National Institute of Securities Markets

Assessment of Long Term Performance of Credit Rating Agencies in India

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Terms of Reference

This Study has been commissioned by NISM as desired by the Committee on Comprehensive Regulation of CRA's in India, to look into the legal and policy framework for regulating the activities of Credit Rating Agencies (CRAs), vide letter bearing Reference No. F.No.12/11/07-PM, dated 16.1.2009.
The Terms of Reference are listed as under:

1. Assessment of the performance of CRAs in India in terms of parameters like default and transition data
2. How much information asymmetry is bridged by CRAs
3. How far CRAs assessment helps financial regulation
4. Accountability, corporate governance issues of CRAs
5. Disclosures of methodologies of rating
6. Rating of complex products like structured obligation
7. Uniformity or otherwise in definition and rating nomenclature of CRAs in India
8. Consistency of rating data with accounting data
9. Overall evaluation of what CRAs have done in terms of value addition or the Indian economy

NISM constituted a two-man Project Team to carry out the Study. The Team used an array of approaches, including a Literature Survey, Structured Questionnaires with CRAs, Unstructured Interviews with various CRAs, Issuers, Institutional Investors, and Subject Experts. The outcome of these interactions were gauged against the results of this independent study to identify strong and weak areas and suggest improvements in the processes and provide inputs for policy formulation and regulation.

Executive Summary

CRAs have been in operation since the late 1890s, signifying an existence of over 100 years. Rating standards by Moody's and S&P were known to be stringent. From 1970 onwards, financial literature has been commenting on the superior information efficiency of the markets, in comparison to information disseminated by the CRAs. With the advent of securitization and its offshoots, a complex web of contracts are stitched together to service structured obligations. CRAs overestimated the enforceability of the structured obligations and fissures in the structures resulted in the post-Enron, post-Worldcom debacle. Lack of corporate governance standards and vigilance by accountants were identified as the root cause, while the CRAs were accused of abetting the intricate structures with high credit ratings. CRAs (together with accountants) have once again come under sharp criticism after the sub-prime debacle, with the root cause being poor origination standards of banks and excessive, opaque structures designed by aggressive merchant banks. Structured finance, which commenced with class markets, moved into mass markets with the impetus from investment bankers. It is said that CRAs once again overestimated the credibility of the contracting parties to honor the structured obligations and were led to base their ratings on complex quantitative 'black-box' models, with data from benign periods. This has led to investors being saddled with poor quality, illiquid paper with systemic implications.

The situation in India is different on account of conservative origination standards and lower complexity levels in securitized transactions (mostly Pass-Through-Certificates or PTCs) with very little systemic implications. There is, however, the possibility of asymmetric information between the issuers and all others due to reasons mentioned in this study.

CRAs have been operating in India since 1988. CRISIL, ICRA and Fitch India have collaborative arrangements with S&P, Moody's and Fitch respectively. CARE is promoted by IDBI & Canara Bank. This demonstrates the pedigree and parentage of Indian CRAs. The quality of their staff is also observed to be competent. Brickworks, the latest entrant, was established in 2008. Thus, a total of 5 major CRAs operate in India at present. Most of the ratings by CRAs relate to Bank Loans, on account of ascertaining the Credit-related capital adequacy.

The two known incidents of CRAs under public scrutiny were the CRB (the NBFC) collapse in the mid 1990s and the default by BPL on its loans from LIC. Barring these two incidents, there has been no widespread criticism of the CRAs. The objective of this study is to gauge the robustness of the operations of the CRAs with a view to suggest measures for improvements in their performance.

PhD level studies in India have shown that (i) Ratings in India are more lenient than their counterparts in USA (ii) CRAs in India are more subjective in their

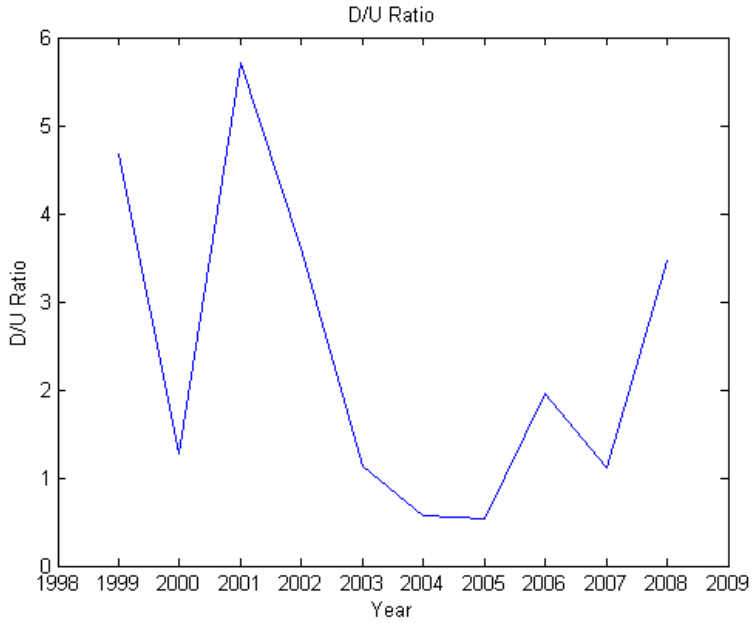
assessment and (iii) the deterioration in ratings is not captured in time by CRAs, if compared with financial information in the public domain. These studies were completed in 2001.

The present study is another attempt to assess the performance of CRAs, particularly in the light of the significant events in the global financial system and the criticism being faced by CRAs in USA. It covered 5 CRAs, 40 Ratings, 34 Analysts and 10 Institutional Investors.

A comparative study on transition data from all CRAs was possible for 10 years, commencing from 1999. Despite the *heterogeneity in issues, issuers, reporting (calendar/financial) year adopted by CRAs and rating approaches*, useful conclusions can be drawn from the data below:

1998	**Up**	**Down**	**D/U**
1999	48	224	4.67
2000	83	105	1.27
2001	28	160	5.71
2002	44	159	3.61
2003	56	63	1.13
2004	97	56	0.58
2005	76	41	0.54
2006	26	51	1.96
2007	63	70	1.11
2008	37	128	3.46

The Down/Up (D/U) ratio indicates the ratio of Downgrades to Upgrades or 'Measure of Strictness'. This is a very effective way of understanding the strictness of the rating process. It is evident that the Downgrades exceed Upgrades in most of the years, except for 2004 and 2005, which were benign years. It shows the step-up in the number of downgrades of the D/U ratio in 2006, 2007 and finally 2008. This is captured in the chart below.



As a result, there could be no respite for a weak company in its quest to shop for ratings, since the entire CRA community is strict in grading. The table also correctly depicts how the ratings have been pro-cyclic, capturing the periods of downturn and upturn. This compares well with the widespread view among the rating community that 1999 and 2001 were the worst years in recent times. 2008 was comparatively better on account of the widening and deepening of the equity markets, particularly access to QIP and Private Equity funding.

Proceeding along these lines, a close examination of 55 firms, included 21 downgraded firms was taken up on a quarterly basis (Q1, Q2, Q3 and Q4) for the Financial Year 2008-09. This examination was made with a view to gauge the timeliness of the downgrades. It was found that the first signs of weakening interest coverage showed up in Q1 itself, whereas the downgrades were reported in February 2009 (mid Q4). Although the firms' financials improved in Q2, there was a further deterioration in Q3. A string of downgrades were reported from February 2009 to April 2009. The affected sectors were real estate, metals, building materials, retail, jewelry and textiles. FY 2008-09 was one of the most turbulent in recent times. Q1 FY 2009-10 witnessed a bounce-back in May 2009, evidenced by a revival in capital markets and fund-raising activity in a politically stable environment. In particular, firms that had outstanding FCCBs experienced an abatement in redemptions, as the underlying value of the equity conversion option become attractive once again to an upturn in market value. The list is presented in the table below.

1	Suzlon
2	Indian Telephone Industries
3	Su-Raj Diamon
4	Omaxe
5	Arvind Mills
6	Arvind Products
7	Decolight Ceramic
8	Soma Textiles
9	Vijayeswari Textiles
10	Hindalco
11	Sterlite Industries
12	Hindustan Zinc
13	Malco
14	Tata Steel
15	DLF
16	Unitech
17	Sobha
18	Shoppers Stop
19	Teledata
20	Tata Motors
21	Akruti

The list provides insight into the aspect of leveraged growth in the face of falling demand. Corporate Governance issues can also be traced to Vijayeswari Textiles and Akruti which are facing SEBI probe for insider trading. Six of the companies named above are from the real estate sector – these are the ones who quickly issued equity via the QIP mode as soon as the capital markets revived in May. The downturn in real estate and automobile sectors impacted metal manufacturers also. The slump in exports affected textiles and jewelry firms. The spate of downgrades that were announced between February and April 2009 seems to have abated since May 19, 2009. More recently, CRA's have downgraded IDFC from AAA to AA on account of its difficulty in raising equity funds while at the same time upgrading eight PSU banks for their ability to raise equity funds. CRA's have decided to keep an eye on SME's, which are most vulnerable in the case of continued economic downturn. These actions reflect an increased level of caution being exercised by CRA's.

Under the study, a simple model, built around Net Worth, Leverage and Interest Cover, was used to detect deteriorations in creditworthiness. When compared with the actual ratings, it was found that the actual ratings did not always reflect the falling creditworthiness in a timely manner. The team has also suggested use of Artificial Neural Networks (ANN) which can be deployed by CRAs and Investors, to cross-verify the rating process and do a quality audit.

Over the years, CRAs have been disseminating information on ratings and ratio-

nales, free of cost to the investing public, Many firms are coming into the public domain through the rating exercise, especially SMEs that approach banks for loans. Hitherto, it was difficult to obtain information unlisted firms. The credit rating exercise is likely to instill discipline into SMEs early enough at their stage of growth. For the investing community, any additional information at a zero- or low-cost, presents an opportunity to bridge the information gap on firms and industries. As regards structured obligations, CRAs have already introduced 'complexity grading' to forewarn investors about the intricacy of structures.

While the CRAs have been staffed with very competent personnel, it is also felt that there is room for improvement in the work systems, to address the problem of asymmetric information. *Ab initio*, there is asymmetric information between the management of rated companies and their auditors. In turn, the CRAs depend on auditors. Further information is obtained from the bankers. The CRAs also rely on projections made by the company managements. Due to this over-reliance on information from the company and the auditors, other formal and informal sources of information are not utilized. Many good banks go beyond Financial Statement Analysis before taking credit decisions. Hence, the asymmetric information problem will continue to exist. It is strongly suggested that the Due Diligence Review Process (DDR) goes beyond Financial Statement Analysis. More broadly, development of DDR skills is important to improve the efficiency of CRAs, Merchant Banks, Lending Banks, Accountants and Auditors. The existing approach of relying on company managements may be insufficient in detecting falling creditworthiness in weaker or not-so-well governed firms.

There is no standard process of analysis across various Analyst teams. There is also a variation between the rating judgments of the individual Analysts and the final ratings arrived at by consensus. Notes of dissent are not recorded, resulting in loss of valuable check-points for further monitoring. There seems to be a high level of subjectivity in the final ratings process.

Operational Audits, covering matters of record-keeping, minutes, surveillance, periodicity of reviews etc need to be made mandatory. This will result in the reviews being conducted at shorter levels, as also a proper monitoring trail.

For the benefit of the public, it is necessary to display the various rating symbols of various CRAs on a common website (say of regulators), on a comparable scale.

While rating structured obligations, CRAs need to constantly update their rating models current with realistic cash flow estimates, and communicate the same to investors, so as to mitigate the effects of model risk and counter party risk.

Some investment institutions blindly rely on the ratings given by CRAs. Most of the investment institutions, however, use the credit ratings as a filter and perform their own DDR before making the final investment decision. This

system of additional cross checks is a healthy practice on the part of users of ratings.

During the year 2008-09, a turbulent period for financial systems all over the world, a number of Indian companies opted for Corporate Debt Restructuring (CDR). A risk-averse market also saw the reluctance of many investors in opting for the conversion of their FCCB into stocks, while opting for the redemption of the instrument itself. This placed additional strain on the financial resources of issuers, coupled with the fact that it became extremely difficult to raise equity from the markets after January 2008. The tumultuous year showed the strain on the finances of many companies. It also threw up questions on the lax attitude of corporations towards governance and accounting – where form was given precedence over substance. In light of the above, Accountants, Auditors, CRAs, Banks, Merchant Banks and Investors need to exercise extra vigil in gauging the creditworthiness of issuer companies.

A survey of CRAs and their Analysts revealed that there was a very low level of awareness among Indian accountants of International Financial Reporting Standards (IFRS) which Indian corporations need to comply with effective from financial year 2011. Awareness levels and competence needs to be raised on a war footing across the entire financial community, with an emphasis on substance, not merely formats. This would be a major step in strengthening the Indian financial system.

It is often said that Balance Sheets seldom repay loans – but people do. This brings back the issues of good governance and accounting to the fore. The existing 'form-over-substance' style of governance goes against the grain of true corporate governance. To address this deeper issue, the subject of corporate governance – or lack of it, merits further research for a timely detection of falling corporate governance standards. Some suggested parameters to detect 'form-over-substance' governance styles are: aggressive expansion, diversification, mergers & acquisitions, frequent fund-raising sprees, leverage and related party transactions, to name a few. The outcome of such research could result in inputs to strengthen the financial markets and CRAs in particular.

The Recommendations of this study are as follows

1. **Standard Definitions of Default**

   There is no standard definition of default. Practices vary from CRA to CRA. Some consider even a single day's delay as a default. Others consider the grace period in case the debt covenants provide for it. Furthermore, the severity of the delay or default is inversely related to the tenor of the instrument. Delays in coupon payments in case of long-term debt instruments could be condoned or considered more sympathetically. There

is a need for a framework to be agreed upon by all CRAs and regulators to have a standardized and operational definition of default.

2. **Comparability of Ratings and Display on Common Site**

   It is felt that the oligopolistic situation in USA has been maintained on account of the differing symbols used by various CRAs there. For a market in India, where financial literacy is at a nascent stage, multiple rating symbols could confuse the investing community. It could also result in 'rating inflation' and foster unhealthy competition. Rating scales, brought under comparable bands, need to be hosted on the websites of SEBI, RBI, IRDA and PFRDA and also on the sites of investors' associations.

3. **Timeliness of Ratings**

   'Rating Outlooks' (both positive and negative) and 'Rating Watch' have a limited life and must be replaced by a firm rating within a reasonable span of time, say a month.

4. **Compulsory Separation of Advisory Services to Separate Companies**

   Some CRAs have a clear-cut policy of staying away completely from services other than credit rating. This is a healthy sign. Yet, some other agencies continue to offer services other than ratings. It is to be ensured that the registered CRA, as a corporate entity, must not engage in any services other than ratings.

5. **Policy on Appeals**

   In the interest of unbiased judgement, it is necessary to constitute an Appeals Committee that is different from the one that was involved in the initial rating exercises.

6. **Policy on External Committees**

   The presence of External Committee Members brings with it a whole baggage of conflict of interest. Some CRAs have demonstrated that it is possible to develop the expertise either with full time employees from the domestic CRAs or in collaboration with the overseas CRAs.

   Alternately, External Committee members could be deployed for providing inputs, leaving the final ratings to an Internal Committee.

7. **Measures to Prevent Shopping for Ratings**

   Issuers attempt to seek informal ratings from various CRAs and pass the final rating mandate to the agency that could potentially offer the highest rating. To curb this unhealthy practice, it is necessary to come to a stage where all ratings, including unaccepted ratings, are published.

8. **Training in Due Diligence Review (DDR), Accounting, and Auditing Standards**

   There is excessive dependence on the auditors and bankers, to corroborate the information provided in the Financial Statements. There is a need to develop DDR skills to assess the overall credit worthiness of an entity. This calls for a national level effort to upgrade the skills of personnel in audit, accounting and credit appraisal. It combines the use of information from formal as well as informal sources. Young potential employees tend to gravitate towards merchant banking and investment management, leaving a paucity of talent in accounting, audit and credit appraisal, which are actually the backbone of financial systems. India is only 2 years away from the implementation of IFRS and the preparedness is woefully lacking, amongst professionals as well as academics. Skills in DDR are a crucial step in reducing asymmetric information.

9. **Operational Audit for CRAs**

   Along the lines of the compulsory Internal Audit for Stock Brokers, it is found necessary to stipulate an Operational Audit to ascertain that the rating processes leave a documentary trail. This could cover details of site inspections, management meetings, rating committee meetings, dissent notes, surveillance and monitoring schedules, minutes of the appeal process. It addresses the basic issue of good housekeeping and could be performed twice in a year. Some CRAs have taken the initiative to appoint a person with the task of Quality Control, and he is involved in all rating exercises.

