2013

ONICRA DEFAULT STUDY - 2013

A low economic growth rate, a declining manufacturing and services sector and a high interest rate regime have hampered the investment climate in the country and the worst affected are SME units. Since the avenues of debt financing are low and the interest rates charged are high, the chances of default are also high

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EXECUTIVE SUMMARY

Onicra had successfully launched its first default study in May 2013 for the period January 2012 to December 2012. Persevering with the same and buoyed by the gainful insights learned from its first attempt, we decided to re-establish the default rates of our SME ratings awarded during the last year i.e. January 2013 to December 2013.

The year 2013 has been very challenging for the corporate India – especially the manufacturing sector. Statistical data indicates that the share of manufacturing and services sector has actually declined in FY13. Parallelly, the growth of SMEs has also been low. This has resulted in lower employment levels at both the aggregate economic level and SME level. Slower demand in the domestic as well as the export market, rupee depreciation, inflation and percolation of the financial issues from the large corporate to small enterprises has stretched the financial profile of the SMEs.

Such an ecosystem leads to higher defaults in the corporate and SMEs, which are already cash stretched. Onicra decided to conduct a default study exercise this year keeping in mind the following points:

- It will be helpful in testing the resilience of Onicra's ratings
- Gain insights into any improvement mechanism required in the Onicra Rating Process
- Study any movement in the default rate and dispersion of the rating since the last exercise

Sample set of 850 cases was chosen from a period of January to December 2013, which was higher than the 526 cases sample set of the last exercise. This year the default rate has been 2.35% while last year the default rate was 2.47%. The dispersion or the gini – coefficient has remained same at 0.54 times. The change in the default rate is a result of the strengthening of the rating model and a continuous endeavour of Onicra to upgrade its rating model to factor in the changing global and domestic scenario.

ONICRA SME DEFAULT STUDY – 2013

INTRODUCTION

The SME sector has emerged as the crucial sector of the economy providing self-employment opportunities and employment opportunities to the workers at relatively lower capital infusion & cost and also helps in industrialization of the rural and backward areas. It helps in assuring an equitable distribution of income. SMEs support the large corporate units and act as their ancillary units contributing to a lot of socio-economic activity in a region.

SMEs generate the largest employment (nearly six crore) after agriculture. In terms of value, SMEs account for 45% of total manufacturing output, 40% of exports, and contribute around 8% to GDP. However, the growth of SMEs is stymied by the lack of adequate credit. Higher operational risk as compared to large corporates, lack of personal guarantee and relatively uncertain future cash flows make it difficult for an SME serve the financial obligations and hence there is reluctance among the lending institutions to offer more credit facilities to SMEs. The default among the SMEs is perceived to be higher than that of large corporates.

In a similar study last year, it was established that the default by the SME units rated by Onicra was well below the risk zone. The present study is an endeavour to increase transparency towards rating exercise and test the resilience of Onicra's rating process.

IMPORTANCE AND OBJECTIVE OF DEFAULT STUDY

The Indian economy has been suffering from a slowdown for the last two years. This is a result of the trickle down from the global melt down and slackness in the Indian manufacturing and services sector. A reversal of the trends is not near. In such a scenario, the default rates on various instruments are expected to be high. Thus, studying the default rates becomes significant on two levels - one, as a measure of the credit risk profile of the rated entity and two, as a measure of the efficiency of the rating scale of the issuer.

Credit risk profile of the rated entity: A credit rating is an opinion on the credit worthiness of the rated entity and default rates signify the probability of default at each rating level. A high default rate would imply higher probability of default in the rating category. The default rate of the issuer at a rating level is a measure of the credit risk associated with the rated entity.

Efficiency of the rating scale of the issuer: A rating scale assigns the degree of reliability to a rated entity at a rating level. Movement in rating scale is inversely proportional to the default rate. As we move up the rating scale, the default rate should come down and vice-versa.

The study concluded with a default rate of 2.35% for Onicra assigned ratings. The default rates were higher on the lower ratings, thus indicating a good dispersion. This indicates towards a healthy rating model being employed by Onicra in awarding its ratings. The Gini coefficient calculated was 0.54, which indicates a good discriminatory power of Onicra's model.

STUDY FINDINGS

The default rate for Onicra rated entities has been 2.35%. This is lower than the default rate of Onicra rated entities in the last year, which was 2.47%. In spite of deteriorating economic conditions and slackness in the manufacturing and the services sector in the last year, the default rate has shown improvement. This could be a result of the improvements in the rating model, which is an ongoing process at Onicra. The default study exercise conducted last year provided some helpful insights in improving the rating process and this year's default study is another step forward towards the benefits thus derived.

