When AAA Means B : The State of Credit Rating in India

by

V. Raghunathan and Jayanth R. Varma
Indian Institute of Management, Ahmedabad, India

Complete address for correspondence:

Prof. V. Raghunathan / Prof. Jayanth R. Varma
Indian Institute of Management
Ahmedabad, INDIA, 380 015
Telephone: (91)-272- 407241
Tlx.: 121 6351 IIMA IN
Fax : (91)-272- 427896
E-mail: vraghu@iimahd.ernet.in
jrvarma@iimahd.ernet.in

When AAA Means B : The State of Credit Rating in India

Abstract

As in many other countries, India's five year old credit rating industry has grown rapidly amidst persistent doubts about the quality of the rating service. This paper evaluates the ratings given by India's leading credit rating agency, CRISIL. We find that CRISIL's ratings are not only too liberal by international standards but also internally inconsistent. We argue that to improve the quality of credit rating in India, there must be more competition; credit rating must be opened up to the private sector; and raters must provide unsolicited ratings.

When AAA Means B : The State of Credit Rating in India

I. Introduction

Over the last decade, credit rating has developed rapidly in several countries where this service was unknown earlier. To a great extent, this growth has been spurred by the increasing volume of debt securities being issued by the corporate sector in these countries. In India, the first credit rating agency, CRISIL (Credit Rating and Information Services of India Limited), was set up a little over five years ago and since then credit rating has made rapid strides in terms of the number and value of instruments which have been rated. A second rating agency Investment Information and Credit Rating Agency of India Limited (ICRA) was established in 1991 and a third agency is just beginning operations. In 1992, credit rating became mandatory for debt instruments with maturity greater than 18 months.

Nevertheless, a few disturbing features of the credit rating industry remain. All the rating agencies are in the public sector; none of them makes an unsolicited rating; a company which is unhappy with a rating is free not to use that rating and to go elsewhere in search of a better rating. This situation has the built-in danger of competitive relaxation of rating standards by all the raters. The country's central bank, the Reserve Bank of India, has recently voiced its concern that such a relaxation of rating norms may already be taking place[i]. By contrast, the situation in the US seems to be the oppposite: "There seems to be a contest to see who can be more aggressive in downgrading people" says the head of a US bondholders' association[ii]. An evaluation of the quality of the credit rating of the Indian rating agencies is, therefore, called for.

II. Methodology

In general, the methodology to evaluate credit rating of securities involves the study of default risks of those securities: for example, Altman (1989, 1990), and Fons and Kimball (1991). This methodology uses information on the default record of securities over extended periods of time to investigate whether higher default risk is associated with lower ratings. Since the history of credit rating in India is too short - barely 5 years - this methodology must be ruled out in the Indian context today.

An alternative methodology would be to correlate the yields (YTMs) of the bonds in the secondary market with their credit ratings. In India, corporate bonds are poorly traded and much of the trading takes place outside the stock exchange. As such, the YTMs computed from stock market quotations are not reliable.

In this paper, therefore, we adopt an altogether different approach which is applicable in situations where long stretches of historical data are not available. We base our methodology on the well known international evidence that financial ratios are good predictors of default risk (for example, Altman (1968) in the US context and Gupta (1983) in the Indian context). In fact, all rating agencies worldwide assert that financial ratios are an important *but not the sole* input into their ratings. In the US, it is well known that about 75% of the variability both in yield spreads and in ratings is explained by financial ratios (see Fisher, 1959; Ang and Patel, 1975; Kaplan and Urwitz, 1979; Martin and Henderson, 1983). Intuitively, one would think that while an individual company's rating[iii] may be influenced by non financial and qualitative factors, these factors tend to cancel out when we look at a larger sample of companies. For example, the data in Table 1 shows the median ratios for companies rated in each category from AAA to CCC by the US rating agency Standard and Poor (S&P). It can be seen that for companies rated AAA by S&P, the median pretax interest coverage was 10.46, while for CCC rated companies this ratio was only 0.09. It is clear from the table that the S&P ratings have very high

discriminatory power: higher rated companies do have significantly better ratios than lower rated ones. In fact, each rating category appears to have a distinct profile of financial ratios.

Table 1 - About Here

We, therefore, decided to examine the discriminatory power of the CRISIL ratings in a similar fashion. We used the same ratios for which we presented the S&P data in Table 1. In India, data on the leased assets is not publicly available. For instance, the fixed charges in the second ratio of Table 1 include lease rentals and the permanent capital in the penultimate ratio of the same Table includes leased assets. We were, therefore, unable to use these two ratios in our study. That left us with eight ratios which between them cover most of the principal categories of ratios used in credit rating.