10. **Interim Financial Reporting must incorporate Debt Equity Ratio**

    To amend the Accounting Standard (AS 25) and the Listing Agreement, so that Interim Financial Statements provide details of Total Debt alongside Net Worth, so as to enable the computation of the Debt: Equity ratio at quarterly (90 day) intervals.

11. **Public Education on Usage of Ratings**

    There is a danger that ratings may be accepted blindly without a self-check or giving due importance to the time gap between two review dates.

Ratings are not to be construed as a guarantee. This is true of all intermediaries: Merchant Bankers, Bankers, and Mutual Funds etc – no one can provide a guarantee. Ratings must be one of the inputs in the decision making process. Of course, this does not absolve the responsibility of the CRAs for negligence.

There is also the practice of issuers using ratings for marketing purposes – exhibited on all their business literature and office stationery.

12. **Policy on Disclaimer on Ratings**

There could be information gaps that arise due to factors beyond anybody's control. In line with the Risk Factors highlighted on various products, CRAs also need to mention a disclaimer on all rating announcements as well as on the website. This is to the minds of the reader (user) of Ratings to the fact that credit related information is dynamic and subject to changes. Rating disclosures could also mention the latest review date.

13. **Public Disclosure on Ownership Pattern of CRAs**

It is important for the members of the public to know that the relationship of the CRA is at arm's length with that of the rated entity, in letter and spirit. Hence, shareholding ownership patterns of all CRAs need to be made public.

14. **Policy on Unsolicited Ratings**

There have been instances in USA where S&P and Moody's have deliberately given low ratings to various issues on an unsolicited basis. This was used as a means of arm-twisting the issuers. This is a classic instance of abuse of independence provided to CRAs. Unsolicited ratings must not be permitted, in case the CRA community makes a representation to this effect in the future.

15. **Code of Conduct for CRAs**

Some CRAs follow the IOSCO Code in addition to the SEBI Code of Conduct. One needs to look at the desirability and uniformity for the IOSCO code adherence in full, in addition to the SEBI Code.

16. **Enforcing Corporate Governance in Spirit**

Bad governance can contaminate financial statements, and hence annul the entire credit rating exercise. It is sad to know that CRAs heavily depend on the audited financial statements and do very little to gain the maximum from cross-verification from formal and informal sources. While

this is a lacuna on the part of auditors and CRAs, much needs to be done on Corporate Governance, since a governance code works only on paper. It is much easier and practical for the Regulators rather than CRAs to enforce governance.

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Each of the persons mentioned above have spared their valuable time despite their busy schedules.

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For NISM

Dr Sunder Ram Korivi
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Vashi - Navi Mumbai, July 31, 2009

Chapter 1

CRAs: Relevance and Perspective

The study is a proactive initiative, with a view to assess the preparedness of the CRAs to communicate signals and reduce the informational asymmetries that generally exist between issuers and investors. CRAs have been rating instruments and subjecting them to periodic review, sometimes necessitating a transition to a lower or higher grade. The timeliness of the transition is also a matter of informational asymmetry. Thus far, CRAs have obtained the approval of SEBI, giving them the status of approved rating agencies. The RBI also has put regulations in place with reference to credit rating agencies and credit information companies. There are five Credit Rating Agencies registered with SEBI, viz. CRISIL, ICRA, CARE, Fitch and Brickworks. Of this, CRISIL has been the oldest, having been in operation since 1988 followed by ICRA (1991), CARE (1994), Duff & Phelps, subsequently taken over by Fitch (1999) and Brickworks (2008). This makes it an opportune time to assess the quality of services that the CRAs have been rendering to the investing community in risk mitigation. SEBI put in place the Regulations for CRAs in 1999 this has been followed by a Code of Conduct for CRAs. The desire for this study is truly proactive since its pre-dates the outbreak of the 'sub-prime' type of crisis of a scale and magnitude witnessed in USA and Western Europe. In those countries, CRAs are facing the heat for the high ratings for complex structures, laced with enhancements, through guarantees, by entities that ultimately did not have sufficient risk capital. This left several investors, including institutional investors saddled with substantial investment losses and illiquid paper. It is not the objective of this exercise to pass any moral judgement on the performance of the CRAs in India. The CRAs, on their part, have consented to cooperate in such a study. The study presents a timely opportunity for introspection by all concerned entities – policy makers, regulators, investors, rating agencies, issuers and intermediaries.

CRAs have enjoyed operating in an unfettered manner, and are free to independently report their findings. This is true of sovereign ratings as well as other instruments including those issued by state governments, local governments, corporate entities, financial institutions and special investment vehicles. A rating exercise, by itself, is a complex process and is a mix of objective and subjective judgment. On their part, the regulators have also appreciated the CRAs' need to operate in an independent manner and kept up with the spirit of independence. The rating exercise would also involve many methodological aspects, some of which are intellectual proprietary in nature. It is to be understood and appreciated that CRAs may not be in a position to reveal the intimate Intellectual Property (IPR) part of the rating process. Further, the intended study itself is of a broad macro nature of the CRAs in totality, without going too much into the mechanical, micro details. To gain a further perspective, it may be useful to gauge the feedback from some users of the ratings, viz. life

insurance companies, provident funds, pension and superannuation funds etc. It would be useful to conduct an ethnographic study to understand and experience the manner in which the ratings are used and match up to the expectation of this crucial investing community. On the whole, the exercise will be useful in broadly evaluating the useful role by CRAs in de-risking or mitigating risk related to the investment climate in India, and hence made a contribution to economic development.

The study could begin with a brief historical perspective, mainly revolving around the lessons to be drawn. Rating involves higher-level judgement, and a mechanical, check-list approach to gauge the efficiency of CRAs transaction-by-transaction is not desirable. A wide range of instruments are rated, ranging from simple to complex. In case it is found that the simpler products are not analyzed appropriately, it could raise doubts on the ability to raise more complex products. This applies to initial ratings as well as migrations/transitions on renewal of ratings. Even the migration speeds become relevant in order to gauge reaction times. It would be pertinent to look for correlations between ratings of simple products and the actual performance of the rated instruments, vis--vis the corresponding variables for the complex products.

This is a classic case wherein CRAs operate in domains regulated by different entities. SEBI recognizes CRAs, who rate instruments that are purchased in the capital markets (regulated by SEBI), and a diverse community of investors including banks (regulated by RBI), insurance companies (regulated by IRDA), pension funds (regulated by PFRDA). This necessitates inter-regulatory coordination. It is also necessary to identify areas wherein the policy-makers could facilitate an optimal environment for removal of asymmetric information. It relates to the design, structure and extent of the regulatory structure pertaining to the operations of CRAs, and an enquiry as to whether the prevailing policy regulatory regime has helped or harmed the functioning of CRAs. There also exists the conflict-of-interests issue, wherein the CRAs garner fees from the issuer (not the user), thereby creating an obligation which could impinge upon the independence. Further, CRAs also engage in consulting and advisory services, resulting in personal relationships which further impair independent thinking.

Today, the need for ratings permeates boundaries beyond credit rating; for instance, Brickworks rates the services of hospitals, something of immediate use to the regulators of health insurance (IRDA) as health policy makers and the general public. It is also learnt that the relationship that prevails between the CRAs is one of mutual respect and healthy competition.

This study aims at reporting various facts to be confirmed on the role of CRAs in India, with a view to also make recommendations to enhance the operating environment for CRAs so that they can collate and disseminate value-added information to the investing community in the times to come.

The High-Level Coordination Committee on Financial Markets (HLCCFM) met

on December 23, 2008 and obtained the consent of the CRAs for the conduct of this study. The Committee has, vide its letter dated January 16, 2009, mandated NISM to carry out this study over a 2-month time frame, with the following terms of reference:

1. How far CRAs assessment helps **financial regulation**
2. **Accountability, corporate governance** issues of CRAs
3. Consistency of rating data with **accounting data**
4. Disclosures of **methodologies** of rating
5. Assessment of the performance of CRAs in India in terms of parameters like **default and transition data**
6. Uniformity or otherwise in definition and **rating nomenclature** of CRAs in India
7. How much **information asymmetry** is bridged by CRAs
8. Rating of **complex products** like structured obligation
9. Overall evaluation of what CRAs have done in terms of **value addition** or the Indian economy
10. Approaches followed for **credit enhancements**
11. Experiences with **structured obligations** and desirability of such practices
12. Matters related to **conflicts of interest** faced by rating agencies
13. Cases of **instruments being rated higher than the issuer**

Each of the CRAs volunteered a nodal officer for interacting with the NISM study team.

Based on the internal discussions at the Board of Governors level at NISM, the scope was extended to cover the last 4 points mentioned above.

'Rating the raters' has been a hotly debated issue in the press after every crisis of confidence in financial markets. There is also a widespread view that the financial markets are more aware of the weakness in issuing companies and factor this information into asset prices before the financial markets react. This places the role and functioning of CRAs under critical public review. To address this question, it needs to be considered as to whether there is any person or entity that is superior to the CRAs in skill and knowledge to pass judgement. It would be more practical, therefore, to ascertain whether reasonable standards of due diligence have been exercised in order to mitigate credit risk. *This logically*

results in the need for CRAs to put in place approaches and methodologies that are disclosed to the public and that such methods could result in providing consistent results that can be fairly relied upon to base a credit judgement. It is not clearly as to how much importance is given to probability of default and subjective judgement factors. As regards Government Securities, there is certainty as to the dates and amounts that can be received on each due date; this is not true in the case of other instruments.

Notably, regulators in India have not specified methodologies but have left it to the choice of the CRAs. Practices tend to vary around a broad theme of approaches and methodologies.

SEBI (Credit Rating Agencies) Regulations were issued in 1999. This was amended in 2003 and followed up with a Code of Conduct, also in 2003. Each of these efforts by SEBI preceded the sub-prime crisis in USA and Europe, and can be construed as pro-active measures. Some of SEBI's observations are as under:

1. CRAs need to undergo thorough Operational Audits in order to tone up their systems. This is in addition to the financial audits they undergo for balance sheet purposes.
2. Dissent notes are not captured
3. CRAs also need to cross-verify their analysis with the Registrar of Companies (ROC), Debenture Trustees, Stock Exchanges, and Institutional Investors etc.
4. The Appeals Committee needs to be constituted with members who are completely different from the original committee that recommended the rating being disputed
5. There are issues related to conflict of interest, in relation to composition of review committees.
6. Compensation paid to analysts is not revealed
7. Rating Symbols are different across CRAs
8. CRAs adhere to the SEBI Code of Conduct but all of them do not adhere to the IOSCO Code of Conduct for CRAs
9. As regards the 'issuer pays' model, it continues to be the best option, until a better method arises.
10. There is also a need for the general public to know the Ownership Structure of the CRAs to reduce the possibility of conflict of interest.
11. The usage of the word Credit Rating needs to be restricted only to CRAs registered with SEBI.

12. The general public also needs to be educated on the usage of ratings. Disclaimers need to be made upfront by CRAs on the use of the ratings.

The SEBI (CRA) Regulations provide for a continuous, periodic review and monitoring. The exact periodicity and rating methodologies are best left to the judgement of the CRAs.

There was a case wherein an issuer defaulted on a debt obligation and a leading Domestic Financial Institution (DFI) brought the fact to the notice of the concerned. This brought a probable lacuna in the rating process to the notice of the regulators.

The activities of CRAs cover multiple jurisdictions – banks and insurance companies who lend/invest in to rated instruments. It is desired that SEBI be the nodal agency for the registration and inspection of CRAs. Members from other regulatory bodies such as RBI, IRDA, PRFDA could be a part of the joint inspection team.

This SEBI inspection was an intensive, detailed and exhaustive by a strong inspection team which spent considerable amount of time with each CRA. The study served as a valuable eye-opener on the operational and procedural aspects.

The current study by NISM is on the rating processes, methodological aspects, and the effectiveness of the CRAs' rating exercises. This is based on a three-way interaction with the CRAs, the investors and the issuers. The study is also aimed at making suggestions for the better functioning of the CRAs so as to serve the financial markets with quality information on a consistent basis. It is based on a detailed Questionnaire as well as unstructured interviews and was conducted over a period of 2 months.

In recent times, 3 PhD level theses were carried out in areas related to CRAs in India. The authors are Mamta Arora of University of Delhi (South Campus), Sen Choudhury of IGIDR and T Geetha of IIT Bombay.

Mamta Arora concluded that the CRAs use more of judgement and subjectivity in their rating exercises. Sen Choudhury concluded that the rating process of Indian CRAs is less robust and they showed a greater degree of leniency in comparison to their western counterparts such as Moody's and S&P.

On the subject of financial markets beating the CRAs in reacting to adverse news, it has been observed that the CRAs have exhibited slower response. The major study in this genre was by T Geetha (PhD thesis, IIT Bombay) concluded in 2001, whose preliminary findings were presented at the UTI Capital Markets Conference in 2000. The researcher has concluded that the markets react faster in incorporating fresh news into asset price movements. A combination of accounting and econometric tools was used in that study. It was also found that, in actual practice, the CRAs use a lot of subjectivity in their final judgement.

This current study also uses a similar methodology to validate that conclusion and suggests viable alternatives. The objective is to place a simple tool in the hands of the public that will enable a cross-verification of the reports by CRAs in a cost-effective manner and raise the quality standards bar of the CRAs. The study also suggests practical ways in which the CRAs can improve their rating processes and help reduce the information gap.

Chapter 2

Raters and Ratings: Evolution and the Current State of the Art

The Raters

A credit rating agency (CRA) is a commercial concern engaged in the business of credit rating of any debt obligation or of any project or program requiring finance in the form of debt or otherwise. CRA is different from a mercantile credit agency, which usually supplies general information on corporate. It is also different from a credit bureau, which collates information on credit record of corporate or even individuals. Nor is it a credit-assessing agency like the credit department of a commercial bank. The most significant aspect of credit rating is that it is an opinion made available for public, influencing decisions by participants in financial markets.

The following information on the origin and growth of credit rating has been collected from two sources, *viz.*, Cantor and Packer, 1995 and ICRA, 1994. The precursors of bond rating agencies were the mercantile credit agencies, which rated merchants' ability to pay their financial obligations. After the financial crisis of 1837 in the US, Louis Tappan established the first mercantile credit agency in New York in 1841. Robert Dun subsequently acquired the agency, which first published its first ratings guide in 1859. In 1849, John Bradstreet formed another mercantile rating agency, which published a ratings book in 1857. In 1933, the two agencies were merged into Dun and Bradstreet, which became the owner of Moody's Investors Service (Moody's) in 1962. Credit goes to John Moody for introducing formally the credit rating symbols in 1909 using 'Aaa through C' notations when Moody's started rating US railroad bonds.

Meanwhile, Henry Varnum Poor published, 'The History of Railroads and Canals of the United States' in 1860. The railroads were the principal engine propelling the Industrial Revolution. In 1906, Standard Statistics began publishing financial information on US industrial companies. Rating for various other corporate bonds followed in 1923. In 1941, Poor's Publishing Company and Standard Statistics Company merged to form Standard & Poor's Corporation (S&P). S&P was a publicly owned corporation till 1966 when its controlling interest was acquired by McGraw Hill Incorporated which acts as the holding company.

While the rating of corporate bonds started in the early twentieth century, sovereign ratings represent a relatively new line of business for the agencies. The first industrial country to be rated was France, by S&P in 1959. Both Moody's and S&P rated Venezuela, a non-industrial country, in October 1977. Fitch IBCA entered the business of sovereign rating only in 1975. In cases where a sovereign does not seek a rating, but a corporate entity of such a country seeks a rating, CRAs do assign an implicit sovereign rating. The scope of rating in

international arena broadened in 1960s to include sovereign states and public agencies raising funds in international financial markets.

With the increasing number of companies and sovereigns entering into the international capital market for raising funds, the credit rating operations of both Moody's and S&P have expanded and, hence, they maintain offices in major countries of the world. Besides these two world famous credit rating agencies in USA, there are a few more famous agencies that offer sovereign ratings. These are Canadian Bond Rating Service, Dominion Bond Rating Service Ltd., Duff & Phelps Credit Rating Co., The Fitch IBCA Group, Japan Credit Rating Agency Ltd. and Thomson Bank Watch Incorporated. While normally CRAs assign a rating on the request of an issuer, there are occasions when unsolicited ratings are assigned, and in many such cases, the fact that they are unsolicited is made explicit with an asterisk.

