CHAPTER - II

REVIEW OF LITERATURE

2.1 INTRODUCTION

Credit rating plays a pivotal role in the decision-making process of stakeholders in the capital market including regulators, issuers and investors. Therefore, it has been focused by the researchers doing research in the field of finance domain on this emerging concept. Many studies have been conducted in the Indian context as well as the global arena on rating methodology, importance of ratings, performance of rating agencies, investors’ awareness, etc. Some of the important studies are reviewed in this chapter.

*Jhon Capeci (1991)* in his study on “Credit Risk, Credit Rating, and Municipal Bond Yields” examined the channels through which a municipality’s credit quality affected its borrowing rate. The study considered both the direct effect of changes in credit quality on changes in borrowing rates and the indirect effect that operated through changes in credit ratings. Both credit rating and borrowing rate respond to fiscal indicators in ways that were consistent with the view that credit market can impose some discipline on municipal fiscal behaviour. The study concluded that the estimated effect of rating changes was large in magnitude, but statistically insignificant and ratings reflected on investors’ behaviour.

\[\text{Jhon Capeci (1991), Credit Risk, Credit Rating, Municipal Bond Yields: A Panel Study, National Tax Journal, 44(4), 41-45.}\]
Wakeman L. Macdonald (1991) in his study “The Real Function of Bond Rating Agencies”, argued that bond rating change announcements provided only information that was already reflected in bond prices. If rating agencies used only publicly available information as the basis for the rating, then ratings or re-rating announcements provided no valuable information to the capital markets. The study concluded that an important role for credit rating agencies may be that of the reputable auditor as well as provider of continual monitoring of bond credit risk.

Duggal S (1992) in his study on “Credit Rating in India - An Emerging Financial Service”, has analysed the relevance of credit ratings in the Indian context and the extent of awareness about the concept of credit rating and the rating agencies in India. The study suggested that the credit rating agencies need to create awareness about their existence and importance.

Shankar T.L., et al., (1992) in their study “Credit Rating: A New Concept in Security Analysis in India”, have evaluated the performance of CRISIL which included the methodology of rating, rating process, rating symbols, etc. Thus, the study suggested that all these flaws in the working of CRISIL should be rectified to make credit rating a more powerful tool which would have greater effect on the capital market in India.

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**Goh J.C and Ederington L.H (1993)** in their study “Is a Bond Rating Downgrade Bad News, Good News or No News for Stockholders?” examined the reaction of stock return to bond rating changes. They tried to explore whether equity shareholders consider all downgrades as bad news or they reacted to it otherwise. Thus, the study inferred that the market reactions to different rating changes should not be treated as similar but their causes must be considered first.

**Patnaik U.C and Narayan G.S (1993)** in their study, “Credit Rating in Indian Corporate Sector”, focused the mechanism of credit rating in India and the procedure adopted by credit rating agencies, viz. CRISIL and ICRA to rate the instruments. The study compared the rating procedure adopted by international rating agency Standard & Poor's with that of CRISIL and ICRA, and explained that the approach adopted by ICRA and S&P was the same as both gave more importance to historical rates and past performance whereas CRISIL attached more importance to the market position, operating efficiency, professional management and future projections of the organization.

**Raghunathan V and Varma J.R (1993)** in their study, “When AAA means B: The State of Credit Rating in India” made an attempt to assess the quality of credit rating in India. A rating assigned by the leading Indian Credit Rating Agency- CRISIL was compared with those of US Rating Agency-Standard & Poor's by using financial ratios. The study suggested

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that to improve the quality of credit rating in India there must be more competition; credit rating must be opened up to the private sector; and raters must provide unsolicited ratings.

*Sarkar A.K (1994)*\(^{10}\) in his study, “Credit Rating in India: A New Feather in the Capital Market's Cap”, suggested that more credit rating agencies should be formed in addition to CRISIL and ICRA to ensure healthy competition among these agencies and to provide better, efficient and effective services to the users.

*Gopal B (1995)*\(^{11}\) in his study “Corporate Credit Rating in India: An Overview”, found that the investors did not take into consideration the rating of debt instruments while investing in the equity shares; and the credit rating agencies were not information specialists as the investors might have taken information from other sources also.

*Kumar P.S.M (1995)*\(^{12}\) in his study, “Credit Rating: An Efficiency Chip to Banks”, found that the rating is based on the status of the industry, its past performance, its future prospects, performance commitments, management strategies and on SWOT analysis. The study revealed the fact that credit rating was an efficiency chip to banks because credit rating of borrowing companies or individuals would help banks to restore and maintain their financial soundness.


**Fayez A. Elayan et al., (1996)** in their study, “The Effect of Commercial Paper Rating Changes and Credit Watch Placement on Common Stock Prices”, estimated the common stock price response to the announcements by Standard & Poor’s of credit watch placement and commercial paper ratings. Their results indicated a negative stock price response to negative placements on the credit watch list and to commercial paper rating reductions. A cross-sectional model was estimated to identify the firms’ characteristics associated with the stock market response. The model results that the stock market response to negative placements of commercial paper on S & P’s credit watch list was related to firms’ liquidity as measured by the current ratio.

**Patrick Behr and André Güttler (1996)** in their study, “The Informational Content of Unsolicited Ratings” analyzed the stock market reaction to the assignment of an initial unsolicited rating. This paper investigated whether the stock market reacted to unsolicited ratings for a sample of firms rated by S&P between January 1996 and December 2005. The study found that the stock market reaction was negative and particularly accentuated for small Japanese firms. Then it analyzed the stock market reaction to changes in unsolicited ratings for a Japanese sub-sample and found that here too the stock market reacted negatively. The results implied that unsolicited ratings conveyed new information to the stock market and that investors reacted to this information. Although unsolicited ratings were based on publicly available information only, the stock market seemed to be inefficient in processing this information for Japanese companies.