A 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 Scale	Irregular Accounts	Registered as an NPA	Satisfactory	% of Default (Irregular + NPA Accounts)
1	0	0	5	0.00
2	1	0	63	1.56
3	0	0	8	0.00
4	4	2	268	2.19
5	7	2	344	2.55
6	4	0	138	2.82
7	0	0	4	0.00
8	0	0	0	0.00
Total	**16**	**4**	**830**	**2.35**

Table 1: Rating Category wise Default Rate

Considering the incidence of rated entities falling under a particular rating category, the ratings of Onicra have been inversely related to the default rate in the category. Onicra's ratings follow a standard bell curve with the median rating score falling on rating categories 4, 5 and 6. As we go down the scale, the percent of default has also increased on the categories 4, 5 and 6. This is indicative of the discriminatory powers of the robust rating model followed at Onicra.

INDUSTRY WISE DISTRIBUTION

Industry	Default	Satisfactory	% of Default
Educational Services	2	13	13.33
Metal & Metal Products	4	28	12.50
Containers & Packaging	2	17	10.53
Chemicals	1	19	9.09
Paper & Forest Products	1	14	6.67
Plastic & Plastic Products	1	22	4.35
Agriculture & Allied Products	2	86	2.27
Machinery & Equipments	1	67	1.47
Others	6	111	5.13
Auto & Auto Components	0	21	0.00
Construction & Engineering	0	32	0.00
Construction Materials	0	52	0.00
Consumer Durables	0	10	0.00
Electrical Components & Equipments	0	37	0.00
Food Products	0	39	0.00
Health Care	0	6	0.00
Hospitality	0	8	0.00
Household & Personal Products	0	10	0.00
Information Technology & Telecommunications	0	8	0.00
Iron and Steel	0	29	0.00
Jewellery	0	9	0.00
Media & Printing	0	13	0.00
Pharmaceuticals	0	18	0.00
Power & Energy	0	16	0.00
Retailing	0	31	0.00
Services	0	26	0.00
Textile	0	85	0.00
Transportation	0	3	0.00
Grand Total	**20**	**830**	**2.35**

Table 2: Industry wise default rate

The manufacturing and services sectors have witnessed a decline in the growth rate at the national economic level and the same is reflected in the industry wise analysis of the default rate as well. The educational services industry has registered the highest default rate followed by the ‘Metal and Metal Products’, ‘Containers and Packaging’, ‘Chemicals’ etc. Almost all of these industries in the manufacturing sector serve as the raw material suppliers to producers of end product.

GEOGRAPHICAL DISTRIBUTION

State	Default	Satisfactory	% of Default
Manipur	1	1	50.00
West Bengal	3	30	9.09
Punjab	1	27	3.57
Maharashtra	2	56	3.45
Tamil Nadu	4	115	3.36
Karnataka	3	88	3.30
Madhya Pradesh	2	69	2.82
Rajasthan	1	51	1.92
Uttar Pradesh	2	124	1.59
Andhra Pradesh	1	64	1.54
Arunachal Pradesh	0	1	0.00
Assam	0	33	0.00
Bihar	0	35	0.00
Chandigarh	0	2	0.00
Chhattisgarh	0	17	0.00
Delhi	0	8	0.00
Gujarat	0	48	0.00
Haryana	0	17	0.00
Himachal Pradesh	0	2	0.00
Jharkhand	0	4	0.00
Meghalaya	0	5	0.00
Orissa	0	4	0.00
Uttarakhand	0	29	0.00
Grand Total	**20**	**830**	**2.35**

Table 3: State wise default rate

The default study exercise conducted by Onicra covered entire India mainland including the North Eastern States. The highest number of defaults was registered in the regions of Tamil Nadu, Karnataka and West Bengal. The maximum number of defaults per rating assigned by Onicra was registered in the states of Manipur and West Bengal. The default rates in these states have been significantly higher than the national average. The state of Manipur has only recently attracted government focus on development under the aegis of Ministry of Development of North Eastern States (MDoNER) and has many stalwart SMEs trying to make a mark even though the other states in NER such as Assam, Arunachal Pradesh and Meghalaya have fared a lot better with no default.

