

**IMPACT OF CORPORATE GOVERNANCE PRACTICES ON
FIRM'S CAPITAL STRUCTURE DECISIONS: AN
EXPLORATORY STUDY IN INDIAN CONTEXT**



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JULY, 2017

DECLARATION

I, **MOMINA BUSHRA**, Research Scholar and the author of this thesis, do hereby solemnly affirm and declare that this research work entitled “**IMPACT OF CORPORATE GOVERNANCE PRACTICES ON FIRM’S CAPITAL STRUCTURE DECISIONS: AN EXPLORATORY STUDY IN INDIAN CONTEXT**”, submitted by me for award of the **Degree of Ph.D.** from **Babasaheb Bhimrao Ambedkar University (A Central University)**, is my original research work, which I have completed under the guidance and supervision of **Dr. Kushendra Mishra**, Head, School for Management Studies, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow. I hereby declare that this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that this thesis or any part thereof has not been submitted to any other university or institute for award of any other degree or diploma.

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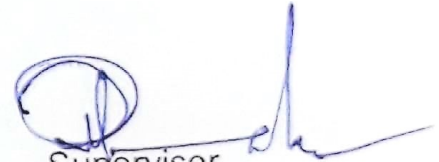


CERTIFICATE

This is to certify that the thesis titled "**IMPACT OF CORPORATE GOVERNANCE PRACTICES ON FIRM'S CAPITAL STRUCTURE DECISIONS: AN EXPLORATORY STUDY IN INDIAN CONTEXT**" submitted by Ms. Momina Bushra is an original research work and has not been previously submitted in part or full for the award of any other degree or diploma to this or any other university.

The thesis submitted to Babasaheb Bhimrao Ambedkar University Lucknow satisfies all the requirements as stipulated in the *Doctor of Philosophy (Ph.D.) regulations -1999 as amended in 2008/2010/2013* and it is fit for submission and evaluation for the award of the degree of Doctor of Philosophy of the University.

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PREFACE

Corporations play a crucial role in ensuring fast-paced socio-economic growth and development of any country. India opened up its economy in 1991 which brought up the growth initiators viz. liberalization, privatization and globalization. With the advent of these events, Indian market became more reachable for domestic as well as foreign corporates which was vitally imperative for the growth and survival of the economy. On one hand, these events facilitated firms to have access of funds from capital market but on the other hand, it also brought certain issues. Corporate scams were certainly one of those issues. Indian economy saw a number of scams since then, which brought about the issue of corporate governance into a realm for everyone to discuss. Some of the major scams included Harshad Mehta scam (1992), UTI scam (2001), Ketan Parekh scam (2001), Satyam Fraud case (2009), Speak Asia (2011) Reebok India scam (2012), National Spot Exchange Ltd Scam (2013), Shardha group (2013), Sahara group (2014), Kingfisher money laundering case (2015), & the latest Ricoh India (2016). Such scams forced the regulatory body to pay more focus on the impending requirements and efficacy for an appropriate analysis of companies' financial statements and to provide guidance to the investors in their financial decisions.

This is well accepted that companies with superior corporate governance system create trust and goodwill amongst the investors that enables them to procure funds at most reasonable costs. Investors always inclined to invest in a firm which is safe and transparent in all its transactions. Corporate governance practices relating to financing decisions provide a trade-off between shareholders and stakeholders by selecting an optimal capital structure. There is no one right answer of what exact amount of debt and equity should be employed to form an optimal capital structure. But it is always recommended, not to include high debt in capital structure as it decreases the tax advantage and increases the overall cost of capital. Therefore, selecting the wrong combination of capital structure could lead to financial distress and scams/frauds.

Even the best standards cannot prevent instances of major corporate misconducts. The major characteristics of standards and norms in India are imported from the

jurisdiction of other developed countries. Every country is different in terms of social, economic, cultural and legal environment and therefore there is a need to understand what standards and norms of corporate governance work in Indian Scenario. Effective implementation can only be made possible when these international best standards and norms are developed and customized according to the unique issues of Indian system. Therefore, there is a need to comprehend what makes the Indian scenario separate so as to build some practical suggestions on how to strengthen the Indian corporate governance within the its own legal framework.

The present research explores whether a relationship between corporate governance and capital structure of listed companies exists or not. It also analyzes the impacts of different variables (factors) of corporate governance on capital structure.

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First and foremost, I thank **Allah**, the most benevolent and ever merciful, for giving me the strength, inspiration and the inclination to pursue and complete this voluminous work.

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I humbly and gratefully thank my research supervisor and mentor, **Dr. Kushendra Mishra**, Head, Department of Rural Management, Babasaheb Bhimrao Ambedkar University, Lucknow for his regular and continued guidance, encouragement, support and for his invaluable suggestions provided to me throughout the duration of my research. I consider myself very fortunate to have had such a helpful supervisor. His patience with my slow pace has indeed been incredible and I am thankful for his gentle persuasion towards hastening up my submission. In spite of his manifold accountabilities, he helped me to accomplish this research successfully. His moral support during the most difficult time of my life helped in making this feat possible.

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I am also thankful for the entire library, infrastructure facility and other supporting resources provided to me to complete my research. Last but not the least, I wish to thank my colleague, **Dr. Mohit Kumar** for his instant help and support in providing me documents for reference throughout writing this thesis.

Momina Bushra

EXECUTIVE SUMMARY

The concept of corporate governance is growing day by day and is not restricted to just protecting the interest of the shareholders but extended to attain the overall sustainability. The top management that is comprised of board of directors has the responsibility of the governance and is accountable overall. This research adds to the literature by highlighting the significant link between some corporate governance measures and capital structure choices of listed firms in India. Therefore, this study theoretically and practically attempt to provide evidence for the existence of relationship between corporate governance and capital structure in India. The thesis is organized in six chapters:

Chapter 1 is an introduction to the research subject, discusses the background, and speaks of few previous studies in the related area and describes the rationale of the study. It delineates the need of the research study highlighting the relevance of the topic. This chapter outlines the entire philosophy and through-process behind conducting this research. It also delineates the scope of the research while also stating its limitations.

Chapter 2 presents a theoretical grounding of the research and the review of literature. Both are detailed in various sections. This chapter is divided into two major sections, section one contains the theoretical approaches of corporate governance and capital structure and describes major theories of both. Second section contains the empirical studies pertinent to corporate governance and capital structure relationship. Therefore, this chapter exhaustively detailed theoretical and empirical base of the research, thereby giving the grounding on which the research process was designed. The literature review has expounded on the theoretical perspectives that are believed to be important in a study pertinent to the relationship between corporate governance and capital structure. Several studies in or around the world have found that good corporate governance practices help in making efficient capital structure decisions. This implies that corporate governance practices may have an impact on capital structure decisions of the firms. However, it would be overstating the case to say that these studies are

conclusive, because they have either failed to find a significant link or they find it otherwise. Hence, the relationship between corporate governance and capital structure has not been fully explored.

Chapter 3 provides an overview of corporate governance system. The chapter begins with the definitions of corporate governance given by different scholars, committees and regulatory bodies. It outlines the evolution of corporate governance system by delineating the history of corporate governance. This chapter also describes the various committees formed to improve and reform the corporate governance system around the world. It further extended to describe the evolution and restructuring of corporate governance in India

Chapter 4 provides a snapshot of the research method applied in this research. It gave an account of the research objectives, scope of the research, research methodology, research design, significance and need of the research and the necessary hypotheses. The research design was an exploratory research and the methodology used was quantitative research techniques. It justifies the reasons for the choice of the sampling unit, data collection and the sample size. The discussion on the adequacy of the sample and the sampling technique is also given. Further, a snapshot of the data analysis techniques is given which could be applied for testing the given research hypotheses derived from the research objectives forming the crux of the overall research. The chapter uses the grounding provided in chapter 2 from where it uses the existing literature available on the methodologies adopted by various scholars nationwide to come up with a better measure. Further, the relative merits and demerits of each method are also discussed.

Chapter 5 analyses the data exhaustively and presents the results for all the research objectives. The analysis and interpretation of the data strictly followed the logic given in the chapter 4 describing research methodology focusing on research objectives and the research hypotheses. The analysis of data was done by using descriptive and inferential statistics in a comprehensive detail, to come up with appropriate answers of the set out objectives. The research hypotheses have also been tested and accepted or rejected based on the results. Based on all these tests and analysis, the researcher has

drawn her inferences and conclusions. The same are elaborated in the last chapter i.e. chapter 6.

Chapter 6 discusses about the major findings and its implications in the research world. The researcher has compared the results obtained in her study with the results obtained from the previous researches in related areas; the current study confirms the conformity of its findings with most of the results obtained by previous studies and also presents some new findings and conclusions. This section then proceeded towards conclusions of the study followed by recommendations and scope for future studies.

A comprehensive bibliography at the end lists all the references used in the research work. The appendix contains some miscellaneous results, list of BSE Sensex companies and panel datasheet.

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LIST OF EQUATION

$$\text{LEV}_{it} = \beta_0 + \beta_1(\text{Log BS})_{it} + \beta_2(\% \text{ BI})_{it} + \beta_3(\text{CEOD})_{it} + \beta_4(\% \text{ ROA})_{it} + \beta_5(\text{Log SZ})_{it} \\ + \varepsilon$$

LIST OF ABBREVIATIONS

ASX	Australian Securities Exchange
BM	Board Meeting
BOD	Board of Directors
BS	Board Size
BSE	Bombay Stock Exchange
BI	Board Independence
CBI	Confederation of British Industry
CCMC	Central Coordination and Monitoring Committee
CEO	Chief Executive Officer
CEOD	Chief Executive Officer Duality
CFO	Chief Financial Officer
CII	Confederation of Indian Industry
CLB	Company Law Board
CMIE	Centre for Monitoring Indian Economy
DCA	Department of Corporate Affairs
DE	Debt to Equity
DR	Debt Ratio
DW	Durbin–Watson statistic
EBIT	Earnings Before Interest and Taxes
ED	Executive Directors
EGLS	Estimated Generalized Least Squares
EVA	Economic Value Added
FGLS	Feasible Generalized Least Squares
FE	Fixed Effects
GM	General Board Meeting
GLS	Generalized Least Squares
GSE	Ghana Stock Exchange
IDs	Independent Directors
ICAEW	Institute of Chartered Accountants in England and Wales
ICAI	Institute of Chartered Accountants of India
ICSI	Institute of Company Secretaries of India
LLC	Levin, Lin and Chu
LEV	Leverage
MCA	Ministry of Corporate Affairs
MD	Managing Director
NACD	National Association of Corporate Directors
NFCG	National Foundation for Corporate Governance
NED	Non- Executive Director
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
PMAC	Primary Market Advisory Committee

PSUs	Public Sector Units
RC49	Revise Clause 49
ROA	Return on Assets
RE	Random Effects
RBI	Reserve Bank of India
SCRA	Securities Contracts (Regulation) Act
SEBI	Securities and Exchange Board of India
SPSS	Statistical Package for Social Science
SZ	Size of the firm
S & P	Standard & Poor's
TA	Total Assets
TSE	Tehran Stock Exchange
VIF	Variance Inflation Factor
WD	Wholetime Directors



CHAPTER-1
INTRODUCTION

INTRODUCTION

1.0 INTRODUCTION

This study is an attempt to explore the impact of corporate governance practices on capital structure decisions of listed firms in India. As a matter of fact, in India and elsewhere that unless and until any problem arises severely no serious attention is given to that and corporate governance is no exception. Even though corporate governance has gained noteworthy attention recently and much debates and discussions took place and are still taking place to justify its importance. In spite of that, the process of reform to strengthen corporate governance only appears and becomes inevitable when the present practices fail to stop a major corporate misconduct.

1.1 BACKGROUND OF THE STUDY

Corporations play a crucial role in ensuring fast-paced socio-economic growth and development of any country. The term 'corporation' evolved during 1600 from the Latin word 'corpus' meaning 'body' and the word 'governance/gouernance' which is now spelled as 'governance' was coined by Geoffrey Chaucer in the 14th century to refer to the process of governing the state or country. Therefore, governance pertinent to corporates referred as 'Corporate Governance'. Separate legal entity is one of the characteristics of the corporation. The concept of separate legal entity evolved in the mid-19th century during the period between 1840 and 1880. Separate entity concept separates the ownership and management. Along with the introduction of separate legal entity concept, companies started focusing on finding efficient ways to raise capital that help them to earn more profits and draw the attention of investors to make investment in their companies. Corporations pooled the capital fund to achieve the objective

of wealth maximization and financial sustainability. The evolution of the separate legal entity concept can be linked to the development of the corporations in particular and the economic and financial developments in general. But, this separation also led to the genesis of a problem described as agency problem in agency theory.

Agency theory predicts that the mis-alignment of interests between shareholders and managers could lead to agency problems or principal-agent problem, that is, managers engaged in activities for their own benefits rather than the benefits of the shareholders of the company (Jensen and Meckling 1976). The problem lies in motivating the agent to act in the interest of the principals rather than simply in their own interest (Shleifer & Vishny, 1997). Corporate governance is a way to deal with agency problem which arises due to separation of ownership and control. Corporate governance usually is woven around a fundamental question of assuring the suppliers of finance that they get the return on their financial investment. Decisions pertinent to a company are taken by the agents and as they are humans so there are chances that the decisions taken by them would be affected by their own self-interest. This self-interest gives rise to a cost called as agency cost and good corporate governance practices act as a mechanism to mitigate it.

Although agency problem existed since long and the origin of corporate governance can be traced back to conceptualization of agency problem but the term corporate governance was first time academically documented by Richard Eells in 1960. However, this word actually gained attention in 1980s as a response of collapse of many corporates around the world during that time. This change shifted the power of governance from the owner to the top management and from where the clashes between founder/owners and agent/managers came into notice. Corporate governance was given a formal structure in the early 1990's. Its intricacies in the formal shape were presented in the Cadbury Committee Report of 1992. This committee was constituted in May 1991 jointly by London Stock Exchange, the Financial Reporting Council and the accountancy professionals in UK in the backdrop of series of financial scams and

corporate failures in the 1980s in Great Britain. These financial scams and failures created a fear in the minds of investors pertinent to the credibility of regulators and their competence in providing efficient capital market. The primary terms of reference of the committee were to consider various financial aspects of corporate governance. In U.K., this report was followed by a series of reports on this aspect including Greenbury Report (1995) which was a committee on director's remuneration; Hampel Report (1998) which was a committee on corporate governance and Turnbull Report (1999) that discussed the director's obligations.

'Governance' concept was extended towards quality governance in 1990s by World Bank and IMF and they coined the term 'good governance' which is associated with a general term conditionality i.e. conditions laid down for lending to other countries. Corporate governance too followed the same to form 'good corporate governance' by adopting good corporate governance practices.

In past few years, business ethics, corporate social responsibility and corporate governance have been touted towards stakeholders' satisfaction and everyone speaks about these facets and so much so that most of the management schools inculcated them in their curriculum but only few are putting them to actual practices. There is a unanimous view that corporate governance helps in growth and development of the capital market which acts as one of the mediums of economic growth. No matter how sound macroeconomic policies are formed if the corporate governance system is poor it may always pose peril to the economy making difficult for it to attain macro-economic objectives.

The concept of corporate governance is growing day by day and not limited to just protecting the interest of the shareholders but to attain overall sustainability. The top management that is comprised of board of directors has the responsibility of the governance and is accountable overall.

India opened up its economy in 1991 which brought up the growth initiators viz. liberalization, privatization and globalization. With the advent of these events,

Indian market became more reachable for domestic as well as foreign corporates which was vitally imperative for the growth and revival of the economy. On one hand, they facilitated firms to have access of funds from capital market but on the other hand, it also brought certain issues. Corporate scams were certainly one of those issues. Indian economy saw a number of scams since then, which brought about the issue of corporate governance into a realm for everyone to discuss. Some of the major scams included Harshad Mehta scam (1992), UTI scam (2001), Ketan Parekh scam (2001), Satyam Fraud case (2009), Speak Asia scam (2011) Reebok India scam (2012), National Spot Exchange Ltd. scam (2013), Saradha Group chit fund scam (2013), Sahara Group (2014), Kingfisher money laundering case (2015), & Ricoh India accounting fraud (2016). Such scams forced the regulatory body to pay more focus on the impending requirement and efficacy for an appropriate analysis of companies' financial statements and to provide guidance to the investors in their financial decisions.

Penalties in India for non-compliance of corporate governance are suspension of trading and delisting from the stock exchange. There should also be a provision to encourage the companies if they effectively comply with the corporate governance norms. SEBI used to make changes in its regulations from time to time and issued stricter rules related to corporate governance. In case of corporate frauds/scams, there are no harsh penalties like longer imprisonment and heavy fines on top management in India as mentioned in Sarbanes Oxley Act of U.S. Poor corporate governance may be identified as one of the major factors in virtually all known instances of firm's distress in the country. On 24th March, 2017 SEBI ordered and imposed a penalty of Rs. 1000 crore on Reliance Industries and the 12 entities for violating the provisions of Section 12A of the SEBI Act, 1992 and SEBI Regulations, 2003. They were found guilty on fraudulent and manipulative trades. This is the largest penalty imposed by SEBI in over 20-year of its history. On the other hand for Sahara group money laundering case, its owner Subrata Roy personal asset is assessed much more than the liability but he is not paying off the debt for one reason or the other and agreed to be in jail or parole and Kingfisher chairman & MD Vijay Mallaya is

still freely living a lavish life and trying to negotiate with banks for writing off company's debt. Auctioning all his properties could not even recover one thirds of the loan amount.

An efficient corporate governance regime could provide guidelines to avoid unethical practices that are done in the name of enterprise. It supports in the efficient functioning of the enterprise which leads to wealth maximization, economic growth and development. In order to inculcate best corporate governance practices in India, various committees were setup to supervise corporate governance system. Three noteworthy committees are:

- SEBI constituted Kumar Mangalam Birla Committee (1999)
- Government constituted Naresh Chandra Committee (2002), and
- SEBI constituted Narayana Murthy Committee (2003)

The approaches and recommendations of these committees are similar to England's Cadbury Committee and America's Sarbanes-Oxley Act (2002). These committees recommended corporate governance measures for Indian listed companies that are equivalent with global corporate governance practices. On 7th May 1999, market watchdog, Securities and Exchange board of India (SEBI) constituted a committee chaired by Kumar Manglam Birla to suggest best corporate governance measures to be followed by listed companies of India which is based on CII (Confederation of Indian Industry) code. It aims to persuade companies to "adopt best practices on corporate governance". All listed companies have to follow norms under clause 49 set by it. Clause 49 of the equity listing agreement was introduced on suggestion of this committee. The committee brought out a report in 2000 but it was not implemented instantly on all the firms. It was implemented cautiously first on new and large listed firms. This cautiousness is due to the realization that these norms were just imported from other developed countries. Year 2001 witnessed the occurrence of some major scams around the world including India like Enron scam in the U.S. and Ketan Parekh scam in India, the Government of India passed an order on August 21,

2002 to constitute a high-level committee under the chairmanship of Naresh Chandra to scrutinize the auditor-company relationship and to standardize the role of auditors. It necessitates the need for customization of imported norms in Indian context. SEBI also initiated another committee under the chairmanship of Narayan Murthy in 2003 to bring up with better measures to implement corporate governance. Recommendations made by Kumarmanglam Birla and Narayana Murthy committees became the Clause 49 of the listing agreement which was finally implemented in 2006. There are some changes and modifications made in the clause which became effective from October 1, 2014 onwards.

India's reform efforts have confirmed that its corporate governance norms follow Anglo-American corporate governance model. However, its inability to implement and impose all-embracing new norms completely signifies that the full implementation of imported norms from one system to another is highly complex.

This is well accepted that companies with superior corporate governance system create trust and goodwill amongst the investors that enables them to procure funds at most reasonable costs. Investors always inclined to invest in a firm which is safe and transparent in all its transactions. Corporate governance practices relating to financing decisions provide a trade-off between shareholders and stakeholders by selecting an optimal capital structure. There is no one right answer of what exact amount of debt and equity should be employed to form an optimal capital structure. But it is always recommended not to include high debt as it decreases the tax advantage and increases the overall cost of capital. Therefore, selecting the wrong combination of capital structure could lead to financial distress and scams/frauds.

Existence and composition of the board (i.e. number of executive, non-executive directors, independent directors and affiliated/ nominee directors), remuneration to the board members, relations with shareholders (including participation in the AGM), accountability and audit, committees established to monitor strategic decisions are few parameters/characteristics on which governance can be analyzed and measured.

Although corporate governance reduces agency costs, it may also have an impact on a company's capital structure decisions and the quantum of debt a company issues. A company's capital structure constitutes its relative proportion of debt and equity and influences managers' incentives and investment decisions. The knowledge of how to raise finance has always been thrived in attracting research interest as it is a tool for social and economic development. It helps the corporates' management in adopting the efficient practice which led to minimize the incidence of corporate failures and poor corporate structure. Poor corporate governance may not only pose a risk to the business entity but also indeed adversely impact the capital market and the whole economy.

Capital structure management helps to reduce the cost of capital and maximize the shareholders' wealth. In last two decade's studies relevant to capital structure decisions and factors that influence it gained attention. Based on the novel theories of capital structure, to some researchers, corporate governance is one of the factors that influence capital structure of a company. They have recommended that corporate governance is a useful factor that could influence the debt proportion in a company.

Corporate boards are one of the most important governance mechanisms that protect shareholders' interests by monitoring managerial activities. Board of directors are occupied in taking company's strategic decisions, therefore they obey with corporate governance code of best practices and provide good decisions to the company. Indian corporate governance norms are imported from the developed countries jurisdictions that follow 'Outsider Model' of corporate governance in which shareholders have less involvement in the decision making and management of the company. Contrary to that, Indian corporates follow 'Insider Model' of corporate governance in which the board decisions are influenced by the majority shareholders, promoters and the promoter group. Also, in shareholder meetings they are in a position to take decisions that are favorable to them. There is no doubt that adopting the world's best norms Indian companies would become effective in its functioning but transplanting the norms without considering the home country issues would not be wise. Good corporate

governance practices possibly had significant impact on company's planned decisions such as outside financing, which are taken at board level and therefore, board of directors is the important element of the corporate governance. Board of directors is the topmost body of a company that is accountable for running the firm and its operations. It plays fundamental role in planned decisions concerning capital structure decisions. When there is good corporate governance and capital structure, there will be appropriate and efficient practice in the management of business entities. This will ultimately lead to decrease in the incidences of corporate failures, poor internal control system, poor corporate structure, disorderliness both on the part of management and workers. Therefore, board of director's features such as CEO/Chair duality, presence of non-executive directors or independent directors and board size may have direct control on the firm's capital structure decisions. It is evident from the studies that firms that obtain large portion of funds through debt in their capital structure generally have inefficient corporate governance system.

