DEFAULT STUDY 2015

ONICRA
WE SECURE TRUST

Contents

EXECUTIVE SUMMARY

The Non-Performing Assets (NPAs) and the stressed asset levels of the Indian banks have increased significantly in the last few years and have especially impacted the Public Sector Banks (PSBs). NPAs of Scheduled Commercial Banks (SCBs) have increased to 2.38% of the total advances in financial year 2014–2015 (FY15) from 2.12% in FY14.

In this time of disturbance in the banking sector, the default study provides key insight into the sturdiness of ratings assigned. ONICRA has conducted the default study this fiscal keeping in mind the following determiners:

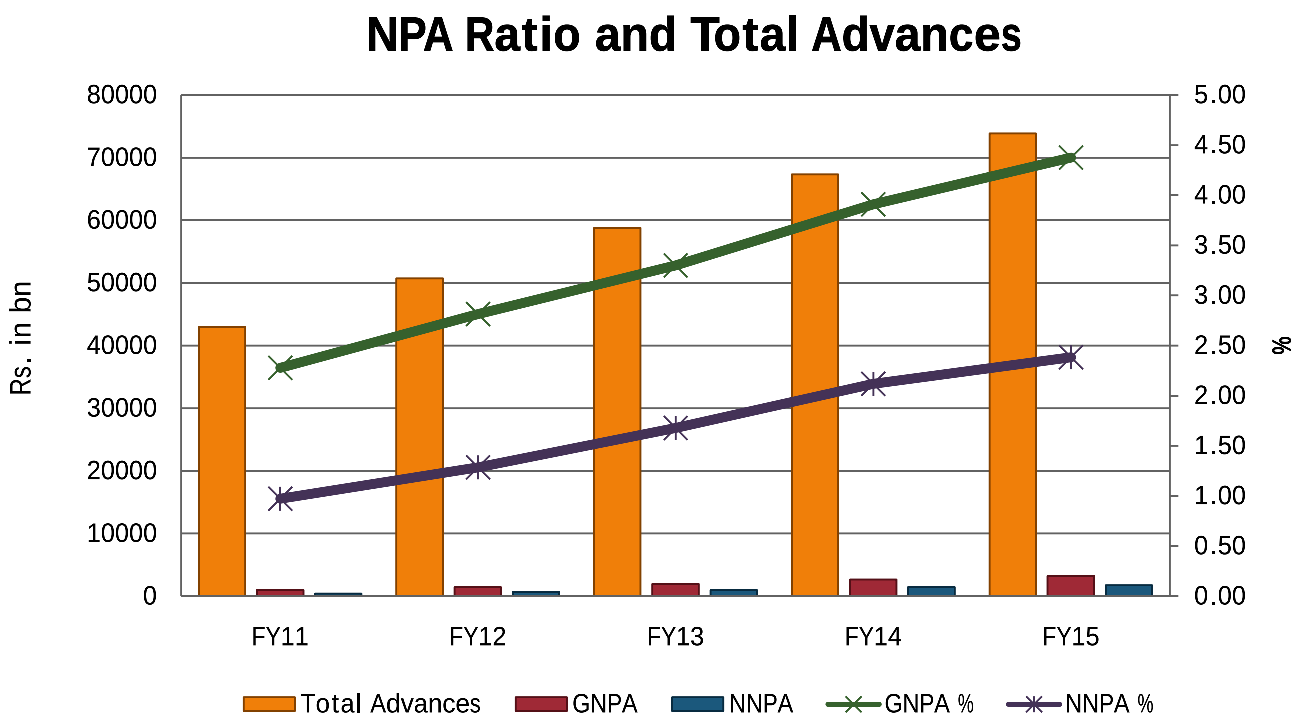
- It will be helpful in testing the robustness of ONICRA ratings.
- It provides insight into improvements required in ONICRA rating mechanism.
- It benefits in studying default rate behaviour and dispersion of the rating over the previous exercise.

The default rate for calendar year 2015 (CY15) is recorded at **2.65%**, while last year's rate was 2.47%. Dispersion or the Gini coefficient has improved to 0.59 times in CY15, compared to 0.55 times in CY14. The default rate has been high in the lower rating categories and the rating mechanism of ONICRA has stood its ground on this '**Test of ordinality'**.

