful completion of capex plans
  - presence of a new strong Sponsor
- Textiles sector witnessed net negative rating actions - the number of negative rating actions were twice that of positive rating actions
  - Driven by inability to pass on increase in raw material prices
  - Lower demand from key export markets impacting revenue visibility & profitability

Figure 7: Top Industry Rating Changes – FY24

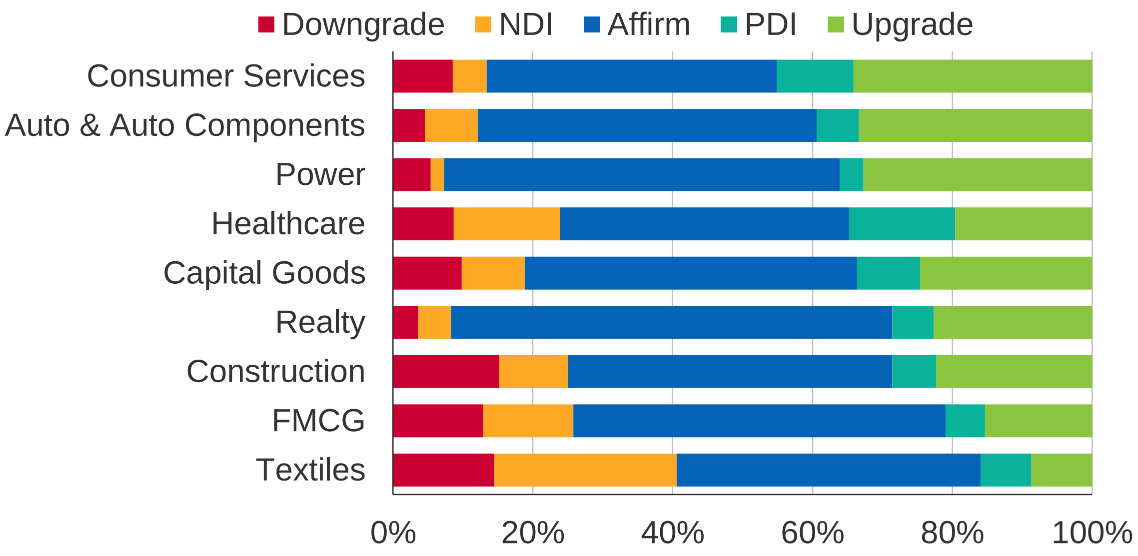
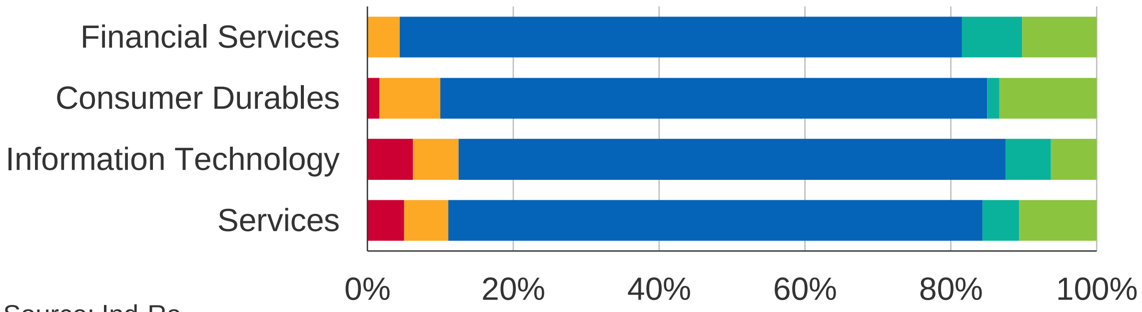


Figure 8: Top Industry Affirmations – FY24



Source: Ind-Ra

Key Drivers for Upgrade & Downgrade

- Improvement in the revenue profile was the leading reason for the upgrades. This improvement can be attributed to spurt in demand for existing products, higher execution of projects/order book amid demand recovery or higher realisations or higher contribution from launch of new products/additional facilities.
- Improved product mix or improvement in orderbook or successful completion of capex plan with capacities coming online leading to better-than-expected growth in the operating performance was the **next leading reason** for upgrades.
- Liquidity mismatches and pressure on profitability were the major reasons for rating downgrade actions. 27% downgrades driven by liquidity challenges; this was not due to systematic disruptions but were largely from entity-specific issues.
- Pressure on profitability amid inability to pass rise in raw material prices and high competition was the other key reason.
- Nearly third of the downgraded issuers were already on a negative directional indicator.

Figure 9: Key Rating Upgrade Drivers

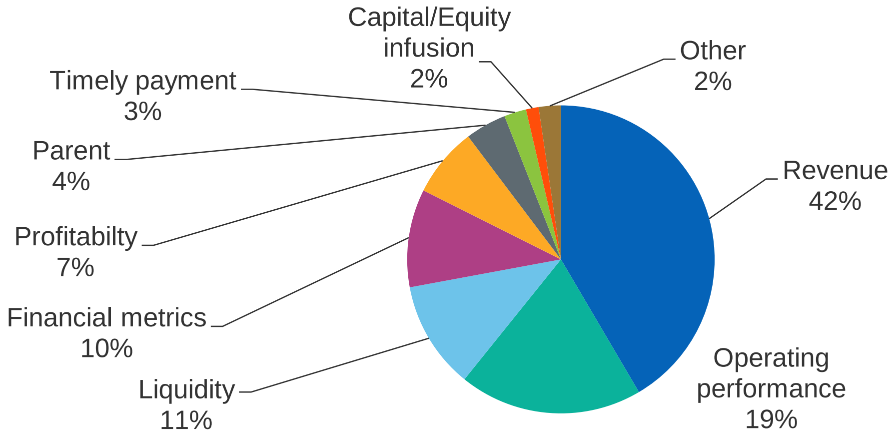
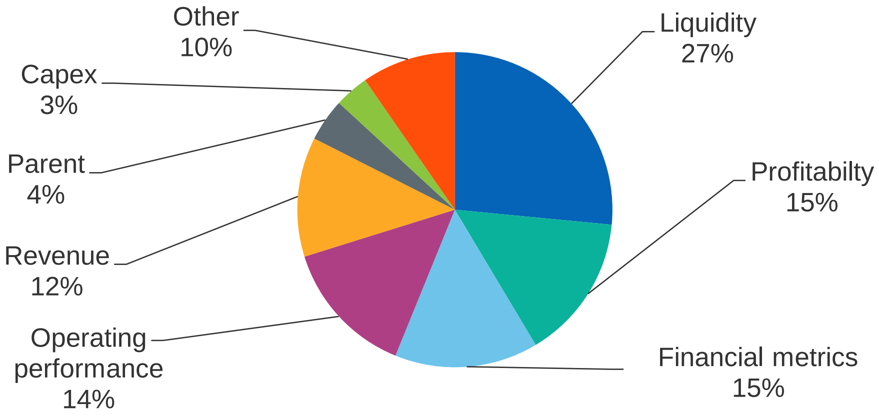