Out of the 149 bonds of manufacturing companies rated by CRISIL up to January 1993, necessary financial information was publicly available for only 76. The principal source of financial data was the *Key Financial Data on Larger Business Units, January 1993,* published by the Centre for Monitoring Indian Economy (CMIE), referred to below as the CMIE data. The CMIE data has been preferred over other sources since its data is normalised for various differences of accounting policy and related matters. However, since the CMIE data does not provide a break-up between short term and long term debt, this break-up was obtained from the Bombay Stock Exchange (BSE) directory.

The median value (of the three latest available years) of each ratio were computed for each of the 76 companies. While CRISIL classifies companies into several categories and sub-categories, the sample size is too small in many of these categories. We have therefore worked with four broad categories: AAA, AA, A and <A. For each of these categories, Table 2 provides the median ratios of companies falling in that category. The table indicates that the CRISIL ratings have poor discriminatory ability and that in many cases, the median ratios are higher for lower rating categories. The contrast with the neat pattern of ratios for the S&P data is quite striking. In terms of statistical significance, the ANOVA-F-

Test (with the rating as the independent or "treatment" variable and the ratio as the dependent variable) was significant at the 5% level for only one ratio out of eight. Tukey's HSD (Honestly Significant Difference) test showed that the only pairwise significant difference even for this ratio was a difference between the AAA group and the <A group. Thus, CRISIL ratings do not seem to communicate much objective information in financial terms.

Table 2 - About Here

At this stage, two alternative hypotheses present themselves. One is the obvious hypothesis that CRISIL is not using financial information meaningfully in its ratings. The other hypothesis is that, in India, companies do not fall into neat clusters on the basis of their ratios; that a company which is excellent on one ratio is poor on some other ratio; so that the neat pattern of Table 1 is impossible to achieve whatever rating method one may use. If the second hypothesis were true, one could not really blame CRISIL for failing to do the impossible. We investigated this hypothesis in two ways. First we looked at the correlations between the eight ratios: Table 3 presents the correlation matrix. It is seen that the correlations are generally positive, fairly high and statistically significant.

Table 3 - About here

This seems to reject the second hypothesis that ratios are unrelated or perversely related to each other; but for a more decisive answer, we used a naive rating scheme. We simply standardized all the ratios by transforming them to z-scores to account for origin and scale differences. We then created a composite index for each company by computing the simple average of the eight standardized ratios. Finally, we ranked the companies on the basis of this index and classified them into four rating categories selecting as many companies in each rating group as there were in the CRISIL ratings. For example, CRISIL had 4 companies rated AAA, 26 rated AA and so forth. Accordingly, we selected the top four companies as AAA, the next best 26 as AA and so on. This gave us our "naive" ratings.

Table 4 depicts the result of our naive rating in terms of the median ratios for each rating group. It is immediately apparent that the naive ratings do have strong discriminatory power; in fact, the pattern is now as neat as in Table 1. In statistical terms, the ANOVA-F-Test is significant at the 1% level for all the eight ratios. The Tukey HSD test indicates that in most cases, all the pairwise differences are significant except that between A and <A. We do not for a moment wish to suggest that our naive method provides a good rating; using only financial ratios, there are much better ways of rating than the simple equally weighted composite index that we have used. What we wish to assert is that ratios do fall into neat clusters even in India and that if CRISIL's ratings do not show such a pattern then there is *prima facie* something wrong with the ratings and not with the ratios.

Table 4 - About Here

Table 5 shows the cross-tabulation of the 76 companies under the CRISIL rating and our naive rating. The chi-square test indicates that there is no statistically significant relationship between the two ratings.

Table 5 - About here

III. AAA Companies: A Closer Look

Short of getting into the rating business ourselves, there is no way we can take a detailed look at all the 76 companies in the sample and comment upon what an appropriate rating might be for each of them.