There is also the criticism against the structure of CRAs in USA, with an oligopolistic market largely carved out between Moody's. S&P and Fitch. This quest for market shares is viewed as a reason for a lack of commonality in the rating symbols. Also, the argument put forward for maintaining the oligopoly is that size begets experience and expertise, hence a larger number of smaller firms is undesirable in the interests of quality standards.

All of these agencies are represented in India through their collaborations:

S&P : CRISIL
Moody's : ICRA
Fitch : CARE (for 1 year only)
Fitch : Fitch India (formerly Duff & Phelps India)

These collaborations bring in financial capital, and more importantly, know-how, experience, depth of expertise, research capabilities and manpower synergies. The global orientation received by CRAs in India is further enhanced by two factors

Affiliation to the Association of Credit Rating Agencies in Asia (ACRAA), an ADB sponsored body. India CRAs are founder members.

Alignment with the IOSCO Code of Conduct, to the extent they coincide with the SEBI Code of Conduct for CRAs.

These collaborations, affiliations and alignments enable the Indian CRAs to benefit from an exposure to an international environment.

It is also a notable feature that Indian CRAs, in turn, provide technical expertise and knowhow to CRAs in Mexico and other countries in the SAARC and ASEAN regions. This provides an emerging markets perspective. Indian CRAs have a leadership position in Asia, behind only Japan, whose CRAs show a greater affinity in interacting with CRAs from the developed (G7) countries.

As on date, there are 5 CRAs in India:

CRISIL (est. 1988), ICRA (est. 1991), CARE (est.1993), Fitch India (formerly Duff & Phelps India, est. 1996, taken over by Fitch in 1999), Brickworks (est. 2008).

Notably, India has 5 CRAs in comparison to 3 of USA. Thus, competition is stiffer since there are more CRAs for a financial market that is smaller than USA in value, and hence dilutes oligopolistic power. However, in terms of number of firms and issues, India could be a market of considerable size. During the current downturn from 2008, the number of rating assignments has increased, and to some extent, issuers have got away with discounts in rating fees (which range from Rs.1 lakh to 2 lakhs per rating assignment). This is evidence of a dilution of the oligopolistic power.

At a smaller level, there is SMERA (Small & Medium Rating Agency) which rates loans availed by Small & Medium Enterprises. The rating fees are around Rs.40,000 per assignment, which the large CRAs find to be unviable; hence such assignments are either rejected or outsourced to smaller Chartered Accountant firms, supplemented by a cursory telephonic verification. The quality of personnel at SMERA or smaller agencies may not be the same as those at the SEBI registered CRAs. Outsourcing is a matter of policy and should generally be discouraged for reasons of quality as well as privacy.

Another phenomenon is the presence of Credit Information Companies (CIC) which are recognized by the RBI through the Credit Information Companies Regulation Act. Their services are availed by credit granting institutions for the sanctioning and monitoring of facilities to individuals who borrow loans, housing loans and avail of credit card facilities. The Credit Information Bureau of India Limited (CIBIL) is one such example.

The Rating Process

In 1934, *Benjamin Graham, David Dodd and Sydney Cottle* wrote their book 'Securities Analysis' a classic work that marked the beginning of the field. Until then, financial analysis was sketchy and bereft or analytical principles or rigour. They also pioneered the first steps in the Quantitative School of financial information for decisions on Securities investment. Securities Analysis is the classic textbook used in Columbia University till this day. This 1934 classic has come to the forefront once again in recent times, indicating how the tenets of conservative value investing protect the investor from overpaying when investing in securities, tenets which are overlooked as unfashionable during the periods of economic boom. The Graham approach involves an analysis over the past 10 years to ascertain the track record of an issuer.

Also in parallel, during the 1930s, a notable development was the emergence of *Philip Fisher*, who wrote his book 'Conservative Investors Sleep Well'. This is a recommended textbook at Stanford Business School. He stressed on the Qualitative aspects such as Management Vision and Integrity, Marketing &

Sales Capabilities, Employee Morale Levels, Product Development etc. The hallmark of this approach is the use of informal information in addition to formal sources so as to obtain a more complete evaluation of a company's prospects. This technique, currently known as the process of Due Diligence Review (DDR) is critical in any financial appraisal. With the onset of outsourcing, financial appraisal skill seems to be a dying art, viewed as a poor cousin to investment banking and financial engineering. Thus, Philip Fisher's Qualitative School neatly complemented the Quantitative School of Graham et al.

The 1930s are known for the disillusionment of the investing public with the quality of information disseminated by the financial community. It was also a period in which the dissatisfaction with the accounting community was made public. Thus, the 1930s are a period which witnessed the formation of the SEC, the imposition of the *Glass-Steagall* Act that separated Commercial Banking from Investment Banking. The repeal of the *Glass-Steagall* Act recently has exposed the systemic risks, seen from the downfall of Citigroup and other banks in the USA. European banks are further weakened by a total absence of an act similar to the *Glass-Steagall* Act.

Academic interest in financial analysis reemerged with studies by *Edward Altman* who used the statistical technique of Multiple Discriminant Analysis (MDA), which has the ability to filter data into two baskets: Safe and Default categories. It is a scoring model (revolving around a Z-score), with different weights to different ratios and variables. Based on the relevance of the various weights and variables, subsequent researchers have been able to tweak the Altman Z-Score Model to devise their own scoring models.

Supplementary to such studies, the Linear Probability Models (LPM) became popular in predicting bond defaults. These models were further improved upon by the LOGIT and PROBIT models, which are comparable.

In later developments, Credit Risk Measuring approaches such as Credit-metrics, Loss-Given-Default (LGD) and the KMV Models have extensively been used to measure credit default probabilities and assign ratings and rating transitions. In particular, Moody's, and Standard and Poor (S&P) have equipped themselves with these techniques.

A study of the sub-prime crisis in USA is illustrative of the functioning, through a paper by *Vikrant Vig* et al, presented at the Conference on Securities Markets organized by NISM in December 2008. The US CIC compiles a score and discriminates loan applicants into two baskets – credit-worthy or otherwise. The cut-off score was 620 for obtaining a mortgage loan. It was found that most of the defaults that occurred were by applicants who had obtained a score marginally above 620 (say, 621 to 630). This led to the massive sub-prime crisis and its global consequences. The lesson here is that the CIC and the applicants got around the system and weakened the mortgage loan systemically. Abetted by lax standards of loan origination in a quest to boost balance sheet

size and adventurous investment bankers, elaborate structured obligations were created. Whereas the CICs failed in the loan-filtering process, the CRAs failed in detecting risks in the design of the pretty securitization structures.

By analogous reasoning, it is assumed that the maximum potential for default is by borrowers who artificially manage to get a rating barely above the acceptable credit rating or credit score. For example, the highest defaults would be in the BBB category and need a stronger level of sanctioning procedures and scrutiny of collateral security.

At the 2003 Conference by ISMA held in Madrid, one of the Hedge Fund managers mentioned that the International Rating Agencies lagged behind the market information. This was stated in the light of the collapse of WorldCom and Xerox, in the aftermath of the Enron fallout.

The RBI has rightly been very critical of the role of Direct Selling Agents (DSAs) which are ill-equipped to filter bad loan proposals due to the commission structures that are based on commissions. This perverse incentive structure results directly into a moral hazard and could pose a systemic risk. Likewise, in Mutual Funds (regulated by SEBI) and Insurance (regulated by IRDA), cases of mis-selling are more widespread than on evidence, due to the possibility of unreported complaints. This could be the genesis of premature redemptions and adverse claims. Along the same lines, tough norms need to be placed for recognition and renewal of registration of CRAs, SMERA and CICs. Although they operate in different segments, the basic Due Diligence Process (DDR) remains the same. This argument is extendable to auditors also, who are the first level in the filtering process. While there will always be asymmetric information between the issuer/borrower vis--vis the CRA and lender, steps need to be taken to minimize the asymmetry. Here, the DDR skills of the personnel will be the most important risk mitigating device.

CRAs and regulators need to be doubly careful in the 'blind spots' or grey regulatory zones. AIG for instance, was an insurance company whose unregulated affiliate strayed into Credit Default Swaps (CDS) that were traded in the unregulated OTC markets. Investment losses directly hit the capital and the vulnerability showed up after it was too late. In this regard, complexity grading is a good step and must be factored in to expose the heightened risks (counterparty risk) that is in addition to the basic credit risk, since one of the counterparties in the structured obligation who may be unregulated and hence possess inadequate risk capital.

The Rating Process was gauged firsthand through site visits to the various CRAs. A very detailed Questionnaire was administered and the generalised findings are compiled in the following page.

Activity	**Procedure**
Business Development (BD)	Separate from Analysis
Common Member – BD and Analysis	No
Fee structure and payment	Upto Rs.2 lakh. 100% in Advance
Knowledge of Fee structure to Analysts	No
Disclosure of Interest by Analysts	Self Declaratory
Separate Criteria Team	Not in all cases
Common Member – Criteria and Analysis	Yes, it is possible
Training and Training Manuals	Yes
Research Support	Yes. Some research output is sold outside. But CRAs do not buy/rely on research from outside
Outsourcing	For SME ratings in some cases
Nature of Assignments	Mainly debt instruments rating.
Advisory Services	Either shut down or hived off to separate company
Rating Inputs	Financial Statements, Site Visits, Management Meeting. Some third party visits such as Auditors and Bankers
Site Inspection Team	Minimum 2 members
Internal Meeting	All analysts or a group of 4 to 6
Internal Rating Committee Members	4 to 6
Rating Methodology	Mix of financial analysis and subjective factors. No fixed weights
Consistency of Result	No. Rating could change if Team Composition is different, due to subjective factors prevalent
Surveillance Schedule	Continuous by tracking team or event driven
Outlooks	Some CRAs put an outlook (positive or negative) but updates are not always prompt
External Committee Members	Not in all cases
Disclosure of Interest by Committee Members	Yes
Appeals	Yes. Maximum 2 appeals
Public Dissemination	Accepted ratings, via press release and website, together with name of contact person
Turnaround time to complete rating	3 to 8 weeks. Average time is 4 weeks

Rating Methodology

The Rating Methodology is generalized in the table below. It explains what is done and what is not done, with a view to provide a comparison between the current state of the art and the scope for improvement.

What is Done	**What is Not Done**
Financial Statements Analysis	Audited Statements not questioned
Site Visit	Usually not more than 1 Site visit
Management Meeting	Usually not more than 1 Management meeting. Subsequent interactions by email
Nature of queries is general and clarificatory	Nature of queries is not too probing
Financial Projections sought from issuers	Projected figures are not probed too much
Meeting third parties: Auditors and Bankers	Besides Auditors and Bankers, not much of corroboration is sought
Formal sources of information	Informal sources of information not tapped
Rumours cannot be factored in unless confirmed	Rumour verification mechanism is reactive, not proactive
Building a consensus on ratings at rating committee meetings	Dissenting view is subsumed by the consensus view. Dissent note or reasons for dissent are not recorded
The basis of rating is a blend of objective and subjective factors	No fixed weight between objective and subjective factors
Sophisticated tools such as Credit-metrics, LGD and KMV models are used by S&P and Moody's in USA	No sophisticated models are used. Final ratings could be based more on judgement
Rating is an outcome of judgement	Neither a precise model nor a black box
Rating could be based on inputs of Analyst, followed by discussion and review	Depending on the composition of the teams and the pattern of the discussions, ratings could change, based on perception of inputs

A careful look at the right hand side (What is Not Done) reveals that there is scope for improvement. It is no surprise, therefore, that financial markets, which, in totality have a greatest number of surveyors and is equipped and empowered to price even unconfirmed news into asset prices, react faster to new information than the CRAs. By contrast, CRAs are required to be more guarded and restrained in either upgrading or downgrading issues on account of protocols – namely, to wait for a confirmation. Until then, the CRAs can, at best, place an issue under Rating Watch.

During the same period as this study, SEBI conducted site inspection visits to the CRAs. It was a through, detailed inspection of the records and procedures. It was found that the record-keeping was not sufficient, particularly proofs of CRA's visits to rated entities, minutes of meetings with clients, minutes of meetings of rating committees etc. It was also observed that a more in-depth probing by the CRAs need to be conducted.

Interactions with some rated entities confirmed these findings. Some entities were pleasantly surprised to get an AAA within a month, after one site visit and management interaction. Queries to the Projections were raised and settled through email. In this regard, it was felt that CRISIL was a more probing than the other CRAs. Further enquiry with other rated entities revealed that the officers of CRISIL are far superior to the other agencies; hence it would be unfair to paint all CRAs with the same brush. However, CRISIL also have lesser rating mandates to other CRAs since some large entities that are rated have significant shareholding in CRISIL and ICRA. As per the SEBI inspection reports, it is found that CRISIL has further strengthened its systems especially after 2007.

There is a view that the ratings by S&P and Moody's are more stringent than those of their Indian counterparts. More specifically, it is said that an AAA by an Indian CRA could be equivalent to an AA by their US counterpart. The table above reflects areas for improvement. Apart from this, there is another dynamic – that of the treatment of Non-Performing Loans (NPL) as they are called in USA, corresponding to the terminology of Non-Performing Assets (NPA) in India. In USA, a firm that has declared itself insolvent under 'Chapter 11' can get fresh loans for fresh assets; the NPL tag does not cut its funding lifeline. Going by such an environment, the rating agencies can be as tough as possible without harming the future prospects of the rated entity. However, in India, there are no such supporting devices the NPA tag will result in an en-masse withdrawal of credit lifelines and permanently destroy the future of the rated entity. Hence, Indian CRAs may be more cautious in confirming adverse indications before a downgrade. It comes as no surprise, therefore, that the markets react faster than the CRAs. However, this cannot be verified in case of unlisted entities/instruments. Generally, investors in such debt instruments are large Domestic Financial Institutions (DFIs) who adopt a buy-and-hold strategy and are not affected by short term swings in the fortunes of companies, so long as the payment obligations are not seriously threatened. At this stage, it is more pertinent to remedy the existing lacunae in the rating processes than to focus on the market-efficiency-versus-CRA-efficiency.

On the balance, the arguments that the financial markets respond faster to incorporate new information into asset prices is tabulated as under:

Markets	**CRAs**
Markets are answerable to no one and are free to over-react	CRAS are responsible to the investing public and for being fair to issuers
Mispricing and volatility are inherent. Rumours are incorporated instantly	Knee jerk reactions could result in repeated re-ratings, hence rumours need verification
Markets consider all risks	CRA are responsible only for credit risk
Markets factor in price corrections and market microstructure issues	CRAs factors in significant credit risks
Markets have more traders and more noise. Markets are also known to overreact, especially to short term noise.	Long term bond investors generally buy and hold longer. Need not react immediately if long term prospects not endangered
Everyone brings news into the market, hence surveillance is more comprehensive. .	CRA surveillance teams are smaller, with limited information resources and cannot act on unconfirmed news. Too much of re-rating also damages credibility of both issuer and CRA
Details of transactions factored instantly	CRAs get to know of bulk deals, block deals and insider trades simultaneously or after the market trades are completed

The table above shows that Markets, collectively, are information-superior. However, this does not render CRAs redundant nor can the motives of CRAs be questionable *a priori*. The main function of CRAs is to factor credit risk so that the bond investors can base their judgement on factual data. The major point is, CRAs will always trail the market, but need to take all possible steps to improve their functioning by a comprehensive and contemporary DDR process. Investors will be doing themselves a favour by keeping CRAs informed of all delays/defaults as and when they occur. Investors, in turn, could also access the files maintained by CRAs on an ongoing basis. CRAs also need to maintain databases for further processing through advanced applications such as Data Warehousing and Data Mining. It is also a part of the overall Knowledge Management (KM) initiatives within their organizations and serves as an aid to Research and Training.

Without any attempt to defend the CRAs, it must be stated that large institutions in Bonds, Debentures and Loans do not react instantaneously to adverse quarterly changes since they have sufficient collateral security and enjoy a direct rapport with the investee/companies (issuers) so as to enforce performance. Moreover, in most cases, corporate debt instruments are illiquid and the investing institutions adopt a buy-and-hold strategy. Hence, instantaneous downgrades are not expected.

The role and performance of CRAs has resulted into a raging debate in the recent times, which have been highly turbulent, especially after October 2008. Some of the observations and issues raised by experts are encapsulated below for consideration during this study.

Some myths in Credit Rating need to be demystified and placed in a right, healthy perspective.

First, the myth that rating is an opinion and therefore, the CRAs are not accountable to any failure to detect weakness. This is a loose interpretation. A correct interpretation would be that CRAs remain accountable to the investing public, regardless of the freedom provided to them on matters of methodology.