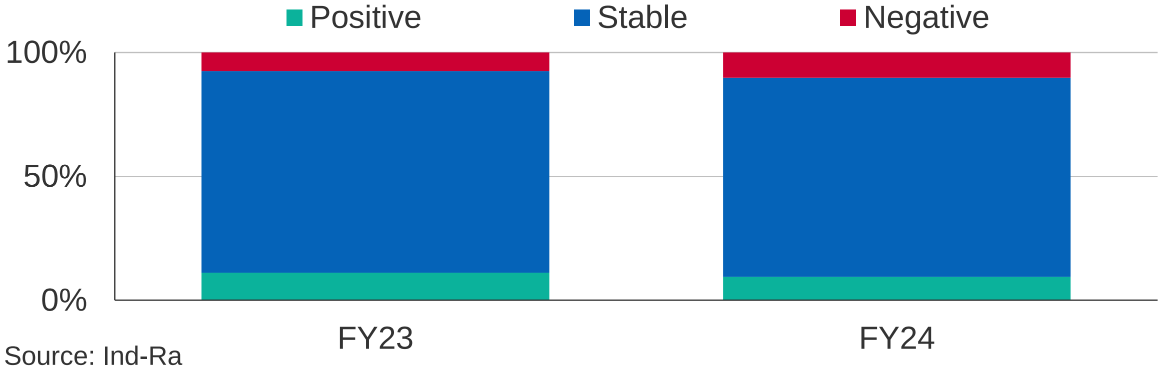
Figure 10: Key Rating Downgrade Drivers



Source: Ind-Ra

Rating Outlook

Figure 11: Rating Outlook FY24 vs FY23

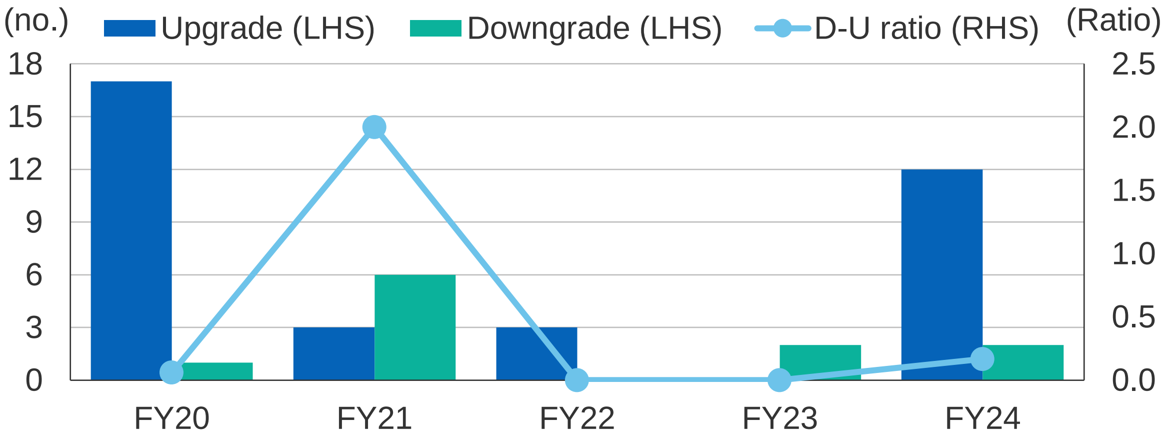


Source: Ind-Ra

- 80% of the ratings were on a stable outlook, indicating large proportion of rated entities are likely to sustain their credit profiles
- 10% of the ratings are also on negative directional indicators, up from 8% a year ago.
- Rating actions to see moderation during FY25, where the upgrades will still continue to exceed downgrades, however D/U ratio is likely to increase further.

Performance of Structured Finance Ratings

Figure 12: Trends in D-U Ratio – SF Universe



Source: Ind-Ra

- In structured finance ratings, positive rating movements were seen in the transactions supported by adequate build-up of credit enhancement (CE) resulting from significant amortisation of the pool since its issuance and there was no utilisation of CE in these transactions. FY24 witnessed twelve upgrades and two downgrades.
- Ind-Ra expects rated transactions to show a stable performance during FY25 across asset classes, largely driven by continuous favourable market sentiments, which have led to improved collection efficiencies.
- Please refer to Performance Reports for Pool Performance of Securitisation Transactions Rated by Ind-Ra.

4

Default Rates

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Default Rates

- Default Rate is the proportion of defaults in rated entities out of the total number of rated entities in the cohort over a time horizon. When calculated for a rating category, default rate provides empirical default probabilities and serves as proxies for expected default probabilities for given rating category. Cumulative Default Rates (CDRs) is used in context to capture default rate over multi-period horizon. Methodology used for computation of CDRs is provided at the Annexure.
- For recognition of default ,Ind-Ra consistently applies its default recognition policy which adheres to the guidelines issued by Securities and Exchange Board of India (SEBI) and Reserve Bank of India (RBI). Ind-Ra considers the first instance of a missed payment of interest or principal amount in full on the pre-agreed date as “default”.
- Ind-Ra employs robust surveillance process to ensure timely rating actions. However, in rare circumstances the credit profile may get impacted from issues that are outside the scope of credit analysis and hence cannot be factored into the ratings. These could be because of corporate frauds, regulatory actions or from unpredictable third-party actions. CDRs presented in this report excludes some of these defaults, which Ind-Ra believes were under unprecedented circumstances and are possibly isolated incidents. This would provide an unbiased perspective of Ind-Ra’s ability to factor in credit risks and thereby predict defaults. Ind-Ra would like to highlight that not all defaults occurring due to the circumstances described above have been excluded, as these defaults may not be an isolated incidents, although these circumstances may not be under the scope of credit analysis. For **Adjusted CDRs** presented in this report, Ind-Ra has excluded isolated defaults of IL&FS group related entities, Altico Capital and U.P Power Corporation.
- Two sets of CDRs are presented:
  – **Overall Adjusted Average CDRs:** All credit ratings assigned by Ind-Ra, which includes ratings on debt securities, bank loans and structured finance instrument ratings (Slide 17 & 18). These CDRs are different from the regulatory disclosures available on Ind-Ra's website because of the difference in methodology and removal of isolated defaults. While the cohorts used in regulatory disclosures includes non-cooperating issuers/issuances & isolated defaults, the cohorts used for this study do not include the issuers/issuances that were non-cooperating at the start of the month of the cohort and some isolated defaults, as highlighted above. CDRs from regulatory disclosures can be found on Ind-Ra website.
  – **CDRs for Structured Finance Instrument Ratings:** Includes only structured finance ratings, namely, instruments / pay-outs resulting from securitization transactions. (Slide 19 & 20).