Nevertheless, we do think that it is instructive to take a closer look at CRISIL's AAA rating. This is after all the highest rating and a rating agency awards it only with the greatest circumspection. AAA ratings are the ones on which there should not be even a shadow of doubt as the slightest whiff of suspicion

would warrant a lower rating. CRISIL has rated four companies as AAA: Hindustan Ciba Geigy Limited (H.CIBA), Indian Petro Chemicals Limited (IPCL), Bajaj Auto Limited (BAJAJ) and Tata Iron and Steel Company Limited (TISCO). Table 6 shows the medians of the eight ratios for these companies, and compares them with the medians of the AAA companies of our naive model and of the S&P AAA companies. It is immediately apparent that the CRISIL AAAs are significantly inferior on all dimensions.

Table 6 - About Here

Let us look at the four CRISIL-AAA companies individually. How do these compare with the S&P standards given in Table 1? In other words, which S&P rating category is each of them closest to in terms of its profile of ratios? In order to answer this question, we rate all these bonds on each of the eight ratios with the help of Table 1[iv]. These ratings have been shown in Table 7. For example, IPCL's pretax interest coverage is 1.31 while the S&P medians are 1.87 for B and 0.09 for CCC in Table 1. Clearly, on this ratio, IPCL seems to rate closer to B by S&P standards. Similarly, we have rated each company on each ratio and then combined them into an overall rating for the company (assuming equal weightage for all ratios) as shown in the last column of Table 7.

Table 7 - About here

It is seen from Table 7, that all the four CRISIL AAAs fall short of S&P's AAA standards. In fact two of the four are not even in the A range: they are in the lower rungs of the B range with IPCL rating a B and TISCO rating a BB! Even after allowing for the fact that the Indian and the American contexts may not be readily comparable, one is still uncomfortable with the fact that the difference in the two standards can be up to five grades (from B to AAA)!

Rather than compare CRISIL's AAA companies with S&P norms, we can compare these companies with the norms implicit in the naive ratings. This is done in Table 7 which shows that only two of CRISIL's four AAA companies rate as AAA by these (naive-model) norms; the other two rate A or lower. In other words, even by Indian standards, the CRISIL ratings are untenable.

In fact, the inconsistency in CRISIL ratings can be seen by looking only at the ratios of the four AAA companies. Would any reasonable person looking at this data agree that bonds of these four companies are equally safe? When CRISIL rates them all AAA, it says that there is nothing to choose between them in terms of risk. According to CRISIL's definition of its rating symbols:

> "[Bonds] rated AAA are judged to offer highest safety of timely payment of interest and principal" and
>
> "[Bonds] rated AA are judged to offer high safety of timely payment of interest and principal. They differ in safety from AAA issues only marginally".

If its definitions are accepted, by rating all four companies as AAA, CRISIL is saying that they do not differ in risk even marginally, since even a marginally lower degree of safety would warrant a rating of AA!

In this context, the ratios in Table 7 are really shocking. IPCL's interest coverage at 1.31 is less than one sixth of H.CIBA's 8.56; its funds from operations to long term debt ratio about one fifth, its funds from operations to total debt ratio less than one half, and the ratio of capital to long term debt about one half. In terms of S&P standards, IPCL rates B while H.CIBA rates an A. Does CRISIL seriously expect the investors to believe that IPCL is not even marginally less safe than H.CIBA?

Even as these lines were being written, CRISIL was advertising aggressively (CRISIL is about to become the first Rating Agency in the world to shortly make a public issue of equity) with the message[v]:

> "You don't have to look at company balance sheets, read industry reports or follow four different newspaper viewpoints. A CRISIL credit rating can give you an insight into how safe your investment in a [bond] is."

The advertisement signs off with the motto "Consistency - Reliability - Leadership". In the light of our findings, we consider CRISIL's claims exaggerated.

IV. Counter-Arguments

In an earlier study (Raghunathan and Varma, 1992) of CRISIL's AAA ratings, we had arrived at results similar to that in part III of this paper. We found then that of the four companies whom CRISIL had rated AAA (as of April 1992), three ranked below A under the S&P standards. We concluded, that, prima facie, the discriminating ability of CRISIL's ratings vis-a-vis risk was limited and therefore the significance and usability of the ratings was also limited. Our paper provoked a lively debate which threw up several counter-arguments though many of these had been anticipated in the earlier paper itself.

One line of defence against our conclusions is that American (that is, S&P) standards are irrelevant in the Indian context. Only a small part of *this* study is based on a direct importation of S&P norms to India. Yet, we would strongly argue that international standards do have a broad relevance cutting across country boundaries. Differences in local environment may imply a difference of a grade or so (say, AAA to AA), but definitely cannot account for differences of five grades (from AAA to B), spanning a range from high investment grade to speculative grade! Moreover, in the context of the Indian economy being liberalized and opened up to world markets, any justification which may have existed for ignoring international norms is rapidly diminishing.