As explained earlier, agency theory relative to corporate governance assumes that there is a non-alignment of interests between agent (managers or directors) and principal (shareholders). Agents (Managers) want to reduce agency costs by taking decisions that is beneficial for them (like job security, incentives etc.) and that compel them to raise the debt in the capital structure of the firm. The inclusion of debt may influence the overall performance and market value of the company. In other words, the managers of a firm may be tempted by the advantages offered by leverage (debt). They may exploit this opportunity by increasing debt capital proportion in capital structure at the expense of shareholders as it is the shareholders who actually bear the risk. Due to asymmetric information, managers have more information about the company than shareholders which makes it possible for managers to take advantage of shareholders' lack of knowledge. This ultimately leads to the genesis of agency problem and corporate governance is the only mechanism to mitigate it.

From the past evidences and researches, the author has come to an opinion that corporate governance may affect capital structure decisions. In developed

countries, researches related to corporate governance and capital structure have been carried upon in ample quantity, but few attempts have been made to examine this relationship in the emerging economies like India. There is scant literature available that elucidates how corporate governance influences the capital structure decisions in India.

1.2 RATIONALE OF THE STUDY

The above discussion leads to a promising conclusion that corporate governance is closely related to the agency problem and can serve as a tool to reduce agency costs. Corporate governance takes into account the relationship between shareholders, managers and other stakeholders and is significant in controlling and managing a firm. The issue of corporate governance is even more important in transitional economies like India. Even the best standards cannot prevent instances of major corporate misconducts. In India, the major characteristics of corporate governance norms and standards are imported from the jurisdiction of other developed countries. It is obvious that every country is different in terms of social, economic, cultural and legal environment and therefore there is a need to understand what norms work in Indian scenario. Effective implementation can only be made possible when these international best standards and norms are developed and customized according to the unique issues of Indian system. There is a need to comprehend what makes the Indian scenario separate so as to build some practical suggestions on how to strengthen the Indian corporate governance within its own legal framework.

Till date review of literature suggests that the studies on the relationship between corporate governance and capital structure have not been adequately explored. This study examines the relationship between corporate governance practices and firm's capital structure in background of Indian firms. A complete review of related literature reveals that although there are number of related prior empirical studies conducted in developed economies. However, the same cannot be said of developing economies since most of the works are theoretical in nature and practical works in this area of research have mostly focused on the impact of

corporate governance on firm's performance or inspected the influence of ownership structure on firm value while limited studies focused on capital structure. There is a growing interest among researchers in management in the area of corporate governance especially among large and listed firms. Therefore, this study inspects the influence of corporate governance on the capital structure of listed firms in India. This study emphasizes on board of directors because it is one of the most important mechanisms of corporate governance. Theoretically, based on the board of director's decision, a company decides its capital structure. In compliance to corporate governance norm of best practices, board of director is expected to serve a good financing decision or an optimal capital structure to the company. The existing literature suggested board size, boarding independence, and CEO duality as the main characteristics of corporate governance. However, empirical results on the association between corporate governance and capitals structure appear to be different and inconclusive. Hence, relationship between corporate governance and capital structure has not been fully explored. Conducting a research based on this problem proposes to enable the managers and the shareholders of the firm in tackling some of the issues related to capital structure. This research adds to the literature by highlighting the significant link between some corporate governance measures and capital structure choices of listed firms in India. Therefore, this study theoretically and practically attempts to provide evidences for the existence of relationship between corporate governance and capital structure in India.

1.3 RELEVANCE OF THE STUDY

The study is relevant from the academic, managers, regulators and policymakers' perspective. This study contributes to the existing body of literature on the relationship between corporate governance and capital structure in Indian context. To the best knowledge and information of the researcher, a very limited research has been conducted recently. The result may provide a good guideline for managers and stakeholders to understand whether their companies are practicing good corporate governance practices or not. Without empirically testing the effect

of corporate governance norms it would be difficult to say that board characteristics or functions have brought any significant change in the decision making. Just as any change takes time, so too good corporate governance implementation will bring change in the system with time. India has adopted the best and most robust corporate governance norms from the other countries jurisdiction. But merely having best norms or regulations of the world could not bring the change in the corporate functioning and corporate misconduct.

Listed companies are trying to comply with corporate governance norm which is evident from the outcomes of the checklist provided by SEBI. Compliance is the necessity in Indian environment but the purpose should not be just to complete the paper work. There are few old conglomerates that follow the corporate governance long before it became mandatory like Tata, Birla and Infosys. However, recent cases of Tata and Infosys are examples that irrespective of having best norms of the world, there is something in which India is lagging which made us fail on effective decision making. Therefore empirical studies are required to understand what works in Indian system so that proper and effective norms are implemented otherwise it would remain a box ticking exercise.

1.4 SCOPE OF THE STUDY

Although this study is limited to non-financial listed firms in India but its scope is vast. This study tries to link the research gap through investigating the relationship between the board characteristics and capital structure decisions. As board plays an important role in determination of financing mix of the companies. This study addressed the issues relating to some pertinent questions emerging within the domain of study problems. The study seeks to answer the following questions:

Whether board size has positive or negative relationship with capital structure?
Whether Board Independence and CEO duality play any role in determining capital structure? Does capital structure have any relationship with the

profitability and size of the firm? Do the norms related to corporate governance in India helping the firms to cope up with their losses and bankruptcy?

1.5 LIMITATIONS OF THE STUDY

In spite of all precautions taken, this study is not completely free of limitations. All companies whose business are financial in nature were excluded as they exhibit different characteristics from non-financial listed companies since their debt-like liabilities are not strictly comparable to the debt issued by non-financial firms. This study is also limited in temporal scope to four years i.e. the period from 2012 to 2015. This study basically examines the impact of corporate governance on the capital structure of listed firms in India and is limited to three corporate governance attributes board size, board independence, and CEO-duality. Sample selection criteria have limited the study to large and listed firms only.

1.6 SUMMARY OF CHAPTER

This chapter outlines the entire philosophy and through-process behind conducting this research. It introduces the background of the study; speaks of few previous studies in the related area; states the rationale; relevance and scope of the present study. It also delineates the scope of the research while also stating its limitations.



CHAPTER-2
LITERATURE REVIEW

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter presents a theoretical grounding of the research and the review of literature. Both are detailed in various sections. The literature review has expounded on the theoretical perspectives that are believed to be important in a study pertinent to the relationship between corporate governance and capital structure. Several studies in or around the world have found that good corporate governance practices help in making efficient capital structure decisions. This implies that corporate governance practices may have an impact on capital structure decisions of the firms. However, it would be overstating the case to say that these studies are conclusive, because they have either failed to find a significant link or they find it otherwise.

2.1 THEORETICAL FRAMEWORK FOR CORPORATE GOVERNANCE

Corporate governance theory was first authored by Berle and Means in 1932. For the last few decades corporate governance has become a debatable issue among academic researchers, regulators and policy makers in context of firm's capital structure. Capital structure decisions are one of the most significant decision areas in corporate finance that can affect the whole operations and functioning of the firms and therefore vital for the survival and overall sustainability of the firms. The capital structure of a firm is basically the financial framework which mainly consists of the debt capital and equity capital, raised from the capital market to finance the firm.

2.1.1 MAJOR THEORIES OF CORPORATE GOVERNANCE

The major theories related with corporate governance are:

1. Shareholder Theory
2. Stakeholder Theory
3. Stewardship Theory
4. Agency Theory

2.1.1.1 Shareholder Theory

Shareholder theory advocates shareholders' wealth maximization approach. Shareholder theory states that shareholders invest their capital in the firm and expect to get higher return on it, in long term. Shareholders are recognized as real owners of the firm who invest their money in the business but, are the last claimants on company's profit. After paying off all the liabilities they get the residual profits in the form of dividends while in case of loss they bear all the loss. As the profit increases their chances of getting return also increase. Most of the time they lack expertise to run and manage the business and are scattered widely all over the world, so management executives are hired and they work as the agents of the shareholders. Management takes decisions on behalf of shareholders and they are legally and morally responsible for making decisions that are expected to be in the shareholders' interest. However, it is also expected from them that strategies to maximize profits should not be detrimental to the society and bounded within the business ethics.

Deakin (2005) stated that after the crash of the Wall Street in 1929, U.S. witnessed the Great Depression in the year 1930. Although this crash was not the only factor that led to it but was one of the factors that held to be responsible for the Great Depression. This paved the way for shareholder theory in U.S. This also led to debates over regulations of the companies. Shareholder theory came in the limelight after a fierce debate on this topic between Adolf Berle and Merrick Dodd. When Adolf Berle in 1931 wrote an article in Harvard Law Review in favor of shareholder theory, it was criticized and contradicted in the article written by Merrick Dodd in the same journal in 1932. Both views were

on the issue of the corporate objectives. Berle (1931) supported that the managers should act and take decisions that in the shareholders' interest only while Dodd argued that managers have their obligations towards employees, customers and society also.

Milton Friedman originally proposed the shareholder theory in 1970. In one of his articles, published in New York Times, he emphasized on maximization of profits as a sole social responsibility of the business. This profit maximization objective is for the welfare of the shareholders, who provide finance for the business.

Mayer (1997) stated that considering the agency relation between shareholders and managers where shareholder(s) acts as principal(s) while manager(s) acts as agent(s). Managers run the business on behalf of shareholders after getting control of the company from the shareholders/owners as managers have expertise, skills and experience better than shareholders. They are expected to maximize shareholder's wealth and being the contributors of the capital, their interests are ahead of any party who might affect or be affected by the business.

Macey (1991); Kraakman and Black (1996) found that Anglo-Saxon jurisdictions has long been dominant by the shareholder theory.

Hansmann and Kraakman (2001) stated that it was proclaimed that European stakeholder systems were converging to Anglo-Saxon systems of corporate governance. However, Keay (2011) argued that, soon after the proclamation, major corporates collapsed and scandals happened in both U.K. (i.e. HBOS Plc., Royal Bank of Scotland, Northern Rock) and U.S. (i.e. Enron Corporation, Freddie Mac, Lehmann Bros) which indicated that the system was not flawless.

With the evidence of major corporate misconducts that happened around the world including India like Enron, Worldcom, Satyam and Kingfisher etc. it can be concluded that the objective of earning more profits for shareholders compel the management to manipulate company's financial statement, taking more debt or investment in risky projects. It can be said that maximizing profits for

shareholders only is a historic, narrow and traditional approach of the firm's objective.

2.1.1.2 Stakeholder Theory

Stakeholder theory was proposed by Edward Freeman. This theory extended the social responsibility concept of the business from shareholders welfare to a broader concept of stakeholders' welfare. Social responsibility is a responsibility towards anything that could be related to economy, law, ethics or even philanthropy. He used the word 'value' in place of 'profits' as business operates in society comprising of stakeholders, who are directly or indirectly affected by it. Gamble and Kelly (2001) stated that any person/group which can affect or be affected by the operations of a business are called stakeholder(s) of the business. It includes employees, customers, competitors, suppliers, creditors, government and the community. This theory seems to be heuristically stronger than shareholders theory. Scholars like Mills & Weinstein (2000); Greenwood (2001); Post et al. (2002); Ertuna (2005) supported stakeholder theory which advocates the interest of all stakeholders and is essential for the existence and sustainability of the firms.

Along with support it got, this theory was also criticized by many scholars on various grounds. Orts (1992) and Elaine (1996) argued that stakeholder theory is incompatible with good corporate governance in the same way it is incompatible with the business. Elaine (1996) argued that stakeholder theory overtly ignores that the accountability should be towards shareholders only. Stakeholder theory is based on the principle that corporations should be accountable to all the stakeholders including shareholders. He called it unworkable. If the corporations are accountable to everyone then its accountability will get diffused which in reality means, it is accountable to none. Key (1999) opined that stakeholder theory cannot be functionalized as it lacks specificity.

There are some companies around the world that have followed stakeholder theory as a part of their corporate social responsibility. Some companies have adopted this theory as they considered it ethical (accords to business ethics) while others to improve their goodwill. There are some companies that are criticized in U.K. as they are concealing their tax liability behind stakeholder theory and avoiding tax. This cannot be considered as illegal as they are just exploiting the loopholes of the tax system of U.K. in the name of CSR (Corporate Social Responsibility). Few names are Starbucks, Amazon, Google and Facebook.

2.1.1.3 Stewardship Theory

Stewardship theory was introduced by Donaldson and Davis in 1991. They opined that apart from motivation that is financial in nature there are other motivations that are non-financial or intangible in nature that could lessen the self-interest and opportunistic behavior of managers. This theory rejects the agency problem. Under the approach of stewardship on shareholder's assets, the CEO inherently has the motivation for value maximization of the firm. Davis et al. (1997) stated that stewardship theory assumes that there are no inherent problems in the managerial motivation. It supposed that the CEOs believe that their own self-interest is not superior to firm's interest and therefore they are always inclined towards decision making that are beneficial and effective for the firms.

The stewardship theorists argue that some characteristics of the internal corporate governance structure could affect the ability of the steward or CEO to perform his/her duties. Therefore, the objective of maximizing shareholders' wealth can be achieved when the governance structure gives complete authority to the CEO over all the decisions of the firm. In this way supporter of the steward theory i.e. Donaldson et al. (1991) and Davis et al. (1997) suggest that CEO duality i.e. when the same person holds the position of both CEO and Chairman, provides unity of command and control to CEO thereby enhances the value of firm as his/her decisions would be final and never

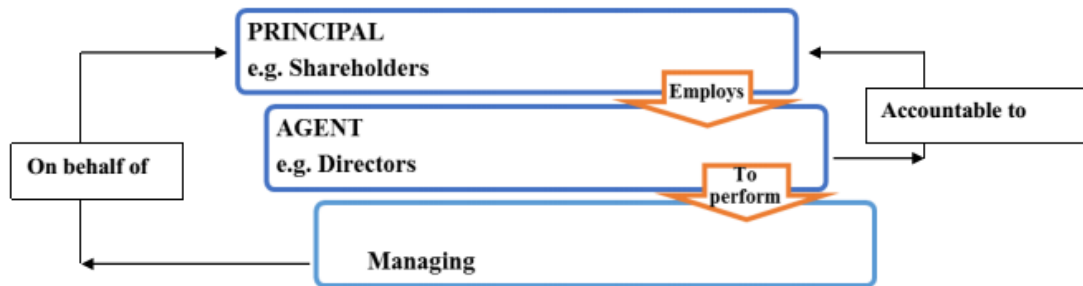
be countermanded by any other person higher in position and authority i.e. chairman. Albrecht et al. (2004) believed that CEO duality provides CEO, a collective rather than individualistic approach and the role of board of directors, is to assist him/her rather than acting as a monitoring mechanism. This theory suggested that executive directors are effective enough to take decision for the firms and there is a less need of outside or independent directors on the board. Hence, it minimizes the cost of monitoring by not having independent directors who may negatively impact the decisions taken by the CEO, by making the procedure time taking. Like shareholder and stakeholder theory, this theory was also criticized by some scholars. The bases of criticism were about not giving importance to board independence while encouraging CEO duality. Contrary to that both board independence and CEO non-duality are widely accepted as international standard and norms for good corporate governance and encouraged by international regulatory bodies.

2.1.1.4 Agency Theory

A survey of the literatures demonstrated that agency theory is the most popular theoretical perspective in the area of corporate governance and showed that it has received much attention from researchers exploring issues relating to corporate governance and executive compensation. As a result, governments and regulatory bodies have been influenced by this perspective in developing their regulations, codes and principles. That is, agency theory is legally assumed to provide the most comprehensive theoretical explanation for the relationship between management and shareholders, along with proposed solutions for the agency problem.

Agency theory was introduced by Jensen and Meckling in 1976. This theory was based on economic theory. According to agency theory shareholders (principals) delegate the control of the business (as they are dispersed) to managers (agents) as presented in Figure 2.1.

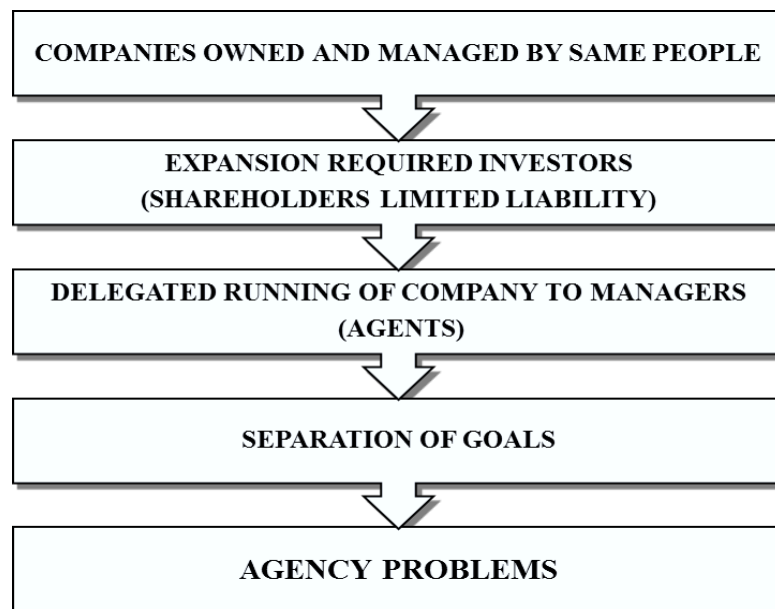
Figure 2.1: Principal-Agent relationship



Source: kfknowledgebank.kaplan.co.uk

Agents run the business and are expected to act in the best interest of principals but the agents may make decisions that are beneficial for them due to their self-interest. They argued that due to separation of ownership and control, agents might not always act in the best interests of the principals. This non-alignment of interests of both the principal(s) and agent(s) creates conflicts and leads to a problem known as agency problem (Figure 2.2).

Figure 2.2: Agency Problem



Source: kfknowledgebank.kaplan.co.uk

Continuous and intensive researches throughout the world are conducted to explore the issue of agency problem.

Fama and Miller (1972); Jensen and Meckling (1976) stated that agency problem results in agency costs. Agency costs are incurred and managers must be monitored to make sure they do not misuse their power. It includes sum of the monitoring expenditures incurred by the principal, the bonding expenditures incurred by the agent and the residual costs. Bonding expenditures include both punishment and reward expenditures i.e. punishment given to the agent in case agent acts against the interests of the principals while the reward in case of aligned interest between the two.

Eisenhardt, (1989) stated that as attitude towards risk of both the principals (shareholders) and agents (managers) are diverging, it creates problems. Principal is always inclined towards decision that has less risk while agent is interested in taking more risk. Shareholders delegate the responsibility of maximizing the shareholder's value to managers, but, in case the event of conflict of interests arises between them, it results into rise in the agency costs.

Jensen (1986) argued that the use of debt helps in alleviating the agency problems of the firm as it involves fixed interest payments to the creditors. A proper vigilance by corporate governance norms can compel the management to take decisions which mitigate the conflict of interests between shareholders and managers.

There is a large information gap between shareholders and managers due to information asymmetry which may attract the interest of the managers in maximizing their own personal wealth at the cost of shareholders money. They pointed out that the use of debt can decrease the need of manager to look for outside stock capital and therefore help diminishing the shareholders-managers agency problem.

Hasan & Butt (2009) stated in their study that corporate finance theories and agency theory suggest that costs due to a conflict of interest are one of the determinants of capital structure and these costs can be minimized by adopting good governance practices. Hence corporate governance may help in mitigating

agency problems by forming ‘rules’ to deal with issues and protection of stakeholders and shareholders. Thus, the agency theory postulates the potential relationship between capital structure and corporate governance structure through the connection of agency costs.

Renton (1994) explained that ultimate internal authority within a company lie with the boards of directors.

Banks (2004) stated that boards of directors of the company are entrusted and given authority to make decisions that may affect the well-being of investors’ capital, employees’ safety, economic health of the communities, and executive power and incentives.

Saad (2010) examined 126 Malaysian publically listed companies from the year 1998 to 2006 using multiple regression analysis. His sample included industries from consumer products, industrial products, trading/services, and plantations. He concluded that board of directors is considered as one of the elements of the corporate governance which provides an efficient regulatory and controlling mechanism to mitigate the agency problems.

2.2 THEORETICAL FRAMEWORK FOR CAPITAL STRUCTURE

Capital structure decisions refer to decisions made about financing sources in which company leverage is represented. Firm’s debt/equity ratio or leverage gives insight related to the risks with a company for its potential investors. Shapiro and Balbirer (2000) explained capital structure of the company as the combination of debt and equity capital employed to fund the purchase of its asset. Saad (2010) described capital structure as the way a company finances its assets through a mix of equity and debt.

Optimal capital structure is one that maximizes value of the firm by reducing its cost of capital. Modigliani & Miller (1958) attempted to prove the irrelevance of optimal capital structure under perfect market conditions in their work but later

in 1963, they themselves found its relevance after the inclusion of taxes and bankruptcy cost. There are a number of researches done in the past that support its relevance. Decisions related to financing are the crucial and most fundamental issues that managers of firms have to consider.

Song (2005) stated that firms' assets provide cash flow and that form their basic capital resources. Whenever firms need fund they issue equity share, preference share, and debt or hybrid securities, to finance its assets. These securities form capital structure. However, there are a number of theories that have been developed to find what combination forms the best capital structure.

Gill, Biger, and Mathur (2012) defined the optimal capital structure as the financing combination which consists of debt along with equity capital. However, this inclusion of debt is not 100% debt. It includes equity capital also and forms the 'best debt to equity ratio' for the firm that minimizes the cost of capital, maximizes the value of firm and decreases the chances of bankruptcy.

Cuong and Canh (2012) found that optimal debt ratio should not be more than 59.27% because a higher debt ratio negatively impacts firm value. Their study measured the optimum capital structure of seafood processing enterprises listed on two of Vietnam's stock exchange markets during the period 2005-2010.

Heng et al. (2012) examined the relationship between board characteristics and capital structure on 75 corporations listed on Koalalampour stock exchange in Malaysia during the period 2005-2009. According to them capital structure is one of the three financial decisions i.e. the investment decision, the financing decision and dividend decision, for improving upon the value of the firms. They underlined the importance of financing decision by explaining its direct relation to business continuity and its impact on the ability of the firm to deal with its competitors.

Theoretically, financing through debt is the cheapest source of finance (lowest cost of capital) due to the implicit tax advantages. Though, not often its inclusion in high percentage forms an optimal capital structure as the financial

risk and the risk of bankruptcy for the company generally increases with the increase in the debt. A company with optimal capital structure indicates that the leverage taken by it is at prudent level. Therefore, board of directors must do their best to select the capital structure that lead to both value maximization and stakeholders' welfare. Within the many factors that affect the capital structure, researchers have suggested corporate governance as an effective issue to affect the debt proportion in a company. In compliance to corporate governance code of best practices, board of directors serves a good financing decision to the company.