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Singh J (1996) in his study, “Credit Rating: An Innovative Financial Service”, explained the conceptual framework of credit rating and its various types of bond rating, equity rating, commercial paper rating, the borrowers’ ratings and sovereign rating. The study assessed the role of credit rating agencies and pointed out that credit rating agencies could meet the needs of corporate borrowers in particular and the common investor in general.

Ravipm C. Srivaree Ratana and Alice E. Smith (1997) in their study, “Alternative Neural Network Approaches to Corporate Bond Rating”, explored neural network approaches to corporate bond ratings using generally available historic data. Bonds were assigned to ratings based on a classification scheme. The financial parameters of the firms that were selected as inputs to the study were, total assets, total debts, long term/ total capital, short-term debt/total capital, current assets/current liabilities, EBIT/interest, Total debt/ Total assets and Profit/ Sales. The data was used on both neural networks and logistic regression. The study results showed that the neural network performed slightly better than the logistic regression in terms of correct classification.

Richard Cantor and Frank Packer (1997) in their study, “Differences of Opinion and Selection Bias in the Credit Rating Industry”, pointed out the regulations used by the private sector credit ratings to determine investment prohibitions and capital requirements for institutional portfolio investments. These regulations implicitly assumed that different

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agencies have equivalent rating scales, despite the fact that some agencies were assigned systematically higher ratings than others. The study assessed the appropriateness of these regulatory practices by testing whether observed rating differences reflected different rating scales or simply resulted from sample selection bias. The analysis revealed only limited evidence of selection bias. The study also covered the types of firms that were most likely to seek ratings from the agencies with higher rating scales. The study concluded that firms sought ratings from these agencies to clear specific regulatory hurdles or to reduce extant uncertainty about default risk.

_Partnoy Frank (1999)_{18} in his study, “The Siskel Ebert of Financial Markets: Two Thumbs Down for the Credit Rating Agencies”, pointed out the paradox that even as the information value of rating agencies declined, the ratings became more important to investors. The study asserted that the reputational capital benefits were less important than the power the rating agencies gained through regulatory rules that depended substantively on credit ratings.

_Rao P.M (1999)_{19} in his study, “Credit Rating”, described that credit rating agencies were gaining importance as information providers to investors, issuers, intermediaries and regulators. He explained the genesis, features and functions of credit rating agencies and revealed that the ratings were opinions of the rating agencies on a specific issue of a corporate entity. Thus, credit ratings encouraged investors to deposit their savings into the capital market activities, which resulted in the productive use of funds and thus enhancing production. So, the author suggested that keeping in view the

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significance of credit rating for both Joint Stock Companies and investing public, the government should enact a law to mandate and popularize credit rating in the Indian public and private corporate sector.

Richard J Kish, et al., (1999)\(^{20}\) in his study, “Does the Market Perceive a Difference in Rating Agencies?”, analysed the two major rating agencies, Moody’s and Standard & Poor’s. The reported perception was that Moody’s was less credible. Thus, the study concluded that the market found value in the ratings from each agency, but that the value was not symmetrical between the two agencies. There was not enough evidence that the market valued one agency over the other.

Reddy Y.V (2000)\(^{21}\) in his study, “Rating: Changing Perspectives”, tried to investigate the changing perspectives and issues of credit rating in India. This also focused on the issues relating to sovereign rating and use of credit rating by regulators especially in banking sector. The study advocated that the appropriate disclosure of information and accounting standards across the board and freedom of expression and independence of credit rating agencies would help in improving the rating system. Further, the credit rating awareness of the investors on the operations of the rating systems should be encouraged to make the credit ratings more viable.

Jan Pieter Krahnen and Martin Weber (2001)\(^{22}\) in their study, “Generally Accepted Rating Principles: A Primer”, pointed out the bank internal ratings of corporate clients were intended to quantify the expected

likelihood of future borrower defaults. This paper developed a comprehensive framework for evaluating the quality of standard rating systems. The researchers suggested a number of principles that ought to be met by ‘good rating practice’. These ‘generally accepted rating principles’ were potentially relevant for the improvement of existing rating systems. It was also relevant for the development of certification standards for internal rating systems.

**Kuhner Christophe (2001)**\(^{23}\) in his study, “Financial Rating Agencies - Are They Readable? – Insights into the Reporting Incentives of Rating Agencies in Times of Enhanced Systematic Risk”, viewed credit rating agencies as information asymmetries. The study suggested that during periods of increased systematic risk, CRAs did have some ability to distinguish between different categories of fundamental credit risk. It indicated that credit rating assignments did not provide any information that influenced decisions made by investors.

**Michel Crouhy, et al., (2001)**\(^{24}\) in their study, “Prototype Risk Rating System”, explored the traditional and prevalent approach to credit risk assessment – the rating system. This paper described the rating systems of the two main credit rating agencies, Standard & Poor's and Moody's. Then it attempted to show how an internal rating system in a bank can be organized in order to rate creditors systematically. The study concluded with adopting a two-tier rating system. First, an obligor rating that can be easily mapped to a default probability bucket. Second, a facility rating that determines the loss

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parameters in case of default, such as (i) “loss given default” (LGD), which depends on the seniority of the facility and the quality of the guarantees, and (ii) “Usage Given Default” (UGD) for loan commitments, which depends on the nature of the commitment and the rating history of the borrower.