Another line of defence for CRISIL is that its rating is based on qualitative factors like competitive position, industry picture and management strengths. The rating reports of CRISIL do talk about such factors. In fact, the Chief Executive of CRISIL emphasised in his interview reacting to our 1992 study that rating is a subjective exercise and that they had no apologies to make about it[vi]. However, after reading CRISIL's subjective concerns carefully in several rating reports, we find nothing in them which would seriously change the conclusions of the analysis based purely on ratios. If anything, the qualitative factors discussed in some of the rating reports seem to strengthen our conclusions. For example, the IPCL rating report of CRISIL[vii] says:

> "While the MGCC project will result in the company becoming increasingly leveraged, debt service coverage and cashflow protection will be sound given the high contribution of the proposed product mix. Critical issues in this context are the ability of the Baroda complex to generate the projected profits and cashflows as well as the timely commissioning of the MGCC project."

This statement must be viewed in the light of the trend in the coverage ratio (PBIT/INT), which had declined from 12.6 in 1986 to 4.1 in 1987. That the rating remained unchanged until July 1993 is even

more surprising in the light of the steady decline in the interest coverage from 2.25 in 1988 to 1.31 in 1992.

In the light of this, we had wondered in our earlier study (Raghunathan and Varma, 1992) whether the AAA rating awarded to IPCL was based more on optimism about the future than on the then current reality. We had pointed out that the AAA rating is supposed to reflect sound financial strength even on the most conservative assessment of the future. CRISIL's own definition claims that for AAA rating

> "... such changes as can be envisaged are most unlikely to affect adversely the fundamentally strong position of such issues."

And yet changes did affect adversely, and before long, the fundamentally strong position of three of the four issues rated AAA by CRISIL in April 1992! Between then and January 1993, CRISIL *downgraded* two companies, Ashok Leyland and Tata Chemicals, by two shades, from AAA to AA+; according to our earlier study these companies rated BB and BBB by S&P norms. Moreover, even as this study was being completed (August, 1993), a third company, IPCL, lost its rating from AAA to AA - a drop of three shades. Thus only one of the four companies rated AAA by CRISIL last year, continues to retain its rating.

Interestingly enough, the Chief Executive of CRISIL declared in one interview in response to our study that they were "not evaluating the company's past, for rating is about looking into the future"[viii]. We cannot help surmise that if CRISIL was looking into the future, its crystal ball was defective.

V. Conclusion

Our study shows that the credit rating being done by CRISIL is deficient on two important counts:

a. CRISIL ratings are far too liberal by international Standards. What CRISIL rates as AAA will usually rate in the BBB range or lower by international standards.

b. There is very little internal consistency in the CRISIL ratings. Companies rated in the same category by CRISIL span wide range of credit-worthiness. The lack of discriminatory power is such as to rob the rating of much of its meaning.

CRISIL is not only the largest and most experienced of the rating agencies in India, but is also by most accounts, the best of the lot. It can be safely said, therefore, that our conclusions would, in fact, apply to the entire Indian credit rating industry.

The important policy issues relate to what can be done to improve the quality of the ratings in India. It is highly instructive to examine the international experience on how rating agencies have been able to maintain their well deserved reputation for independence and expertise:

a. Internationally, most good debt instruments are rated by two independent agencies and the market tends to follow the lower of the two ratings.

b. The rating agencies have developed the technique of unsolicited rating. This is a rating made by an agency without being requested or being paid to do so by the issuer.

These two factors have together eliminated the problem of competitive relaxation of norms. An issuer has no incentive to pay for a rating from a lax rating agency because there is a good chance that the strict rater would then issue an unsolicited rating and that the market would follow that lower rating. As stated earlier, US raters seem to be indulging in competitive downgrading.

In this context, what India needs is greater competition among credit rating agencies, especially from the private sector. Such competition would keep the raters on their toes and help make the ratings more meaningful and useful than they are today.

