CARE's DEFAULT & TRANSITION STUDY FY20

Summary

CARE commenced its rating activity in 1993 and has over the years acquired considerable experience in rating various types of debt instruments issued by corporates belonging to wide range of sectors including Manufacturing, Services, Banking, Non-Banking Finance, Infrastructure, Public Finance, Securitisation etc.

The publication of this default and transition study is an endeavour of CARE towards increasing transparency of its ratings. Default rates are influenced by a number of factors and the general state of the economy is one of the key determinants. Default rates in India reached high levels in the late nineties upto 2002. Continued robust GDP growth rates since then until the financial crisis of 2008-09 resulted in low default rates in the intermittent period. Beginning in the second half of FY09, the impact of the global financial crisis was felt. It resulted in some increase in default rates in the subsequent period. On the back of challenging economic environment in past couple of years, the overall annual default rate of CARE's rated universe has risen to some extent. Trend of annual default rate of CARE's portfolio of issuers and the economic growth has been discussed in brief in further section in this report.

CARE's ratings have shown good discriminatory power across rating categories with higher rated categories generally having lower default rates. However, till 2010, each rating category used to have relatively few issuers, which used to pose limitations to the interpretation of the study results. Since then, number of issuers in each rating category has increased substantially; the default and transition study has become statistically much more meaningful. The median rating of CARE's rated population has progressively shifted to BB category since March 2013. Almost 70% of the issuers in the CARE's total rated portfolio are from non-investment grade rating category.

This report also presents the transition study of various rating categories of CARE rated pool. The Average One-year Transition Rates for CARE rated issuers have shown a high degree of stability. Higher rated categories have consistently exhibited higher stability rates.

Default Study

This section examines default experience of CARE's long-term ratings for the period March 2010 to March 2020. CARE has used Cohorts method to calculate the performance of CARE rated entities across various rating categories. Category-wise Cumulative Default Rate (CDR) is calculated for each yearly cohort within the period of study. The CDR is calculated over one, two and three year time horizons to evaluate the performance of ratings over varying periods. The issuer weighted average for one-year, two-year and three-year CDR is computed for each rating category. As ratings are a measure of Probability of Default, a higher rating given to an entity implies lower credit risk and should therefore have lower CDR and CARE's CDR numbers generally display this property. CARE's definition of default for this CDR study and detailed methodology for computing CDR is presented in the Annexure.

The CDR study includes ratings of issuers across all sectors – including Manufacturing, Services, Banking, Non-Banking Finance, Infrastructure and Public Finance. Ratings of Structured Obligations (SO) / Credit Enhanced (CE) ratings are not part of this study which would comprise securitisation transactions, ratings backed by third-party guarantees, instruments with a structured payment mechanism, instruments backed by credit enhancing guarantees / letter of comfort etc.

Static Pool / Cohort

- The study tracks the long term ratings assigned and accepted by the issuer and is based on issuer-specific data and not instrument-specific data (thus counting an issuer only once).
- The rating of senior-most long-term debt of an issuer is considered as the rating of that issuer. If CARE has not rated the long-term instrument of that issuer, then the medium-term rating is considered as the issuer's rating.
- **Static pools / Cohorts** for the study are the number of issuers outstanding in each rating category as on the beginning of each cohort falling within the study period. So, calculation of 1-Year default rate for the period of 10 financial years i.e. the period of FY2011 to FY2020 will have 10 yearly cohorts starting from March 2010 till March 2019. Default experience of each rating category for each cohort is examined over one, two and three year periods.

Trend of rating category-wise number of issuers is presented in the chart below:

Trend of Issuers outstanding at the beginning of each Cohort

Number of Issuers at the beginning of the cohort as on 31st
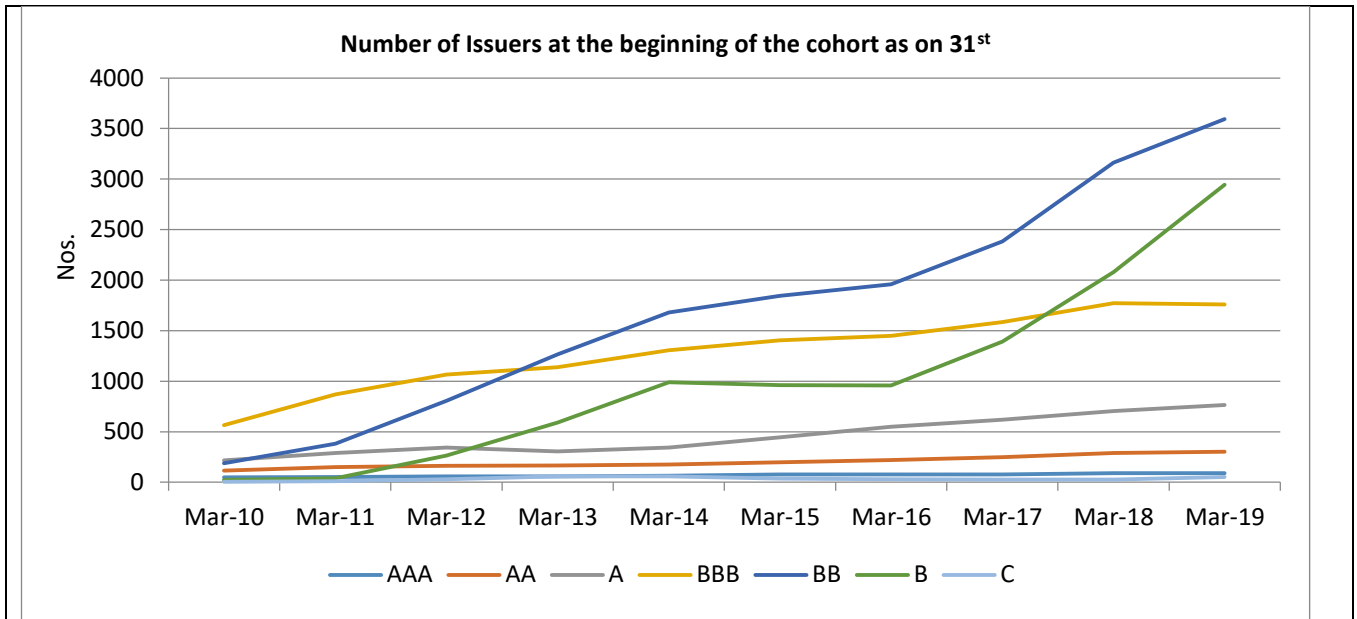
	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
Median Rating	BBB	BBB	BBB	BB	BB	BB	BB	BB	BB	BB

Key Observations

- With implementation of Basel II approach for credit risk measurement by RBI, a new era was ushered in the credit rating industry in India. Subsequent to the period March 2008, overall number of issuers increased multiple times. A structural shift was witnessed in the rating universe and there was a significant increase in issuers rated below AA category.

- In India, the banking sector still remains the primary source of debt funding for corporates and prior to Basel II implementation, bank borrowings of companies used to be unrated. Post Basel II implementation, many of the corporates with bank borrowings got rated which led to the manifold increase in number of issuers, especially in the lower grades. Now, almost 70% of the issuers in the CARE's total rated portfolio are from non-investment grade rating category.

- The median rating of the rating universe has moved progressively down from A at the end of March 2008 to BBB till March 2012 and has been BB since March 2013.

- The corporate bond market in India is skewed towards higher rated entities, with extremely low investor demand for lower rated paper. Therefore, the rating universe primarily comprised higher rated borrowers before Basel II implementation. In fact today also, most of the rated securities placed in the market tend to have high ratings.

CARE's Cumulative Default Rate

CARE's average issuer weighted cumulative default rates usually follow the principle of ordinality and are lower in the higher rating categories and increase as we move down the rating categories (as presented in Table 1 below)

Table 1: CARE's Issuer Weighted Cumulative Default Rates for the period March 2010 - March 2020

Rating Category	One year		Two Year		Three Year	
	Avg. No. of Issuers	CDR	Avg. No. of Issuers	CDR	Avg. No. of Issuers	CDR
AAA	70	0.29%	67	0.83%	65	0.97%
AA	203	0.30%	192	0.69%	180	1.11%
A	458	0.52%	424	1.55%	389	2.99%
BBB	1,291	1.63%	1,239	3.86%	1,173	5.98%
BB	1,726	4.29%	1,519	7.72%	1,313	10.71%
B	1,024	7.50%	811	12.92%	653	15.91%
C	34	26.19%	31	33.92%	32	36.47%
Total	**4,807**	**3.83%**	**4,284**	**6.74%**	**3,805**	**8.95%**

The categories of AA, A, BBB, BB, B and C include ratings with the suffix '+' or '−' within the respective categories. Thus, for instance, the AA category includes three ratings: AA+, AA and AA-.