**Ferri G and Liu L.G (2002)** in their study, “Do Credit Rating Agencies Think Globally?”, The Information Content of Firm Ratings around the World”, evaluated whether three major world players of rating industry - Moody's, S&P, and Fitch IBCA, conveyed market high quality information on borrowers in both developed and emerging markets by taking database covering three years 1997, 1998 and 1999. The authors observed that in the developing countries there was a close relationship between firm and sovereign ratings but this was not the case with developed countries. They highlighted that the rating criteria used for firms in developing countries did not differ with respect to those reserved for firms in developed countries, thus, the global rating agencies did not think globally. Thus, the authors suggested that the firms in least developed countries (LDCs) should be penalized because of their domicile as low sovereign ratings would cause low private ratings, thus, bringing about high cost of capital in LDCs.

**Du. Y and Suo. W (2003)** in their study, “An Empirical Study on Credit Rating Change Behaviour”, examined the duration effect, momentum effect and rating policy effect on credit rating upgrades and downgrades. Duration is defined as the length of time that the firm has been in current rating, whereas momentum means one rating upgrade or downgrade

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followed by next rating change in the same direction. The data set of study included 1508 firms in total which were assigned ratings by S&P from 1988 to 2001. The authors found that the duration effect on credit rating changes was not fixed but it varied with time. They also found that the downgrading rating momentum existed but there was no evidence for upgrade rating momentum. Further, they highlighted that rating agencies had been adopting strict and restrictive rating policies over time because although there were more downgrades than upgrades in the studied years, yet they did not observe much defaults related to that. So, downgrades did not necessarily mean larger probabilities of defaults.

*Elayen, Fayez et al., (2003)*\(^{27}\) in their study, “The Informational Content of Credit Rating Announcements for Share Price in a Small Market”, examined the market reactions to announcements of credit rating assignments, placements and rating actions for debt issued by New Zealand Companies. The purpose of this study was to investigate whether firms in a small and possibly ‘neglected’ market like New Zealand benefit from the certification provided by an international credit rating agency. The study considered three types of credit rating announcements, namely, rating assignments, credit watch placements and rating actions. The study concluded that credit watch placements and rating actions significantly impact the share prices in New Zealand market. It also supported that international rating agencies serve to fill the gap in the information publicly available to investors.

Emawtee Bissoondoyal and Bheenick (2004) in their study, “Rating Timing Differences between the two Leading Agencies: Standard and Poor and Moodys”, examined the impacts of rating change timing differences between the two leading agencies, namely, Standard and Poor's and Moody's with particular focus on the stock market impact of Standard and Poor's Foreign Currency rating changes and Moody's Bonds and Notes rating changes. The findings indicated that the rating change announcements do not impart additional information to the market. An interesting finding was that joint downgrades seem to impact on the market only in-between the announcement dates for the two agencies. In addition, the reason of the rating change needs to be taken into consideration to assess the stock market reaction to rating changes.

Azahagaiah (2004) in his study, “Credit Rating Practices and Problems”, made an attempt to highlight the practices and problems of credit ratings in India. The researcher studied the perceptions of Indian investors and revealed that out of various investment options, maximum investors preferred company deposits. The analysis indentified that majority of investors made investment decisions based on credit ratings. The study also revealed that majority of investors depended on CRISIL ratings followed by those of ICRA. The study concluded that even though with many problems, the issue with a credit rating had more chances of getting subscribed than that without a credit rating.

Edward I. Altman and Herbert A. Rijken (2004)\textsuperscript{30} in their study “How Rating agencies achieve rating stability” analysed the use of agency credit ratings and found that some investors believe that rating agencies were relatively slow in adjusting their ratings. In this regard, the study focused on the impact of the long-term default horizon and the prudent migration policy on rating stability from the perspective of an investor with no desire for rating stability. This was done by benchmarking agency ratings with a financial ratio-based agency rating prediction model and (credit-scoring) default-prediction models of various time horizons. The study investigated rating-migration practices. It also concluded that agency ratings were focused on the long-term investment horizons. In contrast to one-year default prediction models, agency ratings place less weight on short-term indicators of credit quality. The final result was a better quantitative understanding of the through-the-cycle methodology.

Jeffery D. Amato and Craig H. Furfine (2004)\textsuperscript{31} in their study, “Are credit rating procyclical?”, studied the influence of the state of the business cycle on credit ratings. In particular, the study assessed whether rating agencies were excessively procyclical in their assignment of ratings. The analysis was based on a model of ratings determination that took into account factors that measure the business and financial risks of firms, in addition to indicators of macroeconomic conditions. Utilizing annual data on all US firms rated by Standard & Poor’s, the study results showed that the ratings did not generally exhibit excess sensitivity to the business cycle. In addition, documents that previously reported findings of a secular tightening


of ratings standards were not robust to a more complete accounting of systematic changes to measures of risk.

Katiuscia Manzoni (2004)\textsuperscript{32} in his study, “Modeling Eurobond Credit Ratings and Forecasting Downgrade Probability”, proposed an empirically tested a two-step model to forecast the downgrade probability of sterling-denominated Eurobonds. In the first step, the conditional expectation of credit rating was estimated, employing an ordered probit. In the second step, the likelihood of downgrade was modeled using credit rating, as obtained from the conditional mean in the first step, alongside with traditional operating measures in a binary-probit framework. By parameterizing a system of two equations, it was able to accommodate the disentangled effect of credit quality and company financial information on the downgrade risk. The study found out evidence of a nonlinear response to shifts in both credit rating and leverage. The model's forecasting performance was ascertained by means of cross validation and was benchmarked against both a naive model and a neural network model.

Edward I. Altman (2005)\textsuperscript{33} in his study, “An Emerging Market Credit Scoring System for Corporate Bonds”, introduced a scoring system (EMS Model) for Emerging Corporate Bonds. The scoring system provided an empirically based tool for the investor to use in making relative value determinations. The EMS Model was an enhanced version of the statistically proven Z-Score model. The adjusted EMS Model incorporated the particular credit characteristics of emerging market companies, and was best suited for


assessing relative value among emerging market credits. The model combines fundamental credit analysis and rigorous benchmarks together with analyst-enhanced assessments to reach a modified rating, which can then be compared to agency ratings and market levels. The study included a description of Mexican company credits, first from prior to the Mexican crisis then followed, in some cases, to a more recent date.