Second, the myth that the rating of an instrument is unconnected with the standing of the issuer needs to be revisited carefully. While it is true in the case of Structured Obligations (SO) with a maze of credit enhancements, in the case of plain vanilla debt, the credibility and cash flow projections of the entity are closely intertwined with the ability to honour obligations on its debt instruments.

In general, CRAs are believed to have a good model for first time ratings. However, the important and difficult part is to maintain the currency of the rating throughout its tenor. This will establish whether ratings are proactive or reactive. A reactive approach needs to be eschewed, since it implies a hurriedly convened meeting ex-post-facto. The track record of an issuer is important and adds to the credibility of the issue. The past repayment track record needs to be considered favourably, except in cases where the new debt instruments of a very high magnitude are on offer. Timeliness and currency of the ratings are of utmost importance especially since the investors would like to buy or sell debt investments based on reliable information. CRAs have an important gap-filling role between the investors and the debenture trustees. The real test of a CRA is quick response time.

As regards projections, it is believed that very long term projections are not useful (viz., beyond 5 years).

Rating symbols need to be placed at one central point for reference by the general public. The meanings of the symbols need to be clarified and placed in a comparable table.

From the investors' perspective, Ratings are a fortification to their own due diligence process, and not to be considered as a crutch or substitute to appraisal. It is necessary for the investing community to place facts before the CRAs and elicit responses. This will tone up the systems and operations of the CRAs.

The primary role of CRAs is rating of credit instruments. IPO Grading was introduced on an experimental basis, mainly at the behest of the Investors Associations. Most of the issues received poor grading ratings and also failed to raise funds (say 1 to 2 marks on a total of 5). It is a different matter that the turn of events and the high valuations prescribed by Merchant Bankers led to the total drying up of the IPO market post January 2008.

In view of the events in the financial markets it needs to be concluded that the US systems are no longer the standard of reference. With all the chronicled experience available on hand, India should now seek to create its own standards and mechanisms in addressing the issues related to CRAs.

In the next chapter, the actual performance of CRAs is gauged by an analysis of select data.

Chapter 3

Critical Evaluation of Ratings in India

Choice of Variables

Financial Statement Analysis form the basis for Credit Rating. Consider the following Balance Sheet for analytical purposes.

Balance Sheet

Liabilities	**Assets**
Net Worth (NW) (=Share Capital + Reserves)	Fixed Assets
Debt	Net Current Assets
Total Liabilities (TL)	Total Assets (TA)

By Definition, TL = TA, NW + Debt = TL = TA

The relationship between Net Worth and Debt under Total Liabilities is complementary. In other words, since NW + Debt = 1 = TL, NW = 1 – Debt or Debt = 1 – NW. From this, we conclude that if Debt = 0, NW = 1 or W/TL + . Hence, for debt-free company, the NW equals TL. As the proportion of Debt rises, NW moves below 1. . . . . (1)

The presence of Debt also triggers interest obligations reflected in the P&L. Hence, Interest as a proportion of Operating Profit = Profit Before Depreciation, Interest and Tax (PBDIT) also reveals the presence of Debt. . . . . (2)

Combining (1) and (2) above, we conclude that

NW/TL – Debt/TL = 1

NW/TL – Debt/TL – Interest/PBDIT = Credit Score.

Again, for totally Debt-free company, the Credit Rating will be 1.

A good scoring model for rating companies should be based on debt-service, tangible net worth, adequacy of reserves and profitability. These ratios indicate whether a company will be in a position to repay the debt as per the terms of the contract. Hence, the ratios with high correlation with the credit ratings are used in computation of the Financial Credit Score (FCS) (Gupta, 1993; Bathory, 1984).

However, it is possible that some ratios that are highly correlated with ratings are also highly correlated with each other. In order to avoid the problem of multi-co linearity, therefore, only a few of these have been chosen for the computation of FCSs. T. Geeta has found out that the ratios $\frac{C}{LTD}$, $\frac{C+STD}{LTD}$, $\frac{D}{E}$, $\frac{I}{PBDIT}$, $\frac{NW}{TL}$, $\frac{PBIT}{I}$, $\frac{RS}{TA}$, $\frac{PBT}{TA}$ and $\frac{TD}{TA}$ are significantly correlated. Similarly, $\frac{I}{PBDIT}$, $\frac{PBDIT}{I}$ and $\frac{PBIT}{I}$ are highly correlated with each other. This study has considered $\frac{NW}{TL}$, $\frac{TD}{TA}$ and $\frac{I}{PBDIT}$ for computing the score. $\frac{PBT}{TA}$ has not been taken into account, since NW is inclusive of share capital, reserves and surplus and profits after taxes. The inverse of interest-cover ratio $\frac{PBDIT}{I}$ (*i.e.*, $\frac{I}{PBDIT}$) has also been used, though this ratio did not emerge as significant in the case of the sample we considered. If this ratio assumes magnitudes below zero or above unity, the firm can be deemed as unworthy of obtaining credit. Thus, the ratios for the computation of the FCS are chosen in a manner such that the ratios are significantly correlated with the ratings and their magnitudes can facilitate convenience in obtaining the credit ratings.

Details of the Sample and the Data

The sample comprises group of the 40 companies from various sectors that have been included in the empirical investigation. The empirical analysis for this group of companies is based on the data for 2006 to 2008 depending on the availability of data. The financial ratios used in the computation of FCS for all the companies have been collected from various public domain websites like rediff.com, yahoo.com, moneycontrol.com etc. The ratings for 40 companies have been taken from CRA's websites.

Computation and Ranking of FCS

The steps involved in calculating the FCS are as follows.

1. The first step is obtaining the ratio $\frac{NW}{TL}$. This ratio usually ranges between 0 and 1. If all the assets of the company are financed only by debt, then net worth of a company will be zero. In this extreme case, $\frac{NW}{TL}$ will be equal to zero. This ratio can take a ceiling limit of unity, when all assets of the company are covered by the net worth of the company (*i.e.,* total debt is equal to zero). In abnormal conditions, this ratio can also assume negative values. This will hold true if the company has accumulated losses (*i.e.*, negative Reserves and Surplus, RS) or losses in the running financial year (*i.e.*, negative PAT). However, under such circumstances, the company is not creditworthy. Higher (lower) is the $\frac{NW}{TL}$ ratio, better (worse) will be the FCS of the company.

2. In the next step, $\frac{TD}{TA}$ is calculated. A negative relationship is postulated between $\frac{TD}{TA}$ ratio and the FCS. This is because higher is the debt in relation to the assets, greater is the risk in lending to such a company, other things remaining the same. The lowest value which $\frac{TD}{TA}$ ratio can take is zero. In general, it lies between 0 and 1. When total assets are financed only by debt (net worth is equal to zero), $\frac{TD}{TA}$ ratio assumes a value equal to unity. (It is pertinent to note here that TD does not include current liabilities. Current liabilities is subtracted from current assets and shown as net current assets or working capital in the asset side of the Balance Sheet.) If net worth is negative, $\frac{TD}{TA}$ can exceed unity. A company with $\frac{TD}{TA}$ ratio greater than unity is deemed to be credit unworthy.

3. The third step in calculating FCS is obtaining inverse of interest coverage ratio, *i.e.*, $\frac{I}{PBDIT}$. This ratio ought to range between zero and one for a credit-worthy company. However, this ratio can also take a negative value if the denominator of this ratio (profits) are negative. Due to the fact that this ratio can take values which are both positive or negative, an asymmetric treatment to this ratio is given. This is explained in step 4. Higher (lower) is the interest to be paid in relation to profits, lower (higher) will be the financial credit score.

4. The Financial Credit Score has been defined in this study as stated in below equations for FCS.

$$FCS = \frac{NW}{TL} - \frac{TD}{TA} - \frac{I}{PBDIT} \ , (if \frac{I}{PBDIT} \geq 0)$$
$$FCS = \frac{NW}{TL} - \frac{TD}{TA} + 2 * \frac{I}{PBDIT} \ , (if \frac{I}{PBDIT} < 0)$$

   We have multiplied the $\frac{I}{PBDIT}$ ratio by 2, in order to differentiate the companies which may have this ratio as '+1' and '-1'.

It was found that, there were cases wherein the ratings given by the CRAs for these 40 companies remained static and did not capture the deterioration signals by a downgrade. By implication, the investing public who did not cross-verify the ratings, was at a risk of overestimating the creditworthiness, due to dependence on the CRA.

In the USA, GE is losing its AAA status for the first time, and is reconciled to settle for an AA. The financial arm of GE has made losses due to the financial sector meltdown, demonstrating the vulnerability from conglomeracy.

During the period from 2002 to 2007, easy liquidity conditions prevailed and many firms raised capital - both equity as well as debt. After January 2008, firms began to struggle in their fund-raising efforts. This was true of large players such as Hindalco and Tata Motors, and it is even more true in the case of smaller firms. During the first half of calendar year 2008, rising input costs placed a strain on the profitability of firms and in the second half, after the Lehman Brothers' collapse and the panic in the global financial markets, credit lines dried up as lenders and investors became more risk averse. As a result of this, many firms opted for Corporate Debt Restructuring (CDR). Many corporations that had issued FCCBs with an option for redemption, needed to raise cash for redemptions. There were a large number of downgrades especially in the January-March 2009 period. Cracks in corporate governance and their impact on accounting also began to show up. It was found that the auditing and CRA community were basing their financial statement analysis on accounting information that was guided by managements whose governance standards are found wanting. In other cases, firms like Wockhardt that had leveraged for diversification found themselves unable to tap sources of finance that were hitherto easily available.

Of the 40 rated instruments studied in this survey, downgrades were delayed in 5 cases, and very timely in 2 cases; no further rating was action required in the balance 33 cases. Hence, there is scope for improvement in the performance of CRAs.

Calendar Year 2008 presents the most interesting set of data for testing the resilience of the issuers as well as CRAs. The collapse of Bear Sterns in January 2008 resulted in a liquidity crisis. This was followed by the Lehman Brothers case in September 2008, resulting in the deepening of the global financial crisis. At the time of writing this report, the crisis continues, albeit with relief measures on the part of central bankers to alleviate the liquidity crisis and resume the flow of credit. During 2008-09, the cracks began to show in the Quarterly Financials of several rated issuers.

Based on the data available up to April 4, 2009, the study team looked at 27 downgrades announced by CRAs through the print media, between February and April 2009. This list included a mix of large and small companies. On analyzing the trends of Quarterly Financial information emanating from these

27 companies, it was found that:

1. Reduced PBDIT and increased Interest outgo were noticeable as far back as Q1 (June-end Quarter) or Q2 (September-end Quarter) in FY 2008-09, meriting a rating watch or an imminent downgrade at that time itself.

2. Some companies managed to show better results in Q2 than Q1, but the improvements could not be sustained in Q3. Many such cases ended in default. Perhaps, companies play up the Q2 results, since they precede the AGM, hence public pressure.

3. The downgrades were made public from February 2009 onwards.

4. The affected sectors are Metals, Real Estate, Construction and related industries, Retail and Textiles.

5. In another case, an instrument issued by a Real Estate company obtained the highest rating in end-2007. The creditworthiness of this issuer deteriorated very quickly and very severely by end-2008 (within 1 year or within 4 Quarters).

6. This calls for closer review and surveillance. One needs to examine whether the incentive structures (or lack of them) come in the way (Source: The Economist). Downgrades seemed to be more event-driven than by continuous surveillance.

7. Paradoxically, long-term investors in shares are bombarded with quarterly results, whereas CRAs need to look at news at shorter intervals. The gatekeeping function of CRAs is more critical in case of Debt instruments.

8. Moreover, the Quarterly Financials do not reveal any information on Debt. This is vital - the Quarterly Financials (or Interim Financial Statements) need to mention Debt (Secured and Unsecured Loans) alongside the Net Worth figure, to capture leverage positions intra-year.

Calendar Year 2008 witnessed one of the roughest years from the perspective of issuers, investors as well as CRAs. Although the strains of the sub-prime crises first showed up in July 2007, it was in the beginning of 2008 that Bear Sterns collapsed, followed by Lehman Brothers in September. The subsequent fear psychosis and contagion spread by the toxic sub-prime assets brought the entire financial system to a grinding halt. Indian markets were affected due the pullout of funds by FIIs (many, like Bear Sterns and Lehman Brothers had stakes in Indian realty companies such as Unitech and DLF) and the loss of export orders of companies engaged in Textiles, Gems Jewellery and Pharmaceuticals. With falling stock prices, FCCB redemptions came up, since the equity conversion price far exceeded the market price of the equity instruments. This resulted in a drain on the resources of the FCCB issuers. Moreover, many companies had leveraged their balance sheets for expansion, only to see demand collapse. As

a result, the rising Interest outgo as a percentage of a falling PBDIT increased sharply (doubling or trebling in many cases). For the CRAs, it was the first major re-rating season after a gap of almost a decade. It must be remembered that from 1998 to 2003, India witnessed benign and falling interest rates. Rates perked up from 2004 onwards, but were stable due to the rising FII inflows and the highly liquid state of the financial markets.

Calendar Year 2009 commenced with a flurry of downgrades by CRAS, 84 to be precise, second only to 1998. The team took up a sample of 52 company ratings. In most of the downgraded cases, published during February to April 2009, it is found that the deterioration in the creditworthiness has taken place as early as the Q1 of FY0809 (i.e. by June 2008) or by Q2 (September 2008). In cases where the deterioration showed up in Q3 (December 2008) it is noticed that the rated companies, perhaps, propped up the Q2 results (these are unaudited numbers), since the dissemination of Q2 results coincide with the AGM season. However, the performance promised as per Q2 could not be sustained and the cracks showed up in Q3. The Interest expense increased, whereas PBDIT declined, or both happened simultaneously. This was a strong signal for a downgrade (unless the quantum of debt was too small or the lender had sufficient collateral security). The downgrades in ratings actually took place in February 2009. On the part of the issuers, it implies poor Management or poor Governance, or both

The downgraded sectors include Metals, Real Estate Building Materials, Retail, Textiles and Gems Jewellery. Wockhardt and some other small pharmaceutical companies were also downgraded. Incidentally, these sectors have been the focus of our attention, as can be seen from the Questionnaire appended as an Annexure to this Report.

Another company, Akruti City, is an interesting case. It received the highest rating (P1) for its short term obligations in November 2007. Within a year, its financials deteriorated, visible from the Q1, Q2 and Q3 numbers of FY0809. Soon after, the promoters of this company came under SEBI scrutiny for manipulation of shares. Perhaps, the promoters had rigged up the prices of their shares to obtain better terms for their pledged shares. The past rating record of P1 does little to justify any fresh exposure to this company. Hence, there are governance issues also involved when looking at a rated entity, which require further study.

The Real Estate companies have demonstrated their notoriety in several ways. First, the clutch of related firms ringed around the listed entity, which is a conduit for funds and passes them to the unlisted o related firms for dubious land deals. Second, the deferred sales to related firms at artificial prices. Third, the poor track record in delivering value to the customers on time. Fourth, the leveraged growth at the height of the property boom, including pledged shares to create asset bubbles. CRAs and the entire financial community need to look at Real Estate companies with utmost scrutiny. The RBI did well to anticipate

impending trouble, and introduced a 150

Same is the case of companies in the Gems Jewellery sector, many of which mushroomed with the introduction of Income Tax Export Profit benefits. It is believed that many are havala companies; the recent investigations by revenue intelligence show how raw gold is exported for arbitrage and also how fake diamonds are exported, to avail of tax and duty imports, as also to launder money. With global recession and the phasing out of tax benefits, these companies are struggling to face the new economic reality. As a result, the businesses exist on paper only and far greater levels of due diligence is required to unearth the scams.

Akruti City and Wokhardt are classic cases that demonstrate how, in an economic downturn, credit deterioration can take place within a short span of time, say, within one year.

It is pertinent to note that equity investment is ideally a long-term investment. Risk-averse investors looking for periodic income invest in bonds. Paradoxically, the financial markets work in the opposite direction: whereas equity investors (many of them traders) react to information on a Quarterly (or even shorter periods) basis, the CRAs, who safeguard the interests of the risk-averse bond investors, are seen to be laid-back in their surveillance and react to events rather than be proactive. The analysis conducted markets. What is also surprising is that CRAs are staffed with extremely competent analysts and the constraints on efficiency are largely self-imposed.

One good that emerges from CRAs is that a number of small, unknown firms whose ratings are downgraded, are brought into the public domain. Such information serves as an early warning system and is a signal to both issuers and investors to de-risk. The display of ratings also provides a cross-sectional view of an industry.