Key observations

- Sample size has improved on account of inclusion of recent cohorts having higher number of issuers. More meaningful conclusions can be reached as the average number of issuers continue to increase.
- It can be observed that CARE's higher rating categories have lower CDRs and follow principle of ordinality, barring two-year CDR of AAA category.

In the following table, CARE has also presented issuer weighted cumulative default rates for different rating categories over the period March 2009 to March 2019.

Table 2: CARE's Issuer Weighted Cumulative Default Rates for the period March 2009 - March 2019

Rating Category	One year		Two Year		Three Year	
	Avg. No. of Issuers	CDR	Avg. No. of Issuers	CDR	Avg. No. of Issuers	CDR
AAA	65	0.31%	62	0.36%	60	0.41%
AA	182	0.05%	171	0.33%	161	0.78%
A	399	0.43%	365	1.31%	333	2.74%
BBB	1,143	1.72%	1,073	3.85%	1,009	5.96%
BB	1,373	4.40%	1,174	7.98%	1,023	10.41%
B	731	7.92%	581	12.64%	480	14.44%
C	28	25.00%	28	33.20%	29	34.50%
Total	**3,921**	**3.75%**	**3,454**	**6.47%**	**3,093**	**8.29%**

The categories of AA, A, BBB, BB, B and C include ratings with the suffix '+' or '−' within the respective categories. Thus, for instance, the AA category includes three ratings: AA+, AA and AA-.

Transition Study

Rating transition study looks at how ratings have changed over a period of time, an important aspect analysed by CARE to evaluate the stability/migration of its ratings.

Methodology for transition rates

Methodology used by CARE for studying rating transition is discussed below:

- The static pools / cohorts are created by grouping issuer wise ratings according to the year in which the ratings are active and outstanding at the beginning of the year. The study tracks the long term ratings assigned and accepted by the issuer on a year-to-year basis.

- The study is based on issuer-specific data and is not instrument-specific. Thus, it counts an issuer only once and avoids distortion.

- The transition study includes ratings of issuers across all sectors – including Manufacturing, Services, Banking, Non-Banking Finance, Infrastructure and Public Finance. Structured Obligations (SO) / Credit Enhancements (CE) ratings are not a part of this study.

- Individual cohorts have been formed for each year; in all ten cohorts have been prepared for the period of study. Each individual cohort for a given financial year consists of the ratings outstanding in various rating

categories at the beginning of the financial year and tracks the changes in rating, if any, during the one-year period therefrom. For example, the March 2010 cohort represents the ratings outstanding as on March 31, 2010 and their transitions or changes (upgrades, downgrades and re-affirmation) in the subsequent year till March 31, 2011.

- Since the rating of an issuer both at the beginning and the end of a study period is required for the computation of transition rate, any issuer whose rating has been withdrawn / suspended / placed under 'Issuer Not Cooperating' category during the year have been removed from the relevant opening cohort for the purposes of this study. This is also in line with the SEBI circular dated 13th November 2018.

- Data from all individual cohorts have been pooled together to obtain the weighted average transition rates across rating categories.

The following table shows issuer weighted average transition rates for different rating categories over the period March 2010 to March 2020.

Table 3: Average 1-year Rating Transition Rates for the period March 2010 - March 2020

(%)	AAA	AA	A	BBB	BB	B	C	D
AAA	97.19	2.37	0.15	0.00	0.00	0.00	0.00	0.30
AA	1.49	93.00	4.89	0.15	0.15	0.05	0.00	0.26
A	0.00	3.54	89.65	5.67	0.54	0.07	0.02	0.50
BBB	0.00	0.05	4.48	88.71	4.86	0.27	0.04	1.59
BB	0.00	0.00	0.01	5.23	86.47	3.11	0.21	4.97
B	0.00	0.00	0.02	0.12	14.47	75.21	0.46	9.72
C	0.00	0.00	0.00	1.56	9.38	20.83	34.90	33.33

The categories of AA, A, BBB, BB, B and C include ratings with the suffix '+' or '−' within the respective categories. Thus, for instance, the AA category includes three ratings: AA+, AA and AA-.

From the above average one-year transition matrix, it can be inferred that out of all the AA rated companies at the beginning of the year, 93.0% have remained in the same AA category, 1.5% have been upgraded to AAA and 5.5% have been downgraded. Similar interpretation can be done for other rating categories as well. The highlighted diagonal in the above table represents the average stability rate of a particular rating category in one year.