Overall Adjusted Average CDRs – As on 31 March 2024

(Excluding isolated defaults arising out of unprecedented circumstances)

Figure 13: Adjusted Average CDRs – 2024

(%)	Weighted average for last 5 years			Weighted average for last 10 years		
	1-year	2-year	3-year	1-year	2-year	3-year
IND AAA	0.0	0.0	0.0	0.0	0.0	0.0
IND AA	0.0	0.3	0.4	0.0	0.2	0.5
IND A	0.3	0.8	1.6	0.5	1.5	2.8
IND BBB	1.5	3.3	4.8	1.7	4.4	6.9
IND BB	5.4	9.4	11.9	4.7	8.6	11.7
IND B	7.9	12.4	14.6	6.3	11.1	15.8
IND C	35.6	35.6	35.6	32.7	41.6	44.2
Investment grade	0.6	1.4	2.2	0.8	2.1	3.3
Sub-investment grade	6.2	10.3	12.7	5.4	9.6	13.2
Overall	1.8	3.4	4.6	2.3	4.6	6.7

Source: Ind-Ra

- CDRs have declined or remained stable across all investment grade categories, default period and over longer and shorter period of averaging in FY24 compared to FY23.
- Sub-investment grade CDRs have seen marginal increase in shorter period averaging. This is largely because a small increase in incremental defaults amplify CDRs for rating categories with small static pool.
- CDRs continue to exhibit ordinality across categories and default period.

Overall Adjusted Average CDRs – As on 31 March 2023

(Excluding isolated defaults arising out of unprecedented circumstances)

Figure 14: Adjusted Average CDRs – 2023

	Weighted average for last 5 years			Weighted average for last 10 years		
(%)	**1-year**	**2-year**	**3-year**	**1-year**	**2-year**	**3-year**
IND AAA	0.0	0.0	0.0	0.0	0.0	0.0
IND AA	0.0	0.3	0.7	0.0	0.2	0.5
IND A	0.4	0.9	1.7	0.7	1.7	3.1
IND BBB	1.8	4.3	6.6	2.0	4.8	7.6
IND BB	5.2	9.2	11.9	4.7	8.8	12.0
IND B	6.7	11.5	16.1	6.3	11.3	16.1
IND C	51.4	51.4	51.4	28.3	37.0	39.6
Investment grade	0.8	1.9	3.0	0.9	2.3	3.7
Sub-investment grade	5.8	10.0	13.3	5.4	9.8	13.5
Overall	2.3	4.4	6.2	2.5	5.0	7.2

Source: Ind-Ra

- Shorter averaging period CDRs tend to be volatile compared to longer averaging period CDRs. Longer horizon captures multiple credit cycle and averaging over longer horizon smoothens the CDRs by capturing default behavior observed over multiple cycles.
- In line with SOP for monitoring and recognition of Defaults, Ind-Ra has considered default for three investment grade ratings for computation of default rates following defaults on unrated debt of same seniority. Instrument ratings were not downgraded to default in these cases.
- Default rates for Short-Term (ST) ratings are on slide 36.

CDRs for Structured Finance Instrument Ratings – As on 31 March 2024

Figure 15: CDRs for Structured Finance Instrument Ratings – 2024

	Weighted average for last 5 years			Weighted average for last 10 years		
(%)	1-year	2-year	3-year	1-year	2-year	3-year
IND AAA(SO)	0.0	0.0	0.0	0.0	0.0	0.0
IND AA(SO)	0.1	0.5	0.5	0.0	0.3	0.3
IND A(SO)	0.2	0.2	0.6	0.1	0.1	0.3
IND BBB(SO)	0.1	0.1	0.1	0.0	0.0	0.0
IND BB(SO)	0.0	0.0	4.8	0.0	0.0	1.4
IND B(SO)	0.0	0.0	0.0	0.7	8.6	8.6
IND C(SO)	100.0	100.0	100.0	100.0	100.0	100.0
Investment grade	0.1	0.1	0.2	0.0	0.1	0.1
Sub-investment grade	3.4	3.4	7.3	2.0	3.8	4.8
Overall	0.1	0.2	0.3	0.1	0.2	0.2

Source: Ind-Ra

- CDRs presented in this section includes all structured finance rating, namely instruments/ pay-outs resulting from securitization transactions. Ratings of these instruments carry an “SO” suffix.
- Rating population of Structured Finance instrument ratings is concentrated in the high investment grade. These instruments are usually paid in full within span of 2-4 years, resulting in sparse data points for 3-year cohort. Presence of few ratings in sub-investment grade have resulted in comparatively higher default rates for these categories.
- None of the Structured Finance instruments rated ‘IND AAA(SO)' has ever defaulted. The non-zero default rate for IND AA(SO) category is on the account of default in a single PTC instrument during FY21 because of operational delay in concluding the audit and transferring the collections from the underlying loans into the SPV trust account.