The lessons from the paper by Vikrant Vig are instructive. The paper observes that the maximum defaults in the sub-prime crisis were loans applications that obtained a credit score from 621 to 629, just above the cutoff score of 620. This 'safe zone' exhibited the maximum asymmetric information, or, perhaps, the applicants managed to beat the system due to the leniency of the CRAs. By a similar reasoning, if institutional investors in India are permitted to invest in securities rated AA and above, there is a possibility that many securities meriting only an A or A- could obtain an AA due to lax CRA standards. Under such a situation, extra layers of DDR are required both on the part of the CRA as well as the investors. Particular care needs to be taken by investors when investing in bonds rated AA.

Survey of Analysts

A detailed Questionnaire was used to cover the Analysts. The observations are summarized in the paragraphs below.

Most of the Analysts state that the level of cooperation from the issuers was good at the time of the first rating, and also at the time of renewal. Thus, there is room for CRAs to probe further. This also implies that the CRAs need to improve their approach to be more vigilant, especially in the light of a large number of cases of Corporate Debt Restructuring (CDR). This dependence on the issuers for information, without a system of cross-checks, contributes to asymmetric information.

The Quality of Accounting Information is stated as Good for listed companies and Poor to Fair for unlisted firms. The levels of preparedness of Indian accountants to meet IFRS a couple of hours from now, is very low.

The general fit between the ratings proposed by the Analyst and the Final Rating ranges from 60% to 90%. This shows the need to arrive at a better mechanism for the final rating process, to reduce the variation.

In some CRAs there is a voting system, whereas at others, a consensus is developed. There is no consistent system for recording dissent, leading to information loss at the time of subsequent reviews.

Institutional Investors – an Ethnographic Survey

The major institutional investors in bonds are insurance companies (which also offer annuity products), pension funds, superannuation funds, trusts and debt-oriented mutual funds. Investments by insurance companies are directed by the LIC Act for LIC, the GIC Act for GIC, and the Insurance Act, 1938 for other insurance companies. In this regard, the private insurance had a greater leeway in investing in the corporate sector (i.e., instruments other than G Sec). Subsequently, LIC and GIC had made requests to IRDA for untying their hands and permitting them to also have greater exposure in the corporate sector. The Insurance Act provides for investments in corporate debt instruments rated AA and above.

It is found that **LIC** considers the ratings given by CRAs at face value and does not perform a re-check.

Tata AIG also does not question the ratings given by CRAs. They go by the ratings rationale given by the CRAs and then come to a decision.

In the case of **Metlife**, however, a simple credit matrix is has been devised and the ratings given by the CRA serve as an initial criterion for developing a short list (debt rated AA and above). Thereafter, those issues that meet the stipulations in the credit matrix of the respective insurance companies come into play. This seems to be a sound approach. Liquidity is also a major consideration;

it is found that although issues by Tata Sons and Tata Investment Corporation are rated AAA, liquidity is not readily presumed, hence not preferred as a first choice.

Future Generali and **SBI Life** also perform an independent check before investing in bonds, despite ratings by CRAs.

Reliance Life Insurance's investment department mentioned that the ratings are taken into consideration, but supplemented with further analysis before taking an investment decision.

GIC and its group companies look for instruments rated AA and above, which is a must. Beyond that, there is no need to take special additional efforts to double-check the creditworthiness. Banks insist on ratings from two CRAs before making an investment decision.

As regards **GIC**, it earlier used to perform the investment function on behalf of its 4 subsidiaries. With liberalization, its subsidiaries, particularly **New India Assurance** and **National Insurance** have portfolios that are larger than GIC. Both New India as well as National Insurance do not question the ratings given by CRAs.

Among the Mutual Funds, **UTI Mutual Fund**, one of the oldest and largest, the ratings are treated as one of the inputs and a supplementary check is done, based on financial ratio analysis. This is true of the debt fund. Other funds like Morgan Stanley also perform additional checks. They perceive that, unlike S&P and Moody's in the USA, Indian CRAs may not be independent minded.

As regards pension and superannuation funds, it is revealed that the investments are directed by the Income Tax Act, for such funds to retain their tax-exempt status. Almost the entire investment is directed towards G Sec or Infrastructure Bonds issued by quasi-government bodies or PSUs, hence there is no significant investment activity in corporate securities. This information came from Actuaries advising such funds.

Issuer Survey

It is observed that the Issuers often approach more than one CRA. This is evidence of an informal 'rate shopping'.

There is a drastic increase in ratings of Bank Loans, a fair increase in Structured Obligations and a decline in Commercial Paper.

Structured Finance and CRAs
Special attention was given to structured finance or structured obligations, in view of the turmoil caused by such products in the global economy, and the resultant criticism on the CRA community there.

'Rate this' is the phenomenon wherein merchant bankers created exotic structures (CDOs backed by CDS) and placed them before the CRAs for rating. It

became a business opportunity for CRAs. In an issuer-pays model where the originating bank had lax lending standards, CRAs relied on the CDS, which, in turn was based on statistical models that did not take into account the magnitude of risk. The classic problem of assuming high prices of mortgage assets (prices crashed ultimately) returned to haunt the credit system. It turned out that the losses were higher than what the models assumed, and that the CDS were unregulated, OTC contracts written by entities that had leveraged themselves 30:1.

Our close interaction with the Analyst community resulted in some important findings and suggestions from them.

Structured Finance or Structured Obligations in India are mainly of the plain-vanilla Pass-Through-Certificate PTC genre. Apart from conservative origination standards, the credit enhancements are also mainly from quasi-government or government organizations. Institutional investors hold these securities and they do not percolate widely through the banking system. Two Indian banks suffered market losses on instruments purchased by their London branches, and had nothing to do with Indian paper. CRAs have already evolved a 'Complexity Grading' to forewarn investors on complex structured obligations.

However, as a pro-active step, it is necessary to consider the following suggestions for safeguarding the Indian financial system from the dangers of structured obligations. The suggestions, endorsed by the Analyst community, are as under:

1. A transparent process of the various stress tests that the credit rating involves, including fat tail risk.
2. A clear definition of the complexity level of the financial instruments.
3. The strict norm of making the name of the client public, if he chooses not to be rated, in case of lower ratings.
4. The analysis of future cash flows, to be generated by the complex financial instruments, under various scenarios. Involving the highest of stress levels.
5. Stress testing of the credit enhancement levels of the complex financial instruments.
6. Identification of the percentage of the junk assets pooled in to form the pool of loans.
7. ABS backed by only prime securities should be allowed for securitization process.
8. The pool of security should not be divided into tranches i.e Senior and junior debt.

9. The collateral of ABS should be very high and guarantee should be provided by third party in case the ABS defaults on payments.

10. The rating agencies should have model in place to rate the ABS.

11. Usage of white box testing models, which reveal all the data, it has used to stress test these instruments.

12. As a business, CRAs need to focus on the quality of the instrument rated, rather than the quantity.

13. A thorough review of actual risk exposures of institutions and robustness of counterparty risk assessment.

14. Guard against over-valuation of assets, particularly real-estate and other collateral assets.

15. Extra care to guard against opacity in financial accounting and auditing practices.

16. Understanding the implications of moving class products to mass markets, thereby increasing systemic risk.

17. Guard against hidden credit risk: weak loan pools, when repackaged, do not reflect true vulnerability to cyclical downturn, hence credit risk gets underpriced.

18. Critically evaluate legal risk and counterparty risk to get a realistic estimation of cash flows, especially in guarantees and other credit enhancements.

19. Review risk disclosures more stringently in respect of structured obligations

Chapter 4 Rating Transition and Default Study

Milstones

The various significant events in the history of CRAs in India can be viewed in the following manner:

- 1988: Establishment of CRISIL. There were only 13 Indian Accounting Standards.
- 1990 to 1998: Establishment of ICRA, CARE and Duff Phelps (now Fitch)
- 1997: SEBI Regulations for CRAs
- 2003: Amendments to SEBI Regulations
- 2006: Benign interest rates and easy liquidity conditions, spurring capital expansion plans and leverage
- 2007: SEBI Code of Conduct for CRAs
- 2008: Establishment of Brickworks
- 2008: Collapse of Bear Sterns, Lehmann Brothers, AIG and historic US bailout package, CRAs at the eye of the storm in the wake of the sub-prime crisis impacting US and Europe. The number of Indian Accounting Standards touched 30. There is a blueprint by ICAI to do adopt International Accounting Standards issued by the IFRS from April 2011.
- 2009: Fiscal stimulus package by US, European and Chinese Government, liquidity support as credit markets and capital markets dried up the world over, upsetting fund-raising plans of firms the world over, India included.
- 2009 SEBI Inspection of CRAs

One can also witness from the above that India's integration with the global economy has been intertwined with adherence to global accounting standards, thereby enhancing the quality and quantity of information available to the CRAs. Of course, as proved from the experience of Enron, WorldCom, Xerox and Satyam, adherence to Accounting Standards and Corporate Governance Standards do not serve as guarantees against falsification of financial statements. From this perspective, the gate-keeping function of accountants, CRAs and Investment Banks becomes even more critical.

As regards the summarized PhD theses on the subject in India, the following table places the major findings in perspective:

Year	Author	Major Findings
1999	Jatayu Sen Choudhury	Indian CRAs are more lenient in their ratings in comparison to their Parents in USA.
2001	Mamta Arora	There is a great element of subjectivity, rather than objectivity impacting the final rating process.
2001	T Geetha	From data gathered from the public domain, it is possible to gauge that the ratings by CRAs lag the judgement on creditworthiness made by the financial markets.

All CRAs have a basic credit scoring model in place, based on popular solvency ratios such as Leverage and Interest Cover, together with the inputs garnered during the inspection visit and the management meeting of the rated entity to support future projections. The Analyst Team comes up with an initial rating and this is discussed at the initial meeting. Most CRAs also have very well-developed teams of Macro-Economic Analysts who provide valuable data on the Industry or Economy, in order to validate the projections. During this process, the ratings are modified, based on various additional inputs, if any, based on the shared experience of persons across committees or the CRA are taken into consideration. This is where the element of subjectivity could come in. The final accepted rating is also subject to an appeal, in case the rated entity so demands. It follows, therefore, that the rating based on the initial scoring model and quantified estimates (projections) get impacted by the subjectivity of subsequent discussions.

Data Structure

CRISIL was established in 1989. Due to the establishment of three of the major CRAs, viz. ICRA, CARE and Fitch at discrete points in time during the 1990s, comparable data across various CRAs is available from 1999 onwards, i.e. 1999 to 2008. Furthermore, owing to foreign parentage or collaboration, CRISIL, ICRA and Fitch have provided tabulated data on the Calendar Year basis, whereas CARE has provided data on the Financial Year basis. This is in addition to the heterogeneity with respect to the rated entities, instruments and the capabilities of the Analyst Teams across CRAs and within each CRA, across years.

Rating exercises are carried out for a wide range of instruments, short term to long term. Depending upon various considerations, such as urgency of repayment, loan covenants, market conditions for raising equity or further debt, also play a part in influencing the ratings of instruments by each entity. Instruments that have been fully repaid are also phased out from rating. Thus, unlike G-Sec Markets, Currency Markets or Commodity Markets, rated instruments issued by corporations and smaller firms have the following characteristics:

- Heterogenous Issuers

- Heterogenous Instruments and Loan Covenants
- Heterogenous Maturity Time-frame of Instruments Issued
- Hetergenous CRAs and Analyst Teams, Years in Operation and Reporting Year adopted

These factors preclude any serious comparability across instruments or issuers over a long time series, as could be done for G-Sec or even some Municipal Bonds. An analysis of CRAs must bear this factor in mind.

Rating Transition Analysis

During the life of each instrument, it could go through Upgrades, Downgrades, No Change or even a Rating Withdrawn in the year of the Final Repayment. The most important rating events are Downgrades and Upgrades, since these changes represent a move away from the inertia of a status quo. Of these two, an Upgrade would be a pleasant surprise for the investor, since the credit risk reduction is a welcome bonus. However, the more serious and adverse event is the Downgrade, since it proves that the investor has underestimated the credit risk and implies allocation of additional risk capital.

CRISIL and ICRA had issued press releases on Downgrades and Defaults, based on the Financial Year 2008-09. A snapshot is presented below.

CRISIL	2007-08	14 Downgrades, 9 Upgrades
	2008-09	84 Downgrades, 2 Upgrades, 13 Defaults, highest since 1999
ICRA	2007-08	15 Downgrades, 10 Upgrades
	2008-09	61 Downgrades, 1 Upgrade

Data received from CRISIL, ICRA, CARE and Fitch were analyzed and conclusions drawn based. The results are presented below.

Years	CRISIL UP	CRISIL DOWN	ICRA UP	ICRA DOWN	CARE UP	CARE DOWN	FITCH UP	FITCH DOWN	TOTAL UP	TOTAL DOWN
1994					1	0			**1**	**0**
1995					5	1			**5**	**1**
1996					6	13			**6**	**13**
1997					4	49			**4**	**49**
1998			11	78	8	69	0	1	**19**	**148**
1999	30	108	9	81	9	33	0	2	**48**	**224**
2000	61	46	9	41	11	16	2	2	**83**	**105**
2001	16	74	3	43	9	36	0	7	**28**	**160**
2002	23	50	8	31	9	71	4	7	**44**	**159**
2003	27	18	11	21	18	18	0	6	**56**	**63**
2004	51	7	10	12	32	36	4	1	**97**	**56**
2005	42	6	12	4	19	29	3	2	**76**	**41**
2006	9	17	6	5	10	24	1	5	**26**	**51**
2007	12	23	8	9	40	35	3	3	**63**	**70**
2008	15	62	4	19	11	38	7	9	**37**	**128**

From the above, it can be seen that the total number of Downgrades have exceeded 100 from the Year 1998 to 2002. This was followed by a benign period from 2003 to 2007. There were, however, signs of a U-turn in 2007, which was the last boom year for the capital market. From the beginning of 2008, the strictness of CRAs has once again begun to show.

In order to gauge the intensity of Downgrades as against Upgrades, the Downgrade/Upgrade Ratio (D/U Ratio) has been devised. This Ratio shows the number of Downgrades for every Upgrade. It shows that the years when the D/U Ratio goes up represent turbulent years. It also provides a clue on the degree of toughness or leniency of the CRA. Results are tabulated below.

Years	CRISIL	ICRA	CARE	FITCH	OVERALL
1994			0.00		0.00
1995			0.20		0.20
1996			2.17		2.17
1997			12.25		12.25
1998		7.09	8.63	1.00	7.79
1999	3.60	9.00	3.67	2.00	4.67
2000	0.75	4.56	1.45	1.00	1.27
2001	4.63	14.33	4.00	7.00	5.71
2002	2.17	3.88	7.89	1.75	3.61
2003	0.67	1.91	1.00	6.00	1.13
2004	0.14	1.20	1.13	0.25	0.58
2005	0.14	0.33	1.53	0.67	0.54
2006	1.89	0.83	2.40	5.00	1.96
2007	1.92	1.13	0.88	1.00	1.11
2008	4.13	4.75	3.45	1.29	3.46

The table above shows that Years 1996 through 1999 were tough years, followed by 2001 and 2002. This was followed by a benign period from 2003 through 2007. There was a sharp spike in the Downgrades during 2008. The question that remains is, whether the CRAs signalled the Downgrades on time, before the markets sensed weakness in the issuer entities. This is discussed in the subsequent paragraphs.

Downgrade Timing and Default Analysis

The number of Defaults, as rated by CRISIL in 2008-09 were 61, the highest since 1999. The true test of the robustness of the gate-keeping effort by CRAs and accountants, and the resilience of the rated entities to service their debt instruments is to look at their performance during a period of stress. The year 2008 presented such an opportunity. From a global perspective, this period saw the cracks in the financial names such as Citigroup, Merrill Lynch, Morgan Stanley and then the collapse of Bear Sterns, Northern Rock, Lehmann Brothers, Fannie Mae, Freddie Mac and AIG. This systemic risk resulted in the drying up of liquidity, credit markets and the equity markets. For a brief while, even commodity prices saw an upward spike. Such a deadly combination of events invited comparisons to the Great Depression of the 1930s and financial economists also called such a rare combination of this major catastrophic event as a Black Swan event (a low-probability, high-magnitude loss). The capital of many financial firms the world over was wiped out, requiring infusion of fresh capital, as indicated by the Stress Tests carried out in the US in May 2009. Ten of the top 19 US banks require re-capitalization. In India, Year 2009 was marked by high input prices, fall in sales volumes and sale prices, fluctuating cost of debt, under-utilized capacities, falling order books, incomplete capital expansion programmes, unsustainably high levels of leverage and a decline in investor-interest in the equity markets. During this period, there was a severe dent in the Interest Coverage ratio and lower possibilities of replacing debt with equity, both serious issues as far as credit rating is concerned. The performance of rated firms and CRAs during the period 2008 merits close attention.