Notes

i. *The Financial Express*, September 15, 1993.

ii. Richard Lehman, head of the Bond Investors Association of Miami Lakes, Florida, quoted by Lewis (1990).

iii. Following standard practice, we treat the rating of a compamy's long term (senior) debt as a rating of the company itself.

iv. We do not necessarily imply either that S & P uses these ratios as a guide for rating or that they would have rated these companies as indicated.

v. *The Economic Times*, September 17, 1993.

vi. *Business World*, 1-14 July 1992, pp 10-11.

vii. *Crisil CREDITSCAN*, March 24, 1988.

viii. *Business India*, June 22-July 5, 1992, pp 97-99

References

Altman, Edward I. (1968), "Financial Ratios, Discriminant Analysis, and the Prediction of Corporate Bankruptcy," *Journal of Finance*, 23(4), pp. 589-609.

Altman, Edward I. (1989), "Measuring Corporate Bond Mortality and Performance", *Journal of Finance*, 44(4), pp. 909-922.

Altman, Edward I. (1990), "Setting the Record Straight on Junk Bonds: A Review of the Research on Default Rates and Returns", *Journal of Applied Corporate Finance*, pp. 82-95.

Ang, J. and Patel, K. (1975), "Bond Rating Methods: Comparison and Validation", *Journal of Finance*, 30(2), pp. 631-640.

Fisher, L. (1959), "Determinants of Risk Premiums on Corporate Bonds", *Journal of Political Economy*, 67(2).

Fons, Jerome S. and Andrew E. Kimball (1991), "Corporate Bond Defaults and Default Rates: 1970-1990", *The Journal of Fixed Income*, pp. 36-47.

Gupta, L.C. (1983) *Financial Ratios for Monitoring Corporate Sickness*, New Delhi, Oxford University Press.

Kaplan, R.S. and Urwitz, G. (1979), "Statistical Models of Bond Ratings: A Methodological Enquiry", *Journal of Business*, 52(2), pp. 231-261.

Lewis, V (1990), "Too Big for Their Boots", *The Banker* (London), October 1990, pp 6-12.

Martin, L.J. and Henderson, G.V. (1983), "On Bond Ratings and Pension Obligations: A Note", *Journal of Financial and Quantitative Analysis*, 18(4), pp. 463-470.

Raghunathan V. and Varma J.R. (1992), "CRISIL Rating: When Does AAA Mean B?", *Vikalpa*, April-June, pp 35-42.

Table 1: S&P Three year (1983-85) Median Ratios: Industrial Long Term Debt

S&P Ratio	Short Form	AAA	AA	A	BBB	BB	B	CCC
Pre-tax Interest coverage	EBITINT	10.46	8.21	5.33	3.05	2.47	1.87	0.09
Pre-tax Fixed Charge Coverage								
Funds from Operations to Long-term Debt(%)	FOLTD	3.09	1.18	0.75	0.46	0.27	0.19	0.15
Funds from Operations to Total Debt(%)	FOTD	1.51	0.84	0.61	0.39	0.23	0.17	0.08
Pre-tax Return on Permanent Capital(%)	EBITPC	0.26	0.22	0.18	0.12	0.14	0.12	0.03
Operating Income to Sales (%)	OISALES	0.19	0.15	0.12	0.10	0.11	0.09	0.11
Capital to Long Term Debt	LTLEVER	11.30	5.30	4.09	3.17	2.35	1.92	1.44
Capital + Short Term Debt to Total Debt	TDLEVER	5.60	4.02	3.44	2.94	2.18	1.80	1.39
Pre-tax Return on Permanent Capital								
Equity to Total Liabilities	TLLEVER	1.34	0.97	0.92	0.77	0.54	0.42	0.24

Table 1 (continued)

Definition of ratios	
EBITINT	Earnings Before Interest and Taxes divided by Interest
FOLTD	(Profit After Tax plus Depreciation) divided by Total Debt
FOTD	(Profit After Tax plus Depreciation) divided by Long Term Debt
EBITPC	Earnings Before Interest and Taxes divided by (Total Debt plus Networth)
OISALES	Operating Income (before depreciation and interest) divided by Sales
LTLEVER	(Long Term Debt plus Networth) divided by Total Debt
TDLEVER	(Total Debt plus Networth) divided by Total Debt
TLLEVER	Networth divided by Total Liabilities

Source: Klapper, B (1990), "Rating Corporate Fixed Income Securities", in Kuhn. R.L. Ed. Corporate and Municipal Securities, Vol III of the Library of Investment Banking, Homewood, Illinois, Dow Jones-Irwin.

Note: Ratios 7, 8 and 10 are in fact reciprocals of the original S & P ratios. This has been done so that for all the ratios higher values indicate higher credit-worthiness.