Gompers et al. (2003) suggested that good corporate governance possibly impact company's strategic decisions significantly. Board of directors takes these strategic decisions and a capital structure decision is one of those decisions. The board of directors is the top authority of a company who are responsible for practicing good corporate governance. Good corporate governance will help in proper and efficient practice to manage the business. This will further help in the reduced incidences of bankruptcy, corporate failures, weak internal control system, poor corporate structure etc. Thus, board of director's features such as board size, presence of independent directors and CEO duality may have influence on the firm's capital structure decisions.

2.2.1 MAJOR THEORIES OF CAPITAL STRUCTURE

Abor and Biekpe (2005) stated that capital structure decision is essential due to the necessity of maximizing returns to stakeholders and to enhance organization's capability dealing with its competitors.

There are several theories of capital structure that can be found in the literature. However, this study examined four major theories:

1. The Modigliani and Miller Theory
2. Trade off Theory
3. Pecking Order Theory
4. Market Timing Theory

2.2.1.1 Modigliani and Miller Theory

Franco Modigliani and Merton Miller popularly known as Modigliani and Miller proposed the first capital structure theory in 1958. Their first proposition states that there is no optimal capital structure exists in a perfect market structure. Perfect market is market structure where there is no transaction costs; no taxes; homogenous expectations of the investors; information is freely available to all (information symmetry). In a perfect market, all combinations are equal and therefore, overall value of the firm is not affected by capital structure i.e. whether a firm raised its fund through debt or equity or a mix of debt and equity. Real assets determine the value of firm in perfect market structure. Baker and Wurgler (2002) stated that under Modigliani and Miller assumption there is no gain to a firm to switch between debt and equity. Brealey et al. (2008) opined that selection of long-term versus short-term debt should have no effect on the overall value of the firm. Hence, capital structure decisions do not affect the investment, borrowing, and operating policies of the firm. Modigliani and Miller proposition-II states return on equity increases in proportion to the debt-equity ratio and any rise in expected rate of return is exactly offset by an increase in financial risk. Huang & Song, (2006) stated that Modigliani and Miller propositions are based under the assumption of a perfect capital market and therefore debt policy has no effect on value of firm; however in reality there is no perfect market. All businesses operate in imperfect market. Also, Modigliani and Miller theory itself not able to explain the fact that debt ratios vary regularly from industry to industry. In spite of the limitations and contradictions of Modigliani and Miller theory, it is given due importance because it is the grounding theory that shifted the focus of researchers on capital structure of the firm.

Later, in 1963, Modigliani and Miller modified their own model and included company tax which was further extended by Miller in 1977 as he included personal tax in the model. The most important advantage of using debt as a source of financing is the 'tax shield'.

2.2.1.2 Trade-Off Theory

The debate on the irrelevance theorem of Modigliani-Miller gave ground to the trade-off theory. This theory was suggested by Myers in 1984.

Jensen and Meckling (1976) stated that inclusion of debt in the capital structure can create conflicts of interest. These conflicts of interest may lead to agency costs either in the form of agency costs of debt or agency costs of equity. Agency costs of debt are the conflicts of interest between shareholders and bondholders while agency costs of equity are the conflicts of interest between shareholders and managers when the incentives of the shareholders (i.e. maximization of the value of the firm) and management (i.e. job securities, investment decisions to maximize their own personal wealth etc.) do not coincide.

Fama and French (2002) referred in their study that agency costs cause firms to identify their optimal leverage by weighing the costs and benefits of an additional dollar of debt.

Burgman (1996); Chen et al. (1997) Berk et al. (2010) stated in their respective studies that the trade-off theory suggested a trade-off between bankruptcy costs and tax advantages of debt. It described that the optimal capital structure for the firm is that financing mix at which the value of a firm maximizes. Trade off theory suggested that management set a target leverage ratio and then gradually try to achieve it to reach optimum capital structure.

De Wet (2006) has demonstrated that this target leverage ratio is influenced by three factors:

- Tax
- Financial distress costs and
- Agency costs

De Wet (2006) and Eriotis et al. (2007) stated in their respective studies that the interest payments on debt are tax-deductible for a firm which is referred as tax shield that allows a firm to pay lower taxes when using debt capital. This means that by including a large portion of debt in the capital structure helps in lowering the real after-tax cost of capital, which ultimately enhance the value of the firm. However, the tax advantage is up to certain level. Inclusion of debt in the capital structure after that level increases the legal interest liability. In case interest rate increases it will consume all its profits in paying off interest to the creditors. It also causes financial distress as the firm may not have sufficient funds to run its day to day functioning. There are possibilities that firms earnings are not enough to meet out all its obligations resulting in increased financial distress costs, which may further increases the chances of bankruptcy and decreases the overall firm value.

Bauer (2004) described the components of financial distress costs. It consists of two costs:

- Direct financial distress costs consist of bankruptcy costs which usually include legal and administrative fees.
- Indirect costs consist of the expenses or economic losses resulting from the event of bankruptcy.

Vasiliou et al. (2003) opined that to prevent conflicts of interest, firms need to employ independent directors to monitor and control the managers. This increases the agency costs.

Sibilkov (2009) argued that the firms choose the optimal capital structure (i.e. balance between the costs of debt and the benefits of debt) that minimizes their total agency costs.

Brealey, Myers, & Allen (2008) opined that high target leverage ratios should be preferred by the companies which have safe, tangible assets and plenty of taxable incomes to shield while equity financing should be opted by companies

with risky, intangible assets. Therefore static trade-off theory suggests that different firms should set their own target ratios that maximize value of the firm.

Theoretical optimum capital structure is achieved when,

**Present value of tax savings = Increase in the present value of costs of distress
(due to further borrowing)**

2.2.1.3 Pecking Order Theory

The pecking order theory was first developed by Donaldson in 1961. He investigated and found that, when a firm requires funds its management strongly prefers retained earnings. Donaldson was trying to observe the financing behavior of the managers. In an attempt to find a theoretical base for Donaldson results Myer's in 1984 argued that traditional capital structure theories failed to explain the actual financing behavior. He extended the pecking order theory of Donaldson and presented a different perspective to determine the optimal capital structure. According to this theory firms should only consider equity if debt capacity is reached and retained earnings are exhausted. This theory has a different perspective as compared to other theory of financing. This theory assumes that managers have more information regarding the company than outside investors. Managers' knowledge pertinent to risk, investment avenues and values lead to asymmetric information.

Fama and French (2002) supported the pecking order model that more profitable firms are less levered.

Singh et al. (2003) stated that in a situation of asymmetric information debt is better choice than equity. Pecking order theory does not consider optimal capital structure therefore it assumes the advantage of interest tax shields and financial distress as second order.

Smart et al. (2004) argued that as there is no concept of optimal capital structure in pecking order theory, firms try to minimize associated costs instead of selecting optimal debt to equity ratio.

La Rocca et al. (2007) concluded from their results that firms prefer retained earnings or internal financing over external financing. This indicated that the order of raising funds is first the use of retained earnings, then new debt, then risky or convertible debt and preference shares and finally the issue of new equity.

Brealey, Myers, and Allen (2008) argued that companies try to issue new shares when their share price is either fairly priced or overpriced. As investors are well informed, when the companies announce issue of their shares investors don't turned up and this lead to the fall in share price. Therefore, whenever companies need funds they prefer debt over underpriced shares. Companies try to time issues when shares are fairly priced or overpriced. This indicates a pecking order, in which investment is first funded with retained earnings then by issue of new debt and lastly with new equity shares.

Morri et al. (2009) opined that pecking theory has no well-defined optimal target debt ratio because the current leverage of a firm reflects its cumulative requirements of external financing.

Adesola (2009) opined that due to information asymmetry firms may prefer debt over equity financing.

Shyam-Sunder and Myers (1999) concluded in their study that the pecking-order theory is an important theory that helps to explain corporate leverage as it captures larger variations in actual debt ratios than the trade-off theory. However, Frank and Goyal (2003) contradicted that pecking-order theory cannot explain financing behavior of small high-growth firms since they have high level of information asymmetry.

2.2.1.4 Market Timing Theory

Market Timing Theory is a part of behavioral finance. In 2002, Baker and Wurgler argued that in an inefficient market, financial managers are more informed than investors. Managers exploit this condition and take an advantage

by issuing shares at high price while they repurchase when share price falls. This theory is contrast to the trade-off and pecking order theories. Baker and Wurgler documented that market timing has a significant effects on capital structure as leverage of firms is negatively associated with their historical performance.

Huang and Ritter (2004) observed publicly traded U.S. firms in their study and identified that a large proportion of their funding requirements, is financed through the external shares when the expected equity risk premium is low.

2.3 EMPIRICAL BACKGROUND

The extant literature identified and included the main characteristics of corporate governance in the study. These characteristics of corporate governance are related to board characteristics i.e. board size, board independence, and CEO duality. The researcher chooses to believe that when the corporate governance gets better, the choice of financing mix in the capital structure improves, which ultimately lead to the shareholders' wealth maximization. This is because of corporate governance which is designed in such a way that intends to prevent the managers to work unethically. Abbott & Parker (2000) gave the reason that when corporate governance gets better, the capital structure contains less bankruptcy costs and that is safer for the shareholders capital. Bankruptcy costs are detrimental for the objective of shareholders' wealth maximization; this signifies the importance of the capital structure choice. Bankruptcy costs can be minimized by having less debt in the capital structure as debt or leverage is a representation of bankruptcy risk.

Awoyemi (2009) opined that the investors are losing their trust in the capital market due to financial scandals around the world. There is a need to enhance the efficacy of existing corporate governance practices in promoting transparency and accountability.

Pae and Choi (2011) stated that the effects of agency problem could lead to corporate misconducts and become detrimental to the whole economy. It is

evident from some major corporate failures and global economic crisis of 2008 that estimating the impact of implementation of corporate governance norms on company leverage ratios is necessary.

Empirical evidences show that businesses with superior governance practices generate more profits, higher returns on equity and provide larger dividends. Broad corporate financial decisions i.e. decisions pertaining to financing or capital structure, investment and dividend policies are made by the corporates' management committee or at the level of board. All three financial decisions are interlinked. Board of directors is the highest body of a company that is responsible for managing the firm and its operation. In compliance with corporate governance code of best practices, board of directors serves an efficient financing decision to the company. It plays a vital role in strategic decisions related to capital structure. Different corporate governance variables have been employed in this thesis. These variables were presented by prior studies as effective factors in mitigating agency problems.

Before investing in a business, investors make sure themselves that their funds will be invested safely and that business is financially sound enough to provide them their desired higher returns in future. Researchers around the world tested the relationships empirically to analyze whether corporate governance variables influence a firm's capital structure decision and abating agency problems that persists in almost all the firms. Corporate governance provides guidelines related to board size, board compositions, CEO duality, audit, board meetings etc. On the basis of previous empirical work, board size; board independence; and the duality of leadership seem to be the key variables, mobilized by researchers to characterize the board of a company. Along with this, studies that are related with profitability and size of the firm affecting capital structure decisions are also analyzed.

- Board size and Capital Structure
- Board Independence and Capital Structure
- CEO Duality and Capital Structure

Evidence from prior literatures like Friend and Lang (1988); Berger et al. (1997); Crutchley et al. (1999); Wen et al. (2002); and Abor (2007) concluded that corporate governance influences capital structure decisions of firm. Therefore, corporate governance has been identified as one of the contributing factors for firm's financing decisions which in the long run may have an impact on the financial condition and performance of a firm.

Najjar & Hussainey (2011) found preliminary evidence in their study on UK listed firms that corporate governance characteristics such as board size and board independence are the main drivers of the firms' capital structure.

Empirically evidence on the relationship between corporate governance and capital structure appear to be mixed or varied or heterogeneous and inconclusive.

2.3.1 Board Size and Capital Structure

Liptons and Losch (1992) and Jensen (1993) in their theoretical articles opined that board size is one of the important determinants of corporate governance effectiveness.

Empirical evidences related to capital structure and board size are mixed. On one side, there are studies that support positive relationship between board size and leverage (debt) while on other side there are studies that support negative relationship. Studies in which researchers have supported positive relationship are:

Pfeffer and Salancick (1978) identified the existence of significant positive relationship between board size and capital structure. Large boards pursue higher leverage to raise company value.

Marsh (1982) found a significant positive relationship between board size and capital structure.

Friend and Lang (1988) found large boards include high level of debt in their capital structure. It indicated that as the number of board of directors increases in the firm, chances for inclusion of debt in capital structure also increases. Hence, large board size is associated with higher proportion of debt.

Jensen (1986) argued that firms with large boards have high leverage or debt ratio as compared to small boards. This may be attributed to the difficulty of larger board in arriving at a consensus in decision which can ultimately affect the quality of corporate governance and translated into higher financial leverage levels.

Lipton and Lorsch (1992) proclaimed that large boards have more debt as compared to small boards, as conflicts and disagreements can arise among the board members and therefore they raise funds by taking more debt.

Wen et al. (2002) found preliminary evidence in their study on Chinese listed firms and concluded a positive but insignificant relationship between corporate governance and capital structure decisions. Large boards follow a policy of taking higher level of leverage to enhance firm value while managers tend to take lower debt when they face stronger corporate governance from the board.

Coles et al. (2008) found a positive relationship between board size and debt ratio in context of US. Firms with high leverage (debt ratio) may have greater advising requirements which are fulfilled by large board size.

Bopkin and Arco (2009) found significant positive relationship between board size and capital structure of a firm.

Hussainey and Al-Nodel (2009) found a positive relationship between board size and capital structure. They argued that large boards follow a policy of higher levels of leverage to attain the objective of value maximization especially when these are entrenched due to greater monitoring by regulatory authorities.

Ganiyu and Abiodun (2012) observed a positive relationship between board size and leverage for the companies under survey in the food and beverage industry

in Nigeria. They suggested that large boards are likely to practice effective monitoring due to the sufficient numbers of directors and opt for high debt policy to improve the value of the company. Also, due to large number of members on the board, conflicts in decision making arise which may make the corporate governance system weak and thereby resulting in higher leverage.

On the other side, there are another group of researchers who explored evidences about the negative relationship between board size and capital structure. They found that firms with large board size (board of directors) have low leverage (D/E) levels and vice versa.

Mehran (1992) observed significant negative relationship between board size and debt equity ratio as a measure of capital structure.

Hart (1995) investigated and found a significant negative relationship between board size and capital structure.

Berger et al. (1997) argued in their study on U.S. firms that a larger board size leads to strong pressure in the board room to pursue lower leverage as a way of enhancing firm performance hence board size has significant negative impact on capital structure. However, the correlation between the two shows significant positive association.

Anderson (2004) examined that creditors of firms generally believe that larger board has effective monitoring processes and they raise fund using debt which makes it cost effective.

Abor and Bikpie (2007) in their study which was based on 22 firms listed on the Ghana Stock Exchange (GSE) during 1998-2003 to explore the effect of corporate governance on the capital structure in Ghana (West Africa). They found a significant negative relationship between board size and capital structure. The size of board is found negatively related with debt to equity ratio indicating larger boards may exert pressure on managers to follow low debt levels and thereby, enhances the firm performance.

Jiraporn and Liu (2008) showed that the companies with staggered board have comparatively low leveraged level than other boards.

Hassan and Butt (2009) examined the relationship between corporate governance and capital structure on 58 randomly selected non-financial listed companies of Pakistan during the period 2002 to 2005. They used multivariate regression analysis under fixed effect model to reveal that board size and managerial shareholding is significantly negatively correlated with debt to equity ratio.

Bodaghi and Ahmadpour (2010) examined the data from 50 Iranian firms listed at Tehran Stock Exchange (TSE). They found a negative relationship between board size and debt to equity ratio.

Mahdi et al. (2011) found a negative relationship between board size and leverage.

Vakilifard et al. (2011) investigated the data of Iranian firms listed at Tehran Stock Exchange (TSE) over the period 2005-2010. They found a negative relationship between board size and leverage.

Heng et al. (2012) studied the relationship between board characteristics and capital structure on 75 corporations listed on koalalampour stock exchange in Malaysia during the period 2005-2009. The results of the study revealed a negative relation between the board size and leverage (represented by debt to asset ratio).

Ranti (2013) provided evidence of a significant negative relationship between board size and the capital structure of select listed firms in Nigeria (West Africa).

Precious Angelo Brenni. (2014) examined 26 real estate companies listed on London Stock Exchange during 2000 to 2009 using panel data regression. He documented a significant negative relation between board size and leverage. This indicated that firms with larger board sizes employ less leverage.

Aziz et al. (2013) observed no remarkable results from the firms in Pakistan as expected. This indicated that lack of implication of corporate governance is worst affecting the capital structure.

Uwigbe (2013) examined the impact of board size on capital structure amongst 40 randomly selected firms listed on the Nigeria stock exchange. He observed a significant negative relationship between board size and the capital structure.

Wiwattanakantang (1999); Al-Najjar and Hussainey (2009a); Priya and Nimalathan (2013); Kajanthiran (2012); Peiris and Fernando (2013); Ajanthan (2013); Achchuthan et al. (2013); and Velnamphy and Nimalathan (2013), found in their respected studies that board size has insignificant impact on capital structure decision of non- financial companies.

2.3.2 Board Independence and Capital Structure

Board Independence is one of the keystones of modern corporate governance. A board is more independent if it has more outside directors i.e. Independent/Non-Executive Director (NED). They are essential part of modern corporate governance mechanisms. According to the report on company law of India, independent director should mean a Non-Executive Director (NED) of the company. Literatures suggest all independent directors are NEDs but all NEDs are not independent directors. Presence of independent directors on a company's board provides confidence to the creditors that company is being monitored effectively. In future, if the company requires funds it helps it to raise long term funds easily through debt. Independent directors have better knowledge, expertise, vision and freedom to take effective decisions than inside managers. Their presence is expected to provide close monitoring and take proper actions regarding the implementation of corporate governance regulations. El Gaied and Rachdi (2009) stated that the independent directors have no connection or contractual relationship with company as they are neither shareholders nor having family relationships with founder/Chairman/CEO.

The relationship between presence of Independent Directors (IDs) and capital structure has been studied by few researchers but empirical evidences in this regard are mixed. Studies in which researchers have found support for the existence of positive relationship between board independence and capital structure are:

Pfeffer and Salancick (1978) emphasized in their study that independent directors play a significant role in enhancing the image of the company for external stakeholders which makes it easier to raise funds from them and thereby help in the reduction of risk and uncertainty. They concluded a positive relationship between board independence and leverage in their study. This implies that large number of Non-Executive Directors (NED) on board led to increase in the debt level (leverage).

Fama (1980) documented in his study that Non-Executive Directors may act as “professional referees” to ensure that, competition among insiders encourages actions that are consistent with shareholder wealth maximization and concluded that companies that have relatively more external directors are involved in taking high leverage.

Jensen (1986) found a positive relationship between board independence and leverage.

Grossman and Hart (1986) found a positive relationship between board independence and leverage.

Berger et al. (1997) indicated that companies with higher debt level have relatively more non-executive directors as compared to companies having less proportion of non-executive directors. According to Berger et al. leverage is significantly lower when a firm has a low fraction of outside directors (non-executive directors). Boards with more outside directors monitor CEOs more actively, causing those managers to adopt capital structure with more leverage.

Abor (2007) found a positive correlation between board independence and leverage.

Abor and Biekpe (2007) examined a positive relationship between board independence and debt ratio.

Heng et al. (2012) studied the relationship between board characteristics and capital structure on 75 corporations listed on koalalampour stock exchange in Malaysia during the period 2005-2009. Their study showed that the presence of independent non-executive directors on the board has significant positive correlation respectively with debt to asset ratio.

Studies in which researchers have found support for the existence of negative relationship between board independence and capital structure are:

Wen et al. (2002) found preliminary evidence in their study on Chinese listed firms and concluded the existence of a significant and negative relationship between board independence and leverage level. They believed that Non-Executive Directors (NEDs) monitor the managers more efficiently and effectively that compel managers to minimize the inclusion of debt for enhancing the firm performance. Therefore, presence of non-executive directors in high proportion on the board helps to reduce the agency cost.

Anderson et al. (2004) concluded a negative correlation between board independence and leverage.

Brennan and McDermott (2004) found a negative relationship between board independence and leverage (debt ratio).

Matolcsy et al. (2004) observed sample of 306 firms listed on the Australian Securities Exchange and found a negative relationship between board independence and leverage (debt ratio).

Peasnell et al. (2006) found a negative relationship between board independence and leverage (debt ratio).

Studies in which researchers have found no significant relationship between board independence and capital structure are:

Bopkin and Arco (2009) found a positive but no significant relationship between board independence and debt ratio.

Kuo et al. (2012) observed in their study that independent directors of firms are inclined towards low debt level. This indicated a negative relationship between board independence and leverage.

Precious Angelo Brenni. (2014) examined 26 real estate companies listed on London Stock Exchange during 2000 to 2009 using panel data regression. He found no significant relationship between board independence and leverage.

Priya and Nimalathan (2013); Kajanthiran (2012); Peiris and Fernando (2013); Ajanthan (2013); Achchuthan et al. (2013); and Velnamphy and Nimalathan (2013) found in their respective studies that board independence has no significant impact on capital structure decision of non- financial companies.

2.3.3 CEO Duality and Capital Structure

CEO duality is a situation where the CEO is also the chairman of the board hence it can be assumed that it influences the financing decision of the firm. Usually CEO has the responsibilities to manage the activities of the companies and chairman has the responsibility to deal with the activities of the board. CEO duality is one of the important characteristics of corporate governance (CG). Many literatures suggest that if a person holds both the position i.e. chief executive officer and chairman, then it may create agency problems. Higher level of control by CEOs may involve them in opportunistic behavior and can lead to low leverage under entrenchment hypothesis. Firms can either have one-tier or two-tier structure. CEO duality is a part of one tier structure where monitoring and control rights are vested in a single individual whereas CEO non-duality is a part of two-tier structure where both the positions are held by

two different persons. Agency theory argued that that CEO and chairman of the board should be separate entities in order to maximize shareholders' interest. Williamson (1985) suggested that CEO duality advocates stewardship theory which indicates that when CEO and chairman, are the same person, it maximizes the shareholders' wealth and facilitates the company's decisions.

Empirical evidences related to CEO duality and capital structure are mixed. Studies in which researchers have found support for the existence of positive relationship between CEO duality and capital structure are:

Vakilifard et al. (2011) investigated the data of Iranian firms listed at Tehran Stock Exchange (TSE), over the period 2005-2010. They found a positive relationship between CEO duality and leverage.

Locke and Wellalage (2012) found a significant positive relationship between CEO duality and capital structure in their study. They conducted their study on 113 Sri Lankan companies during the year 2006 to 2010.

Wellalage and Locke (2012) examined capital structure choices of corporate firms in New Zealand and observed a positive relationship between CEO duality and debt.

Mokarami et al. (2012) analyzed firms in Iran and found a positive significant correlation between CEO duality and debt ratio indicating that firms with CEO duality include more debt in their capital. They suggested that CEO duality supports stewardship theory due to which there is decrease in communication conflicts and presence of clear sense of centralized decision making.