Back-testing

As an exercise, all published downgrades from February 2009 through April 2009, covering 55 firms that have been Downgraded (including Default-grade) were obtained from the public domain. The financial data from these firms were back-tested over the first 3 Quarters of FY 2008-09. This was the ideal period for such an experiment, since the period covering the first 3 Quarters of FY 2008 witnessed the end of the easy liquidity that prevailed during the previous 5 years; many firms with ambitious expansion plans were caught on the wrong foot, heightening their risk profiles, meriting Downgrades.

A summary of our findings from the Back-testing exercise is provided below:

A total of 55 observations on Downgrades and Defaults were obtained, between

Feb and Apr 2009.

Due to the Basel II reporting by banks, loans, including those to non-corporate entities, were rated. A valuable insight is that smaller firms increasingly come under public scrutiny. This is a valuable contribution by CRAs. Inefficient or unscrupulous promoters are tracked before they attempt an IPO.

The Downgraded or Default grade firms are from the following sectors: Gems and Jewellery, Real Estate, Building Materials, Textiles, Metals and Retail. These are the sectors most stressed out during the economic downturn.

Although the Downgrades and Defaults became public only from February, our analysis shows that the cracks began to show up earlier, between the end of Q1 and Q3 in Financial Year 2008-09. There is a marked deterioration as indicated either in falling PBDIT, rising Interest expense or a rising Interest/PBDIT ratio. For a lender who looks forward to timely payment of interest, this Quarterly analysis could provide timely warnings. For some reason, CRAs delayed the Downgrade/Default signals to the end of Q4. On the contrary, Equity Research Analysts track such information very closely to trade on the all available information, providing an incentive for close monitoring. CRAs have no such incentive, barring reputation risk. 23 clear-cut cases are presented in the analysis.

Clues of bad corporate governance are also available from the sample list. Real Estate firms, who are anti-customer by nature, have put up a brave face, not liquidating inventory to repay loans. They are also guilty of having multiple entities as related parties, carrying on the same business. When the capital markets gave a thumbs-down signal to Real Estate firms, they lost access to funds and started defaulting. The spate of QIPs after the capital markets recovered on May 18, 2009, commenced with DLF and Unitech. Aakruti City's promoters were found guilty of share price manipulation and is being probed by SEBI. Continuing on the subject of bad Corporate Governance, Suzlon, whose promoters have been jailed in the past due to loan defaults; the company also has a reputation of accessing the capital markets repeatedly, while the product quality and technical capability raise question marks. The most recent information is that, finally, Suzlon have retracted their decision to raise additional capital for the time being. Our analysis shows that the deterioration in Suzlon began in Q2 FY09. The promoters of Vijayeswari Textiles are also found guilty for share price manipulation and are facing SEBI inspection. Gems and Jewellery firms and Textile firms are also known for management styles more appropriate for proprietary concerns. This is apart from the slowdown in sales due to export dependence. The Retail Sector suffers from over-capacity, lower consumer spending and rising rentals owing to its close connection with the Real Estate sector. Also, it is very difficult to assess income in the case of Real Estate and Jewellery firms due to the presence of a large number of related parties and cash transactions. All these are real pointers to Corporate Governance practices, rather than the lengthy legal compliances displayed in annual reports.

S NO	CONAME	INT Q3	PBDIT Q3	I/P Q3	INT Q2	PBDIT Q2	I/P Q2	INT Q1	PBDIT Q1	I/P Q1
1	Suzlon	**109.43**	**82.81**	**1.32**	**76.69**	394.42	**0.19**	38.2	317.04	0.12
2	Indian Telephone I	**64.64**	**-67.08**	**-0.96**	**57.85**	**-97.33**	**-0.59**	**75.62**	**-79.4**	**-0.95**
3	SU-RAJ DIAMON	**11.71**	**16.37**	**0.72**	**3.11**	**14.79**	**0.21**	1.98	19.55	0.10
4	OMAXE	29.72	31.48	0.94	**24.92**	**31.13**	**0.80**	22.4	80.27	0.28
5	ARVIND MILLS	77.2	73.61	1.05	54.87	67.47	**0.81**	32.21	54.89	0.59
6	ARVIND PRODUCTS	8.46	6.74	1.26	8.72	14.84	0.59	7.59	12.66	0.60
7	DECOLIGHT CERAMI	1.87	3.31	0.56	1.46	4.71	0.31	1.3	6.78	0.19
8	SOMA TEXTILES	3.68	-3.17	-1.16	3.59	-4.78	-0.75	3.27	**-2.73**	-1.20
9	VIJAYESWRI TEX	5.08	-2.9	-1.75	**3.66**	**0.88**	**4.16**	3.29	3.99	0.82
10	HINDALCO	93.2	779.19	**0.12**	85.5	993.4	**0.09**	76.12	949.04	**0.08**
11	STERLITE INDS	**70.07**	**111.14**	**0.63**	40.48	425.2	0.10	43.13	317.87	0.14
12	HINDUSTAN ZINC	**4.35**	**305.06**	**0.01**	7.12	982.05	**0.01**	6.86	977.71	**0.01**
13	MALCO	1.1	-6.04	-0.18	0.41	**4.42**	0.09	0.37	25.75	0.01
14	TATA STEEL	**348.2**	**1477.95**	**0.24**	254.82	3182.97	0.08	241.73	3024.58	0.08
15	DLF	**210.19**	**152.92**	**1.37**	187.26	**700.04**	0.27	181.68	813.41	0.22
16	UNITECH	**124.53**	**31.24**	**3.99**	162.97	**641.71**	0.25	131.55	489.16	0.27
17	SOBHA	28.6	47.5	0.60	28.5	**93.6**	0.30	26.7	101.6	0.26
18	SHOPPERS STOP	5.24	18.04	0.29	5.01	6.45	0.78	**2.56**	**-0.58**	-4.41
19	TELEDATA	9.51	18.47	0.51	**5.45**	**20.8**	**0.26**	4.57	37.09	0.12
20	TATA MOTORS	**168.42**	**77.93**	**2.16**	148.28	564.9	0.26	112.33	522.53	0.21
21	AKRUTI CITY	**28.95**	**47.29**	**0.61**	27.71	233.35	0.12	20.26	208.34	0.10

Figures in **bold** indicate signs of credit deterioration

Information and Incentive Paradox: Equity and Debt Markets

If we consider that Equity investors are attracted by long term growth whereas Debt investors prefer timely payment of interest and principal, the informational requirements need to be appropriately aligned. This implies that long term Equity Investors need not be bothered by temporary fluctuations in the

fortunes and performance of their companies. Conversely, any factor impinging the repayment capability of the borrowing company need to be signaled at the earliest. However, it is found that information impacting the short-term fortunes and fluctuations in equity prices are constantly fed to 'traders' who are wrongly classified as equity 'investors'. It is also found that CRAs who need to track any adverse development influencing the interest or loan servicing capability at every short interval (say, quarter, half-year) often may not raise the danger signal early enough. A deteriorating Interest Coverage ratio (or a rising Interest/Operating Profit ratio), if captured on a quarterly basis, could provide the signal for a downgrade.

In the equity markets, considerable effort and publicity goes behind PBDIT estimation, in an attempt to trade on the perceived upswing or downswing in prices. The incentive for this action is the profits that can be gained on the price changed. In the case of CRAs tracking Interest Coverage, there is no corresponding reward for correctly gauging the upgrade or downgrade.

Debt Equity Ratio

In addition to tracking the Interest burden, it is necessary for the CRA or Debt investors to know the overall Debt Equity Ratio at regular intervals (say, quarter or half yearly). However, the Interim Financial Statements generated every quarter provide only the Net Worth figure and not the Loan figure. Thus, a reading of the Interim Financial Statements every quarter, it is difficult to arrive at the intra-year Debt Equity ratio. The Debt-Equity ratio can be known only at the end of the Financial Year. In the interests of improving the informational quality in the public domain, it is suggested that Interim Financial Statements include the total Loans alongside the Net Worth so that the Debt Equity ratio can be tracked at regular intervals. This step could go a long way in reducing informational asymmetry.

FSA Turner Review

Chapter 2.5 deals of the Turner Review deals with issues pertaining to CRAs. The gist of the chapter is presented below.

1. The ratings process and their usage are both covered. However, greater emphasis is on the rating processes.

2. The existing techniques of rating have proven to be more robust in the case of instruments by single name issuers (for plain vanilla debt) as compared to the complex securitized products.

3. Rating transitions (downgrades) have been drastic from Year 2008, in comparison to Year 2007.

4. Complex securitization structures designed by innovative merchant bankers have addressed the issue of 'design to rating'. This implies that deals and

instruments are engineered designed to get around the basic rating hurdles, masking hidden dangers of non-performance by one of the counterparties to a transaction. This phenomenon is also witnessed in the 'rate this' syndrome, wherein newer instruments are presented by merchant bankers to the CRAs. At the centre of the storm is the 'originate-to-distribute model' of commercial banks, on the advice of aggressive merchant bankers.

5. CRAs are tempted to take on rating of complex structures rather than declining such assignments, as it represents business opportunities. Here, there is a danger of rating instruments that are too complex for rating, especially in respect of transactions where the instruments have not stood the test of passage of time for assessing credit history adequately (the seasoning period, as it is called). This is in contrast to traditional corporate debt instruments where securitization.

6. There is a greater need for back-testing the rating performance of structured products over at least a 12-month time frame.

7. Rating methodologies must be such that consistent results could be achieved.

8. Rating methodologies need to be made public so that is could be possible to make a fair assessment of the rating considerations and the risks.

9. Investors may be tempted to use ratings in their decision-making process, especially in the absence of any other information. Downgrades could result in making weak entities weaker, bringing pro-cyclicality and enhancing the vulnerability of such entities in an economic downturn.

10. In view of the pro-cyclical nature of the impact of ratings, policy-makers and regulators need to formulate counter-cyclical measures at a macro-economic level. (For instance, tightening and loosening of monetary policy during boom and recession, respectively).

As regards India, the financial markets are not contaminated by adventurous innovation, as seen in the developed markets. As an additional filter, origination standards are conservative.

In a subsequent chapter of the NISM CRA study report, the application of Artificial Intelligence (AI) approaches such as Neural Networks (NN) and

Ratings in Perspective

"A rating is an opinion on the future ability and legal obligation of the issuer to make timely payments of interest and principal on a specific fixed income security. The rating measures the probability that issuer will default on the security over its life, which, depending on the on the instrument, may be a matter of days to 30 years or more. In addition, long term ratings incorporate an assessment of the expected monetary loss should the default occur." ***Moody's***

"Credit Ratings help investors by providing an easily recognizable, simple tool that couples a possibly unknown issuer with an informative and meaningful symbol of credit quality." ***Standard & Poor's***

A rating exercise is not an audit. Ratings are meant to serve as a guide. The users shall take necessary steps to exercise care in arriving at the final decision to invest in a rated instrument. ***(ICAI – ICRA Monograph, 1997)***. In a recent interview to ***DNA Money in May 2009***, in the light of the Satyam case, The President of ICAI, Uttam Chand Agarwal has also stated that the primary responsibility for preparation of the Financial Statement is that of the management. From the foregoing, it is evident that there is prima facie a case for asymmetric information between the Management and the auditors and CRAs. It becomes all the more important for regulators and educators to keep the public informed against blind acceptance of ratings as the sole input to an investment decision.

The Turner review (Chapter 2, Section 10) had a focus on the credit rating process, rather than the manner of usage. The observations from this CRA Study on the various issues highlighted under the FSA framework on rating agencies are placed below.

FSA Framework

1 Objectivity of Methodology

An enquiry was made as to whether the methodology for assigning credit assessments is rigorous, systematic, continuous and subject to validation based on historical experience. The observations under various dimensions are tabulated below.

Policy on rating methodology: Description of how ratings are determined, implemented and changed	In some agencies, there is a separate team to perform ratings research, devise parameters and implement the same. In some other agencies, persons are drawn from operational teams. CRISIL, ICRA and Fitch draw upon the expertise of their collaborators – S&P, Moody's and Fitch respectively. CARE and Brickworks are home-grown entities. Brickworks does have a legacy of CRISIL and ICRA through its ex-employees.
High level description of quantitative aspects	The rating exercise revolves around a scoring model, which are variants of the Altman Z Score. The variables are Net Worth, Debt, Total Liabilities, Interest and OPBDIT. <u>Key Ratios</u> Debt: Equity Ratio OPBDIT/ Interest Ratio (Interest Coverage) Debt Service Coverage Ratio Audited Financial Statements are the starting point, supplemented by future projections from the Management Ratings are based on simple EXCEL spreadsheet models. It is not a black box. As regards structured finance, the cash flow estimates are placed under scrutiny.
High level description of qualitative aspects	Meetings with the management and site visits are used to validate the projections As regards structured finance, the origination standards and exposures of various parties and counter-parties are subjected to scrutiny. Overall, there is a possibility of initial objectivity being influenced by subsequent subjectivity. This is evident from the deviation from Analyst's initial rating perception, on the award of the final rating.
Research, including technical research used in forming methodology	Extensive research on methodology are carried out by S&P, Moody's and Fitch. In addition, CRAs have a team of economic researchers conducting macro-level and industry sector studies which help in validating projections
Inputs from rated entities	Audited Financial Statements Meetings with the Management of issuers Visits to sites, factories
Internal compliance mechanisms to ensure consistent application of ratings methodologies across all ratings	There are analyst teams and rating committees. However, there is no system of an operational audit to continuously upgrade due diligence standards
Rating reviews, including regularity, data updates, level of inputs from rated entities	Done on an annual basis unless there is a trigger (such as sub-prime crisis, global financial meltdown, saturation or oversupply in a sector etc)

Back Testing

The rating team does an ongoing review on an annual basis unless there is a trigger, as mentioned in the table above. During the last 12 months, more stringent standards have been applied in assessing (and downgrading) the ratings of firms in the following sectors:

Real Estate (demand contraction and oversupply, incomplete projects, leverage, falling equity markets)

Building Construction Material (due to linkage with real estate sector)

Metals (slowdown in demand from the construction sector and industrial sector)

Retail (saturation & oversupply, high rentals, falling demand due to general economic slowdown)

Gems & Jewellery (dependence on exports)

Textiles (dependence on exports)

However, based on the Back Testing done by the researchers in this CRA study, it is observed that the signals for downgrade came much earlier than those reported by CRAs from Feb to April 2009.

CRAs publish default studies and rating transition studies on their websites.

2 Independence of Methodology

As a part of the study, it was attempted to verify that the methodology is free from external political influences or constraints, and from economic pressures that may influence the credit assessment on certain key aspects.

Organization Structure	Of the 5 CRAs, 2 are public listed companies, 3 are private limited companies. Ownership structures of the private limited companies are known only to the regulators.
Corporate Governance	Corporate Governance code applies to public listed companies
Ownership of Ratings Business	Ownership clear in case of public listed companies. Ownership can be opaque in the case of unlisted companies, unless promoted by institutions of pedigree. Board of Directors and Committee memberships could be gauged only in case of public listed companies. The presence of external experts on rating committees is a matter of concern, since it could impact the independence and also bring in greater subjectivity and other external influences.
Financial Resources	Financed by equity and internal accruals. Equity, in turn, is from collaborators (S&P, Moody's, Fitch) or promoters (IDBI, Banks). Experience shows that CRAs have been quite successful in raising resources through equity by accessing the capital markets. Ratings assignments increase during times of economic downturn, boosting fee income. Advisory services see increase in demand during boom times; however, advisory services and consulting could result in a compromise of independence.
Staffing Expertise and Training	The quality of staff is generally found to be of a high order. Training is intensive, especially in the case of CRISIL which has developed the required cadres in numbers.

3 Methodology – on-going review

An enquiry was as to whether the that credit assessments are subject to ongoing review and shall be responsive to changes in the financial conditions.

The Analyst teams are responsible for review at least annually, unless there is an event trigger for a serious review.

4 Transparency and Disclosure of Methodology and Ratings

Competent authorities shall verify that individual credit assessments are accessible at equivalent terms at least to all parties having a legitimate interest in these individual credit assessments. In particular, competent authorities shall verify that individual credit assessments are available to non-domestic parties on equivalent terms as to domestic parties having a legitimate interest in these individual credit assessments.

