



Update for 2008-09

Performance of ICRA-Assigned Ratings—II

The performance of ICRA-assigned ratings in 2008-09 was a reflection of the higher-than-expected deterioration in the operating environment during the second half of 2008-09[†]. While the worsening of the environment started with some of the major global financial markets experiencing a large-scale meltdown, the impact of the same continues to cause stress in economies across the globe, including India. With the operating environment reporting a sharp and unanticipated deterioration in 2008-09, the credit profiles of some of the entities rated by ICRA also deteriorated as demand fell, profitability margins came under increasing pressure, capital structures weakened, systemic liquidity dried up considerably, and refinancing risks increased. As a result of the deterioration in credit profiles, the downward transition of ratings increased in 2008-09 and there were some defaults by entities rated in the investment grade.

This rating feature presents a study of the transition made by ICRA-assigned ratings over the last eight financial years, besides providing a snapshot of the default rates associated with debt issuers rated by ICRA over the last eight financial years (April 1, 2001 to March 31, 2009). The key findings of the study are as follows:

- In 2008-09, there was an increase in the downward transition of entities rated in the moderate (LBBB) and adequate (LA) credit-quality rating categories on the long-term rating scale.
- As for short-term ratings, the downward transition was higher, given that these ratings are driven by the short-term liquidity position of the issuer, which in turn is determined by the business and financial risks that the issuer is exposed to, especially in the short term. ICRA expects some of these short-term pressures to ease, given the signs of improvement in liquidity already visible at the macroeconomic level.
- The 2008-09 deterioration in credit profile also led to the reappearance of default after a gap of four years, with some issuers rated in the investment grade defaulting. In ICRA's opinion, while the macroeconomic indicators are showing signs of improvement, the overall number of defaults could still increase going forward, given the continuance of a challenging operating environment in certain sectors; the skew in the distribution of ratings towards entities rated at the lower end of the rating scale (which have a higher probability of default); the increase in bank loan ratings; and the emergence of certain credit culture related issues (discussed later in this note).

[†] For details please refer the ICRA rating feature titled Update for 2008-09: Performance of ICRA-Assigned Ratings, published in April 2009 and available on our website www.icra.in

1. Rating Transition Increases Across Rating Categories

1.1. Long-Term Ratings

Table 1: One-Year Transition Matrix: Long-Term Ratings—2008-09

	LAAA	LAA	LA	LBBB	NI
LAAA	97.96%	2.04%	0.00%	0.00%	0.00%
LAA	0.00%	97.37%	2.63%	0.00%	0.00%
LA	0.00%	0.00%	82.98%	14.89%	2.13%
LBBB	0.00%	0.00%	0.00%	91.43%	8.57%

NI: Non-investment-grade; ratings below LBBB- (viz., LBB+ till LD)

The categories of LAA, LA and LBBB include ratings with suffixes "+" and "-" within the respective categories. Thus, for instance, the category LAA contains three ratings: LAA+, LAA, and LAA-.

Table 2: One-Year Transition Matrix: Long-Term Ratings—2007-08

	LAAA	LAA	LA	LBBB	NI
LAAA	95.35%	4.65%	0.00%	0.00%	0.00%
LAA	0.00%	96.08%	3.92%	0.00%	0.00%
LA	0.00%	10.00%	90.00%	0.00%	0.00%
LBBB¹	0.00%	0.00%	33.33%	66.67%	0.00%

Table 3: One-Year Transition Matrix: Since 2001-02

	LAAA	LAA	LA	LBBB	NI
LAAA	97.25%	2.75%	0.00%	0.00%	0.00%
LAA	2.79%	93.81%	3.10%	0.31%	0.00%
LA	0.00%	2.78%	81.67%	10.00%	5.56%
LBBB	0.00%	0.00%	3.26%	89.13%	7.61%

A higher downward transition is observed in the rating categories of LA and LBBB in 2008-09. Moreover, 2% investment-grade ratings moved into the non-investment grade in 2008-09 as against nil in 2007-08.

1.2. Medium-Term Ratings

Table 4: One-Year Transition Matrix: Medium-Term Ratings—2008-09

	MAAA	MAA	MA	NI
MAAA	100.00%	0.00%	0.00%	0.00%
MAA	0.00%	92.86%	7.14%	0.00%
MA	0.00%	0.00%	95.45%	4.55%

NI: Non-investment-grade; ratings below MA- (viz. MB+ till MD)

The categories of MAA and MA include ratings with suffixes "+" and "-" within the respective categories. Thus, for instance, the category MAA contains three ratings, MAA+, MAA, and MAA-.