In the following table, CARE has also presented issuer weighted average transition rates for different rating categories over the period March 2009 to March 2019.

Table 4: Average 1-year Rating Transition Rates for the period March 2009 - March 2019

(%)	AAA	AA	A	BBB	BB	B	C	D
AAA	97.63	1.90	0.16	0.00	0.00	0.00	0.00	0.32
AA	1.71	93.61	4.28	0.17	0.11	0.06	0.00	0.06
A	0.00	4.04	88.86	5.89	0.65	0.08	0.03	0.46
BBB	0.00	0.04	4.62	88.34	4.86	0.28	0.03	1.82
BB	0.00	0.00	0.01	5.57	85.91	3.06	0.21	5.23
B	0.00	0.00	0.00	0.13	14.99	74.48	0.45	9.96
C	0.00	0.00	0.00	1.63	9.78	21.74	33.15	33.70

Stability of Ratings

Stability rate for each rating category indicates percentage of ratings remaining in the same category at the end of one year. One-year average stability of CARE's ratings during the period Mar 2010 - Mar 2020 is presented in the chart below:


Average Stability Rate for period Mar 2010 - Mar 2020
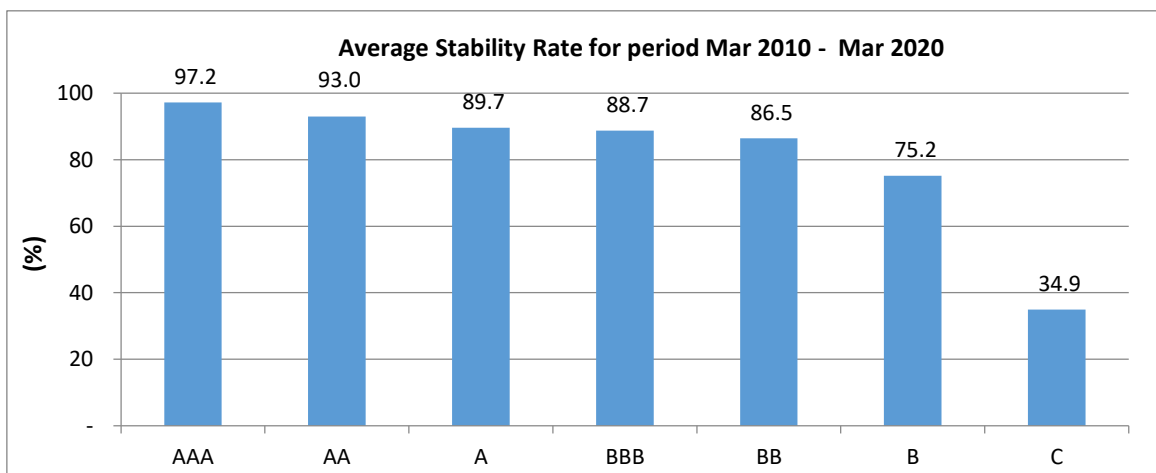
Stability rates of higher rating categories have generally been higher than those for the lower rating categories. CARE's higher rating categories like AAA and AA exhibit high level of stability rate above 90% within one-year period.

Trend of Default rate and GDP Growth

The following chart presents the relationship between GDP growth rate and overall annual default rate for the CARE Rated entities:

Table 4: Year-wise trend of GDP Growth rate and overall annual default rate

(FY11 to FY20)
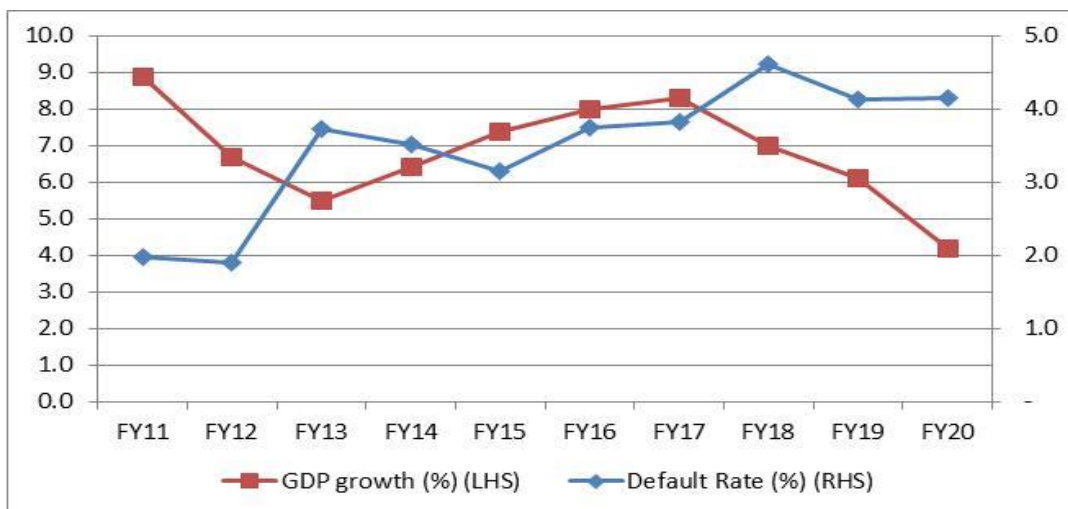
Note:
1. Overall annual default rate is a ratio of total defaults in a particular year to the total non-defaulted issuers at beginning of that year. For e.g. overall annual default rate for FY20 refers to default rate of a static pool of total non-defaulted issuers outstanding as on March 31, 2019.
2. GDP Growth for 2012-13 onwards has been calculated based on 2011-12 prices.

The general state of the economy gets depicted in the overall annual default rate to some extent. As the economic growth rate decreased in the period FY11-13, the overall annual default rate of CARE's rated universe registered increase to about 3.7% in FY13. Thereafter, as the economic growth improved to about 8.3% till FY17, overall annual default rate showed a decline for next couple of years and remained more or less at same level of 3.8% till FY17. On the back of challenging economic environment in past couple of years the GDP growth has reduced considerably, the overall annual default rate of CARE rated universe has risen to a level of about 4.1% in FY20.

Annexure

Definition of Default for the Study

For the purpose of this study, default has been defined as any missed payment on the rated instrument i.e. a single rupee delay even for a single day has been treated as default. A default recognition criterion for bank facilities is specifically detailed in our website.

Concept of Static Pool / Cohort

Static Pool / Cohort for the study is the number of issuers outstanding in each rating category as on a given date. Default experience of each rating category is examined over the study period. New issuers during the study period are not considered and in that sense the data pool remains static. If the rating of the company included in the cohort gets withdrawn, it is treated as withdrawal for the further period for other cohorts. If the company whose rating is included in the cohort defaults, it is treated as default for the rest of the period of the cohort.

However those entities, which are rated again after withdrawal or which recover from default (and are rated again), are taken as new entities for relevant subsequent cohorts.

Structured obligation (SO) / Credit Enhancements (CE) ratings are not part of this study. CARE's structured obligation ratings include Asset Backed Securitization (ABS), Mortgage Backed Securitization (MBS), obligations of state level entity backed by state/central government guarantee and instruments backed by credit enhancing guarantees / letter of comfort etc.

Cumulative Default Rate (CDR)

Cumulative Default Rate (CDR) shows the number of defaults from a given static pool as a proportion of total issuers in that static pool and provides an estimate of default rate over a period of one year, two years and three years. For a given static pool, three-year CDR is computed as follows:

Three-Year CDR = No. of issuers which defaulted over the three-year period / No. of issuers outstanding at the beginning of the three-year period.

A hypothetical example is presented here:

	Cohort 1			Cohort 2		
	Opening Issuers (A)	Defaults during next 3 years (B)	3 Yr CDR = (B/A) (%)	Opening Issuers (A)	Defaults during next 3 years (B)	3 Yr CDR = (B/A) (%)
AAA	50	0	0.00	60	0	0.00
AA	40	1	2.50	50	1	2.00
A	30	2	6.67	20	2	10.00
BBB	20	3	15.00	15	3	20.00

Issuer weighted average three-year CDR is computed to arrive at the average CDR over a specified period of time. The above example is continued here to arrive at the average CDR:

	Cohort 1		Cohort 2		
	3 Yr CDR (C1) (%)	Opening Issuers (W1)	3 Yr CDR (C2) (%)	Opening Issuers (W2)	Weighted Average 3 Yr CDR = (C1*W1+C2*W2)/(W1+W2) (%)
AAA	0.00	50	0.00	60	0.00
AA	2.50	40	2.00	50	2.22
A	6.67	30	10.00	20	8.00
BBB	15.00	20	20.00	15	17.14

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