CDRs for Structured Finance Instrument Ratings – As on 31 March 2023

Figure 16: CDRs for Structured Finance Instrument Ratings – 2023

	Weighted average for last 5 years			Weighted average for last 10 years		
(%)	1-year	2-year	3-year	1-year	2-year	3-year
IND AAA(SO)	0.0	0.0	0.0	0.0	0.0	0.0
IND AA(SO)	0.1	0.4	0.4	0.0	0.3	0.3
IND A(SO)	0.2	0.2	0.2	0.1	0.1	0.1
IND BBB(SO)	0.0	0.0	0.0	0.0	0.0	0.0
IND BB(SO)	0.0	0.0	0.0	0.0	0.0	0.0
IND B(SO)	1.2	9.4	9.4	0.8	9.3	9.3
IND C(SO)	100.0	100.0	100.0	100.0	100.0	100.0
Investment grade	0.1	0.1	0.1	0.0	0.1	0.1
Sub-investment grade	3.2	4.9	4.9	2.1	3.8	3.8
Overall	0.1	0.2	0.2	0.1	0.2	0.2

Source: Ind-Ra

- SF transactions are collateralised by a broad spectrum of financial assets. Mortgage loans secured by residential and commercial properties, consumer assets such as and auto loans, and corporate loans and securities are the most common assets that are securitised. Ind-Ra broadly classifies SF transactions into four main sectors: RMBS, CMBS, ABS, and structured credit. Within these sectors, there is a variety of subsectors; for example, the ABS sector encompasses consumer assets (e.g. auto loans, personal loans, and student loans, among others) and commercial assets (aircraft leases, franchise loans, and corporate-linked future flows, among others).
- Ind-Ra's rating analysis is based upon the prevailing relevant legal framework and generally does not address the impact of unforeseen changes to the law (including taxation related legislation).

5

Transition and Stability

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Transition Rates

- Transition Rate is proportion of ratings that migrate from one rating category to another over a set time period. Transition matrices presented in this report shows the movement of ratings across rating categories, and not at a modifier level. The left-hand column of "Transition matrix" identifies ratings outstanding at the beginning of the period, while each row provides information on the migration pattern of those ratings by the end of the period expressed in percentage. The diagonal value reflects the stability of each rating category indicating proportion of ratings that have remained stable over the time period. Transition rates presented in this report covers migration pattern of ratings over one-, two- and three year period. Methodology used for computation of Transition rate is provided at the Annexure.
- Two sets of Transition matrix are presented:
  - **Overall Adjusted Long Term Ratings Transition Matrix:** All credit ratings assigned by Ind-Ra, which includes ratings on debt securities, bank loans and structured finance instrument ratings (Slide 23 & 24). The adjusted Transition Rates excludes isolated defaults of IL&FS group related entities, Altico Capital and U.P Power Corporation which happened due to unprecedented circumstances. These exclusions are similar to that done in CDRs. Transition rates without adjustments are at Slides 37 & 38.
  - **Structured Finance Instrument Ratings Transition matrix :** Includes only structured finance ratings, namely, instruments / pay-outs resulting from securitization transactions. (Slide 25 & 26). There are no exclusions for this statistic.
- The rating stability for issuers rated in higher investment grade have remained high and is ordinal while 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 such as higher susceptibility to economic cycles, restricted access to timely credit and credit discipline/culture issues.
- The transition matrix presented in this report are different from the regulatory disclosures available on Ind-Ra's website because of the difference in averaging period. At both places, Ind-Ra has employed the same methodology; however, for the one presented in this report, the period of averaging is 10 years compared to five years for the regulatory disclosures. 10-year averaging provides long-term transition statistics and is in line with global practices.

Ind-Ra’s Overall Adjusted Long-Term Ratings Transition Matrix

(Average for Past 10 Years – As on 31 March 2024)

Figure 17: One Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	99.0	1.0	-	0.1	-	-	-	-	100
IND AA	2.3	95.4	1.7	0.2	0.2	0.1	-	0.1	100
IND A	0.1	5.1	90.0	3.6	0.4	0.1	0.1	0.5	100
IND BBB	-	0.0	5.4	88.1	4.4	0.2	0.0	1.7	100
IND BB	-	-	0.0	5.8	84.2	2.7	0.1	7.2	100
IND B	-	-	-	0.2	11.0	78.5	0.2	10.1	100
IND C	-	-	-	-	-	3.2	38.7	58.1	100

Figure 18: Two Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	96.2	2.4	1.2	0.2	-	-	-	-	100
IND AA	4.1	90.5	3.7	0.6	0.3	0.2	-	0.5	100
IND A	0.5	10.1	80.3	6.6	0.7	-	0.1	1.8	100
IND BBB	0.6	0.5	10.7	76.0	6.4	0.4	0.0	5.4	100
IND BB	-	-	0.4	10.4	65.2	4.7	0.2	19.1	100
IND B	-	-	-	1.1	18.6	52.5	0.5	27.3	100
IND C	-	-	-	-	4.5	-	13.6	81.8	100

Figure 19: Three Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	95.5	3.7	0.5	0.4	-	-	-	-	100
IND AA	3.3	88.5	5.2	1.4	0.4	0.2	-	0.9	100
IND A	0.6	15.3	70.1	8.8	1.3	-	0.2	3.8	100
IND BBB	-	0.8	14.6	67.0	6.6	0.7	0.1	10.2	100
IND BB	-	-	1.4	11.7	46.9	4.6	0.2	35.2	100
IND B	-	-	0.3	3.1	19.2	28.5	-	49.0	100
IND C	-	-	-	-	5.0	-	5.0	90.0	100

Source: Ind-Ra

Ind-Ra’s Overall Adjusted Long-Term Ratings Transition Matrix

(Average for Past 10 Years – As on 31 March 2023)

Figure 20: One Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	99.1	0.9	-	0.1	-	-	-	-	100
IND AA	1.8	96.0	1.6	0.2	0.2	0.1	-	0.1	100
IND A	0.1	5.0	90.1	3.5	0.5	0.1	0.1	0.6	100
IND BBB	-	0.1	5.7	87.2	4.6	0.2	0.1	2.1	100
IND BB	-	-	0.0	6.0	84.2	2.7	0.1	7.0	100
IND B	-	-	-	0.2	10.6	79.3	0.1	9.8	100
IND C	-	-	-	-	-	5.4	48.6	45.9	100

Figure 21: Two Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	96.3	2.3	1.3	0.2	-	-	-	-	100
IND AA	3.5	90.9	3.8	0.7	0.4	0.3	-	0.5	100
IND A	0.5	9.8	79.9	6.7	1.0	-	0.1	1.9	100
IND BBB	0.6	0.6	11.1	74.6	6.5	0.4	0.1	6.1	100
IND BB	-	-	0.4	11.4	64.8	4.5	0.2	18.7	100
IND B	-	-	-	1.1	19.2	54.1	0.3	25.2	100
IND C	-	-	-	-	7.4	-	18.5	74.1	100