A shift towards the number of ratings assigned in the lower ONICRA categories has been observed. More number of ratings have been assigned in ONICRA 5 and ONICRA 6 ratings in CY15, compared to a higher number of ratings assigned in ONICRA 4 and ONICRA 5 categories in CY13 and CY14. The change is a result of changing global and domestic factors such as weakening prospects of growth in emerging markets, falling commodity prices, strengthening of dollar, etc.

NPA ISSUES AND THE NEED FOR REFORMS IN BANKING SECTOR

Gross Non-Performing Assets (GNPAs) of SCBs have increased from INR 2,633.72 billion (bn) in FY14 to INR 3,233.45 bn in FY15, registering a significant jump of 22.77%. This is despite the Reserve Bank of India (RBI) advising favourable norms for classification of restructured assets and encouraging banks to disclose their stressed assets without delaying for higher capital provisioning.



Source: The Reserve Bank of India

Note: NNPA = Net Non-Performing Assets

The NPA levels are expected to increase further as, first, the stressed assets outstanding of banks increased to 11.30% in September 2015 from 11.10% in September 2014 and, second, the restructured loan failures to total loan restructured has increased to 35.66% in September 2015 from 28.51% in September 2014.

Particulars	Sep 2014	Sep 2015
Total Loans Restructured	505	530
Restructured Failures	144	189
% of Restructured Failures to Restructured Loans	**28.51**	**35.66**
Total Amount of Debt Restructured (INR bn)	3676	4030
Total amount of Debt Restructured but package failed	470	763
% of losses due to Restructured to total amount restructured	**12.80**	**18.93**

Source: CDR Cell

PSBs have borne the maximum burn of the deteriorating asset quality. PSBs, also the mainstay of the banking sector in India, have been marred by lack of true governance and suffered significant stressed assets (poor quality assets) in the wake of an economic downturn in the last few years. Most of the losses/ stress have been in the micro and small enterprises segment.

For Period Apr – Sep 2015	Scheduled Commercial Banks	Public Sector Banks	Private Banks	Foreign Banks
Stressed Asset Advances*	11.30%	14.10%	4.60%	3.40%
NNPA to Total Advances*	2.80%	3.60%	0.90%	0.50%
NNPAs in the MSE segment**	5.00%	6.30%	1.50%	1.50%

*Source: *The Reserve Bank of India;*

***Data pertaining to FY14;*

***Source: Table 2.6: Gross NPAs for Micro and Small Enterprises, "Report of the committee set up to examine the financial architecture of the MSME sector", Retrieved February 2015*

To minimizeze the NPAs in banking sector, credit rating agencies need to play a proactive role in identifying the right investment opportunity and providing an effective alert system. A credit rating provided to a unit reflects the risk profile of the rated entity. To test the robustness of its rating system and gain insights into its rating mechanism, ONICRA has come up with its fourth default study for CY15.

IMPORTANCE AND OBJECTIVE OF DEFAULT STUDY

The increasing level of restructured assets, stressed advances and NPAs have prompted the regulators (RBI) and the administrators (the Ministry of Finance) to initiate reformatory steps in banking sector. The finance ministry has proposed numerous reforms in the sector such as establishment of a Bank Board Bureau (BBB), Bank Investment Committee (BIC), development of Bankruptcy code, framework for dealing with loan fraud and has also provisioned for capital infusion in banks over the next few years.

As a preventive measure, the external rating of an entity gains significance and it becomes imperative that the third-party opinion is independent, objective and based on a robust rating model. Thus, studying the default rates becomes significant on two levels – as a measure of the credit risk profile of a rated entity and as a significant measure of efficiency of rating scale of an issuer.

Credit risk profile of a rated entity: Credit rating is an opinion on credit worthiness of a rated entity and signifies probability of default at each rating level. A low credit rating implies a higher probability of default in the rating category. The Default rate is a key input for assessing the credit quality of the rated entity and its reliability.