Table 5: One-Year Transition Matrix: Medium-Term Ratings—2007-08

	MAAA	MAA	MA	NI
MAAA	100.00%	0.00%	0.00%	0.00%
MAA	0.00%	100.00%	0.00%	0.00%
MA	0.00%	0.00%	100.00%	0.00%

¹ Rating migration for this rating category appears very high because a limited number of ratings gets accepted in this category, and as a result, the denominator remains low.

Table 6: One-Year Transition Matrix: Medium-Term Ratings—Since 2001-02

	MAAA	MAA	MA	NI
MAAA	96.97%	3.03%	0.00%	0.00%
MAA	1.28%	96.15%	2.56%	0.00%
MA	0.00%	0.91%	95.43%	3.66%

Transition was higher in the rating categories of MAA and MA in 2008-09 vis-à-vis the previous years.

1.3. Short-Term Ratings

Table 7: One-Year Transition Matrix: Short-Term Ratings—2008-09

	A1+	A1	A2	A3	NI
A1+	95.43%	3.05%	1.52%	0.00%	0.00%
A1	2.50%	67.50%	27.50%	2.50%	0.00%
A2	0.00%	0.00%	85.00%	5.00%	10.00%
A3	0.00%	0.00%	0.00%	100.00%	0.00%

NI: Non-investment-grade; ratings below A3 (viz. A4+ till A5)

The categories of A2 and A3 include ratings with suffixes "+" within the respective categories. Thus, for instance, the category A2 contains two ratings, A2+ and A2.

Table 8: One-Year Transition Matrix: Short-Term Ratings—2007-08

	A1+	A1	A2	A3	NI
A1+	94.08%	5.92%	0.00%	0.00%	0.00%
A1	9.52%	90.48%	0.00%	0.00%	0.00%
A2	0.00%	0.00%	100.00%	0.00%	0.00%
A3	-	-	-	-	-

Table 9: One-Year Transition Matrix: Short-Term Ratings—Since 2001-02

	A1+	A1	A2	A3	NI
A1+	97.58%	2.09%	0.33%	0.00%	0.00%
A1	11.05%	77.37%	10.53%	1.05%	0.00%
A2	1.85%	3.70%	87.04%	3.70%	3.70%
A3	0.00%	0.00%	0.00%	85.71%	14.29%

ICRA's rating methodology for short-term instruments focuses primarily on evaluating the short-term liquidity position of the issuer, which in turn is determined by the business and financial risks that the issuer is exposed to, especially in the short term. Short-term ratings therefore tend to be more dynamic. This is reflected in the higher transition in short-term ratings, as the preceding tables show.

2. Stability Declines Across Lower Rating Categories

The stability percentages (over a 12-month horizon) of ICRA's ratings for the last three years vis-à-vis the average for the five years since 2004 are presented in Tables 10, 11 and 12.

Table 10: Stability of Investment-Grade Long-Term Ratings

	Stability 2006-07	Stability 2007-08	Stability 2008-09	1-yr. Avg. Stability (since 2001-02)
LAAA	97.62	95.35	97.96	97.25
LAA	95.56 (2.22)	96.08	97.37	93.81 (2.79)
LA	100	90.00 (10.00)	82.98	81.67 (2.78)
LBBB	100	66.67 (33.33)	91.43	89.13 (3.26)

Figures in parentheses indicate percentage transition to a higher category or upgrades

Table 11: Stability of Investment-Grade Medium-Term Ratings

	Stability 2006-07	Stability 2007-08	Stability 2008-09	1-yr. Avg. Stability (since 2001-02)
MAAA	100	100	100	96.97
MAA	100	100	92.86	96.15 (1.28)
MA	96.77 (3.23)	100	95.45	95.43 (0.91)

Figures in parentheses indicate percentage transition to a higher category or upgrades

Table 12: Stability of Investment-Grade Short-Term Ratings

	Stability 2006-07	Stability 2007-08	Stability 2008-09	1-yr. Avg. Stability (since 2001-02)
A1+	99.39	94.08	95.43	97.58
A1	75.00 (10.00)	90.48 (9.52)	67.50 (2.50)	77.37 (11.05)
A2	80.00 (20.00)	100	85.00	87.04 (5.56)
A3	-	-	100	85.71

Figures in parentheses indicate percentage transition to a higher category or upgrades

The stability of ratings declined in the rating categories of LA, LBBB and A1 in 2008-09, in line with the changes in the credit profile of the rated entities.