Fama and Jensen (1983) discussed in their research that there should be separate decision management and decision control functions in a firm. Presence of CEO duality leads to agency problems which directly affect the capital structure decisions of the company and increases the debt level of the company.

Hart (1995) observed in his study that CEO duality tends to employ high proportion of debt and found a positive relationship between the CEO duality and leverage

Abor and Biekpe (2007) revealed that listed companies employ high debt with CEO duality. Their study found an evidence of significant positive relationship between gearing levels and CEO duality.

Nazir et al. (2012) and Gill et al. (2012) found positive relation between CEO duality and leverage.

Faleye (2004) revealed that uncertain environment, high managerial ownership and small board size of Sri Lanka made the firms more likely to have CEO duality.

Olobukuold Ranti (2013) observed select firms listed on Nigeria Stock Exchange in Nigeria (West Africa) during 2006-2011 and found a significant positive relationship between CEO duality and the capital structure.

Heng et al. (2012) examined the relationship between board characteristics and capital structure on 75 corporations listed on koalalampour stock exchange in Malaysia during the period 2005-2009. They found a significant positive relationship between CEO duality and capital structure.

Emamgholipour et al. (2013) investigated a sample of 665 listed companies in Tehran Stock Exchange for the period 2006-2010 to test the effect of CEO duality on the capital structure. Their results suggested a significant and positive relationship between the CEO duality and capital structure of companies.

Studies in which researchers have found support for the existence of negative relationship between CEO duality and capital structure are:

Berger et al (1997) examined panel of 434 firms between 1984 and 1991. They observed the associations between managerial entrenchment and firm's capital structure. Entrenchment is defined as the extent to which managers fail to

experience discipline from the full range of corporate governance and control mechanisms, including monitoring by the board, the threat of dismissal or takeover, and stock or compensation based performance incentives and entrenched managers are those who have discretion over their firms' leverage choices. They observed that firms with entrenched CEOs avoid debt. In a cross-sectional analysis, they found that leverage levels are lower when CEOs do not face pressure from either ownership and compensation incentives or active monitoring.

Hovey (2010) investigated Chinese companies for the time period 1999-2005 and concluded a significant and negative relationship between CEO duality and leverage. S Kyereboah-Coleman and Biekpe (2006) evidenced negative relationship between CEO duality and capital structure.

Ganiyu and Abiodun (2012) observed a negative correlation between CEO duality and debt equity ratio for the companies under survey in the food and beverage industry in Nigeria.

Studies in which researchers have found no significant relationship between CEO duality and capital structure are:

Fosberg (2004) opined that firms with CEO non-duality generally have higher debt level leverage. He found negative but is not statistically significant relationship between CEO duality and leverage. According to Forberg, firms with CEO duality showed less dependency on debt as they face less information asymmetry problems.

Bokpin and Arko (2009) observed listed companies in the Ghana Stock Exchange to explore the effect of ownership structure and corporate governance on the capital structure decisions. Study consisted of 138 companies as sample for the time period of 2002-2007. The obtained result showed that there is no significant relationship between CEO duality and capital structure.

Bodaghi and Ahmadpour (2010) examined the data of 50 Iranian firms listed at Tehran Stock Exchange. They found that CEO duality has no significant impact on corporate financing decisions.

Saad (2010) examined 126 Malaysian publically listed companies from 1998 to 2006 using multiple regression analysis. His sample included industries from consumer products, industrial products, trading/services, and plantations. He found no significant relationship between CEO duality and capital structure in his study.

Precious Angelo Brenni (2014) examined 26 real estate companies listed on London Stock Exchange during the year 2000 to 2009 using panel data regression. He found no significant relationship between CEO duality and leverage.

Priya and Nimalathasan (2013); Kajanthiran (2012); Peiris and Fernando (2013); Ajanthan (2013); Achchuthan et al. (2013); and Velnamphy and Nimalthasan (2013), found in their respective studies that CEO duality has insignificant impact on capital structure decision of non- financial companies.

2.3.4 Profitability and Capital Structure

Black et al. (2006) states that Return on Assets (ROA) is one of the indicators of the profitability. ROA ratio is calculated by using net income and total assets. It reflects the ability of a company and efficiency of management, to effectively utilize its total assets to generate profits. It shows a unit change of earning derived from each unit of assets used.

Empirical evidences related to profitability and capital structure are mixed.

Wipfern (1966) studied the relationship between financial leverage and value of firm of some industries and found a positive relationship between profitability and debt.

Abor (2005) studied some of the Ghana stock exchange listed firms and found that there is a positive relationship between Return on Equity and short-term debt to total assets.

Gill, et al. (2011) tried to extend Abor (2005) study by examining a sample of 272 services and manufacturing firms listed on New York. They found that there is a positive relation profitability and between debt.

Hovey (2010) investigated Chinese companies for the time period 1999-2005 and concluded a significant and negative relationship between profitability (Return on Assets) and leverage.

Holz (2002); Sarkar and Zapatero (2003); Dessi and Robertson (2003); Baum et al. (2006); Margraves and Psillaki (2010) evidenced a positive relationship between profitability and debt in their respective studies.

Baysinger and Butler (1985); Bopkin and Arco (2009) identified profitability as a significant determinant of capital structure of firm and return on assets (ROA) is the most commonly used accounting-based measures.

Titman and Wessel (1988) evidenced that profitability has negatively correlated with capital structure and their study also witnessed that small firms are mostly dependent on short term financing.

Barton et al. (1989) stated that under the condition of *ceteris paribus* firms with high profit rates have relatively lower debt ratio as these firms' internal funds or retained earnings are sufficient enough to fulfill the funding needs.

Rajan & Zingalas (1995) confirmed a significant and negative correlation between profitability and leverage in their study.

Myers and Majluf (1984) indicated that firms that generate profits generally have low debt as these firms prefer internally generated funds over external financing.

Mendell (2006) examined 20 firms of the forest industry and results of his study indicated the existence of a negative relationship between profitability and debt.

Mohammad and Jaafer (2012) investigated 39 companies listed on Amman Stock Exchange to analyze the relationship between debt and profitability. Results of his study indicated significant and negative relationship between debt (short term, long term, and total) and return on equity.

Kebewar (2013) examined 2325 trade sector companies of France for the period 1999 to 2006. Results of his study indicated that debt has negative affect on profitability.

Anandasayanan Subramaniam (2013) investigated manufacturing firms listed on Colombo stock Exchange and found a significant and negative relation between debt and profitability.

Wali, Fatima, and Mehboob (2012) investigated 17 textile companies listed on KSE from 2003 to 2007 and found that the short term debts have negative relation with profitability.

Krishnan and Moyer (1997); Gleason et al. (2000); Goddard et al. (2005); Nguyen & Ramachandran (2006); Zeitun and Tian (2007); King and Santor (2008); Kajola (2010); Lim (2012) also found negative relationship between debt and profitability in their respective studies.

The argument given to justify the negative relationship between capital structure and profitability is based on pecking order theory. Companies that earn more profits have more internal resource or retained earnings to use for the purpose of investment and growth and therefore they are less dependent on debt.

2.3.5 Size of the Firm and Capital Structure

Firms which are larger in size generally have close relations with their lenders and therefore, these firms find it easier to arrange debt on their favorable terms.

Trade-off theory supports a positive relationship between the size of a company and its financial leverage while the pecking order theory supports negative relationship between the size of a firm and its financial leverage. Bhaduri (2002) suggested that the optimal capital structure choice can be affected by firm size.

Empirical evidences related to size of the firm and capital structure, are mixed.

The argument given for the positive relationship between firm size and leverage is that as the business grows and expands, the company's stream of cash flows stability becomes stronger. As the stability of the company improves, it can afford to incur more debt. Larger companies have less risk, less prone to bankruptcy, have more transparency and more diversified as compared to smaller ones. All these factors help the larger firm in getting easier access to debt financing.

Marsh (1982), Friend and Lang (1988), Titman and Wessels (1988) Rajan and Zingales (1995), Lasfer (1995), Barclay and Smith (1996), Berger et al. (1997), Nguyen & Ramachandran (2006), Karadeniz et al. (2011), and Lim (2012) supported the positive relationship between size of firm and leverage.

Castanias (1983) suggested that smaller firms may have lower debt ratio as these firms find it relatively more costly to resolve information asymmetries with the providers of the funds.

Titman and Wessels (1988) posit that raising funds through equity is costlier for small firms which compel them to rely less on equity. In contrast, large firms may prefer to use high leverage and therefore a positive relationship is expected between a firm's size and its leverage.

Rajan and Zingales (1995) indicated that the leverage of U.S. firms is positively correlated with firm size. They suggested large firms are expected to employ higher amount of debt than small firms as they are generally well-established, more diversified, have good performance track record, less risky.

Uglurlu (2000) stated that large firms normally have deep relationship with the provider of the funds as they get long term debt easily. Consequently it is expected to have a positive relation between size of firms and leverage.

Dalbor and Upneja (2002) investigated publicly traded US restaurant firms and found that long-term debt has positive relationship with firm size.

Al-Sakran, (2001) and Hovakimian et al. (2004) observed in their respective studies an empirical evidence of a positive relationship between size of firm and capital structure.

Kurshev and Strebulaev (2005) found in their study, a strong positive relation between size of firm and capital structure.

Hassan (2011) argued that firm size is major determinant of capital structure for listed insurance firms in Nigeria.

Ogbulu and Emeni (2012) found in their study that size of firm has a positive relationship with capital structure of listed firms.

Studies in which researchers have found the existence of negative relationship between size of firm and leverage are:

Marsh (1982) argued that due to their limited access to equity capital small companies tend to rely heavily on debt for their funding requirements.

Wald (1999) observed a negative relationship between firm size and debt in Germany. He documented that larger firms tend to have less debt as a small number of professional managers control a sizable percentage of big industrial firms' stocks (such as Siemens and Daimler-Benz) and have the power to push the management to act in the shareholder's interests.

Hovey (2010) investigated Chinese companies for the time period 1999-2005 and concluded a significant and negative relationship between firm size and leverage.

Emamgholipour et al. (2013) found a significant and negative relationship between firm size and capital structure.

Researchers like Barton, Ned, and Sundaram (1989); Cassar and Holmes (2003); Esperanca, Ana, and Mohamed (2003); Hall et al. (2004); Sogorb-Mira et al. (2005), suggested a negative relation between the firm size and leverage.

However, researchers like Remmers et al. (1974); Kim and Sorensen (1986); Kester (1986); Karadeniz et al. (2012), found no significant effect of size of firm on capital structure in their respective studies.

2.4 EMPIRICAL STUDIES ON RELEVANT AREA IN INDIA

There are few researches available in Indian context which are related to the relationship between corporate governance and firm performance. Indian studies showed varied outcome which are similar to the worldwide findings, where no conclusive evidence or consensus for any one school of thoughts are available. Therefore the results have been mixed in nature. There are very scant studies available in relation to the corporate governance and capital structure in India. Therefore, the following studies are mainly related to corporate governance and firm performance while few researches pertinent to corporate governance and capital structure are delineated here, which are available till date to the researcher's best knowledge.

Pathak (1997) investigated 135 Indian firms listed on Bombay Stock Exchange (BSE) during the period of 1990-2009. His study examined the relative importance of six factors i.e. tangibility of assets, growth, firm size, business risk, liquidity, and profitability on the capital structure decisions of publicly traded Indian firms. The results of the study found that all the six factors have significant impact on the capital structure decisions.

Kumar (2005) examined the relationship between corporate governance and capital structure during the period 1994 to 2000 in India. He used ownership structure as a proxy variable for corporate governance and debt ratio as a proxy

variable for capital structure. He observed that capital structure has an insignificant and non-linear relationship with corporate governance. He further suggested that firms with higher outside ownership or lower institutional ownership tend to have low debt.

Dwivedi and Jain (2005) investigated the relationship between corporate governance and firm performance. They observed 340 large listed Indian firms which spread across 24 industry groups for the period 1997-2001 and found a weak but positive relationship between board size and firm value in their study.

Ghosh (2006) investigated the data of 127 listed manufacturing firms in India for the year 2003 to explore the association between financial performance and board's characteristics. Findings of the study indicated that keeping various firm-specific factors constant, larger boards tend to decrease the performance of firm.

Ajay Kumar Garg (2007) examined the relationship between corporate governance variables and firm performance. Garg used board independence and board size to represent the corporate governance. The study evidenced that board size is inversely related to performance which indicated that smaller board size add value and improve the performance of the firm. However, results indicated that board independence has no significant impact on firm performance which signifies that independent directors were unable to perform effectively.

Pattanayak (2008) investigated the effect of insider ownership on firm value (measured by Tobin's Q) on 1833 firms listed on Bombay stock Exchange in India for the periods of 2000-01 and 2003-04. He found that firm value increases with the rise in insider ownership.

Jackling et al. (2009) examined the relationship between corporate governance and financial performance of Indian companies. The results suggested that large board has a positive impact on performance of the companies.

Akshita Arora (2010) tested the relationship between corporate governance and performance indicators for Indian firms. The results indicated that the boards are dominated by executive directors and frequency of board meetings is high that help in enhancing the firm performance.

Aman Srivastava (2011) argued that ownership structure of any company is a serious agenda for corporate governance and that of firm performance. He investigated 98 most actively listed companies of Bombay Stock Exchange of India for the year 2009-10 and tried to explore the relationship between corporate governance and performance indicators for Indian firms. The results of regression indicated the presence of highly concentrated ownership structure and dispersed ownership percentage, impact certain measures of accounting performance indicators like ROA and ROE but not stock market performance indicators.

Chugh et al. (2011) investigated that the relationship between corporate governance and financial performance. The results of this study reflected that board size creates better opportunities for firm performance while high board independence lowers the firm's financial performance.

Chatterjee (2011) investigated the relationship between corporate governance and firm performance by using multiple regression models. His study revealed that larger boards are negatively related to firm performance. However, in case of Public Sector Units, board size is insignificant in determining the performance of firm. Along with that, board independence is insignificant across all categories of firms in India indicating that independent directors are unable to play effective role.

Varshney et al. (2012) examined the relationship between corporate governance and firm performance using NSE listed firms in India. They examined corporate governance variables like board size, board composition, board activity, CEO duality, ownership structure and board business on firm performance i.e.

Economic Value Added (EVA). Results of their study showed that only board size was significantly and positively associated with firm performance.

Arora (2012) examined the Indian firms for the period 2001-2010 to explore the relationship between corporate governance and firm performance. The variables used for corporate governance were board size, outside directors, number of meetings held while variables used for firm performance were both market-based and financial based indicators. Arora used panel data fixed effects regression model and simultaneous equation method to explore the relationship and found significant impact of corporate governance on firm performance. The results indicated that corporate governance helps in the improvement of firm performance in Indian context. Although the relationship shown by the results were weak and researcher indicated that policymakers should pay more attentions and seriousness towards corporate governance reforms.

Gill et al. (2012) tested the perceived relationship between corporate governance and capital structure on 600 small service companies in India. Survey pertinent to corporate governance and capital structure of small business service firms were conducted. The results of the study showed that board size and CEO duality positively impact the capital structure.

Kaur (2015) analyzed 100 Indian firms listed on the Bombay Stock Exchange using multiple regression analysis and observed a significant positive association between promoter ownership and board size with firm performance.

A comprehensive review of related literature reveals that although there are series of related prior empirical studies in this area of research from developed economies. However, the same cannot be said of developing economies since most of the work are theoretical in nature and empirical works in this area of research have mostly focused on the impact of corporate governance on firm's performance or examined the influence of ownership structure on firm value while limited study focus on capital structure.

2.5 SUMMARY OF CHAPTER

This chapter is divided into two major sections, section one contains the theoretical approaches of corporate governance and capital structure. Second section contains the empirical studies pertinent to corporate governance and capital structure relationship. There is a growing interest among researchers in management in the area of corporate governance especially among large and listed firms. Hence, this study investigates the impact of corporate governance on the capital structure of listed firms in India. The extant literature identified the main characteristics of corporate governance to include in the study as board size, board independence, and CEO duality. However, empirical results on the relationship between corporate governance and capital structure appear to be varied and inconclusive indicating that the relationship has not been fully explored. Therefore, this study investigates the relationship between corporate governance practices and firm's capital structure in context of Indian firms.

CHAPTER-3
CORPORATE
GOVERNANCE-
AN OVERVIEW

CORPORATE GOVERNANCE-AN OVERVIEW

3.0 INTRODUCTION

This chapter provides an overview of corporate governance system. The chapter begins with the definitions and delineating the history of corporate governance by giving an overview of various committees formed around the world to reform the corporate governance system. It further extended to describe the evolution and restructuring of corporate governance system in India.

3.1 DEFINITIONS OF CORPORATE GOVERNANCE

Corporate governance enables to govern a company by providing rules and norms which are required for the survival of firm and protection of the interests of its shareholders & stakeholders.

Sir Adrian Cadbury Committee, which was setup in May 1991 for corporate governance issues in U.K., defined corporate governance, “As the system by which companies are directed and controlled. The basic objective of corporate governance is to enhance and maximize shareholder value and protect the interest of other stakeholders.”

Keasey and Wright (1993) defined corporate governance as a framework for effective monitoring, regulation and control of companies which allows alternative internal and external mechanisms for achieving the laid down objectives. The internal mechanisms include the board composition, managerial ownership, and non-managerial shareholding including the institutional shareholding while external mechanisms includes; the statutory audit, the market for corporate control and stock market evaluation of corporate performance.

Simon Deakin (1995) explained corporate governance in context of how companies are directed and controlled. Good governance is an essential element for the success of corporates and sustainable economic growth. To conduct research in context of governance necessitates an interdisciplinary analysis, drawing above all on economics and law, along with that close understanding of modern business practices coming from detailed empirical studies in a range of national systems. It describes the connection among various stakeholders i.e. shareholders, Chief Executive Officer (CEO), management, employees etc., in influencing the direction and corporate performance.

According to Shleifer & Vishny (1997) “Corporate Governance deals with the ways in which the suppliers of finance to corporations assure themselves of getting a return on their investment.”

Corporate Governance Forum of Japan (1997) explained corporate governance as the responsibility of the board of directors, who are elected to act on behalf of the shareholders.

Mathiesen (2002) defined corporate governance as a field in economics that investigates how to motivate efficient management by using incentive mechanisms that help in enhancing the performance of the corporations. These incentives can be in the form of contracts, organizational designs and legislation.

Craig (2005) stated that corporate governance depends upon the relative power of owners, managers and provider of capital. It entails the procedures, customs, laws and policies of different economies around the world. An important objective of corporate governance is to ensure accountability and transparency of those who are involved in the policy implementation of organizations through mechanisms that will reduce principal agent conflict.

Paul J. Sobel (2005) defined corporate governance as the process approved out by the board of directors, and its related committees, on behalf of and for the benefit

of the company's stakeholders, to provide direction, authority, and oversight to management.

Goergen and Renneboog (2006) defined corporate governance as a system which is a blend of mechanisms which ensures that the management as the agent(s) runs the firm for the benefits of one or several stakeholders (principals). Such stakeholders may cover shareholders, creditors, suppliers, clients, employees and other parties with whom the firm conducts its business.

Bruce Weber, who is professor and dean of Business Administration of Alfred Lerner College of Business & Economics, defined corporate governance during an inaugural meeting of the newly reconstituted advisory board for the John L. Weinberg Center for Corporate Governance in 2011, as accountability to the providers of capital.

Marc Goergen (2012) viewed that corporate governance deals with the conflicts of interests between: the suppliers of funds and the managers; the shareholders and the stakeholders; minority shareholders and large shareholders; along with the mitigation in these conflicts of interests.

Peter Crow (2015) stated that the act of directing and controlling, describes what boards should do when they have to make decisions. It does not explain and is not a substitute for the board itself, nor any other party or activity outside the boardroom.

According to American Management Association (AMA) corporate governance is about how suppliers of capital hires managers to get returns on their capital, ensure that managers do not exploit the capital by investing in non-feasible projects, and how the suppliers of funds monitor managers.

ASX (Australian Securities Exchange) Corporate Governance Council gave definition of corporate governance as the framework of rules, relationships,

systems and processes within and by which authority is exercised and controlled within corporations.

According to International Chamber of Commerce, the application of corporate governance can be seen as the association between corporate managers, directors and the providers of equity, people and institutions, who save and spend their capital to earn a return. It ensures that the board of directors is responsible for the quest of corporate objectives and that the corporation itself conforms to the rules and regulations.

Delaware Supreme Court opined that the most primary principles of corporate governance are the functions of the distribution of power within the corporation, between its stockholders and its board of directors.

3.2 HISTORICAL OVERVIEW OF CORPORATE GOVERNANCE

3.2.1 Cadbury Committee on Corporate Governance, 1992

This committee was constituted in May 1991 jointly by London Stock Exchange, the Financial Reporting Council and the accountancy professionals in UK in the backdrop of series of financial scams and corporate failures in the 1980s in Great Britain. The Committee examined the accountability of the board of directors to shareholders and to the society and submitted its report and associated 'Code of Best Practices' in December 1992. The Cadbury Committee sets the objectives of corporate governance as a system that help to elevate the standards of corporate governance and the enhancing the level of confidence in financial reporting and auditing, by setting out clearly what are the respective responsibilities of those involved in and what is expected from them. Committee in its report spelt out the methods of governance needed to achieve a balance between the essential powers of the board of directors and their proper accountabilities.

3.2.2 The Paul Ruthman Committee

This committee chaired by Ron Hampel, was constituted to deal the controversy faced by Cadbury committee report on the grounds of its practicality. This committee restricted the reporting requirement to internal financial controls only, which was contrary to the code stipulated by Cadbury committee as ‘the effectiveness of the company’s system of internal control’. The final report of the committee had some central and progressive elements, notably the extension of directors’ responsibilities to ‘all relevant control objectives including business risk assessment and minimizing the risk of fraud’.

3.2.3 The Greenbury Committee, 1995

This committee chaired by Sir Richard Greenbury, was constituted in January 1995 to recognize the good practices of the Confederation of British Industry (CBI) in response to growing concern related to the level of salaries and incentives being paid to top management. It was constituted to shape directors’ remuneration and to arrange a code of such practices for use by public limited companies of the United Kingdom. This committee produced the ‘code of best practices’ for corporate governance which was divided into the following four sections:

1. Remuneration
2. Disclosure
3. Remuneration policy
4. Service contracts and compensation

3.2.4 The Hampel Committee, 1995

The Hampel Committee was constituted in November 1995 by the Financial Reporting Council, London Stock Exchange, Confederation of British Industry, and Institute of Directors. This committee was established under the

chairmanship of Sir Ron Hampel to endorse high standards of corporate governance and to review and extend the recommendations of Cadbury and Greenbury Committees. Some of the recommendations of Hampel committee were:

1. Auditors should report on internal control privately to the directors.
2. Directors maintain and review all controls, not limited to just financial.
3. Companies not having an internal audit function should analyse their need from time to time and introduce the Combined Code that consolidated the recommendations of earlier corporate governance reports of Cadbury and Greenbury committees.