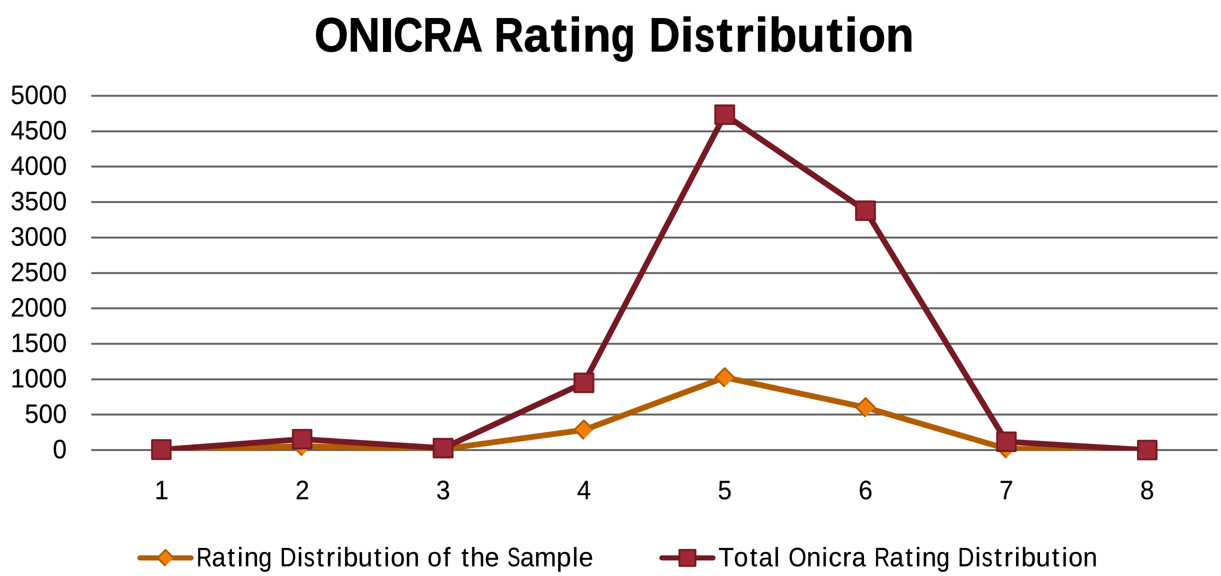
Efficiency of the rating scale of an issuer: The degree of reliability is assigned on a rating scale to a rated entity at a rating level. Movement in rating scale is inversely proportional to credit risk. As we move the rating up, the credit risk should come down and vice-versa. For a robust rating mechanism, an upward movement on the rating scale should translate to a lower credit risk as well as lower default rate and vice-versa.

ONICRA Default study concluded MSME default rate of 2.65% for ONICRA-assigned ratings. Default rate was higher amongst low-rated entities, thus indicating a good dispersion. This indicates the healthiness of ONICRA rating model. The Gini coefficient was calculated at 0.59, which indicates a good discretionary power of ONICRA rating model.

The ratings provided by ONICRA under the NSIC-ONICRA Performance and credit Rating Scheme are point-in-time ratings and are not kept under surveillance. This necessitates that any change in the risk profile of the rated entity or the change in the status of the account be re-checked with the banker.

METHODOLOGY AND SAMPLING

The fourth Default Study was conducted on a sample size of 2000 MSMEs rated by ONICRA in the CY15. The sample was chosen with care to proportionately cut across various states, industries, turnover slabs and the rating scale.



A structured questionnaire was designed for collecting feedback on the status of the conduct of the account and the opinion of the bankers. A banker feedback survey was conducted telephonically and by personally visiting them across India. ONICRA believes that the data collected through these modes is reliable. The data was further analysed for preparation of this report.

FINDINGS OF THE STUDY

There has been deterioration in the asset quality of Indian banks, which can be mainly attributed to domestic and global slowdown, delays in statutory approvals & reformatory policies and aggressive lending practices followed by banks during the economic upturn (2003–08) as is evident from high-corporate leverage. In international markets, the global macro-financial risk has shifted from advanced economies to emerging economies due to weakening prospects of growth of the latter, falling commodity prices and strengthening of dollar.

This is also reflected in the higher default rate, as concluded, during the Default Study 2015 conducted by ONICRA. Default rate this year has been 2.65% for ONICRA-rated entities, which is higher than the 2.47% default rate for ONICRA-rated entities in previous year.

The detailed study of the defaults across various rating categories on the rating scale provides a meaningful perspective to the robustness of the rating model.