Figure 22: Three Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	95.2	3.9	0.6	0.4	-	-	-	-	100
IND AA	3.6	87.5	5.6	1.6	0.4	0.3	-	1.1	100
IND A	0.6	14.8	69.8	9.1	1.4	-	0.2	4.0	100
IND BBB	-	0.7	14.7	64.7	7.1	0.8	0.1	11.8	100
IND BB	-	-	1.3	13.5	46.4	4.6	0.3	33.9	100
IND B	-	-	0.2	2.8	21.8	29.2	-	45.9	100
IND C	-	-	-	-	9.1	-	4.5	86.4	100

Source: Ind-Ra

Ind-Ra’s Structured Finance Instrument Ratings Transition Matrix
(Average for Past 10 Years – As on 31 March 2024)

Figure 23: One Year Transition Matrix

(%)	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	-	-	-	-	-	-	-	100
IND AA(SO)	0.5	98.2	0.3	-	0.3	0.5	-	0.3	100
IND A(SO)	-	3.4	95.7	0.5	0.5	-	-	-	100
IND BBB(SO)	-	-	3.0	97.0	-	-	-	-	100
IND BB(SO)	-	-	-	11.1	88.9	-	-	-	100
IND B(SO)	-	-	-	-	-	66.7	16.7	16.7	100
IND C(SO)	-	-	-	-	-	-	-	100	100

Figure 24: Two Year Transition Matrix

(%)	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	-	-	-	-	-	-	-	100
IND AA(SO)	-	96.9	0.5	-	0.5	1.0	-	1.0	100
IND A(SO)	-	8.6	91.4	-	-	-	-	-	100
IND BBB(SO)	-	1.7	5.1	93.2	-	-	-	-	100
IND BB(SO)	-	-	-	-	100	-	-	-	100
IND B(SO)	-	-	-	-	-	-	-	100	100
IND C(SO)	-	-	-	-	-	-	-	100	100

Figure 25: Three Year Transition Matrix

(%)	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	-	-	-	-	-	-	-	100
IND AA(SO)	-	96.2	1.0	-	1.0	-	-	1.9	100
IND A(SO)	-	22.5	77.5	-	-	-	-	-	100
IND BBB(SO)	-	6.7	7.6	85.7	-	-	-	-	100
IND BB(SO)	NA	NA	NA	NA	NA	NA	NA	NA	NA
IND B(SO)	-	-	-	-	-	-	-	100	100
IND C(SO)	-	-	-	-	-	-	-	100	100

Source: Ind-Ra

Ind-Ra’s Structured Finance Instrument Ratings Transition Matrix
(Average for Past 10 Years – As on 31 March 2023)

Figure 26: One Year Transition Matrix

(%)	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	-	-	-	-	-	-	-	100
IND AA(SO)	0.3	98.4	0.3	-	0.3	0.5	-	0.3	100
IND A(SO)	-	4.6	94.4	0.5	0.5	-	-	-	100
IND BBB(SO)	-	0.9	4.9	94.2	-	-	-	-	100
IND BB(SO)	-	-	-	11.1	88.9	-	-	-	100
IND B(SO)	-	-	-	-	-	66.7	16.7	16.7	100
IND C(SO)	-	-	-	-	-	-	-	100	100

Figure 27: Two Year Transition Matrix

(%)	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	-	-	-	-	-	-	-	100
IND AA(SO)	-	97.0	0.5	-	0.5	1.0	-	1.0	100
IND A(SO)	-	8.9	89.6	0.5	1.0	-	-	-	100
IND BBB(SO)	-	2.2	7.6	90.2	-	-	-	-	100
IND BB(SO)	-	-	-	-	100	-	-	-	100
IND B(SO)	-	-	-	-	-	-	-	100	100
IND C(SO)	-	-	-	-	-	-	-	100	100

Figure 28: Three Year Transition Matrix

(%)	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	-	-	-	-	-	-	-	100
IND AA(SO)	-	95.5	1.1	-	1.1	-	-	2.3	100
IND A(SO)	-	29.9	70.1	-	-	-	-	-	100
IND BBB(SO)	-	8.0	12.5	79.5	-	-	-	-	100
IND BB(SO)	NA	NA	NA	NA	NA	NA	NA	NA	NA
IND B(SO)	-	-	-	-	-	-	-	100	100
IND C(SO)	-	-	-	-	-	-	-	100	100

Source: Ind-Ra

Ind-Ra's Overall Adjusted Long-Term Rating Safety

(Excluding rating migrations of isolated defaults arising out of unprecedented circumstances)

Figure 29: Rating Safety (FY24) – Upgrade + Stable

	1-year	2-year	3-year
IND AAA	99.0	96.2	95.5
IND AA	97.7	94.7	91.8
IND A	95.3	90.8	86.0
IND BBB	93.6	87.8	82.4
IND BB	90.0	76.0	60.0
IND B	89.7	72.2	51.0
IND C	41.9	18.2	10.0

Based on adjusted transition matrices of past 10 years average
Source: Ind-Ra

- Higher values of rating safety indicates that the rating category has experienced fewer downgrades. IND AAA category has shown greater resilience and barring few isolated defaults, only a few sporadic downgrades from IND AAA category within investment grade was observed.
- Investment grade rated categories have exhibited high 1-year safety at above 90%.
- Lower safety for IND BB and below categories might be due to multiple factors such as timely availability of liquidity at right cost, credit discipline/culture and more importantly very high vulnerability to changes in economic conditions.

Safety for each rating category indicates the percentage of ratings that either have remained in the same category or upgraded during the period. The long-term trend of rating safety of Ind-Ra's assigned ratings is ordinal across rating categories. High safety indicates historically these ratings have faced fewer negative rating transitions from those categories.

Ind-Ra's Structured Finance Instrument Rating Safety

Figure 30: Rating Safety – SF (FY24) – Upgrade + Stable

	1-year	2-year	3-year
IND AAA(SO)	100.0	100.0	100.0
IND AA(SO)	98.7	96.9	96.2
IND A(SO)	99.1	100.0	100.0
IND BBB(SO)	100.0	100.0	100.0
IND BB(SO)	100.0	100.0	NA
IND B(SO)[a]	66.7	0.0	0.0
IND C(SO)[a]	0.0	0.0	0.0

[a] There has been single instrument rated ND C(SO) and couple of instruments rated IND B(SO) during last 10 years.