Table 2: Latest Three Year* Median Ratios for Bonds Rated by CRISIL

	EBIT-INT	FOLTD	FOTD	EBIT-PC	OI-SALES	LT-LEVER	TD-LEVER	TL-LEVER
AAA	3.40	0.27	0.41	0.16	0.21	2.34	2.30	0.44
AA	2.38	0.40	0.22	0.19	0.16	2.21	1.78	0.33
A	1.81	0.46	0.20	0.17	0.14	2.36	1.61	0.25
<A	1.73	0.41	0.13	0.19	0.11	2.63	1.51	0.25
All	2.07	0.41	0.20	0.18	0.15	2.32	1.63	0.28

*The three year period is mostly 1990, 91 and 92, except where data for 1992 was not available. In such cases, the latest three year period had to be pushed back.

Table 3: Correlation Matrix of the Ratios

	EBIT-INT	FOLTD	FOTD	EBIT-PC	OI-SALES	LT-LEVER	TD-LEVER	TL-LEVER
EBIT-INT								
FOLTD	0.77	1.00						
FOTD	0.65	0.48	1.00					
EBIT-PC	0.43	0.29	0.53	1.00				
OI-SALES	0.13	0.00	0.20	-0.04	1.00			
LT-LEVER	0.62	0.82	0.28	0.07	-0.13	1.00		
TD-LEVER	0.47	0.28	0.57	0.09	-0.05	0.53	1.00	
TL-LEVER	0.58	0.35	0.45	-0.19	0.27	0.50	0.72	1.00

Table 4: The latest Three year Median Ratios for the NAIVE Ratings

	EBIT-INT	FOLTD	FOTD	EBIT-PC	OI-SALES	LT-LEVER	TD-LEVER	TL-LEVER
AAA	7.68	2.75	0.56	0.27	0.16	11.86	2.87	0.49
AA	3.16	0.58	0.36	0.22	0.17	2.67	2.00	0.37
A	1.81	0.35	0.18	0.16	0.14	2.27	1.56	0.26
<A	1.37	0.20	0.11	0.15	0.09	1.93	1.48	0.19
All	2.07	0.41	0.20	0.18	0.15	2.32	1.63	0.28

Table 5: Cross-Tabulation of CRISIL and NAIVE Ratings

		Naive Ratings				
		AAA	AA	A	<A	Total
Crisil Ratings	AAA	1	2	1	0	4
	AA	1	13	11	1	26
	A	2	9	22	5	38
	<A	0	2	4	2	8
	Total	4	26	38	8	76

Table 6: Median Ratios For CRISIL, NAIVE and S&P Ratings

	CRISIL	NAIVE	S&P
EBITINT	3.40	7.68	10.46
FOLTD	0.27	2.75	3.09
FOTD	0.41	0.56	1.51
EBITPC	0.16	0.27	0.26
OISALES	0.21	0.16	0.19
LTLEVER	2.34	11.86	11.30
TDLEVER	2.30	2.87	5.60
TLLEVER	0.44	0.49	1.34

Table 7: Ratings of CRISIL AAA Bonds Based on S&P Norms

		EBIT-INT	FO-LTD	FO-TD	EBIT-PC	OI-Sales	LT-LEVER	TD-LEVER	TL-LEVER	Overall
H.CIBA	Ratio	8.56	0.00	0.61	0.28	0.14	0.00	3.20	0.53	
	Naive Norms	AAA	-	AAA	AAA	A	-	AAA	AAA	AAA
	S&P Norms	AA	-	A	AAA	AA	-	A	BB	A
IPCL	Ratio	1.31	0.16	0.13	0.12	0.27	1.66	1.54	0.26	
	Naive Norms	<A	<A	A/<A	<A	AAA	<A	A	A	A/<A
	S&P Norms	B	CCC	B/CCC	BBB	AAA	B/CCC	B/CCC	CCC	B
BAJAJ	Ratio	4.43	1.90	0.59	0.20	0.19	5.94	2.39	0.46	
	Naive Norms	AA	AAA/AA	AAA	AA	AAA	AAA/AA	AAA/AA	AAA	AAA
	S&P Norms	A/BBB	AA	A	AA/A	AAA	AA	BB	B	A
TISCO	Ratio	2.38	0.27	0.23	0.11	0.23	2.34	2.20	0.42	
	Naive Norms	AA	A/<A	AA/A	<A	AAA	A	AA	AAA/AA	AA
	S&P Norms	BB	BB	BB	BB	AAA	BB	BB	B	BB