_Gill S (2005)_\(^{34}\) in her research paper, “An Analysis of Defaults of Long-term Rated Debts”, made an attempt to examine the performance of ICRA on the basis of average default rate. The study related to the long-term debt instruments over a period of seven years from 1995-2002. The author brought out that ICRA’s performance about the companies rated by it had not been up to the mark and default on ICRA rated long-term debt instrument were the highest in the manufacturing sector followed by the financial sector. Further the study found that many of the debt issues that defaulted during the period were placed in ICRA’s 'investment grade' until just before being dropped into 'default grade'. So, the author suggested that excessive reliance on credit ratings should be reduced and proper steps should be taken to make the working of credit rating agencies more accountable.

_Michael Doumpous and Fotios Paslouras (2005)_\(^{35}\) in their study, “Developing and Testing Models for Replicating Credit Ratings: A Multimedia Approach”, developed an appropriate model to replicate the credit ratings issued by the rating agencies. The analysis was based on multi criteria classifications method used in the development of the model. Special focus was laid on testing out of time and out of sample effectiveness of the


models and a comparison was done with other parametric and non-parametric classification methods. The study concluded that using publicly available financial data was possible to replicate the credit ratings of the firms with a satisfactory accuracy. The researcher underlined that, the credit scoring/rating models that replicate credit rating provided useful insights on the structural components of these ratings, their relationship to the financial performance of the firms, and the changes observed overtime.

**Upadhye J (2005)**\(^{36}\) in his study, “Changing Perspectives of Credit Rating in India”, discussed the various factors being taken into consideration by rating agencies which included past performance, profit turnover, cash flow and fund flow, nature of competition, etc. and various types of ratings being done by ICRA. The study also gave details of various Credit Rating Agencies in India like CRISIL, ICRA, CARE, and ONICRA. The author criticized the working of these agencies and suggested that a standardized fee structure and standardized rating grades should be adopted by all rating agencies in order to simplify the procedures.

**Ginvanni Buter and Robert Faff (2006)**\(^{37}\) in their study, “An Integrated Multi-Model Credit Rating System for Private Firms”, developed an integrated credit risk modeling approach for private firms which fulfilled Basel accord requirements in the case of adoption of the foundation approach. The model comprised two things namely, (a) a bottom up technique to initially assess through the cycle one year probability of default and (b) a top down approach to refine and calibrate this historical PD in a

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forward rate looking credit risk assessment. The study further comprises of foregoing issues as business cycles were important, impact on different economic sectors in varying magnitudes, impact on different economic sectors with varying lags and mixed discretion and the economic conditions at the time of evaluation of loan. Thus the study highlighted the considerable variations possible with macro economic adjustment, in the context of four phased default clock characterization.

*Sudha Vepa (2006)*\(^{38}\) in her study, “Credit Rating of Corporate Debenture in India”, investigated the concept of credit rating of debt obligations of companies and its purpose. It identified that, one of the means used for financing the needs of private sectors was the debentures. The study examined the corporate debenture issues made by the private sectors were closely associated with the happenings in the capital market. The study explored that credit rating of debentures was primarily introduced as a regulatory requirement but now it was a result of investor demand.

*Sudha Vepa (2006)*\(^{39}\) in her study, “Credit Rating Methodologies in India and Abroad”, provided the indicative guidance to the prospective investors in fixed income securities on the degree of risk involved in timely repayment of principal and interest. A rated security was placed higher in the estimation of investor than the unrated security irrespective of better financial standing or reputation of the issuer or sponsor company or business house. Credit rating methodology referred to the use and application of tools in the rating process. The study concluded that the methodologies followed

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in India and abroad by the CRS’s were similar in many respects. The CRAs have overall been successful in predicting the probability of issuer default.

William H. Beaver, et al., (2006)\textsuperscript{40} in their study, “Differential Properties in the Ratings of Certified Versus Non-certified Bond Rating Agencies”, examined whether the properties of bond ratings from certified agencies differed from those of non-certified bond-rating agencies. Bond ratings from non-certified agencies were used solely for investment advice. Certified ratings were used by a variety of constituents, many of whom write contracts incorporating these ratings. The study identified that, the properties of the ratings from the two agency types differed in predictable ways. The results showed that the non-certified agency's ratings were consistent with their role of providing information to investors. The certified agencies were generally more conservative, consistent with their significant role in contracting.

Hans Byström and Oh Kang Kwon (2007)\textsuperscript{41} in their study “A Simple Continuous Measure of Credit Risk” introduced a simple parameterization for the risk-neutral default probability distributions for risky firms that were easily computed from quoted bond prices. The corresponding expected times to default had a particularly simple form and were proposed as a measure for credit risk. Being continuous in nature, times to default provided a much finer measure of risk than those provided by ratings agencies. Comparison with the rating provided by Moody's and the distance to default measures calculated using the Merton model showed that the highest rank correlation


was found between the proposed time to default measure and Moody's ratings.

*Miles Livingston, et al., (2008)* in their study, “Split bond rating and rating migration”, examined the relationships between split ratings and ratings migration. The study found that bonds with split ratings were more likely to have future rating changes. It also identified that one-year rating transition matrices were significantly different between non-letter-split rated bonds and letter-split rated bonds, and showed that the difference has an economically significant impact on the pricing of credit spread options and risk management models. It suggested that split ratings contain important information about subsequent rating changes.