Rating Category-Wise Distribution

ONICRA Rating Scale	Irregular Account	Registered as an NPA	Satisfactory	% of Default (Irregular + NPA)
ONICRA 1	0	0	1	0
ONICRA 2	0	0	54	0
ONICRA 3	0	0	14	0
ONICRA 4	2	0	284	0.70
ONICRA 5	18	5	1001	2.25
ONICRA 6	17	9	575	4.33
ONICRA 7	2	0	18	10.00
ONICRA 8	0	0	0	0
Total	**39**	**14**	**1947**	**2.65**

Considering the incidence of rated entities falling under a particular rating category, ONICRA ratings have been inversely related to the default rate in the categories. As we descend the scale, the percent of default increases in categories 5, 6 and 7. This is indicative of the discretionary powers of a robust rating model employed by ONICRA.

Industry-Wise Distribution

Industry	Total No. of Units in Sample	% contribution in sample	Default	Default Rate (%)
Textile	182	9.10	7	3.85
Agriculture & Allied Products	185	9.25	6	3.24
Construction Materials	127	6.35	5	3.94
Construction & Engineering	161	8.05	3	1.86
Retailing/Trading	133	6.65	3	2.26
Food & Beverages	97	4.85	3	3.09
Services	74	3.70	3	4.05
Machinery & Equipments	139	6.95	2	1.44
Iron & Steel	70	3.50	2	2.86
Transportation/ Logistics & Warehousing	34	1.70	2	5.88
Education	23	1.15	2	8.70
Electrical Components & Equipments	103	5.15	1	0.97
Metal & Metal Products	71	3.55	1	1.41
Plastic & Plastic Products	64	3.20	1	1.56
Containers & Packaging	63	3.15	1	1.59
Chemicals/ Fertilizers	50	2.50	1	2.00
FMCG & Personal Products	31	1.55	1	3.23
Hospitality	22	1.10	1	4.55
Wood & Wood Products	18	0.90	1	5.56
Auto & Auto Components	58	2.90	0	0.00

Pharmaceuticals	39	1.95	0	0.00
Health Care	25	1.25	0	0.00
Printing	21	1.05	0	0.00
Furniture	16	0.80	0	0.00
Gems & Jewellery	14	0.70	0	0.00
Paper & Paper Products	13	0.65	0	0.00
Information Technology	11	0.55	0	0.00
Oil & Gas	8	0.40	0	0.00
Telecommunication & Technology Hardware	8	0.40	0	0.00
Leather & Leather Products	6	0.30	0	0.00
Media & Entertainment	6	0.30	0	0.00
Media & Printing	2	0.10	0	0.00
Others	126	6.30	7	5.56
Grand Total	**2000**	**100.00**	**53**	**2.65**

‘Textile’ industry has registered highest number of defaults followed by ‘Agriculture and Allied Products’ and ‘Construction Materials’. Lagging demand in the 'Manufacturing sector and an erratic monsoon and falling commodity prices have adversely impacted the 'Agriculture and Allied Products' sector.

Geographical Distribution

Row Labels	Total No. of Units in Sample	% contribution in sample	Default	Default Rate (%)
West Bengal	207	10.35	13	6.28
Uttar Pradesh	236	11.8	8	3.39
Karnataka	271	13.55	5	1.85
Gujarat	75	3.75	4	5.33
Tamil Nadu	209	10.45	4	1.91
Andhra Pradesh	93	4.65	3	3.23
Madhya Pradesh	124	6.2	2	1.61
Maharashtra	230	11.5	2	0.87
Orissa	56	2.8	2	3.57
Punjab	38	1.9	2	5.26
Rajasthan	59	2.95	2	3.39
Assam	35	1.75	1	2.86
Bihar	48	2.4	1	2.08
Haryana	35	1.75	1	2.86
Jharkhand	18	0.9	1	5.56
Telangana	138	6.9	1	0.72
Tripura	4	0.2	1	25.00
Chandigarh	4	0.2	0	0.00
Chhattisgarh	11	0.55	0	0.00
Dadra and Nagar Haveli	1	0.05	0	0.00
Delhi	19	0.95	0	0.00
Goa	1	0.05	0	0.00
Himachal Pradesh	3	0.15	0	0.00
Kerala	3	0.15	0	0.00
Manipur	1	0.05	0	0.00
Meghalaya	1	0.05	0	0.00

Uttrakhand	80	4	0	0.00
Grand Total	**2000**	**100**	**53**	**2.65**

ONICRA default study was conducted pan-India. The highest numbers of defaults were registered in West Bengal followed by Uttar Pradesh. West Bengal had suffered a high-default rate last year as well.