Based on transition matrices of past 10 years average

Source: Ind-Ra

- Structured Finance instruments rating have exhibited better safety compared to Overall Rating safety for Ind-Ra ratings.
- Significant number of Structured Finance instruments have been upgraded compared to few downgrades resulting in higher Safety rates.
- Ind-Ra expects a majority of securitisation transactions to continue to report a stable performance in FY25, on account of the consistent performance of underlying loan assets. For details please refer to FY25 Outlook for Structured Finance.

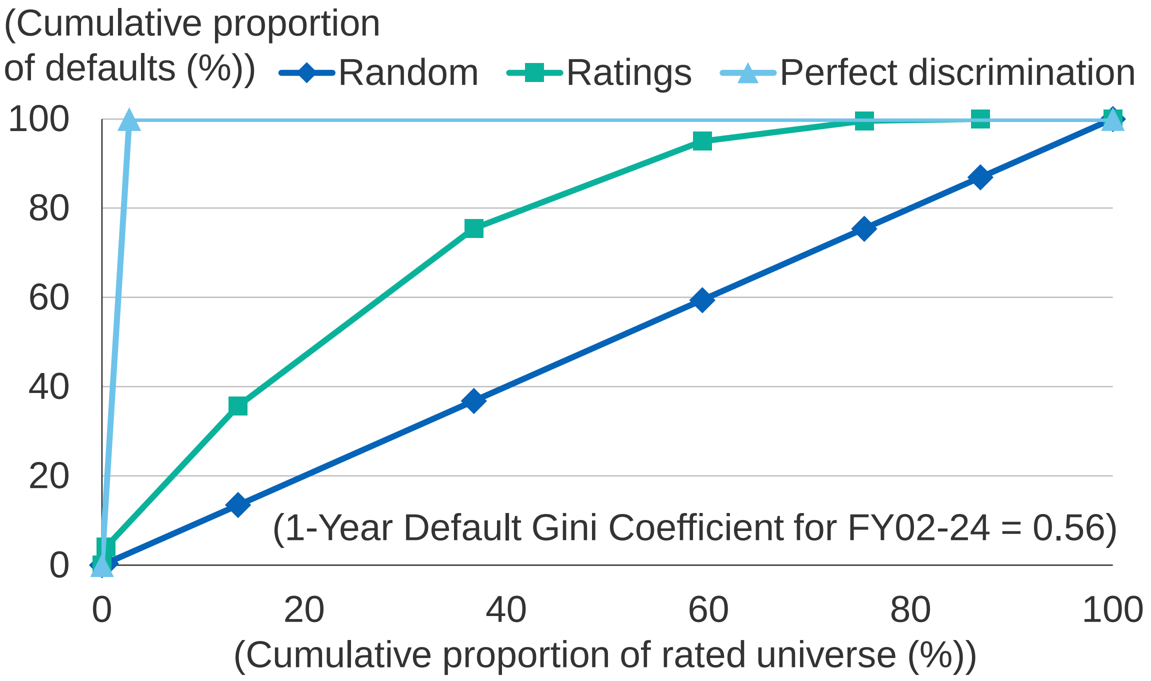
6

Gini Coefficient and Cap Curve

India Ratings & Research
A Fitch Group Company

Gini Coefficient – Long-Term Continues to Improve

Figure 31: Gini Coefficient



For one-year defaults during FY02-22 across Ind-Ra's Rating Universe excluding ratings that were non-cooperative at beginning of year
Source: Ind-Ra

- The ratings assigned by Ind-Ra are opinions based on the 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 and provides measure of discrimination between defaults and non-defaults, i.e. of the ability to differentiate relative risks.
- Gini coefficient of Ind-Ra's assigned ratings edged down to **0.64 in FY24 (FY23:0.71 & FY22:0.74)**, primarily from isolated default in AA cat. Without the isolated default Gini coefficient for FY24 is **0.71**.
- 10-Year (FY15-24) Gini coefficient improved to **0.54** compared to **0.52** for FY14-23,.
- Long-term Gini coefficient for period between FY02 and FY24 stood at **0.56** compared to **0.54** for FY02-23
- Gini coefficient values excluding isolated defaults arising out of unprecedented circumstances are:

FY02-24: **0.57**	FY15-24: **0.57**
FY02-23: **0.56**	FY14-23: **0.54**

Gini Coefficient values are based on 1-year default excluding ratings that were non-cooperative at beginning of the year from rating distribution and default distribution. Also, in line with the static pool formation for computation of default rates, BLR withdrawals during the year are excluded from the rating distribution. Detailed methodology is on slide 41.

7

Time to Default

Time to Default for Ind-Ra's Overall Ratings

Figure 32: Time to Default

	Mean months to default		Median months to default	
	FY2015-24	FY2014-23	FY2015-24	FY2014-23
IND AAA	94[a]	94[a]	81[a]	81[a]
IND AA	68	61	52	52
IND A	63	58	50	43
IND BBB	44	42	38	38
IND BB	36	33	29	28
IND B	34	31	28	27
IND C	13	13	09	09
Investment grade	50	47	41	40
Sub-investment grade	35	32	28	27
Overall	39	37	34	31

[a] On account of defaults by an issuer group

Source: Ind-Ra

Figure 33: Adjusted Time to Default[a]

	Mean months to default		Median months to default	
	FY2015-24	FY2014-23	FY2015-24	FY2014-23
IND AAA	151[b]	151[b]	151[b]	151[b]
IND AA	68	71	53	66
IND A	60	55	42	42
IND BBB	43	42	38	37
IND BB	36	33	29	28
IND B	34	31	28	27
IND C	13	13	09	09
Investment grade	48	45	40	39
Sub-investment grade	35	32	28	27
Overall	39	36	33	30

[a] Excluding isolated defaults arising out of unprecedented circumstances

[b] On account of default by one issuer

Source: Ind-Ra

Time to default has been computed based on the limited sample of all defaults among Ind-Ra's assigned ratings. It necessarily does not mean that an entity will only default following completion of above-mentioned time since rating assignment. Months to default for a given period have been computed as months between the date of assignment of ratings and date of default for the rating category in which ratings were assigned initially and not the ratings prior to the defaulting year. It includes non-cooperating ratings defaults. Over the long term, ordinality can be observed across rating categories for both mean and median distribution of months to defaults.