3.2.5 The Combined Code, 1998

The Combined Code was derived from the reports of Ron Hampel Committee, Cadbury and the Greenbury in 1998. It was published by Financial Reporting Council (FRC). The Combined Code is applied to the companies listed on the London Stock Exchange. This included code related to companies, institutional shareholders, provisions on the design of performance related remuneration, guidance on liability of non-executive directors and disclosure of corporate governance arrangements.

3.2.6 The Turnbull Committee, 1999

The Turnbull Committee chaired by Nigel Turnbull constituted in 1999 by the Institute of Chartered Accountants in England and Wales (ICAEW). It provides direction to aid companies in implementing the requirements of the Combined Code relating to internal control. The main features of the report are:

- To provide guidance to assist companies in implementing the requirements of the Combined Code relating to internal control.
- To suggest companies which are not having internal audit function that

the board should consider the need for carrying out an internal audit annually.

- To recommend that boards of directors should authorize the procedures of estimating and managing key risks.

Corporate governance is constantly evolving to reflect the current corporate, economic and legal environment. For effective corporate governance practices there is a need to make rules and norms according to the particular needs, objectives and risk management of the organizations. Corporate governance is a dynamic concept and therefore needs to be improved with changing business environment of the economy accordingly.

3.2.7 World Bank on Corporate Governance

The World Bank was one of the first international organizations to study the subject of corporate governance and suggested certain guidelines. It was interested and concerned in equitable and sustainable economic development worldwide. The World Bank in its report on corporate governance identified the difficulties related with of the concept of corporate governance and emphasized on the values on which it is based.

3.2.8 OECD Principles

The Organization for Economic Co-operation and Development (OECD) is one of the earliest non-governmental organizations. The OECD Principles on the codes of best practices provide the similar trendsetting corporate governance guidelines as provided by Cadbury Report. The main beliefs laid out by the OECD for its member countries are rights of the shareholders, stakeholders' role in corporate governance, equitable treatment of all shareholders, disclosure and transparency and the responsibilities of the board of directors.

3.2.9 McKinsey (International Management Consultant Organization) Survey on Corporate Governance, 2002

McKinsey conducted a survey on 188 companies from 6 countries, to explore the correlation between good corporate governance and the market valuation of the company. The countries which selected for the survey were the emerging markets of India, Malaysia, Mexico, South Korea, Taiwan and Turkey. This survey found a positive correlation between the two.

3.2.10 Sarbanes-Oxley Act, 2002

Sarbanes-Oxley Act is a step towards good corporate governance. It provided certain standards of good governance as specific requirements. This act strengthened the independence and financial-literacy of boards. Some examples are: Creation of Public Company Accounting Oversight Board (PCAOB) to oversee the accounting industry; provision of job security to whistleblowers; and personal accountability of CEOs for inaccuracies in accounting audits.

3.2.11 Blue Ribbon Committee on Corporate Governance in the US, 1999

The Blue Ribbon Committee published its report in February 1999 to improve the effectiveness of corporate auditing committees. Its recommendations were mainly focused on the ways of enhancing audit committee oversight of corporate financial reporting like suggestion related to audit committee and external auditor relation, strengthening the independent auditors, quality of financial reporting etc.

3.3 CORPORATE GOVERNANCE: EVOLUTION AND RESTRUCTURING INDIA

In India, during 3rd century B.C. Chanakya expounded fourfold duties of a king viz. Raksha, Vriddhi, Palana and Yogakshema which could be seen as a concept of good governance. King was considered as steward who now substituted with

the CEO or board of directors of the company. Chanakya's fourfold duties can be compared with principles of corporate governance:

Chanakya's Fourfold Duties	Principles of Corporate Governance
Raksha	Shareholders' wealth protection.
Vridhhi	Wealth maximization by proper utilization of assets.
Palana	Wealth maintenance through profitable and feasible endeavors.
Yogakshema	Protecting the interests of the shareholders.

However, the concept of corporate governance was not in focus until early 1990s. India opened up its economy in 1991 which brought up the growth initiators viz. liberalization, privatization and globalization. With the advent of these events, Indian market became more reachable for domestic as well as foreign corporates which was vitally imperative for the growth and revival of the economy. Even at that time the book of law did give much reference to it. Governance system was weak and was in need of a reform in corporate governance. Some weaknesses of the system were:

- Undesirable stock market practices.
- Boards of directors without adequate fiduciary responsibilities.
- Poor disclosure practices, and
- Lack of transparency etc.

A number of measures have been adopted as a part of corporate governance reforms like strengthening of certain shareholder rights and increased empowerment of SEBI.

3.3.1 The CII Code

The Confederation of Indian Industry (CII) circulated its final draft on the 'Code of Corporate Governance' in 1997 and the final code of 'Desirable

Corporate Governance Code' was released in April 1998. These codes were applied on listed companies on voluntary basis to access domestic as well as international fund at an economical rates.

3.3.2 Kumar Mangalam Birla Committee Report, 1999

Overwhelmed with the positive response received for CII (Confederation of Indian Industry) code, SEBI constituted a committee chaired by Kumar Mangalam Birla in 1999. The objective of this committee was to raise the standard of good corporate governance and emphasis was to make it statutory rather than a voluntary code. In early 2000, the SEBI Board accepted and given consent on the key recommendations of the committee (mandatory and non-mandatory) which were incorporated into Clause 49 of the Listing Agreement of the Stock Exchange. The ultimate responsibility of putting the recommendations into practice rests directly with the Board of Directors and the management of the company.

3.3.3 Central Coordination and Monitoring Committee, 1999

Central Coordination and Monitoring Committee (CCMC) was set up in 1999 by the Department of Corporate Affairs (DCA) to monitor the action taken against the disappearing companies and dishonest promoters who misused the funds raised from the public. This committee was co-chaired by Secretary, DCA and Chairman, SEBI. On the recommendations of this committee, seven task forces were decided to be set up to recognize the companies, which have disappeared, or which have misutilised the funds raised from public and suggested appropriate action in terms of Companies Act or SEBI Act. The region selected for these task force were Mumbai, Delhi, Chennai, Kolkata, Ahmedabad, Bangalore and Hyderabad.

3.3.4 Report of Task Force, 2000

In 2000, the Task Force on Corporate Excellence set up by the group under the chairmanship of Dr. P.L. Sanjeev Reddy, Secretary of Department of Corporate Affairs. He presented a number of recommendations and the aims of these recommendations were to set up a Centre for Corporate Excellence and raising the standards of governance of all the Indian companies.

3.3.5 Naresh Chandra Committee Report, 2002

Naresh Chandra committee was appointed by Ministry of Finance and Company Affairs in 2002, to observe and recommend some amendments to the law involving the relationships between auditor and client, and the role of independent directors. The recommendations were based on two significant facets of corporate governance i.e. (1) Financial and non-financial disclosure, (2) Independent auditing and board oversight of management.

3.3.6 Narayana Murthy Committee Report, 2003

SEBI constituted a committee under the chairmanship of Narayana Murthy for reviewing implementation of the corporate governance code by listed companies and issue of revised clause 49. Some of the major recommendations of the committee predominantly related to audit committees and reports; directorships and director compensation; independent directors; codes of conduct and financial disclosure; related party transactions and risk management

3.3.7 National Foundation of Corporate Governance, 2003

Ministry of Company Affairs (MCA) was set up by National Foundation for Corporate Governance (NFCG) in association with Confederation of Indian Industry (CII), Institute of Company Secretaries of India (ICSI) and Institute of Chartered Accountants of India (ICAI) in 2003. The NFCG focused on the following areas: sustainable wealth creation; awareness relating to good

corporate governance practices; platform for quality discussions and debates amongst academicians, policy makers, professionals and corporate leaders; improvement in the implementation and enforcement of various laws related to corporate governance; to set up 'National Centers for Corporate Governance' across the country.

3.3.8 J.J. Irani Committee Report, 2004

The Government took an initiative and set up a committee in December 2004, under the chairmanship of Dr. J.J. Irani with the objective of advising the government on the proposed revisions to the Companies Act 1956. The Committee submitted its recommendations in May 2005. The recommendations were mainly related to:

- Management and board governance
- Related party transactions
- Minority interest
- Investors education and protection
- Access to capital, accounts and audit,
- Mergers and amalgamations,
- Offences and penalties,
- Restructuring and liquidation, etc.

3.4 CURRENT STATUS OF THE CORPORATE GOVERNANCE IN INDIA

The corporate governance framework in India primarily consists of the following legislations and regulations:

- **The Companies Act, 1956:** This act governs both listed and unlisted companies which itself administered by the Department of Companies Act (DCA). This Act deals with following:
 - Rules and procedures regarding company incorporation.
 - Prospectus and allotment of ordinary, preference shares and debentures.
 - Management and administration of a company.
 - Annual returns.
 - Frequency and conduct of shareholders' meetings and proceedings.
 - Maintenance of accounts.
 - Board of directors, prevention of mismanagement and oppression of minority shareholder rights.
 - Power of investigation by the government plus powers of the Company Law Board (CLB).
- **The Securities Contracts (Regulation) Act, 1956:** This act outlines the parameters of conduct of the stock exchanges as well as its powers.
- **The Securities and Exchange Board of India (SEBI) Act, 1992:** This act established SEBI as an independent capital market regulatory body. The main objectives of its establishment are to protect the interests of investors, and promotion and regulation of the securities market.
- **The Depositories Act, 1996:** This act established the depositories of share and securities. Depositories are also involved in transformation of securities in electronic form i.e. dematerialization and vice versa i.e. rematerialization.
- **Listing Agreement with stock exchanges:** This act delineate the rules, processes, and disclosures that companies must follow to remain as listed on

the stock exchange. Clause 49 or/ Revised Clause 49 Equity Listing Agreement is one of the main elements of corporate governance practices that listed companies must comply with. This clause consists of mandatory as well as non-mandatory provisions:

Mandatory Provisions: Totally essential for corporate governance and it can be enforced without any legislative amendments.

Non-mandatory: Either desirable or may require change of laws. It may be implemented at the discretion of the company.

Gist of Cause 49 is as follows:

A. Mandatory provisions comprises of the following:

- Composition of Board and its procedure: Frequency of meeting, number of independent directors, code of conduct for board of directors and senior management.
- Audit Committee, its composition, and role.
- Provision relating to subsidiary companies.
- Disclosure to Audit committee, Board and the Shareholders.
- CEO/CFO certification.
- Quarterly report on corporate governance.
- Annual compliance certificate.

B. Non-mandatory provisions consist of the following:

- Constitution of Remuneration Committee.
- Dispatch of half-yearly results.

- Training of Board members.
- Peer evaluation of Board members.
- Whistle Blower policy.

Corporate governance in India is restricted to Clause 49 of the listing agreement. The Corporate governance norms are very strict and disclosures are mandatory. These norms are only applicable to public limited companies in India which are listed on stock exchange(s). Listed companies in India have to strictly follow the guidelines provided by SEBI (Securities and Exchange board of India) regarding corporate governance. It was found that India follows more stringent corporate governance practices based on US model.

Norms related to Board Size

1. Board Size (Mandatory)

	The Companies Act, 2013		
	Minimum (No.)	Maximum (No.)	Note: A company is allowed to have more than 15 directors only after passing a special resolution.
Board Size	03	15	

2. Board Independence (Mandatory)

Companies Act 1956 (“1956 Act”)	Clause 49 of the Listing Agreement	The Companies Act, 2013 (“Act”)
No explicit provisions for independent directors	It has mandatory provision for independent directors.	Ministry of Corporate Affairs (MCA) made changes in the provisions of 1956 Act and included the requirement of having an independent director on the board to oversee corporate governance.

Independent Director- Definition (given in Clause 49): Independent Director is a Non- Executive Director (NED):

- who is NOT a Nominee Director Is/Was NOT a promoter / relative of the promoter of the Company or its holding, subsidiary or associate company.
- who has/had NO pecuniary relationship (apart from directorial remuneration) with the Company, its holding, subsidiary, associate company or the promoters or directors during two immediately preceding financial years.
- whose relatives DO NOT have/had any pecuniary relationship with the Company its holding, subsidiary, associate company or the promoters or directors, amounting to 2% or more of its total income or Rs. 50 lakh during the two immediately preceding financial years.
- who is/was NOT an employee of the Company its holding, subsidiary, associate company in the any of the three immediately preceding financial years.
- who is/has NOT been an employee/proprietor/partner of an audit /legal /consulting/any other firm which has transaction with the Company its holding, subsidiary, associate company, amounting to 10% or more of gross turnover of that firm, in any of three preceding financial years.
- who is NOT a CEO/Director of a non-profit firm that receives 25% or more of its receipts from the Company its holding, subsidiary, associate company, promoters or its directors, or holds 2% or more voting power of the Company.
- who is NOT a material supplier, service provider or customer or a lessor or lessee of the company. Is NOT less than 21 years of age.

Independent Directors on Boards

The Clause 49 of the Listing Agreement mandates for listed companies that the board should have an optimum combination of Executive Directors (EDs) and Non-Executive Directors (NED), satisfying the following criteria:

- If Chairman is an ED, at least 50% of the board should be Independent Directors (ID).

- If Chairman is a Promoter or related to a Promoter, at least 50% of the board should be Independent Directors (IDs).
- If Chairman is related to anyone occupying management position at the board level or one level below the board, at least 50% of the board should be Independent Directors (IDs).
- If the Chairman is an Independent Directors (ID), at least one-third (1/3) of the board should be Independent Directors (IDs).
- If the board doesn't have a regular non-executive Chairman, at least 50% of the board should be Independent Directors (IDs).

3. Separation of the post of Chairman and CEO or CEO duality (Non-mandatory)

Primary Market advisory Committee (PMAC) recommended SEBI that separate post for the Chairman and the MD/CEO may not be mandated. It stated that existing provisions given in Clause 49 already mandates higher number of Independent Directors in case of executive Chairman. Although, the requirement of CEO duality is common in developed countries, the question of mandatory separation of the post of chairman and CEO/MD is not settled globally yet. However, it is proposed that the separation of the post of Chairman and MD/CEO may be implemented by companies as a good governance practice. Corporate governance has a wide variety of arrangements. Researchers categorize these arrangements into two mechanisms that contribute a significant role in improving corporate governance:

- Internal Mechanism: The ownership structure of the firm, the board of directors, the auditor and the audit committee, other committees.
- External Mechanism: The market for corporate control and product market competition.

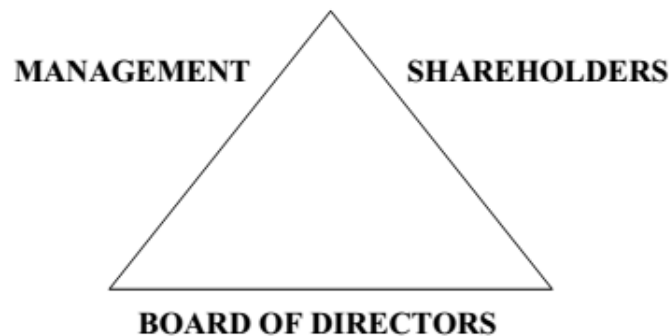
The market for corporate control and product market competition play a significant role in improving corporate governance. Overall legal and institutional structures of the country are designed by the internal and external mechanisms.

3.5 THREE MAJOR PLAYERS OF CORPORATE GOVERNANCE

1. Shareholders (Ownership)
2. Board of Directors (Monitoring)
3. Management (Performance)

All the three important players of corporate governance must be able to act and must be motivated and informed enough to act correctly. There is no perfect financial arrangement. The definitive aim of a corporate governance structure must be that it recurrently re-evaluated so that the authority structure itself can adapt to altering times and needs.

Fig.3.1 Corporate Governance Triangle



American corporate governance doctrine chiefly describes the power, rights and connected responsibilities of three principal groups:

- Shareholders: They provide capital and must support major firm transactions.
- Board of Directors (BODs): They are elected by shareholders to supervise the running of the corporation.
- Senior executives/Management: They are accountable for the day to day operations of the corporation.

3.6 FOUR PILLARS OF CORPORATE GOVERNANCE

1. Accountability
2. Fairness
3. Transparency
4. Independence

Accountability

- Ensure that management is answerable to the Board.
- Ensure that the Board is liable to shareholders.

Fairness

- It defends Shareholders rights.
- It takes care of all shareholders including minorities, equitably.
- It provides effective remedy for violations.

Transparency

- It ensures timely, correct admission on all material matters, including the financial circumstances, performance, ownership and corporate governance.

Independence

- It ensures that events and structures are in place so as to minimize or completely avoid the conflicts of interest.
- It ensures that Independent Directors and Advisers are free from the impact of others.

3.7 ELEMENTS OF GOOD GOVERNANCE

Good governance is a concept which is difficult to achieve in its totality. Good governance has eight major features. It is participatory, agreement oriented, responsible, obvious, receptive, effective and efficient, just and inclusive, and follows the rule of law. Good governance is receptive to the present and future needs of the organization, exercises care in policy-setting and decision-making, and that the best welfare of all stakeholders are taken into account.

- **Rule of Law**

The unbiased legal frameworks enforced by regulatory bodies, are the requirement of good governance which ultimately protect the interests of the stakeholders.

- **Transparency**

Transparency means that information should be given in easily understandable forms and medium; that it should be available without any constraint and directly available to those who would be affected by governance policies and practices, as well as the impact resulting therefrom; and that any action taken and their implementation are in agreement with established rules and regulations.

- **Responsiveness**

Good governance requires that organizations and their activities are designed to serve the best interests of stakeholders within a logical timeframe.

- **Consensus Oriented**

Good governance requires discussion to understand the special interests of stakeholders in order to reach a large accord of what is in the best interest of

the entire stakeholder group and how this can be attained in a sustainable and prudent manner.

- **Equity and Inclusiveness**

The organization should provide the opportunity for its stakeholders to maintain, enhance, or generally improve their well-being for which it was formed and value to society.

- **Effectiveness and Efficiency**

The processes implemented by the organization to produce favorable results meet the needs of its stakeholders with utmost effective utilization of resources i.e. Human; Technological; Financial; Natural; and Environmental.

- **Accountability**

Accountability is a key principle of good governance. Who is accountable for what should be recognized in policy statements. In general, an organization is answerable to those who will be affected by its decisions or actions as well as the relevant rules of law.

- **Participation**

Gender diversity is a key cornerstone of good governance. Participation needs to be informed and organized, including freedom of expression and diligent concern for the best interests of the organization in particular and society in general.

3.8 BOARD OF DIRECTORS

Both under the Companies Act, 2013(2013 Act) and RC49, directors fall into two classes, viz., Executive Directors (EDs) and Non-Executive Directors (NEDs). Non-executive Directors can be Independent Directors (IDs) and others (NEDs). Whilst the 2013 Act defines the concept of Executive Directors,

Independent Directors and Non-Executive Directors, it also mentioned minimum requirement in respect of Independent Directors. For the balanced composition, a company is autonomous to select between Executive Directors and Non-Executive Directors. In contrast, RC49 requires that the board of directors of a listed company shall contain an optimum combination of executive and non-executive directors. It also lies down that minimum 50% of the board should constitute Non-Executive Directors, which include both Independent Directors and Non-Executive Directors.

Non-Executive Directors are not regular directors or employees of the company and are not in-charge of the day to day affairs of the business. The accountability of management of the company is not with them like Wholetime Directors (WD) and Managing Director (MD). However, they can claim sitting fees for attending Board Meetings (BMs) and General Board Meetings (GMs).

The Companies Act'2013 states that every listed company will have at least one-third of total number of directors as independent directors, with any fraction to be rounded off as one. In addition, the 2013 Act empowers the Central Government to prescribe minimum number of independent directors for other class of public companies.

RC49 states that where the Chairman of the board is a non-executive director, at least one-third of the board shall constitute of independent directors. In case the Chairman is an executive director, at least half of the board should consist of independent directors. Since the requirement under Revise Clause 49 (RC49) is rigid, listed companies need to comply with RC49 requirements.

3.8.1 Difference between Chairman and CEO

The CEO is a company's top decision-maker, and all other executives report to him or her. The CEO delegates many of the planned tasks to other managers, focusing instead on strategic issues, such as, to decide which markets to enter; how to take on the competition; and which companies to form partnerships with.

This is in distinction to the Chief Operating Officer (COO) or president, who supervises day-to-day operations and logistics. The CEO is ultimately answerable to the board of directors for the company's act.

The chairman of a company is the head of its board of directors. The board is chosen by shareholders and is responsible for shielding investors' interests, such as the company's productivity and stability. It usually meets several times a year to set long-term goals, review financial results, assess the performance of high-level managers, and vote on significant strategic moves proposed by the CEO. Directors employ and can let off higher level managers such as the CEO and president. The chairman typically wields considerable power in setting the board's program and shaping the outcome of votes. However, he or she does not necessarily play an active role in everyday management.

3.8.2 Unitary and Two-Tier Boards

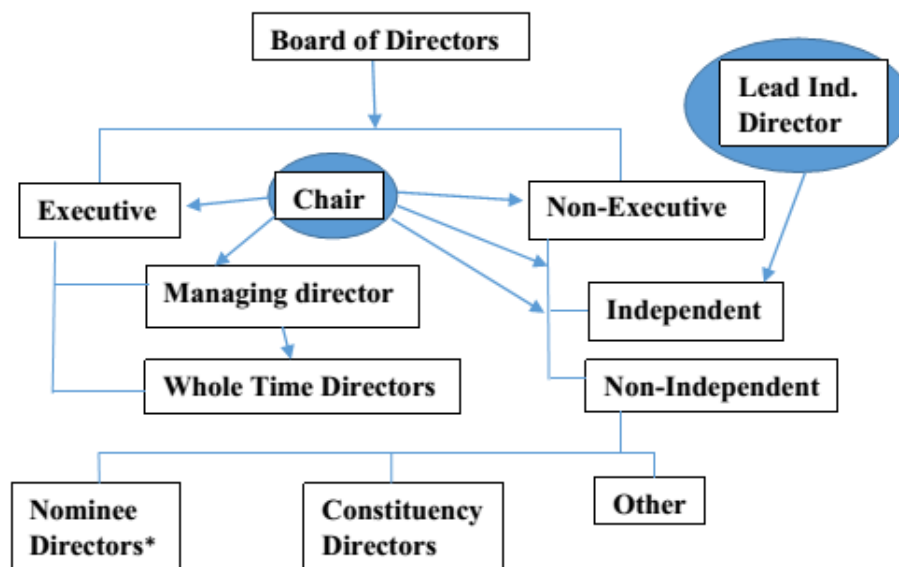
- Under a unitary board structure there is a distinct board of directors, comprising executive and non-executive directors (NEDs).
- By contrast, there are two separate boards under the two-tier structure:
 - The management (operating) board which is accountable for the day-today running of the business, consisting of executives only and led by the chief executive.
 - The supervisory (corporate) board with a wider membership, answerable for the planned oversight of the organization and led by the chairman.