*Deniz Coskun (2008)* in his study, “Credit Rating agencies in a post-enron world”, developed an overview of regulatory reforms in the U.S. credit rating industry. The study explicated the developments that accelerated the regulatory reform in the credit rating industry. In addition, credit rating agencies were subject to examination and extensive documentation retention and management programme. The study concluded that the credit rating agencies remain prominently in the spotlight of national, federal and international securities regulators.

*Heng An and Kam C. Chan (2008)* in their study, “Credit Rating and IPO Pricing”, examined the effects of credit ratings on IPO pricing. The

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evidence from U.S. common share IPOs during 1986–2004 showed that when firms go public, those with credit ratings were underpriced significantly less than firms without credit ratings. Credit rating levels, however, did not have a significant effect on IPO underpricing. The existence of credit rating reduced the uncertainty about firm value. Credit ratings also reduced the degree of price revision during the book building process and the aftermarket volatility in the post-IPO period. The evidence suggested that credit ratings conveyed useful information in reducing value uncertainty of the issuing firms as well as information asymmetry in the IPO markets.

**Jain T and Sharma R (2008)**\(^{45}\) in their study, “Credit Rating Agencies in India: A Case of Authority without Responsibility”, examined the working of credit rating agencies in the light of the role played by them in the capital market as information disseminators. The study identified conflicts of interest affecting the rating decisions and the manner in which the regulations have attempted to address them. Further, they also studied the regulatory framework for credit rating agencies in India.

**Mohammed A. Elbannan (2008)**\(^{46}\) in his study “Quality of Internal Control Over Financial Reporting, Corporate Governance and Credit Ratings”, examined whether firm credit rating was associated with the quality of internal controls over financial reporting using a sample of firms disclosing internal control weakness during the period 2003 to 2005. The study identified that the firms with low internal control quality were more


likely to have lower credit ratings, speculative grade rating, smaller size, lower profitability and lower cash flows from operating activities, higher income variability and higher leverage than firms with higher quality controls. Finally, the study suggested that corporate governance strength was positively related to internal control quality. In addition regulators were advised to take into consideration the potential effect of legislation on firm credit rating and internal control quality.

Reddy R.B and Gowda R.M (2008) in their study, “Some Aspects of Credit Rating: A Case Study”, highlighted the basis of credit rating and credit rating practices prevalent in India. In this regard, the opinions of sample investors from Hyderabad were taken. The results of the study inferred that majority of the investors were aware of the existence of various credit rating agencies including CRISIL, CARE, ICRA, etc. About 40 per cent of the investors depended on credit rating for their investment in debt instruments but more than 50 per cent of them relied on CRISIL for their investment than the other credit rating agencies. The study worked out that though there was confusion among various investors due to the existence of more than one credit rating agency but majority of them were satisfied with the guidance of credit rating agencies.

Rolf H. Weber and Aline Darbellay (2008) in their study, “The Regulatory Use of Credit Ratings in Bank Capital Requirement Regulations”, indicated the regulatory use of credit rating over the recent developments in International bank capital requirement regulations. The study explored that the rating based regulations had negative effects on the

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financial markets. The study also analysed its effects on the credit rating industry as well as on the banking business. It concluded that the regulators of credit rating should reconsider the use of credit ratings in financial market regulations to have better impact on the banking sector.

**Thomas Mahimann (2008)** in his study, “Rating Agencies and Role of Rating Publication Rights”, explored that in the investors’ perspective, strategically rated firms and unrated firms were pooled, unrated firms’ debt was always under-valued when compared to a situation in which investors know that the firm was not rated and the debt of firms concealing their rating was always over-valued.

**Winnie P.H. Poon and Kam C. Chan (2008)** in their study, “An Empirical Examination of the Information Content of Credit Ratings in China”, examined the certification effect of initial rating announcements and the signaling effect of rating downgrade announcements in China using a pooled time-series cross-sectional issuer rating data of 170 companies listed on the Shanghai and Shenzhen Stock Exchanges from 2002 to 2006. The empirical evidence supported the hypothesis of an asymmetric certification effect. The empirical findings suggested that, although there were some qualitative arguments that credit ratings in China did not have information content. In addition, the study referred that when normally a positively biased rating agency gave a low rating, it was valuable news to market participants.

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Angus Duff and Sandra Einig (2009)\(^5\) in their study, “Understanding Credit Ratings Quality: Evidence from UK Debt Market Participants”, explored i) the demand for corporate bond ratings provided by CRAs; (ii) how issuers select CRAs; and (iii) to better understand ratings quality, a term widely used by commentators, politicians and regulators, but under-explored in the academic literature. Interviews identified that the principal source of demand for rating information was to reduce agency conflicts between issuers and investors. Issuers typically engage between one and three credit ratings agencies to rate their debt, implying a heterogeneous demand for ratings services, and different levels of ratings quality. However, ratings quality extended beyond competence and independence to include factors relating to professional judgment, communication, transparency, and the quality and continuity of analytic staff. The study findings were discussed in the light of the ongoing international policy debate concerning CRAs.

Bhattacharyya M (2009)\(^5\) in his study, “A Study of Issuer Rating Service with an Appraisal of ICRAs Rating Model”, made an attempt to evaluate the performance of credit rating agencies in India including CRISIL, ICRA, CARE and FITCH. Secondary data relating to long-term debt instruments from time period 2000-08 was used for the purpose of the study. The analysis of the study brought out that during the given period there was a substantial increase in the rating business in India. During the study period, the maximum percentage of instruments rated was assigned the


investment grade rating. As far as rating revisions are concerned, the study depicted that the downgrades were more than double the upgrades both in terms of number of instruments and the volume of debt. This depicted that the ratings were issuer biased. So, the authors suggested that stringent methods should be adopted to avoid frequent downgrades. The study further highlighted that among the agencies which maintained the stability of ratings, Fitch India Ratings held the top most position followed by CRISIL, ICRA and CARE in line.