TURNOVER WISE DISTRIBUTION

Turnover Slab	Default	Satisfactory	% of Default
Above Rs.200 lakh	8	474	1.66
Above Rs.50 lakh to Rs.200 lakh	8	258	3.01
Upto Rs.50 lakh	4	98	3.92
Grand Total	**20**	**830**	**2.35**

Table 4: Turnover Slab Wise Default Rate

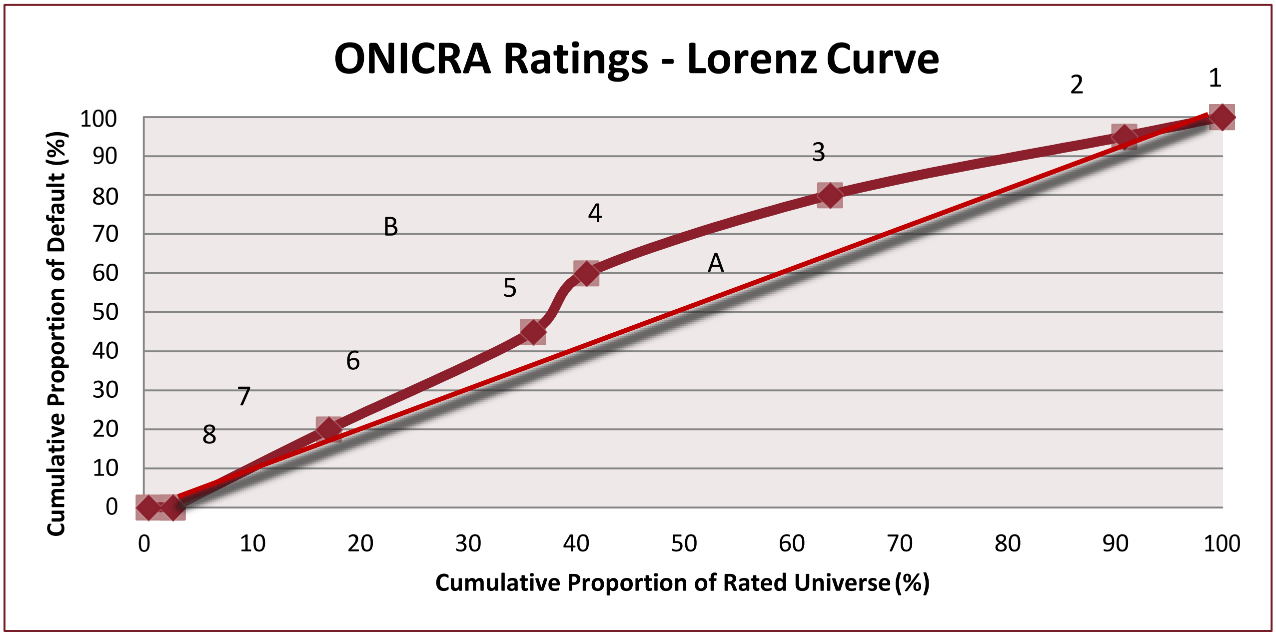
The sample covered in the 'Upto Rs. 50 lakh' category has been small as the number of units availing a banking facility in this category is lower. However, the probability of default increases as the size of the rated entity decreases. With size comes stability in the unit, which lends it ability to raise funds from multiple channels and capacity to repay debt obligations. Consequently, the default rates are lower at this level.

The distribution of the number of units rated by Onicra as per their turnover is as follows:

Turnover Slab	% of Units Rated
Above Rs.200 lakh	47.51
Above Rs.50 lakh to Rs.200 lakh	28.74
Upto Rs.50 lakh	23.75
Grand Total	**100.00**

Table 5: Turnover Slab Wise Rating Distribution

LORENZ CURVE AND GINI COEFFICIENT



In the above graph:

A: Area between the random curve and the Lorenz curve

B: Area between the Lorenz curve and the line of inequality

The above graph can be interpreted as no unit was assigned a rating category 8, and hence no default. This is the lowest rating category on the rating scale. Again on rating category 7, there were no defaults and the number of units assigned this rating category was 0.47% of the total number of units rated by Onicra. 20% of the default incidence were reported over 16.71% of the rating assigned pool, and were assigned the rating category '6' and so on.

Gini-Coefficient (G) of the above curve is 0.54. It is depicted in the graph above as 'A/(A+B)'. G of Onicra indicates superior discriminatory powers of its rating model. At the same time, it is observed that the resilience of Onicra's ratings is high as only few of the entities rated in the higher categories have defaulted, even in the times of economic slowdown.

METHODOLOGY

Onicra has a mandate from NSIC for point–in-time ratings for SMEs. These ratings are not under surveillance, nor are the ratings awarded under the SME (Non-NSIC) scale. Consequently, the ratings are not tracked on a regular basis. The default study was carried out on a sample of 850 data sets, chosen from Onicra's live ratings for the period January 2013 to December 2013. Sampling (as detailed below) required extra care as Onicra aimed for a more comprehensive study this year as compared to the last year. Data collection exercise was conducted during the period January 2014 to April 2014. The current status of the accounts of the sample set was taken from their respective bankers. A structured questionnaire was designed to assist symmetrical data collection. Onicra has collected the data by conducting physical visits to the banks, through telephonic interaction and through e-mail correspondence with the bankers. We believe that the data collected through these modes is robust and reliable. Data collected was then converted into an excel format for data analysis and preparation of this report.