Under a two-tier board structure, the two boards meet separately, so executive conversation around running the business will not be heard by the higher board members, and vice versa. This is unlike the single board meeting that will be held for a unitary board.

India has adopted a unitary board model where the corporation has a single board comprising of executive and non-executive directors at the top

TYPICAL BOARD COMPOSITION

Fig. 3.2 Typical Board Composition



* Unless specified otherwise

Source: Corporate Governance (A.C. Fernando, 2011)

3.9 CORPORATE GOVERNANCE MODELS

1. The Anglo- Saxon or Anglo-American model
2. The Japanese model, and
3. The German model
4. The Indian Model of Governance

3.9.1. The Anglo-American or Anglo-Saxon Model

The Anglo-American model is based on unitary board following shareholder-oriented approach. In this model, both executive and non-executive directors

are on a single board. This model is adopted for corporate governance by the countries like America, Britain, Canada, and Australia including India.

3.9.2. The Japanese Model

The Japanese model is based on business network and hence supports larger board in which executive and often ritualistic directors predominate. This model shows the cultural relationships as seen in the Japanese keiretsu network. Both the shareholders and the main bank, appoint the top management i.e. board of directors and the president, but following the keiretsu network, the real power in the company rests with board of directors.

3.9.3. The German Model

The German Model is based on the two-tier board following societal-oriented or/ Continental European approach. In this model, there are two separate boards. Supervisory board supervises the management board on behalf of stakeholders while management board supervises employees and relation officer and deal with day to day operational issues. This model is adopted for corporate governance by the countries like Germany, Holland, and to an extent, France.

3.9.4. The Indian Model of Governance

The Indian corporates are governed by the Company's Act of 1956 that follows more or less the UK model. The pattern of private companies is mostly that of closely held or dominated by a founder, his family and associates.

Available literature on corporate governance and the way companies are structured and run indicate that India shares many features of the German/Japanese model, but of late, recommendations of various committees and consequent legislative measures are driving the country to adopt

increasingly the Anglo-American model. In terms of the legislative mechanisms, Indian government and industry constituted committees to study.

3.10 STANDING COMMITTEES

‘Standing Committee’ is a committees made up of members of the board with particular sets of duties. The main committees that are most often constituted by listed companies are the audit committee, the remuneration committee and nominations committee and the risk management committee.

3.10.1 Audit Committee

Audit Committee is constituted to supervise the company’s financial reporting procedure and the disclosure of its financial information. Audit committee makes sure the correctness, adequacy and credibility of the financial statement. The committee may conduct investigations into matters reported by whistleblowers. The Committee can advise on the matter related to board, the appointment; re-appointment; replacement or removal of the statutory auditor (if required); and the fixation of audit fees.

Under Section 292A of the Companies Act, 1956 and Clause 49 of the listing agreement, the constitution of audit committee is mandatory. The committee can be of facilitator of Board to put into practice, observe and continue good corporate governance practices for the welfare of the company and its stakeholders.

3.10.2 The Nominations Committee

Both 2013 Act and Revised Clause49 require all listed companies to constitute Nomination committee. Nomination Committee makes recommendations to the Board about the future arrangements of Non-Executive Directors, chairman, Chief Executive Officer and future appointments of Executive Directors on recommendations of the Chief Executive Officer to the board. Also, both 2013 Act and Revised Clause49 require three or more Non-

Executive Directors in Nomination committee, out of total number of Non-Executive Directors, at least one and half should be Independent Directors. Along with that both allow the chairperson of the company (executive or non-executive) to be appointed as a member of this Committee but not as the chairperson of the committee.

Revised Clause49 specifically requires that the Chairman of Nomination committee should be an independent director but there is no such requirement under the 2013 Act.

3.10.3 The Remuneration Committee

Both 2013 Act and Revised Clause49 require all listed companies to constitute Remuneration committee. Remuneration committee takes decisions related to the compensation of Executive Directors, and sometimes other senior executives. Also, they both require three or more Non-Executive Directors in Remuneration committee, out of total number of Non-Executive Directors, at least one and half should be Independent Directors. Along with that both allow the chairperson of the company (executive or non-executive) to be appointed as a member of this Committee but not as the chairperson of the committee.

Revised Clause49 specifically requires that the Chairman of Remuneration committee should be an Independent Director but there is no such requirement under the 2013 Act.

3.10.4 The Risk Management Committee

- Revised clause 49 requires constitution of a Risk Management Committee. The roles and responsibilities of the Risk Management Committee rest in the hand of board of directors. They may delegate monitoring and reviewing of the risk management to the committee and other related functions as it may deem fit.

- The Companies Act, 2013 requires its boards to develop and implement a risk management policy for identifying and preventing risks which may be detrimental for the survival of the Company. Unlike revised clause 49, the 2013 Act does not require constitution of a separate risk management committee.

Vigil Mechanism under Companies Act, 2013 for Listed Companies

- Sec 177 (9): Establishment of a vigil mechanism for directors and employees by listed companies.
- Sec 177(10): Safeguard against victimization
Policy against ill-treatment of persons using the mechanism:
 - Provides for admission to Chairperson of Audit Committee in appropriate or exceptional cases.
 - Exhibits policy on the company website, if any.
 - “Vigil mechanism” to be included in Board’s report.
- Schedule IV
 - Code for independent directors
 - Ascertain and ensure that the company has an adequate and functional mechanism.
 - Ensure that interests of a person who uses the mechanism.
 - Buffer for the management.

Institute of Chartered Accountants of India (ICAI) issued a direction note on fraud reporting under section 143 (12). This direction note is in context of a fraud reported through vigil mechanism of the company and if it has been remediated by the management and informed to the auditor then auditor will not be required to report the same under section 143(12). This is because the auditor has not by itself identified the fraud.

3.11 SUMMARY OF CHAPTER

This chapter details the overview of corporate governance system which involves a set of relations between a company's management, its board, its shareholders and other stakeholders. The board of directors is the key element of the corporate governance along with other significant participants like employees, customers, suppliers, and creditors. The corporate governance structure also depends upon the legal, regulatory, institutional and ethical settings of the economy. This chapter describes the various models of corporate governance. Also, the committees formed at international and national level to improve the corporate governance system so that the objective of attaining good corporate governance could be achieved.

CHAPTER-4
RESEARCH
METHODOLOGY

RESEARCH METHODOLOGY

4.0 INTRODUCTION

The previous chapters of introduction, review of literature & corporate governance overview helped to define and understand the concepts of corporate governance and capital structure. However, this chapter aims at describing the approaches used to achieve the research objectives. It presents the study variables, research problem, the research design, model specification and the complete methodology utilized to obtain and analyse the data related to the relationship between corporate governance and capital structure. The methodology adopted for the study is detailed under the following major sub-sections:

4.1 Study Variables

4.2 Statement of Research Problem

4.3 Research Objectives

4.4 Formulation of Research Hypothesis

4.5 Procedure/Research Approach

4.1 STUDY VARIABLES

This study presumes the causal relationship and examines the impact of two groups of variables i.e. independent variables and control variables, on dependent variable. The first group of variables includes corporate governance variables represented by board size, board independence, and CEO duality. The second group consists of control variables, which includes firm attributes that

are expected to influence capital structure decisions. Control variables used in this study are profitability and size of firm. To represent profitability, study uses ROA (Return on Asset) defined as EBIT/Total Assets. Size of firm is measured by using book value of total assets in place (log of total assets). The capital structure is represented by Debt to Equity Ratio, and is considered as dependent variable.

4.1.1 DEPENDENT VARIABLES (LEVERAGE RATIOS: A CRITERION OF CAPITAL STRUCTURE)

There are several ways of measuring capital structure and there is hardly an agreement on, which is the most efficient one. This study chooses DE (Debt to Equity ratio) as proxy variable for capital structure. However, debt to asset ratio is also used in regression and correlation analysis. In case of regression analysis, debt to asset ratio is used to check the robustness along with debt to equity ratio. Capital structure which does not have high debt indicates the efficiency of financing decisions.

4.1.2 INDEPENDENT VARIABLES OR EXPLANATORY VARIABLE (CORPORATE GOVERNANCE)

To collect and analyse data on corporate governance practices, a set of parameters indicative of good corporate governance practices were identified. For this study, characteristics of the board of directors are used. They are:

- a. Board Size
- b. Board Independence
- c. CEO Duality

a. Board Size

The size of the board is given by the total number of directors (both executive and non-executive) serving on the board of the company

(Berger and al., 1997; Anderson and al., 2004). This study employs logarithm of board size (Yermack, 1996; Coles et al., 2008; Cheng 2008).

b. Board Independence

Board independence is the variable that measures the independence of the board. It is given by the percentage of board members classified as independent directors on the board. The independent directors are neither shareholders nor managers or having family relationships with owners/top management in the company. In other words, they do not have any significant contractual relationship with the company (El Gaied and Rachhi, 2008; Goh, 2014; Fuzi, 2016).

c. CEO Duality

CEO duality measures the combined functions of leadership by a binary variable taking the value 1 if the CEO is also chairman of the board and 0 otherwise (Biepke and Abor, 2006; Goh, 2014).

4.1.3 CONTROL VARIABLES

Previous studies e.g. Chen and Zhao (2006); Chang and Dutta (2012), on this issue have recommended the use of control variables. The inclusion of control variables helps to know the behaviour of dependent variable under certain conditions (Francis, 1990). Previous studies have already established the relationship and their impact on dependent variables and therefore these variables are secondary focus of this study. On the basis of conclusions drawn from the literature review, the variables which are likely to influence firm's capital structure and would probably disturb the test are profitability and size of the firm. Following the review this research, profitability and size of the firm are used as control variables that may affect dependent variables and therefore, included in the regression model.

- a.** Return on Assets (ROA) as a measure of Profitability, and
- b.** Total Assets (TA) as a measure of Size of the firm (SZ)

a. Return on Asset (ROA)

Return on Asset (ROA) measures company's earnings pertinent to all the funds it has at its disposal. It is believed a better governance model helps in effective and efficient utilization of assets which is reflected in the form of profits (Bolbol et. al. 2004; Khatab 2011; Niresh and Velnampy 2014; Tayeh 2015).

b. Size of the Firm

There are three main methods which can be used to measure size of the firm. They are total sales, total assets or market value of equity. In this study total asset is used as a proxy variable for measuring the size of the firm (Lim 2012; Fatma and Chichti 2011; Dang et al. 2013).

4.1.4 OPERATIONAL DEFINITIONS

Corporate Governance (Independent Variables)		
a.	Board Size (BS)	Logarithm of total number of Board of Directors (BODs). Adopting the measure used by Berger and al. (1997); Anderson and al. (2004); Marra et al. (2011); Samaha et al. (2012); Ajanthan (2013), Velnampy and Nimalthasan (2013); Gowsika (2015); Somathilake and Udaya Kumara, (2015) to test the model.
b.	Board Independence (BI)	= Number of Independent Directors (IDs) / Total number of Board of Directors (BODs). Adopting the measure used by Kee et al. (2003); Lin, Chen (2008); Heng et al., (2012) to test the model.
c.	CEO Duality (CEOD)	Dummy variable, 1 if CEO is chairman as well and 0 if otherwise. Adopting the measure used by Biepke and Abor (2006); Lin and Liu (2009); Bodaghi and Ahmadpour (2010); Marra et al. (2011); Ajanthan (2013); Velnampy and Nimalthasan (2013); Somathilake and Udaya Kumara (2015) to test the model.

Profitability Ratios and Size (Control Variable)		
a.	Return on Assets (ROA)	= Company's net earnings/ Total Assets X 100 Adopting the measure used by Berger et al. (1997); Bolbol et al. (2004); Khatab (2011); Niresh and Velnampy (2014); Tayeh (2015).
b.	Size of the firm (SZ)	= Natural Logarithm of firm's Total Assets. Adopting the measure used by Comment and Schwert (1995); Harford (1999); Fatma & Chichti (2011); Lim (2012); Dang et al. (2013). Ajanthan (2013), Velnampy and Nimalthasan (2013), Agyei and Owusu (2014);Quang and Xin (2015).

Leverage or Capital Structure Ratios (Dependent Variable)		
a.	Debt-to-Equity (D/E)	= Debt Capital / Equity Capital X100 Adopting the measure used by Wiwattanakantang (1999); Udomsirikul et al. (2011); Sheikh & Wang, (2013).
b.	Debt Ratio (DR)	=Debt Capital/Total Assets X100 Adopting the measure used by Rajan & Zingalas (1995); Arbabiyani and Safari Gerayeli (2009).

4.2 STATEMENT OF THE RESEARCH PROBLEM

The incidents of corporate misconducts highlight the importance of decision making taken by board of directors. Many of the researches argued that effective decisions pertinent to capital structure and investment which are taken by the board of directors, help in fulfilling the shareholders' wealth maximization objective while failing in that often led to the corporate misconduct and failure. Therefore, reforms related to various corporate governance always stressed on making appropriate changes in terms of board composition, board size and its structure.

A review of the related literature showed identifiable corporate governance variables may have an impact on determining leverage. In this study, corporate governance practices are measured by using three different variables related to board characteristics while capital structure decisions are measured by using leverage ratio

i.e. debt to equity ratio and/or debt ratio. These characteristics are mainly selected as corporate governance variables because the agency and stewardship perspectives which were discussed and investigated in Chapter 2 suggested the relationship.

Ample of studies conducted in developed countries that have investigated the role of corporate governance on capital structure decisions but there are very scarce researches in India with only a few empirical studies paying attention to this issue. In addition, most of the studies that have investigated this issue in India have used a sample period prior to the introduction of these major corporate governance reforms i.e. Companies Act 2013 and Revised clause 49 of listing agreement and have only covered a very few corporate governance aspects.

Corporate Governance is an important factor in improving the value and performance of the firm and the impact differs from country to country due to the dissimilar social, economic, and regulatory conditions. Capital structure also has different impacts on the value of the firm i.e. it varies from country to country because of the different regulations. Despite the importance of the link between corporate governance and firms financing structure, existing empirical evidences are not really convincing on how corporate governance variables affect the financing structure of the listed firms.

It is in the light of the above problems, this research work studied the effects of corporate governance practices on the capital structure decisions.

4.3 OBJECTIVES OF THE STUDY

Generally, this study seeks to explore the relationship between corporate governance and firm's capital structure decisions in the India. However, it is set to achieve the following specific objectives:

1. To investigate the impact of corporate governance practices such as board size, board independence, CEO duality on capital structure choices of Indian firms.
2. To identify the relationship between profitability and capital structure.

3. To identify the relationship between size of the firm and capital structure.
4. To suggest the corporates for good corporate governance practices for their success.

4.4 RESEARCH HYPOTHESES

With the purpose of giving specific direction to investigation and based on the understanding of the subject from the available literature and research objectives this study formulated the hypothesis and later tested with the data collected using appropriate statistical tools. Justification of these testable hypotheses is derived from previous studies discussed in details in the literature review sections. From the review of literature, it is evident that capital structure is affected by the corporate governance. Based on that it can be assumed that corporate governance does affect a firm's capital structure and therefore a relation between corporate governance and firm's capital structure is expected. Based on the theories and previous research, this study believes that corporate governance may have an impact but not confident enough to hypothesize a direction therefore not predicting/ specifying a direction and using two-tailed hypotheses. The formulated hypotheses were used as a basis for analysis and conclusion on the relationship among corporate governance practices, capital structure, profitability and size of the firm. To proffer useful answers to the research questions and realize the study objectives, the following hypotheses stated in their null forms:

Hypothesis 1:

H₀₁: There is no significant impact of corporate governance practices on capital structure.

This hypothesis is further broken into three sub hypothesis.

H_{01a}: There is no significant impact of board size on capital structure.

H_{01b}: There is no significant impact of board independence on capital structure.

H_{01c}: There is no significant impact of CEO duality on capital structure.

Hypothesis 2:

H₀₂: There is no significant correlation between profitability and capital structure.

Hypothesis 3:

H₀₃: There is no significant correlation between size of the firm and capital structure.

Hypothesis 1 will be evaluated on the basis of the regression analysis while hypothesis 2 and 3 will be evaluated by the correlation analysis.

In case of regression, rejection of null hypothesis implies that corporate governance impacts capital structure. If the null hypothesis is rejected, the sign of the estimated coefficient could be either positive, suggesting corporate governance variable (s) has/have positive impact on capital structure variable or negative, implying that the corporate governance variable(s) has/have inverse/negative impact on capital structure variable. Failure to reject the null hypothesis suggests that corporate governance does not impact capital structure decisions. Similarly, in case of correlation, rejection of null hypothesis implies that both the variables are correlated while the sign i.e. positive or negative represents the direction of their relationship.

4.5 PROCEDURE/RESEARCH APPROACH

4.5.1 RESEARCH DESIGN

Quantitative and qualitative research methods are the two approaches that have been employed by researchers around the world. In 1959, the concept of mixed method originated and thereafter researchers started combining the two methods in order to obtain better results and explanations. Punch (1998) suggested that it is important to establish the appropriate research approach with regards to the research issues. Berg (2004) stated that the qualitative method presents a descriptive and non-quantitative approach to

collect the information in order to present understanding of the phenomenon. On the other hand, Hussey and Hussey (1997) and Bryman (2012) emphasized that the quantitative approach uses different types of statistical analysis and therefore provides stronger forms of measurement, reliability and ability to generalize the findings.

This study applied the deductive positivism approach. Under this approach, the pre-existing theoretical basis is identified, studied and relied upon in hypotheses development and the empirical findings demonstrate whether the tested hypotheses are proven or rejected. In order to achieve the objectives, this study used the multiple regression as the main tool of analysis. Hair et al. (2009) stated that regression is the appropriate method of analysis when the research problem involves a single metric variable presumed to be related to two or more independent variables. Therefore, multiple regression analysis is chosen as the main tool of analysis in this study. Multiple regression models are one of the most common methods of analysis that have been used by previous researchers (e.g. Saad, 2010; Ting, 2011; Achchuthan, 2013) to investigate the relationship between corporate governance and capital structure. The objective of the study is to establish a relationship between corporate governance practices and capital structure decisions. This research study thus aims at assessing the impact of corporate governance practices on the company's capital structure decisions as measured in terms leverage i.e. debt to equity ratio. The study is based on desk research and econometric analysis of data collected to establish the relationship between the selected variables. The annual reports of the companies which included a separate section on corporate governance, income statements and the balance sheets of the companies, were used to collect relevant information. Financial statements provide the financial performance indicators in the form of absolute numbers and ratios that have formed the basic source of data and information.

This research is exploratory and explanatory in context and design. Exploratory research strategy provides an advantage of having a flexible research design while explanatory study emphasises on studying a situation or a

problem in order to explain the relationship between variables (i.e., Board Characteristics and Capital Structure) Research Design. This study followed quantitative approach in the sense that it aims to draw out conclusions from the financial data gathered, summarized, and processed. The quantitative research instrument is developed from the materials that other researchers had developed and used in their study.

In line with the prior studies, this study made use of the corporate annual reports of the listed companies in India to find out the relationship that exist between corporate governance variables and capital structure. This study adopted the panel data regression model for analysing the impact of the corporate governance variables on the capital structure variable of the listed companies.

However, both Pearson and the Spearman correlation were also used to measure the degree of association between variables under consideration and the t-test statistics was computed using the SPSS to find out if there is any statistically significant difference between the two variables. To evaluate this research topic, researchers have used different methods of MS Excel, Statistical Package for Social Science (SPSS) and EViews for analysing the data. Here, correlation and multiple-regression are used to analyze the data.

A deductive approach to link theory and research is adopted. The author reviews existing literature and deduces hypotheses. Consequently, the process of data collection is based on and guided by existing theory and empirical studies. Subsequently the findings from the research are compared with the literatures and the author checks how well the results support the theoretical arguments from previous literature. Through inductive reasoning, existing concepts can be refined or refuted and the findings contribute to the existing literature (Bryman and Bell, 2011).

4.5.2 SAMPLING DESIGN

Sampling design is a concrete plan for drawing or selecting a sample from a given population. Sampling plan provides a way to select an object from the

sampling frame. It refers to the method a researcher adopts in selecting a sample and the deciding upon the sampling technique. The sample of this study composed of listed companies in India for the period of 2012-2015.

4.5.2.1 Study Population

The current study consisted of the population of listed companies in India. Stock exchange was chosen as a sampling frame. Out of five permanent stock exchanges, BSE Ltd. was used as sampling frame for this study. All 30 listed companies of the S &P BSE SENSEX were selected. Therefore, this study is confined to BSE SENSEX-30 companies only. Reason for selecting BSE SENSEX is that more than 5000 companies are listed on BSE making it world's No. 1 exchange in terms of listed members (www.bseindia.com). BSE SENSEX is a benchmark index. It is the barometer of Indian Capital Market and all the companies of SENSEX are well established and financially sound, and dominant in their respective industry. S & P BSE SENSEX is selected because they are perceived to have the resources and motivation to drive the advantage of adopting suitable corporate governance practices. Furthermore, these companies are better performers, exhibited higher stock returns and are assumed to engage in good corporate governance practices.

Table 4.1: Details of Stock Exchanges

S.N.	Name of the Exchange	Valid Upto
1.	Ahmedabad Stock Exchange Ltd. Address: Kamdhenu Complex Opp, Sahajanand College, Panjarapole, Ambawadi, Ahmedabad - 380001	PERMANENT
2.	BSE Ltd. Address: P J Tower, Dalal Street, Mumbai 400023	PERMANENT
3.	Calcutta Stock Exchange Ltd. Address: 7, Lyons Range, Kolkata - 700001	PERMANENT
4.	Delhi Stock Exchange Ltd.,The Address: DSE House, 3/1, Asaf Ali Road, New Delhi - 110002	PERMANENT
5.	National Stock Exchange of India Ltd. Address: Bandra Kurla Complex, Bandra (East) Mumbai 400051	PERMANENT

4.5.2.2 Sampling Unit

Out of 30 companies, all non-financial listed companies of BSE SENSEX were selected. BSE is the oldest stock exchange in Asia. BSE Sensex companies represent nearly 93% of the total market capitalization on Bombay stock Exchange Limited. Besides, BSE Sensex Index is considered to be the best indicator that reflects the whole economy of India. Hence for the purpose of this study, BSE Sensex 30 companies were considered as the sample size

4.5.2.3 Sample Selection Rules

This research is exploratory in nature and using the secondary data for the analysis. The relevant data was extracted from the comprehensive income statements and financial position of the BSE listed companies over the period of 2012 to 2015. From the population of 30 firms listed on BSE Sensex a sample of 21 non-financial listed companies were purposively selected for analysis on

the availability of corporate governance data and other selection criteria. The sample was selected by elimination procedure.