Mei Cheng and Monica Neamtiu (2009)⁵³ in their study, “An Empirical Analysis of Changes in Credit Rating Properties: Timeliness, Accuracy and Volatility”, pointed out that the credit rating agencies faced increased regulatory pressure and investor criticism for their ratings’ lack of timeliness. This study investigated whether and how rating agencies responded to such pressure and criticism. It identified that the rating agencies not only improve rating timeliness, but also increased rating accuracy and reduced rating volatility. The findings supported the criticism that, in the past, rating agencies did not avail themselves of the best rating methodologies/efforts possible. When their market power was threatened by the possibility of increased regulatory intervention and/or reputation concerns, rating agencies responded by improving their credit analysis.

Rom Mark Cart (2009)⁵⁴ in his study, “The Credit Rating Agencies and the Subprime Mess: Greedy, Ignorant and Stress?”, described that the

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credit rating agencies were an important component of the subprime mess. It outlined the types of mortgage securities that the CRAs rated and outlined the evolution of subprime mess. The study assessed three subprime suspects in the CRAs problems: incentives, ignorance and stress. The study concluded that all the three factors were important, that public officials were slow to react, and that additional safeguards were put in place to prevent such problems in the future.

Christina E. Bannier and Christian W. Hirsch (2010) in their study, “The Economic Function of Credit Rating Agencies: What does the watch list tell us?”, analyzed the economic function underlying the review procedure of credit rating agencies by using Moody’s rating data between 1982 and 2004. Credit rating agencies did not only disclose simple ratings but also announced watch lists (rating reviews) and outlooks as well. This study found that, for borrowers of high creditworthiness, rating agencies employed watch lists primarily in order to improve the delivery of information. For low-quality borrowers, in contrast, the review procedure seems to have developed into an implicit contract inducing the companies “on watch” to abstain from risk-augmenting actions. In addition, the results also showed that the agencies’ economic role hence appeared to have been enhanced from a pure information certification to an active monitoring function.

Emilios C. Galariotis (2010) in his study, “Informational Efficiency of Credit Default Swap and Stock Markets: The Impact of Credit Rating

Announcements”, explored the response of stock and Credit Default Swap (CDS) markets to rating announcements made by the three major rating agencies during the period 2000-2002. Applying event study methodology, the researcher examined whether and how strongly these markets responded to rating announcements in terms of abnormal returns and adjusted CDS spread changes. First, the study found that both markets not only anticipate rating downgrades, but also reviewed for downgrade by all three agencies. Second, a combined analysis of different rating events within and across agencies reveals that reviews for downgrade by Standard & Poor’s and Moody’s exhibited the largest impact on both markets. Third, the magnitude of abnormal performance in both markets was influenced by the level of the old rating, previous rating events and, only in the CDS market, by the pre-event average rating level of all agencies.

_Tobias Johanson (2010)_57 in his study, “Regulating Credit Rating Agencies: The issue of conflicts of interest in the rating of structured finance products” examined the financial crisis on structured finance products of credit rating agencies. This paper explored the ongoing debate about regulation of CRAs, with a focus on the issue of conflicts of interest in the rating of structured finance products. There had been a high degree of reliance on ratings from both the market and the regulators, but at the same time, only limited accountability for the CRAs. The study put forward three proposals namely: the adoption of global principles-based rules book, equal treatment of malfeasance and less reliance on rating. These proposals would contribute to a more efficient and resistant financial system.

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Ana-Maria Minescu (2010)\textsuperscript{58} in his study, “The Determinants of Sovereign Credit Rating: A Worldwide Study”, determined the relationship between sovereign credit ratings and various determinant factors for a sample of 82 worldwide countries during the period 1996-2008. The study employed regression analysis to assess the explanatory power of several factors. It slightly underestimated the higher ratings and overestimated the lower ratings. This study finally concluded that, the following factors were relevant and found explanatory variables such as GDP, inflation, default history and corruption.

Arun T.J (2010)\textsuperscript{59} in his study, “A Study on Impact of Credit Rating on Investment Decisions of Investors in Tamilnadu”, has studied the impact of credit rating on investment decisions of investors in Tamilnadu. The study found that investors belonging to middle income group had more perception on credit rating and rating agencies. The investors those who took investment decision on the basis of credit rating ultimately had more perception on credit rating and rating agencies.

Bheemana Gouda and Madegowda J (2010)\textsuperscript{60} in their study, “Working of Credit Rating Agencies in India: An Analysis of Investors’ Perception”, analysed the opinion of investors on the working of credit rating agencies in India and offered some suggestions to enable the rating system to be efficient and effective. There was a mixed response from the investing class as to the rating surveillance by the rating agencies. Further,


there was also criticism against the working of rating agencies. This criticism centers around the rating agencies of not showing much interest in the surveillance as compared to the interest they show at the time of initial rating. This was due to lower fees for surveillance when compared to initial rating fees. The rating agencies have to take up the rating surveillance with all seriousness to gain the confidence of investors as otherwise the very purpose of the entire exercise will be defeated.

*David P Stowell (2010)* in his study, “Credit Rating Agencies, Exchanges and Clearing and Settlement, An Introduction to Investment Banks, Hedge Funds and Private Equity” focused on the credit rating agencies, exchanges, and settlement that played a very important role in the business of investment banking by assigning credit ratings to debt issuers and their debt instruments. Debt instruments included bonds, convertible bonds, and loans. In addition, credit rating agencies assigned ratings to structured finance securities that were backed by various types of collateral. Structured finance included asset-backed securities; residential and commercial mortgage backed securities, and collateralized debt obligations. Investment banks worked closely with credit rating agencies when developing structured finance products in order to secure targeted ratings for these securities. The ratings process involved an analysis of business risk, including competitive position within the industry, diversity of product lines, and profitability compared to peers; and financial risk, including accounting, cash flow financial flexibility, and capital structure considerations. The rating reflected the issuer's credit worthiness (ability to repay the obligation), which affected the interest rate or yield applied to the security being rated.