8

Annexure

Methodology for Default Rates (Slide 1 of 2)

Ind-Ra employs a **monthly** static pool approach in calculating its default rates from FY 21 onwards. Prior to this period yearly static pool approach were used.

Monthly cohorts are created by grouping all outstanding ratings active as on beginning of the month.

Included in these monthly cohorts are

- All credit ratings on issuer/issue basis
- However, various Structured and Non-Structured instruments, issued by a trust/Issuer, with the same degree of seniority and hence having same rating is considered single entry.

Excluded from the monthly cohorts are

- Issuers carrying the 'Issuer Non-Cooperative (INC)' ratings are excluded from the cohort if at the beginning of month issuer is non-cooperative. Cohorts formed prior to the INC migration will continue to include this issuer and any defaults are recognised in these cohorts.
- Cohorts are adjusted for bank loan withdrawals i.e., bank loan ratings withdrawn during the period are excluded from the cohort.
- 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 2021 would be followed as part of the June 2021 and future cohorts.

The default rates presented in this report are different from the regulatory disclosures available on Ind-Ra's website because of the difference in methodology. While INC issuers/issues were included in the cohorts used for regulatory disclosures, the cohorts used for the default study do not include them at the start of the month. Additionally, CDRs presented in this report excludes isolated defaults unlike regulatory disclosures.

After adjusting monthly cohorts for withdrawals and INC ratings, a monthly static pool is formed with respect to each month for different periods. The 10-year averaging period will have 120 monthly cohorts of one year, 108 monthly cohorts for two years and 96 monthly cohorts for three years. Defaults are then identified for each static pool and individual rating category.

Methodology for Default Rates (Slide 2 of 2)

For example, if May 2013 static pool consisted of 2,000 issuer ratings outstanding at the beginning of the cohort and if 25 issuers defaulted in the next one year, the Marginal Default Rate (MDR1) for first year for May 2013 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 20/1,975=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 10/1,930=0.51%.

For the averaging period under consideration, average MDR1, MDR2 & MDR3 (for 1, 2 and 3 year) 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 MDR1
2 year CDR: CDR2 = CDR1 + (1 – CDR1) * Weighted average MDR2
3 year CDR: CDR3 = CDR2 + (1 – CDR2) * Weighted average MDR3

Default Recognition: Recognition of default is based on SOP for Monitoring and Recognition of Defaults. Additionally, a list of all companies where ratings may not have been downgraded to 'IND D', but issuer has been included in the computation of default rate due to defaults on unrated debt is provided in the default rate disclosure. Ind-Ra considers unrated instrument defaults in the default recognition, although it would not have downgraded it to IND D. The list is provided additionally along with the disclosure. For FY23, no such instances were there.

Ind-Ra’s ST Ratings Default Rates

Figure 34: Adjusted* Average 1 Yr. Default Rates –2024

(%)	1-year Weighted average for last 5 years	 Weighted average for last 10 years
IND A1+	0.2	0.3
IND A1	0.5	0.8
IND A2	1.0	1.5
IND A3	2.6	2.0
IND A4	3.2	3.1

Adjusted for isolated defaults. Removing IL&FS group related entities and Altico Capital.
Source: Ind-Ra

Figure 35: Adjusted* Average 1 Yr. Default Rates –2023

(%)	1-year Weighted average for last 5 years	 Weighted average for last 10 years
IND A1+	0.2	0.3
IND A1	1.0	1.2
IND A2	1.7	1.9
IND A3	3.0	2.4
IND A4	3.3	3.2

Adjusted for isolated defaults. Removing IL&FS group related entities and Altico Capital.
Source: Ind-Ra

- The ratings on the short-term scale mirror the movements in the long-term ratings.
- Methodology employed is similar to that employed for long-term ratings and excludes non-cooperative issuers. These default rates may not be comparable with default rates tables published in earlier T&D reports and published as part of regulatory disclosure.

Ind-Ra’s Overall Long-Term Rating Transition Matrix

(Average for Past 10 Years – As on 31 March 2024)

Figure 36: One Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	98.6	1.0	0.1	0.1	-	-	0.1	0.2	100
IND AA	2.2	95.3	1.7	0.2	0.2	0.2	-	0.2	100
IND A	0.1	5.1	90.0	3.6	0.4	0.1	0.1	0.6	100
IND BBB	-	0.0	5.4	88.3	4.2	0.1	0.0	1.8	100
IND BB	-	-	0.0	5.9	83.8	2.8	0.1	7.4	100
IND B	-	-	-	0.3	11.2	78.1	0.2	10.3	100
IND C	-	-	-	-	-	2.9	35.3	61.8	100

Figure 37: Two Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	95.5	2.5	1.2	0.2	-	-	0.1	0.5	100
IND AA	4.1	90.2	3.7	0.6	0.3	0.3	-	0.8	100
IND A	0.5	10.0	80.0	6.6	0.7	-	0.2	2.0	100
IND BBB	0.6	0.5	10.7	75.9	6.3	0.4	0.0	5.5	100
IND BB	-	-	0.4	10.4	65.2	4.7	0.2	19.1	100
IND B	-	-	-	1.1	18.6	52.5	0.5	27.3	100
IND C	-	-	-	-	4.0	-	12.0	84.0	100

Figure 38: Three Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	94.4	3.6	0.5	0.4	-	-	-	1.1	100
IND AA	3.3	87.8	5.2	1.4	0.4	0.2	-	1.7	100
IND A	0.6	15.2	69.8	8.7	1.3	-	0.2	4.3	100
IND BBB	-	0.8	14.5	66.8	6.6	0.7	0.1	10.4	100
IND BB	-	-	1.4	11.7	46.9	4.6	0.2	35.2	100
IND B	-	-	0.3	3.1	19.2	28.5	-	49.0	100
IND C	-	-	-	-	4.3	-	4.3	91.3	100

Source: Ind-Ra

Ind-Ra's Overall Long-Term Rating Transition Matrix

(Average for Past 10 Years – As on 31 March 2023)