- 1.** The study excluded companies from the banking and financial sectors. This was due to the following reasons:
 - a.** Financial characteristics and use of leverage of the banking and financial sectors are substantially different from non-financial companies, which poses difficulty for the calculation of performance measure.
 - b.** Their debts like liabilities are not strictly comparable to the debt issued by non -financial firms.
 - c.** Their leverage is strongly influenced by regulations such as the minimum capital requirements which may directly affect their capital structure.
 - d.** By the very nature of their business, banks are highly leveraged. They accept large amounts of uncollateralized public funds as deposits in a fiduciary capacity and further leveraged those funds through credit creation.
 - e.** The presence of a large and dispersed base of depositors in the stakeholders group sets banks apart from other corporates.
 - f.** Balance sheets of the firms in the financial sectors (banks, financial institutions etc.) have a strikingly different structure from those of non -financial companies.
- 2.** Companies which were involved in amalgamation are also dropped.
- 3.** The determination of sample size is the result of a compromise between the need for a large sample to obtain statistically significant results and the need for inclusion of companies that were listed in the year 2012 and remained listed during the study period. This is done to maintain the homogeneity of data as only they would be fulfilling the benchmark conditions. Companies that were replaced were excluded from the study. Faced by these constraints, it was decided to study 21 listed companies for the period of four years (2012-

2015). As a result, the final sample set consists of a balanced panel of over a period of four years which would satisfy the condition of large sample size.

4.5.2.4 Sample Size

Total data was consisted of 84 observations (21 listed companies for four years). Panel data increases the sample size. The determination of sample size is the result of a compromise between the need for a large sample to obtain statistically significant results and the need for detailed information on directors which implies work on a relatively small sample. Thus, the final sample was constituted of 84 observations.

4.5.2.5 Sampling Technique

Sampling

This study is exploratory in nature and its findings will be treated as preliminary (Malhotra, N. K. & Dash, S., 2006). Purposive sampling was done to select firms on the basis of conditions that were laid down for selecting sample.

Sample Selection

The analysis used a data of 21 non-financial companies of BSE Sensex-30 during 2012 to 2015 after following sample selection rules. In this research the researcher relied on the secondary data from the firms' annual reports. These data were manually collected from the annual reports for the sample firms. Final Sample consisted of 82 observations for 21 firms over 4 years. Sample selection criteria helped to economize on the time and cost for data collection. Sensex-30 companies represent the market health and therefore the results should illuminate significant link between corporate governance and capital structure.

Table 4.2: Sample Selection

Population of BSE Sensex Listed Firms	30
Firms in the Financial Sector	04
Actual Workable Population	25
Firms with Data irregularities	05
Total sample selected	21 (70%)

Table 4.3: Structure of the Sample used in the study

Number of annual observation per company	04
Number of companies	21
Total Number of observations	84

4.5.3 DATA COLLECTION

Database Selection

For selection of the companies, the database of companies listed on BSE during 2012-15 was obtained from Prowess database published by CMIE (Centre for Monitoring Indian Economy). This database contained all the relevant information relating to the listed companies, which were relevant for our study.

Sources of Data

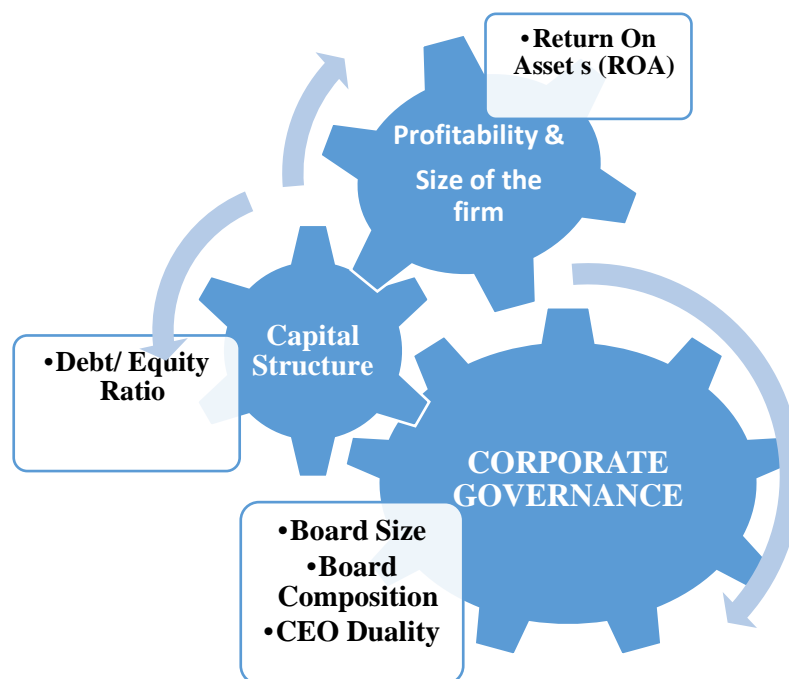
This study collected data from secondary sources. The required data related to financial statement and corporate governance variables were extracted from Prowess database published by CMIE (Centre for Monitoring Indian Economy), annual reports of the companies from their official websites and BSE (Bombay Stock Exchange) website. Other sources were journals; newspapers articles; books; reports provided by SEBI, RBI, MCA, and OECD etc.

Time Frame of the Study -Study Duration

The study examined the data for the years 2012 to 2015. The reason for selection of the years was that the Revised Clause 49, Companies Act, 2013 and many corporate governance reforms were introduced during this period.

4.5.4 RESEARCH MODEL

Figure 4.1: Conceptualization of Model



This study covers information about BSE Sensex listed companies for the period 2012-15. A multiple regression analysis was run to examine the linkage between the corporate governance practices i.e. board size, board independence and CEO duality and capital structure i.e. level of debt using proxy variable debt to equity ratio. Two control variables i.e. profitability (ROA) and size of the firm (Total Assets) were also included that may affect the relationship.

4.5.5 MODEL SPECIFICATIONS

Before specifying the model it is necessary to understand the terminologies:

Cross-sectional data: Cross-sectional data are the data that are collected on several units at one point in time.

Time series data: Time series data are the data that are collected on one unit over several time periods.

Panel data: Panel data are repeated cross-sections over time which means that there will be space (firm, individuals, etc.) as well as time dimensions. So, panel data helps to explore cross-sectional and time series data simultaneously. The combination of time series with cross-sections can enhance the quality and quantity of data in ways that would be impossible using only one of these two dimensions i.e. time or cross section. Panel data is more useful to this study because panel data, unlike cross-sectional data, allows controlling for unobservable heterogeneity through individual firm effect. Panel data usually give the researcher a large number of data points ($N \times T$), increasing the degrees of freedom and reducing the collinearity among explanatory variables hence improving the efficiency of econometric estimates but it is a kind of phantasm, more data points doesn't necessarily imply more information (heterogeneity bias).

Balanced Panel: A panel is said to be balanced if each subject (firm, individuals, etc.) has the same number of observations.

Unbalanced Panel: A panel is said to be unbalanced if each subject (firm, individuals, etc.) has a different number of observations.

Short Panel: A panel is said to be short panel if the number of cross-sectional subjects (N) is greater than the number of time periods (T).

Long Panel: A panel is said to be long panel if the number of time periods (T) is greater than the number of cross-sectional subjects (N).

A micro-panel data set: A micro-panel data set is a panel set for which the time dimension T is largely less important than the individual dimension N.

A macro panel data set: A macro panel data set is a panel set for which the time dimension T is similar to the individual dimension N.

Potential gains of using panel data framework

- It takes heterogeneity into account to get individual-specific estimates.
- Especially suitable to study dynamics of change.
- It studies more sophisticated behavioural models.
- It minimizes bias due to aggregation.

This study employs a balanced panel data set for multiple regression analysis. Panel data sets for economic research possess several major advantages over conventional cross-sectional or time-series data sets. In panel data, most of the variables that measure the data are in the percentage and proportions form, and low variables are dummy, so the ideal method to use is the parametric methods to test and analyse the data, this provides the actual standard errors and significance. A longitudinal, or panel, data set is one that follows a given sample of individuals or cross section units (i.e. country, region, state, firm, consumer, individual etc.) over time, and thus provides multiple observations on each individual in the sample (Hsiao, 2003). In order to better explain the required relationship the descriptive statistics, correlation matrix and an econometric technique of panel data analysis were used.

Determination of Regression Model appropriate for the study:

The study employed multivariate regression analysis using panel data framework to measure the dependence of capital structure (leverage) which is a measure of capital structure on three corporate governance variables by using Fixed-effect estimation, and Random-effect estimation. Therefore, appropriate model is selected out of these two models:

1. Fixed Effects Models (FEM)
2. Random Effects Models (REM)

Estimating techniques are the fixed effects model and the Random Effects Model (REM). . The econometric technique used to analyze, whether the Fixed Effects Model estimator is an appropriate alternative to the Random Effects Model or vice versa, by estimating the coefficients determined by the Hausman test. The Hausman test estimates the null hypothesis (H_0) on the assumption that the model is Random Effects (RE) against the alternative hypothesis (H_1) that the model is Fixed Effects (FE). This is done with the underlying objective testing if the error term is correlated with the regressors. In case of the absence correlation, it may be suggested that the random effects model is more powerful and appropriate for the study. On the other hand, the existence of correlation indicates that the random effects model inconsistent in estimation and the fixed effects model would be the appropriate choice model which allows for cross sectional heterogeneity by letting the intercept differs across entities/individuals. It also tries to explain the causes of variation within individuals or entities.

If the p-value is greater than 0.05 i.e. $p > 0.05$, fixed effect is insignificant and the random effects model appropriate to be used.

If the p-value is less than 0.05 i.e. $p < 0.05$, the fixed effect estimator is significant and should be employed.

An essential benefit of this design is that it facilitates the evaluation of causality between variables since the direction of the influence becomes more apparent over time (Bryman and Bell, 2011). This model is definitely more reliable than Ordinary Least Squares (OLS) model since it provides ways of dealing with heterogeneity (that is useful in measuring the individual companies' effects) and examines fixed and random effects in the longitudinal data which are the drawbacks of OLS. A GLS random effects regression model is more suitable in that it corrects for the omitted variable bias, presence of autocorrelation and heteroskedasticity in pooled time series data. This methodology allows

researchers to examine variations among cross-sectional units simultaneously with variations within individual units over time (Gaur & Gaur, 2006). It assumes that regression parameters do not change over time and do not differ between various cross-sectional units, enhancing the reliability of the coefficient estimates. An important assumption for choosing random-effect estimation is that the unobserved heterogeneity should not be correlated with the independent variables. The following equation is formulated for the study:

$$Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + e$$

Where, Z= Regression Score

β_0 = Regression constant

$\beta_1 - \beta_n$ = Regression Coefficient

$X_1 - X_n$ are the independent variables

e= error term

Adopting the model used by bolbol et al. (2004); Ehikioya (2009); Heenitigala and Armstong (2011) and Ujunwa (2012), this study formulated the following model to measure the impact of corporate governance on Capital Structure as:

Capital Structure (Leverage) = f (BS; BI; and CEOD)

Capital Structure (Leverage) = f (Profitability; and Size of the firm)

$$LEV_{it} = \beta_0 + \beta_1(\text{Log BS})_{it} + \beta_2(\% \text{ BI})_{it} + \beta_3(\text{CEOD})_{it} + \beta_4(\% \text{ROA})_{it} + \beta_5(\text{Log SZ})_{it} + \varepsilon$$

Where, $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the regression co-efficient of variables.

ε = Error Term

The subscripts 'i' and 't' represent firms and years respectively.

β_0 = Intercept of the equation

β_i = Marginal effect of variable on debt to equity ratio i.e. independent and control variable coefficients.

LEV_{it} = Leverage or Debt to Equity Ratio of 'i' company in 't' years

BS_{it} = Board Size of 'i' company in 't' years

BI_{it} = Board Independence of 'i' company in 't' years

$CEOD_{it}$ = CEO/Chair Duality of 'i' company in 't' years

ROA_{it} = Return on Assets of 'i' company in 't' years

SZ_{it} = Size of the firm of 'i' company in 't' year

The following model is used to test the hypotheses formulated in the present research. The output is presented in the next chapter. If corporate governance variables encourage low (high) leverage, it is expected that negative (positive) estimates of the variables would be observed. Proxies for dependent and independent variables are listed in Table 4.4

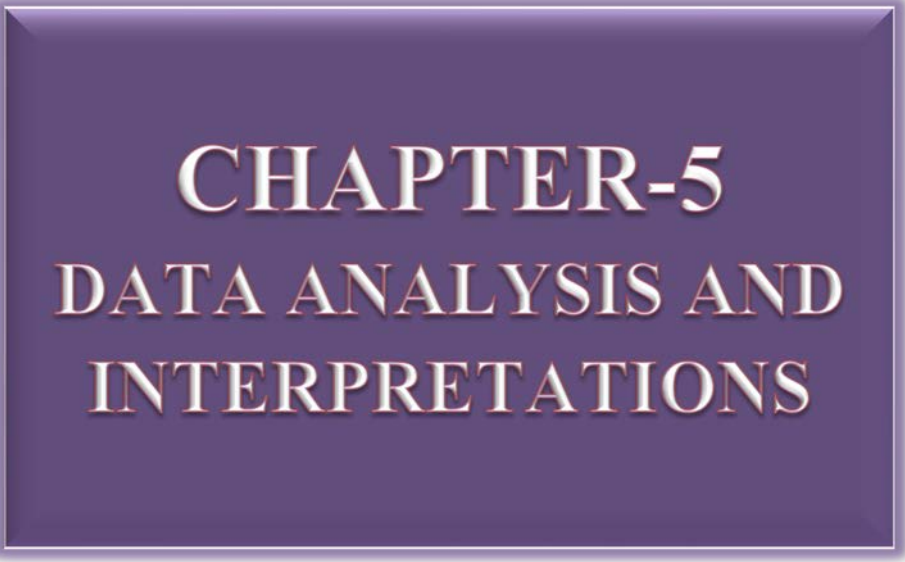
Table 4.4: Proxies for dependent and independent variables

Variable Type	Variable Category	Variable Proxy	Notation
Dependent	Capital Structure i.e. Leverage	Debt to Equity ratio	LEV
Independent	Corporate Governance i.e. Board Characteristics	Board Size	BS
		Board Independence	BI
		CEO duality	CEOD
Control	Profitability	Return on Assets	ROA
	Size of the Firm	Total Assets	TA

For correlation analysis debt ratio is also used as proxy variable for capital structure along with debt to equity ratio to check the robustness of the result.

4.6 SUMMARY OF CHAPTER

This chapter gives an overview of the research methodology used by the researcher in the study. It describes the research design, sample and data sources used in this study. Variables are defined and a summary of operationalization of the variables are also given. It explained the model used in the study and delineated the method used for data analysis for testing the hypotheses.



CHAPTER-5
DATA ANALYSIS AND
INTERPRETATIONS

DATA ANALYSIS AND INTERPRETATIONS

5.0 INTRODUCTION

This chapter presents the analysis and interpretation of the relationship between corporate governance and capital structure. The relationship is investigated and documented in this chapter using the sample of the listed companies for four years that formed a panel data structure. Use of panel data provides a combination of cross sectional and time series data, which helps in eliminating high collinearity variables (Baltagi & Giles, 1998; Gujarati, 2003). The analysis starts with the descriptive statistics of the study variables before running regression analysis to assess the suggested relationships and followed by the Pearson's and Spearman correlation analysis to assess the suggested association between variables as stated in the research hypotheses in Chapter 4. This study applied 10% level of significance as rejection criteria for the null hypothesis and to determine whether the probability for the observed regression and correlation, happened by chance or not. Results of the analysis are shown and discussed to see whether the hypotheses are validated or not.

The structure of the chapter is as follows. Sections 5.1 to 5.5 report on the reliability, validity, normality, multicollinearity, autocorrelation, heteroscedasticity and unit root of the sampled data. Section 5.6 reports on the descriptive statistics to show mean, standard deviation, maximum and minimum values of the variables. Section 5.7 reports on inferential statistics which includes Section 5.7.1 reporting on the regression results along with an integrated analysis of the results and Section 5.7.2 which reports the results of Pearson's and Spearman's correlation. Section 5.8 presents the conclusion to the chapter. MS Excel, SPSS 20 and EViews 7 were used to process the gathered quantitative data mainly from annual reports of the companies.

Generally, this study seeks to explore the relationship between corporate governance and firm's capital structure decisions in India. However, it is set to achieve the following specific objectives:

1. To investigate the impact of corporate governance practices such as board size, board independence, and CEO duality, on capital structure decisions of Indian firms.
2. To identify the relationship between profitability and capital structure.
3. To identify the relationship between size of the firm and capital structure.
4. To suggest the corporates for good governance practices for their success.

The conceptual framework of the model was already discussed in the previous chapter. The Entire framework is broken down into sub components of:

- Impact of corporate governance practices on capital structure.
- Correlation between profitability and capital structure.
- Correlation between size of the firm and capital structure.

Before using statistical tools to test or answer the research hypotheses pertaining to impact and relationship between corporate governance variables and capital structure variables, it is essential to check the reliability, validity, normality, multicollinearity, autocorrelation, heteroscedasticity and unit root test of the data.

Therefore, the entire analysis can be broken down into sub-heads and sections:

1. Reliability, Validity and Normality of Data
2. Multicollinearity
3. Serial Correlation or Auto Correlation
4. Heteroscedasticity
5. Unit root test
6. Descriptive Analysis

7. Regression

8. Correlation

5.1 RELIABILITY, VALIDITY AND NORMALITY OF THE DATA

5.1.1 RELIABILITY AND VALIDITY OF THE DATA

Reliability, refers to the ability of the measure to produce the same results under the same conditions while validity, refers to check whether an instrument measures, what it was designed to measure. Reliability is an indicator of the level of uniformity between various measurements of a variable (Hair et al., 2009). It signifies the exactness and quality of a measurement procedure (Cooper and Schindler, 2008). The evaluation of the uniformity of the entire measurement scale can be measured through the reliability estimates. Reliability is associated with approximations of the level to which a measure is error free. Reliable instruments may be applied with certainty that other temporary factors are not isolated. These measures are sound and work efficiently at different times under different circumstances.

Secondary data used in the study may be considered reliable for the purpose of the study as they were drawn from income statement and balance sheet of the related companies from its official website and CMIE Prowess database. Also, necessary checking and cross checking were done while scanning information and data from the secondary sources. All these efforts were made in order to generate validity data for the present study. Use of panel data increases the practicality and reliability of the analysis.

5.1.2 NORMALITY OF THE DATA

Data quality is checked by using the measures of skewness and kurtosis. Their values for each variable were examined to find the normality of the data (whether the data of the variable is normally distributed round the mean or not). Specialist statistics packages such as SPSS report a statistic called the standard error for both the skewness and kurtosis scores. Divide either score by its

standard error. The data is considered to be normally distributed, if the standard skewness lies within the range ± 1.96 (Haniffa and Hudaib, 2006).

Applying the rule of thumb of dividing each value by its standard error (Std. Error), it is observed that the value of variables are within or slightly deviated from the limit of ± 1.96 , suggesting that the departure from normality is not too extreme and gives an indication of the normal distribution. With large enough sample sizes i.e. when sample size is more than 30 or 40, the violation of the normality assumption should not cause major problems, this implies that we can use parametric procedures even when the data are not normally distributed. In this study, number of observations are 84, therefore applying thumb rule it can be assumed that the data tends to be normal. Also, for sufficiently large samples, violations of normality in the outcome may not be an issue. The other measures of normality i.e. kurtosis and skewness statistic failed to reject the null hypothesis (the absolute critical value for rejecting Kurtosis is three and skewness is less than 1). The statistics of the skewness and kurtosis indicated that the only capital structure variable is mildly non-normal as compared to normal distribution while other variables (on same data or after transformation) follow the normality. This is similar to the past researches in which variables were found to be non-normal and the researchers argued that parametric tests can be applied on the data as this amount of non-normality is statistically tolerable and would not affect the multiple regression to estimate the specified structural equations (Cheung and Wei, 2006; Haniffa and Hudaib, 2006; Francoeur et al., 2008).

It should also be noted that it is the residual (error) terms that should be normal and important for multiple regression, not the dependent variable. The focus should be on residual terms that need to follow homoskedasticity (equal variances of the residuals) assumption.

5.2 MULTICOLLINEARITY TEST

Multicollinearity is considered to exist when there is perfect linear relationship between the variables under the study. This bias arises when one or more pairs of independent variables are perfectly correlated to each other. The correlation matrix is used to determine if any pair of independent variables is highly collinear, through the magnitude of the correlation coefficient of the pairs of variables. This study used three methods i.e. Correlation Matrix, Variance Inflation Factor (VIF) and Tolerance test, to determine the presence of multicollinearity among independent variables in this study. The results of the analysis are presented in respective tables.

5.2.1 CORRELATION BETWEEN INDEPENDENT VARIABLES

Multicollinearity is a problem that creates biasness and occurs when two or more independent variables are highly correlated with each other. The correlation coefficient between the independent variables should not exceed 0.8 (Field, 2005; Hair et al., 2010). Correlation coefficient shows the degree of correlation between independent variables and its value above 0.8 indicates the presence of multicollinearity between independent variables.

Presence of high correlation among independent variables might affect the outcome in a negative way and make the regression unreliable and spurious (Gujarati, 2003). On the other hand, absence of multicollinearity indicates improvement in coefficient of determination which is represented by R^2 (Woodridge, 2004).

5.2.2 CORRELATION MATRIX, VARIANCE INFLATION FACTOR (VIF) AND TOLERANCE FACTOR

Table 5.1 exhibits a Correlation Matrix of independent variables and control variables related to this research. As indicated in Table 5.2, it is clear that, there is no multicollinearity between the variables. The maximum correlation lies in between profitability (ROA) and size of the firm (Total Assets) with the amount

of 0.51 and they are control variables. Overall, the outcomes of all the correlation are smaller than 0.80, which is considered to be the critical level to determine the multicollinearity problem and hence, data does not suggest multicollinearity problems for this analysis. This implies that all the variables under study are retained.