In the North-East Region (NER) states (comprising of Assam, Manipur, Meghalaya and Tripura in the table above); the default rate at 4.88% has been exceptionally high and above the national average. This is a reflection of the amount of work that needs to be done in the states to bring them at par with national economic, financial and social growth standards.

Turnover-Wise Distribution

Turnover Slab	Total No. of Units in Sample	% contribution in sample	Default	Default Rate (%)
Above INR 200 Lakh	1044	52.20	19	1.82
Above INR 50 Lakh to INR 200 Lakh	629	31.45	19	3.02
Up to INR 50 Lakh	327	16.35	15	4.59
Grand Total	**2000**	**100**	**53**	**2.65**

Sample covered in ‘up to INR 50 lakh’ category has been small as the number of units availing banking facility in the category is lower. However, the probability of default increases as the size of the rated entity decreases. With size comes stability in a unit, which lends it an ability to raise funds from multiple channels and capacity to repay debt obligations. Consequently, the default rates are highest in the lowest turnover slab.

Legal Constitution- Wise Distribution

Row Labels	Total No. of Units in Sample	% contribution in sample	Default	Default Rate (%)
Proprietorship	1115	55.75	30	2.69
Partnership	476	23.80	11	2.31
Private Limited Company	356	17.80	9	2.53
Public Limited Company	24	1.20	1	4.17
Society	22	1.10	1	4.55
Trust	7	0.35	1	14.29
Grand Total	**2000**	**100**	**53**	**2.65**

The type of ownership structure of an enterprise determines the form of capital (equity or debt) it can access and raise from external sources. This can significantly impacts growth potential at both start-up stage and growth/expansion stage. Limited companies tend to have better accessibility to funds as they can raise both secured and unsecured loans easily and also accept public deposits.

Default occurrence is the highest under proprietorship constitution owing to tight terms of payment, high-cost of production, non-transparency regarding financial conditions, etc. The default rates for the public limited companies and societies have been high; however, the incidence of default is low and the sample size is statistically insignificant thereby, generalization of the result is not recommended.

Bank Category-Wise Distribution

Bank Category	Total No. of Units in Sample	% contribution in sample	Default	Default Rate (%)
Public Sector Bank	1630	81.50	48	2.94
Co-operative bank	71	3.55	2	2.82
Regional Rural Bank	12	0.60	2	16.67
Private Sector Banks	262	13.10	1	0.38
Foreign Bank	12	0.60	0	0.00
Local Area Bank	1	0.05	0	0.00
SFC & NBFC	12	0.60	0	0.00
Grand Total	**2000**	**100**	**53**	**2.65**

Even as PSBs have played a significant role in the past in making credit available to MSMEs, the profitability of PSBs has come under tremendous pressure due to increasing losses resulting from the stressed assets and NPAs. The same is reflected in our default study for CY15. Default rates for PSBs have been more than the national average. Also, it may be noted that the diligence process conducted by private sector banks has been very thorough leading to lower default rates.