The rating process flow is made public. However, as far as the exact rating model is concerned, it is outside the purview of the public. It is also our experience that the initial objectivity tends to get influenced by subjectivity as the award of the final rating is approached.

All ratings are publicly available and free of cost.

5 Credibility and Market Acceptance of Ratings

It was observed that that the CRA individual credit assessments are recognized in the market as credible and reliable by the users of such credit assessments, such as LIC. However, private sector insurance players use ratings as one of the inputs within their own investment decision making.

Overall Assessment of the Long Term Performance of CRAs

CRAs initially rated Commercial Paper (CP), and Debentures issued by Indian corporations. The early days from 1988 through 1998 was an era in which banks were severely short of funds, necessitating the need for corporations to gain direct access to the financial markets. This gave corporations several advantages such as: lower costs, lesser covenants and quicker access to funds.

At the end of this period, three of the four existing CRAs witnessed a change in ownership and management: S&P in CRISIL, Moody's in ICRA and Fitch into Duff & Phelps. The advent of these pedigreed entities brought research and technical expertise and helped shape the talent of Indian analysts. Due to this reason (change in management), this CRA study could be covered in detail from 1998 until beginning 2009.

Corporations that were rated learnt about their strengths and weaknesses. A rating exercise, if diligently conducted, is a valuable learning experience for the rated entity and helps in toning up the overall management. This is beneficial in the long run.

Ratings serve as an important signal for the financial market.

Since ratings discriminate between stronger and weaker firms, allocated resources move towards stronger firms. This exposes the vulnerability of weaker firms when liquidity is tight. CRAs have been successful in eliminating schemes by dubious plantation schemes (Collective Investment Schemes) and poor IPOs by awarding low ratings and grades. This has protected investors from costly errors.

Ratings enable prudent investors to short-list the firms and investments in which they can invest. It tends to reduce their research costs. However, it is not prudent to depend solely on ratings by CRAs.

Under the current issuer pays model, ratings are available to the public free of cost. These ratings serve as valuable inputs to the public. Potential weaknesses in firms get known and stakeholders in these firms can conduct their own due

diligence exercises.

Due to the advent of Basel II, the credit risk capital needs to be measured. Towards this end, CRAs have rated loans by banks and provided ratings on the website. This has brought several non-corporate firms under the lens. It brings the credit history of unknown firms to light, and keeps their overall financial exposure under check.

With five rating agencies, the oligopoly is under check. This is in contrast to three rating agencies in USA, which has a larger market.

By discriminating the stronger firms from weaker ones, CRAs have helped better firms raise capital and deploy the same into Fixed Assets and Working Capital at an optimal cost. This capital infusion raises GDP and creates jobs. Firms that have obtained good ratings save on cost of capital.

The rating transition analysis carried out in the paragraphs above demonstrate that bigger, better and larger firms obtain ratings from CRISIL, whereas other firms gravitate towards ICRA, CARE and Fitch. However, the latter three firms have been very tough with their ratings and downgrades. This is a valuable gate-keeping contribution towards the financial markets.

Although the rating process has scope for improvement, particularly the due diligence process, CRAs have played a positive role in reducing information asymmetry. With greater penetration of PC and internet connections, this dissemination function is likely to be increasingly effective. At present, rating information is sporadically available through press coverage, in addition to the web-based dissemination.

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Chapter 5

Emerging Trends and Alternate Approaches

Credit Rating and Artificial Intelligence

Since the relationship between Net Worth and Debt under Total Liabilities is complementary. In other words, since NW + Debt = 1 = TL, NW = 1 – Debt or Debt = 1 – NW. From this, we conclude that if Debt = 0, NW = 1 or W/TL + . Hence, for debt-free company, the NW equals TL. As the proportion of Debt rises, NW moves below 1..... (1)

The presence of Debt also triggers interest obligations reflected in the P&L. Hence, Interest as a proportion of Operating Profit = Profit Before Depreciation, Interest and Tax (PBDIT) also reveals the presence of Debt..... (2)

Combining (1) and (2) above, we conclude that

NW/TL – Debt/TL = 1

NW/TL – Debt/TL – Interest/PBDIT = Credit Score.

Again, for totally Debt-free company, the Credit Rating will be 1.

Tracking this score on a Quarterly or periodic basis will provide directional hints on transition of creditworthiness. The closer the score is to 1, the better the rating and vice versa. In this manner, with periodic updates in the inputs, a credit score can be generated to determine relative creditworthiness. With large masses of input data and rating output, a consistent logic can be built and applied – either through humans or computers, bringing up the topic of Artificial Intelligence.

Artificial Intelligence in Credit Rating

Artificial Intelligence (AI) involves the use of computing machines programmed to act logically in response to common operational problems and provide appropriate solutions. It is particularly suited to handle masses of data several times the human memory and computing power. Mistakes due to fatigue and 'human error' are minimized or even eliminated.

Over the years, AI has evolved into distinct sub-fields:

Neural Networks

Fuzzy Systems

Genetic Algorithms

A brief description of the various subfields is presented in the paragraphs below.

Neural Networks (NN)

An artificial Neural Network is a computational structure that is inspired by observed processes in natural networks or biological neurons in the brain. It consists of simple computational units called neurons that are highly interconnected. Each interconnection has a strength that is expressed by a number referred to as a weight.

The basic capability of neural networks is to learn patterns from examples. This is accomplished by adjusting the weights of given interconnections according to some learning algorithm. In a supervised algorithm, learning is guided by specifying, for each training input pattern, the class to which the pattern is supposed to belong. That is, the desired response of the network to each training input pattern and its comparison with the actual output of the network are used in the learning algorithm for appropriate adjustment of the weights. These adjustments are made incrementally to minimize the differences between the actual and desired outputs. This is essential for convergence to a solution of high fidelity. Once a network converges to a solution, it is then capable of classifying each unknown input pattern with other patterns that are close to it in terms of the same distinguishing features. These supervised neural networks are called multilayer feed-forward networks or multilayer perceptrons.

Fuzzy Systems (FS)

The values assigned to the elements of the universal set fall within a specified range and indicate the membership grade of these elements in the set in question. Larger values denote higher degrees of set membership. Such a function is called a membership function, and the set defined by it a fuzzy set.

The key to understanding fuzzy logic is the definition of a fuzzy set, as opposed to a Crisp Set. A fuzzy set does not have a clear boundary of inclusion/exclusion. For example, creditworthiness may be defined as high or low. Creditworthiness between entities could vary in degree, with even the one with the lowest ranking not excluded from the membership of the set; such a set is called a fuzzy set.

At the heart of fuzzy logic are the fuzzy controller. Fuzzy controllers are capable of utilizing knowledge elicited from human operators. The fuzzy controller works on a domain knowledge base.

A general fuzzy controller consists of four modules: fuzzy rule base, a fuzzy inference engine, and fuzzification / defuzzification modules. A fuzzy controller operates by repeating a cycle of the following four steps:

1. Measurements are taken of all variables that represent relevant conditions of the controlled process
2. These measurements are converted into appropriate fuzzy sets to express measurement uncertainties. This step is called fuzzification.

3. The fuzzified measurements are then used by the inference engine to evaluate the control rules stored in the fuzzy rule base. The result of this evaluation is a fuzzy set (or several fuzzy sets) defined on the universe of possible actions. This fuzzy set is then converted (in the final step of the cycle) into a single (crisp) value (or a vector of values) that in some sense is the best representative of the fuzzy set or fuzzy sets. This conversion is called defuzzification.

4. The defuzzified values represent actions taken by the fuzzy controller in the individual control cycle.

Fuzzy logic is an attempt to provide a better model with interpretability through the Axiomatic Fuzzy System (AFS). It can propose new membership functions for fuzzy sets and their logic operations. It can also design a new machine learning algorithm based on the new membership functions and their logic operations. This algorithm has two advantages. One is that it can mimic the human reasoning comprehensively and offers a far more flexible and effective means for the study of large-scale intelligent systems. Another is its simplicity in implementation and mathematical beauty in fuzzy theory. It is ideally suited to analysis of credit data.

Difference between Fuzzy Logic and Neural Network

Fuzzy logic has emerged as a mathematical tool to deal with the uncertainties in human perception and reasoning. It also provides a framework for an inference mechanism that allows for approximate human reasoning capabilities to be applied to knowledge-based systems. On the other hand, artificial neural networks have emerged as fast computation tools with learning and adaptivity capabilities.

Recently, these two fields have been integrated into a new emerging technology called fuzzy neural networks which combines the benefits of each field. The objective of the paper is to establish the similarities and differences between fuzzy systems and neural networks and to discuss possible models for fuzzy neural networks which can be applied to system modeling and control.

Genetic Algorithms

Genetic Algorithms (GA) are used to deal with various optimization problems involving fuzzy systems. One important problem for which genetic algorithms have proven very useful in the problem of optimizing fuzzy inference rules in fuzzy controllers. In the other direction, classical genetic algorithms can be fuzzified.

Under GA, the optimization is sought internally, whereas for NN, expert domain knowledge is required and will determine the weights in devising solutions for untrained data. Fuzzy systems can be applied to both GA and NN. Today, AI is an integrated fusion of NN,GA and Fuzzy Systems. The overall objective of AI remains the same, regardless of the specific approaches.

In this study, we have used the NN approach, since it is the most feasible approach with lesser data requirement. Over time, fuzzification can be introduced, based on industry analysis, macro-data and corporate governance aspects.

Since precise methodologies by CRA are not in public domain, analysts and investors can use Artificial Neural Network (ANN) as a model for ratings. This could serve as an independent check on the creditworthiness of a rated instrument.

A smaller version of neural network model was developed as part of the computational finance exercises conducted during this study period, based on available data.

We considered following six variables, as defined by Moody's, as inputs to devise a model, as follows:

1. Interest Coverage
2. Leverage
3. Return on Assets
4. Volatility Adjusted Leverage
5. Revenue Stability
6. Total Assets

How the Model Works

Data is to be collected for a large sample size of rated instruments, over a long time series. This mass of data is to be fed into the computer memory to 'train the computer'. The trained computer then generates a rating for any new instrument, based on the variables it possesses.

The results given by the model are free of bias (assuming there is no sample bias) and can be used as a valuable input in the final rating process.

Experiment

Given the time frame, data covering 5 years (FY 2004 to 2008), the following 5 companies were used to 'train' and generate ratings using this neural network model:

1. Tata Motors
2. Tata Steel
3. TCS
4. Unitech
5. Reliance Industries

Based on the trained computer model, ratings were generated. The ratings generated by this model were compared with the actual rating awarded by CRAs. This was based on a smaller sample data gathered within the limited time frame. However, the test results are encouraging. The output from the model could be more reliable if the model is based on as large a mass of data as possible. Further research in this direction could be carried out in the near future.

In fact, the period post-October 2008 is of particular interest, since it represents some of the most turbulent months in global finance, with a significant impact on the Indian business sector. This could result in adverse swings on the profitability of Indian companies, and inability to raise fresh capital due to the market conditions. As and when this new data is also fed into the computer to 'train' the system, the results generated by the model will reflect reality in a better manner.

Moody's Rating Predictor (MRP), announced in 2006, is a process of constantly adjusting the weights for various parameters at regular intervals. This has dramatically improved the ratings results. However, the process itself should not result in the creation of a black box, so as to prevent model risk.

The search for a better rating model is a journey of constant improvement.

Chapter 6

Observations and Recommendations

CRAs are supposed to bridge the information gap between the issuers and investors. When this does not happen, the CRA is the last in the loop, when a default occurs. It is important to understand the nature of this problem, in order to surmount the same.

Mechanics of Asymmetric Information

1. Lower/Middle managers in issuing companies suppress bad news
2. Senior Managers and Directors have pressure to show quarterly information. This is the second stage of news suppression
3. Auditors get to know less adverse information than the managements of companies
4. CRAs depend on Auditors
5. CRAs are last in the loop when bankers and investors in debt instruments report defaults, or when insiders sell

It is important to note that the CRAs are not able to unearth a 'Satyam'.

The Mechanics of Asymmetric Information described above explains the phenomenon of Asymmetric Information. The problem is of a wider magnitude in smaller firms.

The findings of the study are fitted in line with the Terms of Reference. This is followed by Recommendations which list out concrete action points for the betterment of the CRAs and the financial markets in which they operate.

Observations on the Points Raised in the Terms of Reference

1. **How far CRAs assessment helps financial regulation**

   At present, bulk of the work is with respect to the ratings of loans, for banks to assign Credit-risk based capital for Basel II requirements. This has brought several smaller entities within the fold of rating for the first time.

   Firms that are subjected to a credit rating exercise benefit from the ratings rationale and tone up their operations. This is especially true of firms that face a rating exercise for the first time. Even in the case of unaccepted ratings, the rated firms do tacitly admit that they deserved a lower rating.

While a lower standard of probing does not impact the final rating of a good issuer, it does enable weaker borrowers to get away despite financial/business/management quality weaknesses. In this regard, the standards of scrutiny need to be raised. If the scrutiny levels are raised, the CRAs will be able to contribute more information to minimize asymmetric information.

Investors are free to contact the CRAs and seek more information on the rated entities, free of cost.

CRAs disseminate plenty of information on their web sites as well as in print. It is easy for a member of the public to know more about a rated company from the web sites.

Some lending banks and insurance companies use the ratings as a filter and sometimes perform an additional check through an independent Due Diligence Review or credit matrix. However, this is not true of all investors.

By increasing the depth in probing and timely changes in ratings, CRAs can serve the financial markets with better information.

CRAs have assigned very poor ratings to Collective Investment Schemes and some IPOs, hence driving poor quality issuers out of the market.

2. **Accountability, corporate governance issues of CRAs**

All agencies have separated business development from analysis.

Code of Conduct. All of them do not follow the IOSCO Code in toto.

CRA disseminate ratings rationale through press releases and website updates, with the names of the contact persons of analysts.

The lack of quality in accounting and auditing cannot absolve the CRAs from their responsibility.

Some CRAs have discontinued advisory services. Others continue advisory services and non-rating activities in sister companies.

The external committee members may be able to bring in a bias in ratings, due to a conflict of interest. This is especially true if their views have a high weight in the final consideration.

Interested persons who are excluded from the rating teams could come back to air their views in larger review meetings where entry is unrestricted.

Junior analysts must be given an equal weight in their views. Dissent must be permitted and be recorded in writing.

CRAs practice disclosure norms as per the SEBI ownership must be made public in respect of all CRAs, not just the public, listed ones.

3. **Consistency of rating data with accounting data**

   The high dependence on financial statements is a cause for concern. This is especially true in the light of the falling audit efficiency. This increases the chances of asymmetric information vis--vis the market information.

   The basic accounting figures: Total Income and PBDIT are contaminated due to the influx of 'other income' being merged into the Total Income.

   There are several instances where the Interest Coverage ratio has deteriorated but the ratings have remained the same, without any downgrade, despite adverse business prospects, mergers & acquisitions and forays into diversified areas.

   The true leverage of firms may be hidden on account of the promoters raising funds for unknown reasons, by pledging their shares.

4. **Disclosures of methodologies of rating**

   All CRAs reveal the processes flows. But they do not disclose the actual methodologies.

   Ultimately, there is no fixed methodology, as qualitative factors could outweigh the quantitative factors at a meeting.

   The consensus approach buries dissent, especially if dissent notes are not recorded. This could result in information loss, especially at the time of subsequent reviews.

   Bias could also come in from seniors in the internal or external rating committees.

5. **Assessment of the performance of CRAs in India in terms of parameters like default and transition data**

   CRAs do publish studies on Default and Transition Data

   Our analysis, based on Quarterly Data, shows that there are many cases where a downgrade was in order, but the ratings were maintained.

6. **Uniformity or otherwise in definition and rating nomenclature of CRAs in India**

   The rating symbols given by CRAs are compatible with each other barring Brickworks

   There is no common website where the various ratings are placed in a comparable table.

   It is necessary to organize the various symbols in a comparable format to help the retail investors

7. **How much information asymmetry is bridged by CRAs**

   Unaccepted ratings are not published; hence information is asymmetric to that extent

   CRAs generally give information based on Credit risk. Markets factor in other risks also.

   With better probing and improved standards of Due Diligence Reviews, the asymmetric information could be further bridged.

   It is found in many cases where the Quarterly Profit Statements showed adverse trends, the ratings have been maintained at higher levels. In other words, there were many cases where downgrades were justifiable, but not carried out.