Figure 39: One Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	98.7	0.9	0.1	0.1	-	-	0.1	0.2	100
IND AA	1.8	95.8	1.6	0.2	0.2	0.2	-	0.2	100
IND A	0.1	5.0	90.1	3.5	0.5	0.1	0.1	0.7	100
IND BBB	-	0.1	5.8	87.4	4.4	0.2	0.1	2.2	100
IND BB	-	-	0.0	6.1	83.8	2.8	0.1	7.2	100
IND B	-	-	-	0.2	10.8	78.9	0.1	10.0	100
IND C	-	-	-	-	-	5.0	45.0	50.0	100

Figure 41: Two Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	95.6	2.4	1.3	0.2	-	-	0.1	0.5	100
IND AA	3.5	90.5	3.8	0.7	0.4	0.3	-	0.8	100
IND A	0.5	9.8	79.7	6.7	1.0	-	0.2	2.2	100
IND BBB	0.6	0.6	11.1	74.5	6.5	0.4	0.1	6.2	100
IND BB	-	-	0.4	11.4	64.8	4.5	0.2	18.7	100
IND B	-	-	-	1.1	19.3	54.1	0.3	25.2	100
IND C	-	-	-	-	6.7	-	16.7	76.7	100

Figure 42: Three Year Transition Matrix

(%)	IND AAA	IND AA	IND A	IND BBB	IND B	IND B	IND C	IND D	Total
IND AAA	94.0	3.8	0.6	0.4	-	-	-	1.2	100
IND AA	3.5	86.8	5.6	1.6	0.4	0.3	-	1.9	100
IND A	0.6	14.7	69.4	9.0	1.4	-	0.2	4.6	100
IND BBB	-	0.7	14.7	64.6	7.1	0.8	0.1	12.0	100
IND BB	-	-	1.3	13.5	46.4	4.6	0.3	33.9	100
IND B	-	-	0.2	2.8	21.8	29.2	-	45.9	100
IND C	-	-	-	-	8.0	-	4.0	88.0	100

Source: Ind-Ra

Methodology for Transition Rates (Slide 1 of 2)

Ind-Ra employs a **yearly** static pool approach in calculating its transition rates.

Yearly cohorts are created by grouping all outstanding ratings active as on beginning of the fiscal year.

Included in these cohorts are:

- All credit ratings on issuer/issue basis
- However, various Structured and Non-Structured instruments, issued by a trust/Issuer, with the same degree of seniority and hence having same rating is considered single entry.

Excluded from the monthly cohorts are

- INC ratings of non-cooperative issuers are excluded from the cohort if at the beginning of period issuer is non-cooperative. Additionally, ratings that were cooperative at beginning of period but subsequently turned non-cooperative during the year are excluded from the cohort. However, if such ratings were downgraded to IND D prior to /post turning “Non-Cooperative”, they are included in the cohort.
- Cohorts are also adjusted for withdrawals i.e. withdrawn ratings during the period are excluded from the cohort.

Issuers newly rated by Ind-Ra in any given year are included in the following year’s cohort.

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 are under observation. For example, the annual performance of a rating initiated in FY13 and therefore outstanding at the beginning of FY14 and withdrawn in FY17 would be included in the FY14 and FY15 cohorts. The rating’s performance over multiple-year horizons would also be included in the two-year transition rates for each of the cohorts noted but excluded from three-year transition rates for FY15 cohort.

Methodology for Transition Rates (Slide 2 of 2)

The 10-year averaging period will have 10 cohorts of one year, 9 cohorts of two years and 8 cohorts of three years.

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 transition matrices presented in this study are at the flat levels and excludes inter category movements.

Default Recognition: Recognition of default is based on SOP for Monitoring and Recognition of Defaults. Additionally, a list of all companies where ratings may not have been downgraded to ‘IND D’, but issuer has been included in the computation of transition rate due to defaults on unrated debt is provided in the disclosure. Ind-Ra considers unrated instrument defaults as migration to default, although it would not have downgraded it to IND D. The list is provided additionally along with the disclosure. For FY23, no such instances were there.

The transition matrix presented here are different from regulatory disclosures available on Ind-Ra's website because of the difference in averaging period. At both places, the same methodology has been employed, however for the one presented in this report, the period of averaging is 10 years compared to 5 years for the regulatory disclosures. 10-year averaging provides a better trend for a long-term transition and is in line with global practices.

Ind-Ra’s continuing data enhancement efforts may result in different statistics than in previously published studies. In addition, comparisons with earlier Ind-Ra’s transition and default studies should be viewed within the context of the differing methodologies. Therefore, this most recent study supersedes all previous versions.

Gini Coefficient

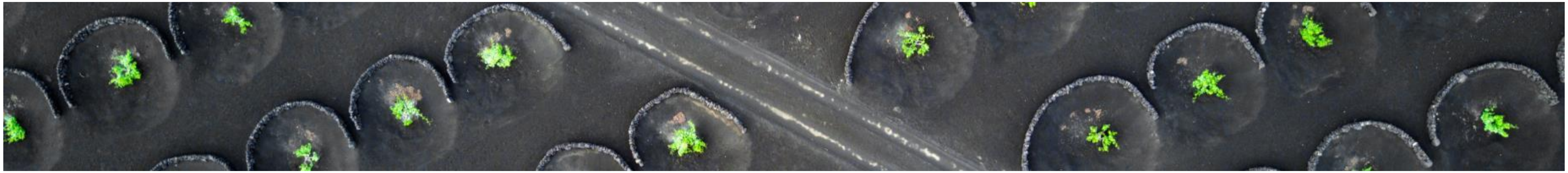
The Gini coefficient (also known as the accuracy ratio) is a widely used measure of discriminatory power. It is defined as the area under the cumulative accuracy profile (CAP curve) of the rating model in relation to the area under the CAP curve of a hypothetical perfectly discriminating rating model. Better predictive power is exhibited as the CAP curve reaches closer to the hypothetical curve.

Mathematically, Gini Coefficient is represented as ratio of (A)/(B).

where, (A): area between Ratings and Random curve, (B): area between Perfect discrimination and Random curve

However, Ind-Ra does not follow a simple fixed model for assigning ratings. The ratings assigned by Ind-Ra are opinions based on the 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.

For this report all Gini Coefficient values are based on 1-year default excluding ratings that were non-cooperative at beginning of year from rating distribution and default distribution. All outstanding ratings at beginning of the year excluding non-cooperative ratings and BLR withdrawals during the year, form part of rating distribution out of those ratings which were migrated to IND D are captured to form part of default distribution. Once, rating and default distribution is arrived at, a CAP curve, perfectly discriminating curve and random curve are plotted.



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