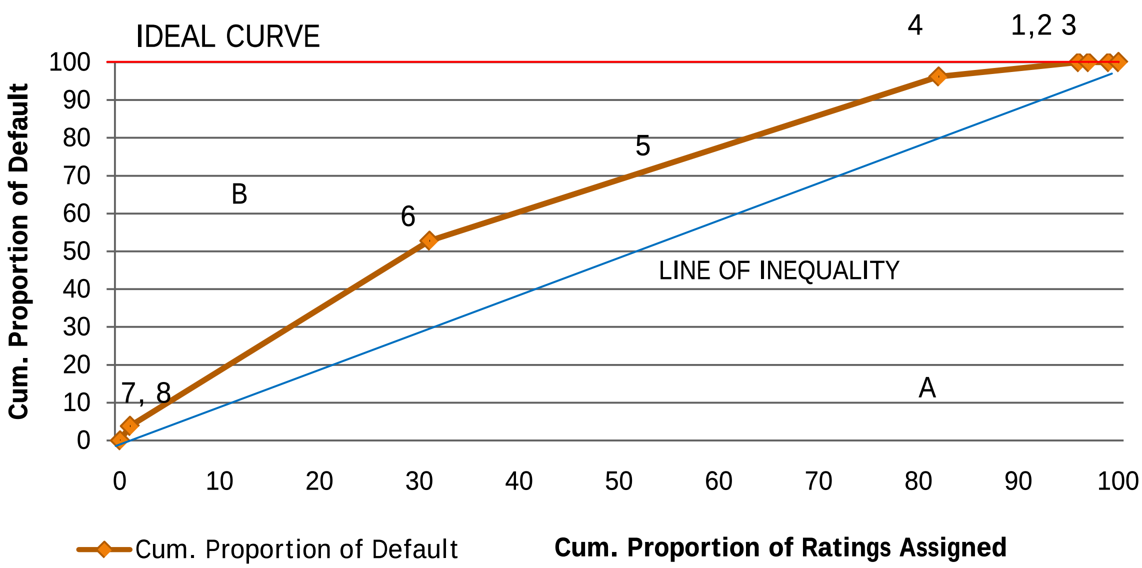
The Regional Rural banks have recorded exceptionally high default rates. This reflects poorly on the diligence process of these banks.

Facility Availed – Wise Distribution

Facility Availed	Total No. of Units in Sample	% contribution in sample	Default	Default Rate (%)
Working Capital Facilities	1425	71.25	38	2.67
Term Loan Facilities	182	9.10	5	2.75
Both Working Capital and Term Loan	393	19.65	10	2.54
Grand Total	**2000**	**100**	**53**	**2.65**

It is observed that default rates have been high for both long-term as well as short-term ratings. The tenure of facility availed by the MSME does not affect the probability of default significantly. However, it may be noted that while about 90.90% of the MSMEs have availed short-term loan facilities, only 28.75% of MSMEs could avail long-term facilities. This is also indicative of the poor ability of MSMEs to avail long-term loans from banks and financial institutions.

LORENZ CURVE AND GINI COEFFICIENT FOR ONICRA RATINGS



<u>Note: A = Area covered by the Lorenz Curve;</u>

<u>B = Area between the Ideal curve and the Lorenz Curve</u>

In the graph above, 96.23% of defaults recorded were in ONICRA 5 and lower rating categories. These categories include 82.25% of total ratings assigned. Also, 52.83% of the defaults were recorded in ONICRA 6 rating category and lower categories. These categories included 31.05% of the total ratings assigned. In other words, the bottom 31.05% ratings accounted for 52.83% of defaults that occurred. These categories are marked by limited information available about them and their inherent vulnerability to sharp rating changes.

Gini coefficient (G) of the curve is 0.59; it is depicted in the graph as ‘A/(A+B)’. ONICRA Gini coefficient indicates superior discriminatory powers of the rating model. Gini Coefficient or accuracy ratio will be 1 if ratings have perfect predictive ability, as cumulative curve will coincide with line of inequality. A higher Gini Coefficient indicates the superior predictive ability of a rating mechanism.

AVERAGE DEFAULT RATES

This is the fourth consecutive default study of ONICRA and our ratings have stood the test of ordinality and dispersion over the period of time. Useful insights have been gained out of the study every year, which we have tried to incorporate to make our rating process more objective, robust and ordinal.

Rating Scale	Default Rate (%)CY13	Default Rate (%)CY14	Default Rate (%) CY15	3-year-average Default Rate (%) (Weighted Average)
ONICRA 1	0.00	0.00	0.00	0.00
ONICRA 2	1.56	0.00	0.00	0.54
ONICRA 3	0.00	0.00	0.00	0.00
ONICRA 4	2.19	2.45	0.70	1.80
ONICRA 5	2.55	1.61	2.25	2.07
ONICRA 6	2.82	3.98	4.33	4.02
ONICRA 7	0.00	36.36	10.00	17.14
ONICRA 8	0.00	0.00	0.00	0.00
Total Default Rate	**2.35**	**2.47**	**2.65**	**2.53**

It is evident from the table above that the default rates have been consistently higher in the lower rating categories. The increase in the overall default rates is a reflection of the stress on the banking sector.