   'Rating-watch' could be effectively used as an interim measure during the process of verification of unconfirmed rumours

   The quality of the rating depends on the quality of financial statements. This, in turn, depends on the quality of the audits and the governance standards of the managements of issuing companies.

   There is a way of getting around the asymmetric information problem. Until the Due Diligence Review standards of the CRAs and auditors improve, it would be safe to assume a slightly lower rating than the one actually assigned. This is especially true owing to the fact that Corporate Governance standards are low, barring a few companies. According to some experts, if international agencies were to actually rate Indian domestic paper, the ratings assigned by them would actually be a notch lower.

   Many banks and insurance companies provide loans that are in the genre of social banking, or within the overall framework of development finance,

e.g. loans to State Electricity Boards (SEBs). Considering the weak financials of the SEBs, the Credit risk on the balance sheet of the lending banks and institutions could be far higher than what is declared. This issue needs to be addressed by the policy makers. CRAs could play a vital role in assessing these risks.

8. **Rating of complex products like structured obligation**

   Most Indian loan originators have been conservative. This is the first filter in structured finance transactions. Merchant bankers are also not too aggressive. Structured obligations have also taken off recently in India, during the last 5 years. In view of these factors and the relatively fewer transactions that have taken place, a sub-prime loan crisis of the magnitude witnessed in USA and Europe has not occurred. The securitized transactions are simple structures and there are no complex derivatives which are floating around to contaminate the financial markets.

9. **Overall evaluation of what CRAs have done in terms of value addition or the Indian economy**

   CRAs have a cadre of analysts whose skills can be further honed to disseminate quality information to the financial markets. They provide some basic information which could be used as a filter, with additional cross checks wherever necessary (say, in case of companies with poor governance records).

   CRAs have driven out poor issuers, especially CIS and IPOs by awarding poor ratings and discouraging promoters with a poor record from accessing the markets.

   Most of the recent ratings are for loans by banks. The borrowers were rated for the purpose of determining Credit-risk based capital as per Basel II norms. This brought many smaller firms within the fold of credit rating. The rating exercise could stand the rated entities in good stead so that they could tone up their management systems and business models.

10. **Approaches followed for credit enhancements**

    As of now, most of the credit enhancements are from State Governments. There are no instances of enhancements by a private party with thin capital. This precludes the cascading of defaults (Credit Default Swaps = CDS) and the consequence of systemic risks. Besides, origination standards, particularly for housing loans, are quite high and experienced originators like HDFC and LIC Housing Finance are conservative lenders. Besides, as mentioned in the paragraphs above, the securitization structures in India are simple.

11. **Experiences with structured obligations and desirability of such practices**

As mentioned above, the structures are simple, and based on conservative origination practices. In India, Merchant Bankers as well as Originating Banks have both been conservative. Unlike what was seen in USA and Europe, Originating Banks do not lower their appraisal standards with the attendant moral hazard of 'originate-to-distribute'.

12. **Matters related to conflicts of interest faced by rating agencies**

Business development teams are separate from the analyst teams

No analyst knows the fees structure

Rating Fees are taken from the client 100% in advance

It is quite possible that a particular analyst who has an investment interest/relative(s) in the rated entity is kept out of the rating team, but his inputs could bias the proceedings of subsequent open meetings.

The role and nature of external experts needs to be watched carefully, since it is quite possible that they may be able to substantially influence ratings, especially if the junior analysts have lesser influence in the ratings processes.

Ownership structure of all CRAs, including unlisted entities, need to be made public.

CRAs need to be encouraged to adhere to the SEBI Code of Conduct as well as the IOSCO Code.

13. **Cases of instruments being rated higher than the issuer**

At present, ratings are for instruments. The concept of issuer-rating applies in case of IPOs, where the ratings have been poor, for low-quality offerings.

In structured obligations, there is a theoretical possibility of instruments being rated higher, wherein either the obligor or the credit enhancer (guarantor) has a higher credit standing than the issuer. In India, the obligations of SEBs are guaranteed by the State Governments, and hence, a higher rating for such instruments is justified.

Such a situation is qualitatively different from the one prevalent in USA where sub-prime loans from weak originators were upgraded on the strength of guarantees by financial entities, in an unregulated market. It turned

out that one of the affiliates of AIG, which offered credit enhancements (CDS) was exposed to risks beyond its capital. Thus, high ratings to instruments were based on enhancements that turned out to be higher than the actual strength of the enhancer. In this manner, an affiliate of an Insurance company strayed far away from insurance and got exposed to market risk and credit risk. Capital adequacy for unregulated entities go undefined and in the light of over-trading, such entities implode.

This brings to the fore an important lesson for regulators: affiliates of regulated entities also need to be monitored closely by one or more regulators, since financial engineers and lawyers tend to exploit regulatory arbitrage opportunities in precisely such grey areas.

Other observations made during the course of study:

Undercutting of Fees

It is observed Undercutting of Fees between CRAs is taking place. Issuers may take advantage of such situations.

Outsourcing of Rating Operations

To prevent instances like the damage caused by unscrupulous salesmen of Insurance, Mutual Funds and Personal Loan Products, it is necessary to place safeguards or prescribe standards on outsourcing of Credit Rating or Credit Information to any third party. This is in the interests of quality and confidentiality. Every person engaged in Credit Rating or Credit Information must be an employee of a registered CRA or CIC. The registered CRA or CIC needs to bear the final onus of responsibility on quality of work as well as confidentiality.

Manner of Decision Making in Ratings

Practices vary in the weights given to the view of Junior Analysts. In some CRAs, the views of Junior Analysts are given the same weight as Seniors. In others, the final decision rests with the Senior-most members in the final rating committee members. Again, some CRAs go for voting whereas others consider each input with different weights. Dissent notes are not available for future reference.

Recommendations

1. **Standard Definitions of Default**

   There is no standard definition of default. Practices vary from CRA to CRA. Some consider even a single day's delay as a default. Others consider the grace period in case the debt covenants provide for it. Furthermore, the severity of the delay or default is inversely related to the tenor of the instrument. Delays in coupon payments in case of long-term debt instruments could be condoned or considered more sympathetically. There is a need for a framework to be agreed upon by all CRAs and regulators to have a standardized and operational definition of default.

2. **Comparability of Ratings and Display on Common Site**

   It is felt that the oligopolistic situation in USA has been maintained on account of the differing symbols used by various CRAs there. For a market in India, where financial literacy is at a nascent stage, multiple rating symbols could confuse the investing community. It could also result in 'rating inflation' and foster unhealthy competition. Rating scales, brought under comparable bands, need to be hosted on the websites of SEBI, RBI, IRDA and PFRDA and also on the sites of investors' associations.

3. **Timeliness of Ratings**

   'Rating Outlooks' (both positive and negative) and 'Rating Watch' have a limited life and must be replaced by a firm rating within a reasonable span of time, say a month.

4. **Compulsory Separation of Advisory Services to Separate Companies**

   Some CRAs have a clear-cut policy of staying away completely from services other than credit rating. This is a healthy sign. Yet, some other agencies continue to offer services other than ratings. It is to be ensured that the registered CRA, as a corporate entity, must not engage in any services other than ratings.

5. **Policy on Appeals**

   In the interest of unbiased judgement, it is necessary to constitute an Appeals Committee that is different from the one that was involved in the initial rating exercises.

6. **Policy on External Committees**

   The presence of External Committee Members brings with it a whole baggage of conflict of interest. Some CRAs have demonstrated that it is possible to develop the expertise either with full time employees from the domestic CRAs or in collaboration with the overseas CRAs.

   Alternately, External Committee members could be deployed for providing inputs, leaving the final ratings to an Internal Committee.

7. **Measures to Prevent Shopping for Ratings**

   Issuers attempt to seek informal ratings from various CRAs and pass the final rating mandate to the agency that could potentially offer the highest rating. To curb this unhealthy practice, it is necessary to come to a stage where all ratings, including unaccepted ratings, are published.

8. **Training in Due Diligence Review (DDR), Accounting, and Auditing Standards**

   There is excessive dependence on the auditors and bankers, to corroborate the information provided in the Financial Statements. There is a need to develop DDR skills to assess the overall credit worthiness of an entity. This calls for a national level effort to upgrade the skills of personnel in audit, accounting and credit appraisal. It combines the use of information from formal as well as informal sources. Young potential employees tend to gravitate towards merchant banking and investment management, leaving a paucity of talent in accounting, audit and credit appraisal, which are actually the backbone of financial systems. India is only 2 years away from the implementation of IFRS and the preparedness is woefully lacking, amongst professionals as well as academics. Skills in DDR are a crucial step in reducing asymmetric information.

9. **Operational Audit for CRAs**

   Along the lines of the compulsory Internal Audit for Stock Brokers, it is found necessary to stipulate an Operational Audit to ascertain that the rating processes leave a documentary trail. This could cover details of site inspections, management meetings, rating committee meetings, dissent notes, surveillance and monitoring schedules, minutes of the appeal process. It addresses the basic issue of good housekeeping and could be performed twice in a year. Some CRAs have taken the initiative to appoint a person with the task of Quality Control, and he is involved in all rating exercises.

10. **Interim Financial Reporting must incorporate Debt Equity Ratio**

    To amend the Accounting Standard (AS 25) and the Listing Agreement, so that Interim Financial Statements provide details of Total Debt alongside Net Worth, so as to enable the computation of the Debt: Equity ratio at quarterly (90 day) intervals.

11. **Public Education on Usage of Ratings**

    There is a danger that ratings may be accepted blindly without a self-check or giving due importance to the time gap between two review dates. Ratings are not to be construed as a guarantee. This is true of all intermediaries: Merchant Bankers, Bankers, and Mutual Funds etc – no one can provide a guarantee. Ratings must be one of the inputs in the decision making process. Of course, this does not absolve the responsibility of the CRAs for negligence.

    There is also the practice of issuers using ratings for marketing purposes – exhibited on all their business literature and office stationery.

12. **Policy on Disclaimer on Ratings**

    There could be information gaps that arise due to factors beyond anybody's control. In line with the Risk Factors highlighted on various products, CRAs also need to mention a disclaimer on all rating announcements as well as on the website. This is to the minds of the reader (user) of Ratings to the fact that credit related information is dynamic and subject to changes. Rating disclosures could also mention the latest review date.

13. **Public Disclosure on Ownership Pattern of CRAs**

    It is important for the members of the public to know that the relationship of the CRA is at arm's length with that of the rated entity, in letter and spirit. Hence, shareholding ownership patterns of all CRAs need to be made public.

14. **Policy on Unsolicited Ratings**

    There have been instances in USA where S&P and Moody's have deliberately given low ratings to various issues on an unsolicited basis. This was used as a means of arm-twisting the issuers. This is a classic instance of abuse of independence provided to CRAs. Unsolicited ratings must not be permitted, in case the CRA community makes a representation to this effect in the future.

15. **Code of Conduct for CRAs**

Some CRAs follow the IOSCO Code in addition to the SEBI Code of Conduct. One needs to look at the desirability and uniformity for the IOSCO code adherence in full, in addition to the SEBI Code.

16. **Enforcing Corporate Governance in Spirit**

Bad governance can contaminate financial statements, and hence annul the entire credit rating exercise. It is sad to know that CRAs heavily depend on the audited financial statements and do very little to gain the maximum from cross-verification from formal and informal sources. While this is a lacuna on the part of auditors and CRAs, much needs to be done on Corporate Governance, since a governance code works only on paper. It is much easier and practical for the Regulators rather than CRAs to enforce governance.

At the beginning of this chapter, the Mechanics of Information Asymmetry was described. Good governance is the starting point in order to remedy the situation.

It is necessary for CRAs, Merchant Bankers and Regulators to initiate studies on patterns of deviant behaviour. Some important variables being conglomeracy, forays into real estate & construction, aggressive chase for growth through mergers & acquisitions, leveraged balance sheet size, dictatorial management, 'inner circle of management', cartelization, influence-peddling, unfair trade practices and so on. Put simply, corporate governance addresses the issue of abuse of the corporate structure for personal gain. The links between these traits of bad governance and defaults need to be studied as part of more detailed research. Today, the entire edifice of corporate finance – shareholder wealth maximization is under question. The focus is shifting towards stakeholder satisfaction and societal well being. Auditors and CRAs are the watchdogs of society as also the conscience keepers of the nation, hence corporate governance is even more relevant as the first filter. It is often said, in credit wisdom, that balance sheets do not repay loans – it is the people behind the organization.

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Annexure
Questionnaire for CRA

1 General Information

Respondent Name:

Affiliation:

1. Please provide following informations:

No of Instruments Rated each year	**2006-07**	**2007-08**	**2008-09 (YTD)**
Municipal Bonds			
PSU Bonds			
Corporate Bonds			
Commercial Paper			
Structured Obligations			
IPO			
Corporate Governance			
Bank Loans			
Others (specify)			

2. Provide an illustrative listing of issuers and instruments rated/graded by you"

Issuers	**Instruments**
Sovereign (Governments)	G Sec / T Bills / Bonds
Urban Local Bodies	Bonds
PSU	Bonds
Private Sector Corporations	Debt
Listed Companies	Debt / CP / Loans / IPO / CG
Unlisted entities	Loans
Banks	Bonds / CD
Mutual Funds	Liabilities
Special Investment Vehicles / SPV	Structured Obligations

Note: Please attach a copy of your latest Annual Report

3. List some of the challenges faced during the rating exercises

4. Brief comment on how the challenges were overcome

5. General level of Cooperation extended by assessed firms: Excellent / Very Good / Good / Fair / Poor

    - At first assessment:
    - On renewals

6. Which are the more complex instruments that have come up for rating, over the years?

7. Have you received queries or feedback on your ratings?

    - From sophisticated, institutional investors or regulators or government bodies?
    - From the general public
    - From banks, whose loan applicants are rated

8. How do you deal with queries or feedback in improving your processes?

9. What steps are taken for improving?

    - Dissemination of rating information, clarifying/simplifying rating symbols
    - Investor education on general rating methodology, usage and caveats
    - Any other steps for strengthening the financial system

10. In your opinion, what is the robustness of your rating processes? Excellent / Very Good / Good / Fair / Poor

11. In the light of the current economic turmoil, what improvements or additional factors would you like to consider when rating instruments in future? What are your lessons from the sub-prime crisis in US and Western Europe?

12. What are the general procedures for recruitment, selection, training, retraining and skill development initiatives?

13. What is the level of usage of the following techniques (please mark $\surd$ on apropriate cell)

Technique	**frequently**	**medium**	**sometimes**	**never**
Discriminant Analysis				
Multiple Discriminant Analysis				
Logit/Probit				
Credit Metrics				
Loss Given Default (LGD)				
KMV				

14. How does the CRA create a speedy mechanism to incorporate new information?

15. Does the CRA have an alarm system to provide alerts on significant, relevant events?

16. What is the frequency of a rating exercise and a rating transition? What triggers a review?

17. How does the CRA deal with the conflict in interest between rating and advisory services for the same entity?

18. Have you come across attempts of malpractices by the firms being rated?

    (a) Influencing the ratings or exertion of pressure

(b) Rate shopping

(c) Incentives in the form of assignments that are conflicting in nature?

19. In general, what is the quality of Accounting Information?

20. How is the Accounting Information corroborated or verified from alternate sources?

21. In the light of the Satyam episode, what changes have you made in evaluation processes?

22. What support would CRAs require from policy makers or regulators? Please Suggest.

23. Are there any rules or regulations which are constraining or no longer serve a purpose?

24. Have rating agencies come to a consensus on rating symbols? How feasible is it?

2 Analytical Information

Respondent Name:

Affiliation:

1. How many analysts are assigned to a company in each rating exercise?

2. How many assignments does an analyst handle in a year, on average?

3. What is the average completion time for each rating assignment?

4. List some of the challenges faced during the rating exercises

5. General level of Cooperation extended by assessed firms: Excellent / Very Good / Good / Fair / Poor

   - At first assessment:
   - On renewals:

6. What data does the CRA measure and how do they measure these?

7. What are the general methodologies followed and how does one decide on the choice of methodology?

8. Are CRAs updating skills and knowledge? How effectively have these skills been used?

9. What is the general fit between your individual opinion and the final rating?

10. Quality of Accounting Information over the years: Excellent / Very Good / Good / Fair / Poor

11. In the light of the current economic turmoil, what additional factors would you like to consider when rating instruments in future?

12. What support would you require from policy makers or regulators? Please Suggest.

13. Illustrate a case of rating transitions over a period of time, for each type of instrument, for the following industries:

    (a) Realty

    (b) Construction

    (c) Retail

    (d) Cement

    (e) Steel