3. Trend of Increase in Defaults² Expected to Hold in the Short Term

Table 13: Defaults for Cohorts Starting April 1, 2001

	CDR-1 [∇]	CDR-2 [†]	CDR-3 [♦]
LAAA	0.00%	0.00%	0.00%
LAA	0.00%	0.29%	0.71%
LA	2.73%	3.74%	3.81%
LBBB	3.71%	4.72%	5.54%

Note: Please refer Annexure 1 for details on computation of default rates and Annexure 2 for data pertaining to calendar years.

The above CDR trends clearly establish the inverse relationship between ICRA-assigned ratings and the default risk; that is, higher the rating, lower the default risk, and vice versa.

ICRA believes that during the five-year period beginning April 1, 2003 the default rates were low on account of buoyancy in the economic environment and the structural adjustments made by Indian corporate entities against the backdrop of a changing business landscape. Subsequently however, the economic environment reported a significant and higher-than-anticipated deterioration, especially during the second half of fiscal 2008-09, thereby pushing up the default rate. Since then, while the operating environment has been improving, ICRA expects the impact of the 2008-09 upheavals to continue being felt for some time, especially in certain sectors for which the operating environment remains challenging. The operating environment apart, the default rate is also seen as being influenced significantly by some other factors, the key among which are discussed in the following bullet list:

- The distribution of ratings shows a skew towards entities rated at the lower end of the rating scale; such entities have a higher probability of default.
- There continues to be a change in the composition of the universe of rated entities following the entry of an increasing number of bank borrowers, many of whom have a somewhat diluted idea of default: as long as delays in repayment do not take the loan into non-performing asset (NPA) territory, the delays are not considered that serious either by them or even their banks. This shift of focus from timeliness of repayment to

² Information on defaults is captured by ICRA from issuers and lenders on best effort basis.

[∇] default rate on a one-year investment horizon, based on eight cohorts

[†] default rate on a two-year investment horizon, based on seven cohorts

[♦] default rate on a three-year investment horizon, based on six cohorts

avoidance of categorisation as an NPA could have an adverse impact on the default rate, especially given ICRA's definition of default³. Further, with the Reserve Bank of India (RBI) permitting restructuring of advances from the date of application (that is, with retrospective effect), it is not unlikely that some issuers seeking loan restructuring would stop making repayments during the period their application is being processed. Were this to happen, the default⁴ rate would again be affected adversely.

Overall, in this context of rating performance, it needs to be emphasised that rating-default statistics from domestic rating agencies (like ICRA) are inherently prone to greater variability than those from international rating agencies on account of the "concentration" of all ratings in a single market, that is, a complete lack of geographical diversity.

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³ Refer Annexure 1 for how ICRA computes default rates.

⁴ Since ICRA follows a strict definition of default, withholding of repayment during the pendency of a restructuring application could lead to an increase in the default count; however, the ultimate loss to investors could be minimal. Refer Annexure 1 for how ICRA computes default rates.

Annexure 1

A synopsis of how ICRA computes default rates, that is, an overview of the basic building blocks is presented here.

1. **Cohort:** Cohorts consist of issuers rated on the long-term scale⁵ at the beginning of the year under study. The issuers present in the cohort are evaluated for their performance over one- to three-year time horizons.
2. **Definition of Default:** ICRA defines default as a missed or delayed payment by an issuer in breach of the agreed terms of the issue. It must be emphasised that ICRA uses this definition of default consistently for all its default-related studies.

Some additional points on the default definition are as follows:

- If an issuer defaults during the year and the rating is withdrawn the same year, the event is considered a case of default.
 - If the issuer applies for restructuring and starts delaying on repayments, the event is considered a case of default even if the lender subsequently approves the restructuring package with retrospective effect.
3. **Annual Default Rate:** The annual default rate is the number of entities in a particular rating category defaulting in a year as a proportion of the number of entities in that rating category in the cohort at the beginning of the year under study, adjusted for withdrawals. It must be emphasised that ICRA follows a strict policy on rating withdrawals: no rating is withdrawn to show better but distorted default rates.
 4. **Cumulative Default Rate (CDR):** While the annual default rate captures the default rate on a one-year investment horizon, the CDR captures the default rate over the more-than-one-year horizon. In calculating the CDR the weighted average marginal default rates (MDRs) of the various cohorts are used, the weights being the number of issuers in the cohorts across various rating categories.
 5. **Marginal Default Rate (MDR):** MDR is defined as the number of entities defaulting in a particular year in a specific rating category as a proportion of the number of entities in that rating category in the cohort at the beginning of the year under study, adjusted for withdrawals.