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These ratings were used by investors, banks, and governments as an input into their investment, loan, and regulatory decisions. The study explored the increased efficiency in the market, lowering the costs for borrowers, investors and lenders, and expanding the total supply of capital.

*Lawrence J White (2010)* in his research, “Market Rating Agencies” explored the financial regulatory structure propelled by the popular credit rating agencies namely, Standard and Poor, Moody’s and Fitch to the centre of the U.S. bond markets. The study also virtually guaranteed that if these rating agencies did mistakes, it would have serious consequences for the financial sector. The study identified that the two routes followed by rating agencies where one route would tighten the regulators of the rating agencies, while other route would reduce the required centrality of the rating agencies and thereby open up the bond rating process.

*Vandana Gupta, et al., (2010)* in their study, “The role of credit rating agencies in the sub-prime crisis”, have traced the development of the sub-prime crisis from its origin till the aftermath. It studied the weaknesses of credit rating agencies in performing their basic function of timely and accurate rating of bond obligations. The paper then scrutinized the diversification of credit rating agencies into the structuring and rating of complex securitized products. This raised the fundamental issue of the independence and accountability of these agencies. The paper came to the conclusion that appropriate changes in the regulatory framework of credit rating agencies were necessary to help avert similar crises in the future.

Khyser Mohd (2011)\(^6^4\) in his study, “Performance of Credit Rating Agencies in India: A Perceptual Study of Credit Rating Agencies”, focused on the assessment of overall performance of rating agencies in India from the agencies point of view. The analysis of the perception of agencies had made it very clear that the role of rating agencies was prominent and prospective in India. The study identified that the credit rating agencies would judge the credibility of the issuer, performance of an instrument as well as profitability of a company. The credit rating agencies firmly believed that credit rating would act as a marketing tool in creating the company’s image. Further, the analysis revealed that all the services, i.e., information services, advisory services and research services were equally preferred by investors or borrowers apart from credit rating services.

Koresh Galil and Gil Soffer (2011)\(^6^5\) in his study, “Good News, Bad News and Rating Announcements: An Empirical Investigation”, employed a new approach to test the contribution of information in rating announcements. This was the first study to test and corroborate how the CDS market responds to rating actions after controlling the presence of concurrent public and private information. This study explained that, since the clustering of rating announcements characterized economically significant developments, the common practice of using “uncontaminated” samples underestimated market response. The findings of the study were that, the market response to bad news was stronger than to good news.


Nevertheless, bad news and negative rating announcements tend to cluster. Therefore, the residual contribution of negative rating announcements was small and in some cases insignificant. Positive rating announcements were less frequent and less clustered, though their residual contribution was still significant.

*Peter N. Posch (2011)*\(^{66}\) in his study, “Time to Change, Rating Changes and Policy Implications”, explored the recent financial crisis that manifested the criticism about rating agencies of being slow in adjusting their rating to current conditions. This study examined the timeliness of rating changes and identified factors which resulted in ‘stickiness’ of rating actions. Knowledge of the stickiness of rating agencies was a first step in designing a more appropriate rating system. Stickiness was characterized by not adjusting the rating even when a market-based estimate of default probability changes. Extending an econometric model of friction the migration policy was modelled in terms of thresholds which had to be crossed by default probability estimates before an up- or downgrade occurred. Default probability estimates have to change by two notches before the rating agency reacted. The timeliness differed across the rating spectrum and over the years. During periods with high defaults and for low credit quality firms agencies tended to rate more timely.

*Piet Duffhues and Wim Weterings (2011)*\(^{67}\) in their study, “The Quality of Credit Ratings and Liability: the Dutch View”, focused the criticism referred as the information transformation function of CRAs.

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While performing functions by CRAs, they co-ordinate the decision of investors and the conduct of the issuers of loans. The study concluded that the characterization of CRAs did not conflict with the traditional view of information asymmetry. The CRAs must be allowed a certain degree of discretion in producing their credit ratings. In addition, the agencies would be specified and made concrete by reference to these factors objectivity, independence and professional competence with due care.

**Simon Hu (2011)** in his study, “Convergence of Audit and Credit Rating Practices: Going Concern Rating”, has predicted the systematic risk in the global audit and credit rating markets. The study covered the silo approach of current debate on audit and credit rating by exploring the potential benefits of convergence of credit rating practices such as going concern rating (or audit rating) with notching relationship to issuer credit rating. It was an alternative practice platform for auditors and credit rating agencies to form strategic alliances, and use of innovations insurance solutions to mitigate catastrophic litigation risks in order to facilitate the capital formation for such audit credit rating alliances. The study concluded that the presence of Big 7 in the global financial reporting supply chain would greatly reduce the systematic risk that persisted in the audit and credit rating market dominated by Big 4 and Big 3 respectively. Finally, it helped investors to decide the type, format and conveyance method that would deliver the most relevant, accurate financial information.

**Beatriz Mariano (2012)** in his research, “Market Power and Reputational Concerns in the Ratings Industry”, studied the incentives of

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rating agencies to reveal the information that they obtained about their client firms. In the model, rating agencies sought to maximize their reputation and protect their market power. The study pointed out that public information and obtained either precise or noisy private information about a firm. Reputational concerns dictated that a rating reflected private information when it was precise. However, when private information was noisy, two situations arose. In a monopoly, the rating agency may ignore private information and issue a rating that conforms to public information. Under some conditions, it might even become cautious and issue bad ratings ignoring both types of information. The study highlighted that, with competition, however, it had incentives to contradict public information as a way to pretend that it held precise private information. Moreover, it could become more likely to issue good ratings in an attempt to protect market power.