The superior robustness of ONICRA's rating model is also observed by the fact that none of the units, in any of the years, in the top rating category 'ONICRA 1' has ever defaulted or have been restructured. Moreover, there has been no default in the top 3 rating categories in the last two years, even though the Indian economy has witnessed high levels of uncertainty.

GLOSSARY OF TERMS

DEFAULT

Default is identified by ONICRA as an occurrence of delay in payment/non-payment of any debt obligation including current maturity, interest payment, etc. Any late recovery of debt obligation is not reversed for identification of the account as default.

DEFAULT RATE

Default Rate for ONICRA has been calculated as the number of defaults amongst rated entities as a percentage of total entities rated and outstanding under the period of study. Default rate can be calculated across each rating category.

LORENZ CURVE

Lorenz curve, also known as cumulative curve, is a graphical representation of the cumulative distribution function of the empirical probability distribution of the variable. It is useful in business modelling, e.g. in consumer finance, to measure the actual delinquency Y% of the X% of population with worst predicted risk scores.

RANDOM CURVE AND LINE OF INEQUALITY

A random curve is a straight line at 45 degrees of X-axis. It is also known as the line of equality and represents a perfectly equal distribution of delinquency over risk scores.

By contrast, line of inequality is the perfect distribution where all the defaults or delinquency are distributed over one risk score, i.e. the lowest rating category. This is an ideal scenario, where all the defaults should be at the lowest categories. Since no system is perfect, the actual default rate distribution would lie somewhere between the line of inequality and the random curve.

GINI COEFFICIENT

Gini coefficient, also known as Gini index or Gini ratio or Accuracy ratio, is a measure of statistical dispersion. It measures inequality amongst values of a frequency distribution. Gini coefficient is measured as the area between line of equality and Lorenz Curve, as a ratio of the area between the line of equality and the line of in-equality. It is also known as the accuracy ratio. A higher Gini coefficient would indicate higher predictive power of the rating model.

DISCLAIMER

This report is a proprietary of ONICRA Credit Rating Agency of India Limited and no part of this report may be copied/reproduced in any form or any manner whatsoever without a written consent by ONICRA. ONICRA has taken utmost care in preparing this report. Information has been obtained from sources considered to be reliable. However, ONICRA does not guarantee the accuracy, adequacy or completeness of information and is not responsible for any errors in transmission. It is especially stated that ONICRA, its directors, employees and others associated with the rating assignment do not have any financial liability whatsoever including but not limited to attorney’s or consultant’s fees to the users of this report.

Key Contacts

Vishnu Ramachandran
Senior Vice President
Contact No. :
+91- 124-4125487

Manish Goyal
General Manager
Contact No.:
+91-124-4125707

Deepti Dua
Senior Manager
Contact No.:
+91-124-4125717

Our Offices

HARYANA

Gurgaon

Corporate Office & Rating Office

5th Floor, Plot No, 21-22,
Udyog Vihar Phase-1V
Gurgaon - 122015 India

MAHARASHTRA

Mumbai

520, 5th Floor, Nirmal
Corporate Centre LBS
Marg, Mulund (West)
Mumbai – 400080
India

KARNATAKA

Bangalore

N-705, 7th Floor, North Block,
Manipal Centre, 47,
Dickenson Road, Bengaluru -
560042 India

GUJARAT

Ahmedabad

603, Aniket, Above Metro
Showroom, Opp. Jain Derasar
C G Road, Navrang Pura
Ahmedabad – 380009
India

UTTAR PRADESH

Noida

B10, Sector - 59 Noida
201301 India

Lucknow

239 Tej Kumar Plaza,
Hazratganj,
Lucknow – 226001, India

WEST BENGAL

Kolkata

3 D & F, 3rd Floor, Jindal
Tower, Block A, 21/1A/3,
Darga Road, Kolkata -
700017

India

TELANGANA

Hyderabad

7-1-28/12/1 4th Floor, Serenity
Plaza, Shyam Karan Road, Near
Andhra Bank Ameerpet Branch,
Ameerpet Hyderabad – 500016
India

TAMIL NADU

Chennai

25, Ranganathan Garden,
Ground Floor, 15th Main
Road, Annagar West,
Chennai-600040, India