An illustration on how the three-year CDR is computed is presented here.

Illustration: Computation of three-year CDR for the last four years for the rating category LA at the end of year 2006

The CDR would be based on defaults experienced in the LA ratings outstanding as on January 1, 2003 and January 1, 2004, which would be captured through the MDRs for each year from 2003 to 2006. However, in this case, the rating cohorts of January 1, 2005 and 2006 are excluded, as these have not completed three years of seasoning.

Step 1: Computation of MDRs for the 2003 cohort

We take the cohort of issuers rated LA as on January 1, 2003 (original cohort C for 2003) to explain the concept of MDRs.

$$\text{MDR1} = \frac{\text{Defaults in calendar 2003 out of C}}{(C - (W1 / 2))}$$

MDR1: Marginal default rate for year 1
W1: Withdrawals in calendar 2003 out of C

$$\text{MDR2} = \frac{\text{Incremental defaults in CY 2004 out of C}}{(C - W1 - (W2 / 2)) \times (1 - \text{MDR1})}$$

MDR2: Marginal default rate for year 2
W2 = Withdrawals in Calendar 2004 out of C

⁵ as well on the medium-term scale (with medium-term ratings suitably mapped on to ICRA's long-term scale), but excluding structured obligations

$$MDR3 = \frac{\text{Incremental defaults in calendar 2005 out of } C}{(C - W1 - W2 - (W3 / 2)) \times (1 - MDR1) \times (1 - MDR2)}$$

MDR3: Marginal default rate for year 3

W3 = Withdrawals in calendar 2005 out of C

Step 2: Computation of MDRs for the LA category for the 2004 cohort

Step 3: Weight averaging of MDRs

Now we have two sets⁶ of MDRs (MDR1, MDR 2, MDR3) for the LA rating category.

The weighted average MDRs for the two cohorts (2003 and 2004) are computed with the weights being the number of issuers in the cohorts for the LA category.

Step 4: Computation of CDR

$$CDR = 1 - [(1 - WMDR1) \times (1 - WMDR2) \times (1 - WMDR3)]$$

WMDR1: Weighted Average Marginal default rate for year 1

WMDR2: Weighted Average Marginal default rate for year 2

WMDR3: Weighted Average Marginal default rate for year 3

Based on the weighted average MDR of year 1, we would compute the survivors at the end of year 1 (i.e. 1 - MDR for year 1). Survivors at the end of year 1 multiplied by (1 - MDR for year 2) would give us survivors at the end of year 2. This multiplied by (1 - MDR for year 3) would give us survivors at the end of year 3. One minus survivors at the end of year 3 would be the CDR.

Example

CDR for original Cohort Size (C_0) = 53

Year	Defaults	Withdrawals	Cohort adjusted for withdrawals	Survivors at the risk of default	MDR	Survivors	CDR
	$D_{(t-1, t)}$	$W_{(t-1, t)}$	$C_{Wt} = C_{t-1} - (W_{(t-1, t)} + W_{(t-2, t-1)}) / 2$	$N_t = C_{Wt} \times \prod_{t=1}^3 S_{t-1}$	$D_{(t-1, t)} / N_t$	$S_t = (1 - MDR_t)$	$CDR = 1 - \prod_{t=1}^3 S_t$
1	2	7	49.5	49.50	4.04%	95.96%	4.04%
2	1	8	42	40.30	2.48%	97.52%	6.42%
3	1	10	33	30.88	3.24%	96.76%	9.45%

⁶ one for the 2002 cohort and the other for the 2003 cohort

Annexure 2

The following table presents data on defaults pertaining to the eight calendar years beginning January 1, 2001:

Table 14: Defaults for Cohorts Starting January1, 2001

	CDR-1	CDR-2	CDR-3
	Based on 8 cohorts	Based on 7 cohorts	Based on 6 cohorts
LAAA	0.00%	0.00%	0.00%
LAA	0.00%	0.58%	1.42%
LA	1.83%	3.66%	3.74%
LBBB	2.59%	5.41%	5.88%



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