Christian C. Opp, et al., (2012) in their study, “Rating Agencies in the Face of Regulation”, have discussed ratings issued by credit rating agencies and its dual role. The study was provided information to investors and used to regulate institutional investors. The study showed that, introducing rating-contingent regulation that favored highly rated securities may increase or decrease rating informativeness, but unambiguously increased the volume of highly rated securities. If the regulatory advantage of highly rated securities was sufficiently large, delegated information acquisition was unsustainable, since the rating agency preferred to facilitate regulatory arbitrage by inflating ratings. The study reconciled and concluded

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that, the rating informativeness and the quality distribution of issuers, the complexity of assets, and issuers’ outside options.

Giuliano Iannotta, et al., (2012)\textsuperscript{71} in their study, “Do Investors care about credit ratings? An analysis through the cycle”, investigated how the credit cycle affects the link between bond spreads and credit ratings. Using a simple model of the credit assessment process, it showed that when the debt market was more opaque, the information content of ratings deteriorated; creating an incentive for investors to increase the amount spent on private information. The researcher tested this hypothesis empirically. The results showed that when market openness increased, the explanatory power of ratings and other control variables deteriorated as investors increasingly price in non-public information.

Jin Chuan Duan and Elisabeth Van Laere (2012)\textsuperscript{72} in their study, “A Public Good Approach to Credit Ratings from Concept to Reality”, introduced a new approach to credit ratings undertaken by the Risk Management Institute at the National University of Singapore that predicted on the provision of credit ratings as a public good. With a public good alternative in place, the currently predominant profit business model may be counterbalanced. Reforming the credit rating industry had become an important policy issue. In addition to the regulatory efforts in the context of accepting the for profit business model of ratings, there was a growing realization that credit ratings bear the characteristics of a public good. Financial market participants need reliable, transparent and independent


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assessment of credit risks. Credit ratings were, therefore, better viewed as an infrastructure matter.

Venkateshwara Kumar K.S. and Hanumantha Rao S (2012)\textsuperscript{73} in their research, “Credit Rating Role in Modern Financial System”, analysed the credit rating role in modern financial system. Credit rating business in India was a sweet spot as it was on the cusp of robust growth potential driven by the triggers. Strong apex cycle in Indian economy, lower penetration of corporate bond market and regulatory push due to implementation of Basel II norms. Besides, qualitative aspects like management capabilities also play a considerable role in determining rating. Analytical framework of rating act as yardstick to evaluate the business of financial risks associated with the entity. The study concluded that the entities had a strong credit rating system in place to ensure smooth operation for the entity chain.

Schroeter U.G. (2013)\textsuperscript{74} in his study, “Ratings and Credit Rating Agencies, Handbook of Key Global Financial Markets”, explored the characteristics of credit rating agencies and their credit ratings. The study addressed possible objects of credit ratings, the business models of credit rating agencies (including the conflicts of interest potentially resulting therefrom), the functions of credit ratings and credit rating agencies, the oligopolistic structure of the credit rating agency market, and the present legal regulation of credit rating agencies. The study analysed the role both play on the global financial markets focuses on the increasing importance


legal regulation had gained in the context of credit ratings, it happened due to the increase in regulation through credit ratings and the ongoing discussion about the regulation of credit rating agencies.

Winnie P.H. Poona, et al., (2013)\textsuperscript{75} in their study, “Does having a credit rating leave less money on the table when raising capital? A Study of Credit Ratings and Seasoned Equity Offerings in China”, examined the impact of unsolicited credit ratings on seasoned equity offering (SEO) under pricing in China using issuer credit rating data of listed companies on the Shanghai and Shenzhen Stock Exchanges for the period 2002 to 2009. The study found that the under pricing of an SEO firm that receives a speculative-grade credit rating was not significantly different from an SEO firm with an investment-grade rating. Thus, SEO firms appeared to benefit from receiving an unsolicited rating. In general, credit ratings reduced information asymmetry and hence left less money on the table when raising capital. This might lead firms to actively solicit credit ratings in the future, especially those who planned to access the capital markets.

\section*{2.2 RATIONALE FOR THE PRESENT STUDY}

The above studies concentrated on various issues relating to credit ratings in India and abroad. These studies discussed various facets of credit rating agencies such as theoretical framework of credit ratings, default in ratings, bias in ratings, rating mechanism and investors’ awareness on credit rating agencies and others. The studies rarely highlighted the investors’ opinion on credit rating agencies. There was no comprehensive study to

\footnotetext{\textsuperscript{75} Winnie P.H. Poona, Kam C. Chanb and Michael A. Firtha (2013). Does having a credit rating leave less money on the table when raising capital? A Study of Credit Ratings and Seasoned Equity Offerings in China, Pacific-Basin Finance Journal, 22, 88-106.}
analyse the investors’ awareness and their attitude towards performance of credit rating agencies. These studies failed to measure:

i) What was the level of awareness among the investors with respect to credit ratings?

ii) What were the predominant factors that influence the performance of credit rating agencies?

iii) What was the attitude of investors’ towards performance of credit rating agencies?

iv) How the demographic factors and investment pattern were influence the performance of credit rating agencies?

v) What were the problems encountered by the investors with respect to credit ratings?

These issues have not yet been addressed by the earlier studies on credit rating agencies. In the pursuit of maintaining consistency and continuity, there is a dire need for regular surveys so that it would become possible to outline the existing gaps with a view to stimulate future studies in the proper direction. Bearing this in mind, the researcher has made an attempt to address the above said issues in the study area and hence, the present study.