SAMPLING

The chosen sample set of the rated units consisted of units belonging to mainland India including North Eastern Region (NER), were rated during the entire calendar year 2013, with size varying across the three turnover slabs of 'Above Rs.200 lakh', 'Above Rs.50 lakh to Rs.200 lakh', and 'Upto Rs.50 lakh' and had ratings assigned across all the rating categories.

Rating Category	Total no. of Units Rated during the year	No. of Units in the Sample Set	% of Sample to Total
1	25	5	19.86
2	359	64	17.80
3	59	8	13.55
4	1847	274	14.84
5	3888	353	9.08
6	2275	142	6.24
7	229	4	1.74
8	0	0	0.00
Total	**8683**	**850**	

Table 6: No. of Units in the Sample Set vis-a-vis Total Rated Entities by Onicra in 2013

Onicra has assigned approx. 8683 ratings in the calendar year 2013 and a representative sample set of 850 cases was chosen from the same. More number of units was chosen from the rating categories where larger numbers of ratings were assigned as is depicted in the chart above.

The sample chosen also covered all the industries (Table 7) and spanned the entire calendar year (Table 8)

Industry	Total Number of Units Rated by Onicra	Number of Units in Sample	% of Sample to Total
Educational Services	92	15	16.30
Metal & Metal Products	204	32	15.68
Power & Energy	110	16	14.51
Pharmaceuticals	141	18	12.80
Agriculture & Allied Products	712	88	12.36
Hospitality	69	8	11.52
Construction Materials	482	52	10.79
Textile	791	85	10.75
Electrical Components & Equipments	356	37	10.39
Chemicals	196	20	10.19
Plastic & Plastic Products	231	23	9.96
Machinery & Equipments	716	68	9.49
Auto & Auto Components	229	21	9.16
Iron and Steel	326	29	8.91
Food Products	454	39	8.59
Paper & Forest Products	189	15	7.92
Retailing	399	31	7.78
Information Technology & Telecommunications	111	8	7.20
Containers & Packaging	272	19	6.99
Transportation	48	3	6.28
Construction & Engineering	510	32	6.28
Health Care	97	6	6.17
Media & Printing	216	13	6.01
Services	449	26	5.79
Jewellery	167	9	5.40
Consumer Durables	208	10	4.80
Household & Personal Products	307	10	3.25
Others	600	117	19.50
Grand Total	**8683**	**850**	**9.79**

Table 7: Industry Wise Distribution of Sample and its Representation in the Total Ratings Assigned

Month of Rating	Total No. of Units Rated	No. of Units in Sample	% of Sample to Total
January	729	194	26.61
February	851	61	7.17
March	1153	63	5.46
April	747	55	7.36
May	701	38	5.42
June	624	52	8.33
July	693	78	11.26
August	517	59	11.41
September	661	98	14.83
October	639	72	11.27
November	667	42	6.30
December	701	38	5.42
Grand Total	**8683**	**850**	**9.79**

Table 8: Month Wise Distribution of Sample and its Representation in the Total Ratings Assigned

A small sample size is a limitation to the study conducted. Onicra has covered 850 data sets in the study, which is almost 10% of the total number of units rated. Even though this is a handsome sample size, the limitations of conducting a study on sample remain. Prudence needs to be exercised for generalizing any conclusion(s).

IMPORTANT TERMS

DEFAULT

Onicra identifies default at the occurrence of delay in payment / non-payment of any debt obligation including current maturity, interest payment etc. Any recovery of debt obligation later on is not reversed for identification of the account as default.

DEFAULT RATE

Default Rate for Onicra has been calculated as the number of defaults among 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

The 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 modeling: e.g., in consumer finance, to measure the actual delinquency Y% of the X% of population with worst predicted risk scores.

RANDOM CURVE AND THE LINE OF INEQUALITY

A random curve is the 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 is distributed over one risk score, i.e. the lowest rating category. This is an idealistic 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 the line of equality and the 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 Lorenz curve nearer to the line of inequality would indicate concentration of the cumulative defaults at the lowest rating categories. Higher the co-efficient, more unequal is the distribution. A higher Gini-coefficient would indicate higher predictive power of the rating model.

DISCLAIMER

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