Table 5.1 Correlation Matrix Results for Multicollinearity

		Correlations				
		BS	BI	CEOD	ROA	SZ
BS	Pearson Correlation	1	.117	.112	.087	.063
	Sig. (2-tailed)		.290	.311	.432	.570
	N	84	84	84	84	84
BI	Pearson Correlation	.117	1	-.327**	.118	-.234*
	Sig. (2-tailed)	.290		.002	.286	.032
	N	84	84	84	84	84
CEOD	Pearson Correlation	.112	-.327**	1	.043	.131
	Sig. (2-tailed)	.311	.002		.697	.234
	N	84	84	84	84	84
ROA	Pearson Correlation	.087	.118	.043	1	-.250*
	Sig. (2-tailed)	.432	.286	.697		.022
	N	84	84	84	84	84
SZ	Pearson Correlation	.063	-.234*	.131	-.250*	1
	Sig. (2-tailed)	.570	.032	.234	.022	
	N	84	84	84	84	84
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Source: Author's computation

Where,

BS= Board Size

BI= Board Independence (%)

CEOD= CEO duality

ROA= Return on Assets (Profitability %)

SZ= Size of the firm (Total Assets)

The Variance Inflation Factors (VIF) is used to examine of multicollinearity existence for all explanatory or independent variables. It helps in the detection of strong linear association between variables (Lazaridis and Tryfonidis, 2006). VIF explains the amount of inflation in the variance due to association between independent variables. For example, under ceteris paribus, VIF of 10 indicates that the variance of the i^{th} regression coefficient is 10 times greater than it would have been if the i^{th} explanatory variable had been linearly independent of other explanatory variable(s) in the analysis.

The values of the tolerance factor closer to zero and Variance Inflation Factor greater than 10, show the presence of multicollinearity in the model used in this study (Belsely, 1991). Table 5.2 shows that the maximum VIF is 1.338 for size of the firm which is lower than 10. Also, none of the tolerance level is more than or equal to 1 and VIF values of all the variables are perfectly below 10. Therefore, the result supports the absence of Multicollinearity in the research model. Thus, the measures selected for assessing independent as well as controls variables in this study have not reached levels that indicate the problem of multicollinearity.

Table 5.2 Tolerance Factor and VIF of the Independent and Control Variables Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
Independent and Control Variables	Log of Board Size	.914	1.094
	Board Independence (%)	.834	1.199
	CEO duality	.864	1.158
	Profitability (ROA)	.770	1.299
	Size of the firm (Log of Total Assets)	.747	1.338

a. Dependent Variable: Leverage (D/E)

Source: Author's computation

5.3 SERIAL CORRELATION OR AUTOCORRELATION

In regression analysis, the Durbin-Watson statistic is used to detect the presence of autocorrelation in the residuals. Autocorrelation signifies a relationship between values separated from each other by a given time lag. The value of Durbin-Watson test always lies between 0 and 4 (Wooldridge, 2006; Hamid, 2011). If the Durbin–Watson statistic is substantially less than 2, there is evidence of positive serial correlation. This criterion was used while interpreting the results of the regression analysis and the model provided the value as 1.97, which rejected the chance of having any autocorrelation problem.

5.4 HETEROSCEDASTICITY

Homoscedasticity is one of the key assumptions of regression. It indicates that the variance of the errors is constant across observations. Errors are homoscedastic if the errors have constant variance across all values of the independent variable(s) while standard estimation methods are inefficient when the errors have heteroscedasticity i.e. non-constant variance. When the assumption of homoscedasticity fails, the standard errors from multiple regression estimates become inconsistent. Heteroscedasticity models are usually fitted with Estimated or Feasible Generalized Least Squares (EGLS or FGLS). Heteroscedasticity can be assessed with a White or a Breusch-Pagan test. White Heteroscedasticity Consistent standard errors which is commonly called “robust” standard errors, correct for possible heteroscedasticity (White, 1980). Software package EViews provide White e.s.e.’s cross section method, as an option to adjust the standard errors. This method is applied with the regression to control and correct the suspected heteroscedasticity. Therefore, the panel data approach helps in the rectifying the variance of the error across all the observations in the panel data.

5.5 UNIT ROOT TESTS

Stationarity is defined as no change in the mean and the variance of the time series data over time. Non-stationarity of data leads to spurious estimates. To

avoid change of the estimates over time due to non-stationarity of data, it is important to investigate or detect non-stationarity in all the study variables. Unit root tests are applied to detect the stationarity or non-stationarity of data. In order to check unit root in this study, variables under study were subjected to Levin-Lin-Chu unit-root test. In this test, if variables are found to be non-stationary then first differencing or successful lagging is applied until the bias is eliminated. Neither the mean nor the variance is defined for categorical data or dichotomous variables and therefore a unit root test does not make any sense. However, other variables are showing that data are stationary. The following hypothesis is tested to check the presence of unit root.

H_0 : Panels has unit roots (non-stationary data)

H_1 : Panels has no unit root (stationary data)

Appendix D showed that data has no unit root as it rejected the null hypothesis (Levin, Lin, and Chu, 2002). P-values of all the variables were less than 0.05 i.e. level of significance, which signifies the absence of unit root.

5.6 DESCRIPTIVE ANALYSIS OF PANEL DATA FOR THE PERIOD 2012-2015

The data present in this section are the average indicators and therefore the analysis begins with examining the basic features of the data using descriptive statistics. A summary of descriptive statistics for panel data is presented in the table form. The descriptive statistics shows the minimum, maximum, mean, standard deviation values and the number of observations of the dependent, independent and control variables from 2012 to 2015 (both inclusive).

5.6.1 DEPENDENT VARIABLE

Table used in this section represents four years of summary of the descriptive analysis of the dependent variables. The dependent variable is capital

structure/leverage and for that two proxy variables are used in this research. They are debt to equity ratio and debt ratio.

The Table 5.3 depicts that companies have an average debt to equity ratio of 0.199 with standard deviation 0.268 and average debt ratio of 0.099 with standard deviation 0.113. Therefore, the average ratio of the firms' capital mix (debt to equity) is 19.9% which denotes that the companies on an average are financed by 19.9% debt and 80.1% equity while debt ratio indicates that only 9.9% of the assets are financed through debt. Maximum debt to equity ratio is 1.35 while maximum debt ratio is 0.40. Minimum of both the capital structure i.e. debt to equity ratio and debt ratio, is zero. It depicts that there are companies that have not raised their funds through debt and used only equity to finance their assets. Also, the average shows that companies use less debt in proportion to their equity.

Table 5.3: Descriptive Analysis of the Dependent Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Leverage (Debt/Equity)	84	.0000	1.351	.199	.2681
Leverage (Debt Ratio)	84	.0000	.4032	.099	.1134
Valid N (listwise)	84				

Source: Author's computation

As depicted from table, it is clearly seen that on an average companies are using less debt in proportion to equity in financing their assets. This suggests that for listed firms in India on average total debt appears to constitute less than half of the capital of the sample firms.

5.6.2 INDEPENDENT VARIABLE

This section represents four years of summary of the descriptive analysis of the explanatory or independent variables. The independent variables used in this research are, board size; board independence; and CEO duality.

Table 5.4 exhibits that, on average, there are 12 directors that serve on the Board with a standard deviation of 2 directors. The minimum size of the Board is 6 members and the maximum is 19. In listed firms, the number of directors should be within a range as stated in Companies Act'2013 i.e. minimum board size of 3 and maximum of 15. Therefore, the results show that the maximum limit has been crossed by few companies. Jensen (1983) and Lipton & Lorsh (1992) suggested the optimum, minimum and maximum number of board for making the board effective. They recommended:

Optimal number of board size : 8-9 members
Minimum number of board size: 07
Maximum number of board size: 10

However, the mean and maximum of sampled companies seem to be much higher than their findings.

The independent directors form 50.52% of members on the Board with standard deviation of 16.94%. This implies that half of the boards comprised of independent directors, which is a fairly good representation. The noticeable thing regarding independent directors is that the minimum and maximum percentage of independent directors on boards which is 0% and 80% respectively. This implies that there are companies that are unable to fulfill the mandatory requirement of independent directors.

Moreover, about 43% of the study firms have CEO duality with 50% standard deviation, indicating that the phenomenon of CEO duality is voluntarily adopted by the companies as SEBI and Companies Act 2013 has not mandated it yet.

Table 5.4: Descriptive Analysis of the Independent Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Board Size	84	6.000	19.00	12.2	2.535
Log of Board Size	84	.778	1.279	1.077	.0914
Board Independence (%)	84	0.00%	80.00%	50.52%	16.94%
CEO duality	84	.00	1.00	.428	.4978
Valid N (listwise)	84				

Source: Author's computation

5.6.3 CONTROL VARIABLE

This section reports four years of summary of the descriptive analysis of the control variables. The control variables used in this research are profitability and firm size. The proxy variables for profitability and size of the firm are Return on Assets (ROA) and Size of the firm (Total Assets) respectively. The mean for the profitability is 14.45% with standard deviation of about 13%. The mean and standard deviation for the size of the (total assets) firm are Rs.263881 crores and Rs. 482437crores respectively.

Table 5.5: Descriptive Analysis of the Control Variables

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	84	-9.48%	68.42%	14.45%	12.92%
SZ	84	9642	2201058	263881	482436.6
Log of SZ	84	3.984	6.343	4.93	.635
Valid N (listwise)	84				

Source: Author's computation

Where,

ROA= Profitability

SZ= Size of the firm (Total Assets)

5.6.4 DISTRIBUTION OF BOARD SIZE OF LISTED COMPANIES FOR THE YEAR 2012-2015

From Table 5.6 and chart 5.1, it is depicted that around 63% of the observations of the sampled companies for the year 2012-2015 are having 11 to 15 directors on their boards and around 27% of the companies have 5-10 board members. On the other hand, less than one percent of the companies are having more than 15 board members. Therefore, most of the companies comprised of board size between 11 and 15 and very few companies comprised of more than 15 board members. Table 5.7 shows the year-wise list of companies that were having more than 15 directors on their boards during the period 2012-2015.

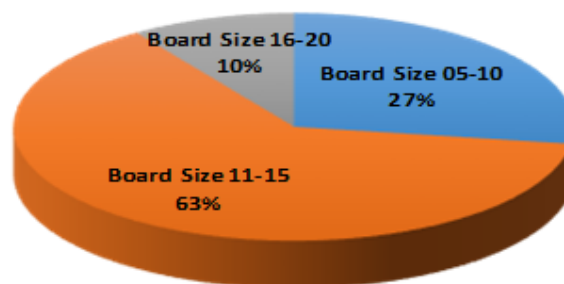
Table 5.6: Distribution of Board Size

Board Size	Distribution (%)
5-10	27.38%
11-15	63.09%
16-20	09.52%

Source: Author's computation

Chart 5.1

Distribution of Board Size (%)



■ Board Size 05-10 ■ Board Size 11-15 ■ Board Size 16-20

Source: Author's computation

Table 5.7: Companies with Board Size more than 15

2012		
S.N.	Company	Board Size
1.	ITC Ltd.	18
2.	NTPC Ltd.	17
3.	Bajaj Auto Ltd.	16
2013		
1.	NTPC Ltd.	18
2.	Bajaj Auto Ltd.	16
2014		
1.	ITC Ltd.	16
2015		
1.	Bajaj Auto Ltd.	16
2.	Larsen & Toubro Ltd.	19

Source: Author's computation

5.6.5 DISTRIBUTION OF BOARD INDEPENDENCE FOR THE YEAR 2012-2015

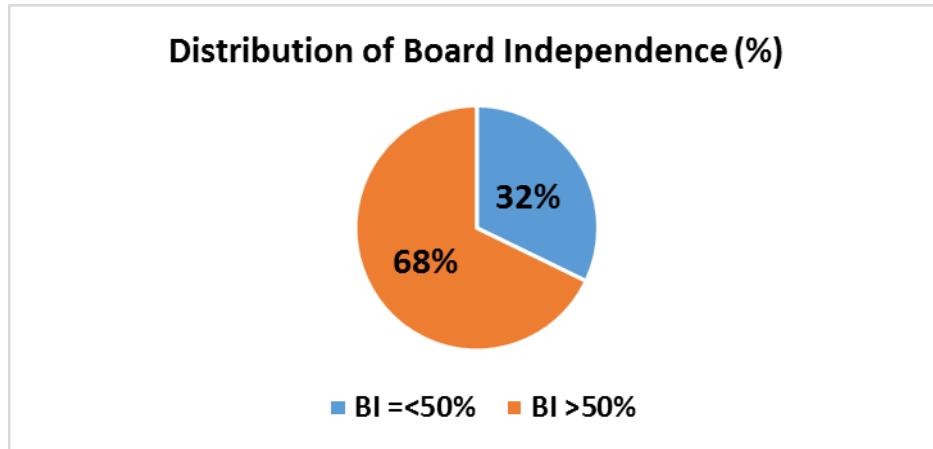
From Table 5.8 and chart 5.2, it is depicted that around 32% of the observations of the sampled companies for the year 2012-2015 are having board independence of equal or less than 50% while around 68% are having more than 50% board independence. It indicates that companies are not only fulfilling the norm of having 50% independent directors but also including more and more independent directors on their boards..

Table 5.8: Distribution of Board Independence

Board Independence (%)	Distribution(%)
=<50%	32.14%
>50%	67.87%

Source: Author's computation

Chart 5.2



Source: Author's computation

Table 5.9 shows the year-wise list of companies that were having more than 50% board independence during 2012-2015.

Table 5.9: Board Independence more than 50%

2012		
S.N.	Company	Board Independence (%)
1.	Reliance Industries Ltd.	53.85%
2.	Bharti Airtel Ltd.	53.85%
3.	Infosys Ltd.	57.14%
4.	Mahindra & Mahindra Ltd.	71.43%
5.	Tata Motors Ltd.	50.00%
6.	Tata Consultancy Services Ltd.	54.55%
7.	ITC Ltd.	61.11%
8.	Cipla Ltd.	66.67%
9.	Tata Steel Ltd.	53.85%
10.	Dr. Reddy's Laboratories Ltd.	80.00%
11.	Hindustan Unilever Ltd.	62.50%
12.	Hero Motocorp Ltd.	54.55%
13.	Wipro Ltd.	76.92%
14.	Bajaj Auto Ltd.	56.25%
2013		
1.	Reliance Industries Ltd.	57.14%
2.	Infosys Ltd.	53.85%
3.	Bharti Airtel Ltd.	50.00%
4.	Larsen & Toubro Ltd.	50.00%
5.	Mahindra & Mahindra Ltd.	73.33%
6.	Tata Motors Ltd.	54.55%
7.	Tata Consultancy Services Ltd.	54.55%

8.	ITC Ltd.	50.00%
9.	Cipla Ltd.	54.55%
10.	Tata Steel Ltd.	53.85%
11.	NTPC Ltd.	50.00%
12.	Dr. Reddy's Laboratories Ltd.	80.00%
13.	Hindustan Unilever Ltd.	50.00%
14.	Hero Motocorp Ltd.	54.55%
15.	Wipro Ltd.	76.92%
16.	Bajaj Auto Ltd.	56.25%
2014		
1.	Reliance Industries Ltd.	53.85%
2.	Bharti Airtel Ltd.	53.85%
3.	Infosys Ltd.	80.00%
4.	Mahindra & Mahindra Ltd.	63.64%
5.	Tata Motors Ltd.	60.00%
6.	Tata Consultancy Services Ltd.	54.55%
7.	ITC Ltd.	50.00%
8.	Cipla Ltd.	50.00%
9.	Dr. Reddy's Laboratories Ltd.	80.00%
10.	Hindustan Unilever Ltd.	55.56%
11.	Hero Motocorp Ltd.	58.33%
12.	Wipro Ltd.	70.00%
13.	Bajaj Auto Ltd.	56.25%
2015		
1.	Reliance Industries Ltd.	57.14%
2.	Bharti Airtel Ltd.	53.33%
3.	Infosys Ltd.	77.78%
4.	Larsen & Toubro Ltd.	52.63%
5.	Mahindra & Mahindra Ltd.	70.00%
6.	Tata Motors Ltd.	54.55%
7.	Tata Consultancy Services Ltd.	54.55%
8.	Cipla Ltd.	50.00%
9.	Tata Steel Ltd.	54.55%
10.	Dr. Reddy's Laboratories Ltd.	77.78%
11.	Hindustan Unilever Ltd.	55.56%
12.	Hero Motocorp Ltd.	63.64%
13.	Wipro Ltd.	63.64%
14.	Bajaj Auto Ltd.	53.33%

Source: Author's computation

5.6.6 DISTRIBUTION OF CEO DUALITY FOR THE YEAR 2012-2015

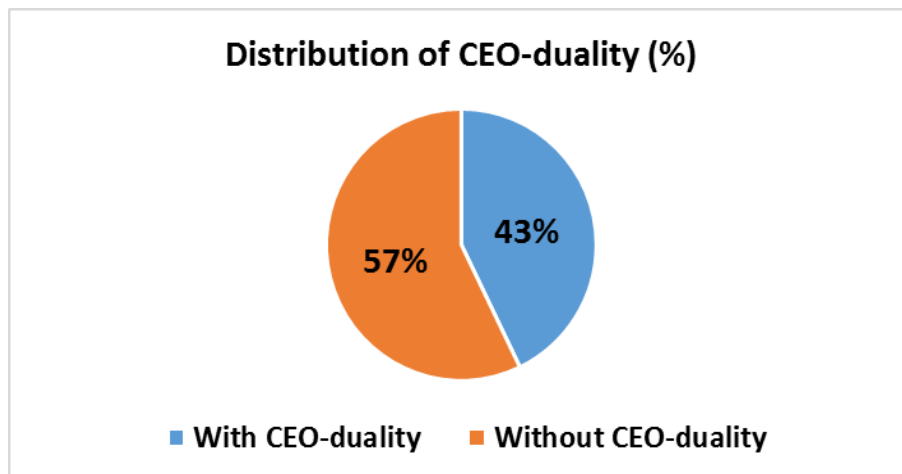
From Table 5.10 and chart 5.3, it is depicted that around 43% of the observations of the sampled companies for the year 2012-2015 are having CEO duality while around 57% have CEO non-duality. It indicates that companies are inclining towards separation of the two positions. Almost all the Public Sector Units (PSUs) are having CEO duality.

Table 5.10: Distribution of CEO duality

Leadership Style	Distribution (%)
CEO duality	42.85%
No CEO duality	57.14%

Source: Author's computation

Chart 5.3



Source: Author's computation

Table 5.11 present the year-wise list of companies that were having CEO duality.

Table 5.11: Companies with CEO duality

2012	
S.N.	Company
1.	Reliance Industries Ltd.
2.	Mahindra & Mahindra Ltd.
3.	Coal India Ltd.
4.	ITC Ltd.
5.	Oil And Natural Gas Corporation Ltd.
6.	NTPC Ltd.
7.	Dr.Reddy's Laboratories Ltd.
8.	Bharat Heavy Electricals Ltd.
9.	Gail (India) Ltd.
2013	
1.	Reliance Industries Ltd.
2.	Mahindra & Mahindra Ltd.
3.	Coal India Ltd.
4.	ITC Ltd.
5.	Oil And Natural Gas Corporation Ltd.
6.	NTPC Ltd.
7.	Dr. Reddy's Laboratories Ltd.
8.	Bharat Heavy Electricals Ltd.
9.	Gail (India) Ltd.
2014	
1.	Reliance Industries Ltd.
2.	Mahindra & Mahindra Ltd.
3.	Coal India Ltd.
4.	ITC Ltd.
5.	Oil And Natural Gas Corporation Ltd.
6.	NTPC Ltd.
7.	Hero Motocorp Ltd.
8.	Bharat Heavy Electricals Ltd.
9.	Gail (India) Ltd.
2015	
1.	Reliance Industries Ltd.
2.	Mahindra & Mahindra Ltd.
3.	Coal India Ltd.
4.	ITC Ltd.
5.	Oil And Natural Gas Corporation Ltd.
6.	NTPC Ltd.
7.	Hero Motocorp Ltd.
8.	Bharat Heavy Electricals Ltd.
9.	Gail (India) Ltd.

Source: Author's computation

Table 5.12 presents the year-wise list of companies having CEO duality with less than 50% Independent director on their boards.

Table 5.12: Year-wise List of Companies having CEO duality with less than 50% Independent Director

2012		
S.N.	Company	Board Independence (%)
1.	Coal India Ltd.	46.67%
2.	Oil And Natural Gas Corporation Ltd.	42.86%
3.	NTPC Ltd.	47.06%
4.	Bharat Heavy Electricals Ltd.	22.22%
5.	Gail (India) Ltd.	27.27%
2013		
1.	Coal India Ltd.	40.00%
2.	Oil And Natural Gas Corporation Ltd.	35.71%
3.	Bharat Heavy Electricals Ltd.	0.00%
4.	Gail (India) Ltd.	20.00%
2014		
1.	Coal India Ltd.	40.00%
2.	Oil And Natural Gas Corporation Ltd.	11.11%
3.	NTPC Ltd.	18.18%
4.	Bharat Heavy Electricals Ltd.	20.00%
5.	Gail (India) Ltd.	0.00%
2015		
1.	Coal India Ltd.	41.67%
2.	ITC Ltd.	46.67%
3.	Oil And Natural Gas Corporation Ltd.	25.00%
4.	NTPC Ltd.	36.36%
5.	Bharat Heavy Electricals Ltd.	41.67%
6.	Gail (India) Ltd.	40.00%

Source: Author's computation

5.7 INFERENCE STATISTICS

This section presents the inferential statistics of the data. The statistical study is trying to explore the impact of corporate governance variables (dependent variables) on capital structure variables (independent variables) keeping profitability and size of the firm (control variables) constant. This study also analyses the associations between study variables. Software SPSS 20 and EViews 7 were used to analyze the relationship. For each research hypothesis, a Null

Hypothesis (H_0) and a corresponding alternate hypothesis (H_1) have been formulated to facilitate hypothesis testing.

5.7.1 OBJECTIVE 1: To investigate the impact of corporate governance practices such as board size, board independence, CEO duality on capital structure choices of Indian firms.

Multiple-regression is a suitable tool to analyze this type of research. In this study, panel data econometric technique was used, therefore the estimation model uses panel data with 21 companies and the time period of 2012-2015, in this way same cross sectional unit (company) was treated over time (four years) to get 84 observations. Panel data estimation technique enhances the statistical degrees of freedom which increases the sample size.

However, there are some diagnostic tests, which help in making the regression estimates efficient and help in avoiding spurious regression problems. It is delineated in the normality section that all the variables follow normality except dependent variable which suffered from slight non-normal behavior but it is statistically tolerable. Use of panel data technique in the study minimizes the multicollinearity problem and provides more flexibility in modeling differences in behavior across the individual unit (company) which enables the researcher to control the unobserved heterogeneity. Data should be checked for unit root. To prevent misleading model solutions, unit root tests should be done for all variables before panel least square regression. Levin, Lin and Chu (LLC) unit root tests results demonstrated that all variables are stationary. The null hypothesis which states there is a unit root was rejected in 1% level of significance for all variables.

If the study has time series data, there should be no relationship between error terms as it causes the problem of autocorrelation. For panel data, residual cross-section dependence tests are performed. Autocorrelation test results indicated the rejection of hypothesis as there was no cross-section dependence or correlation in residuals. The Durbin–Watson statistic is used to detect the

presence of autocorrelation in the residuals. To solve the heteroscedasticity problems, White standard errors and covariance method was used to obtain the results. This study's analyses were run with the help of EViews software.

There are two main approaches of panel data analysis: (a) Fixed Effects Model (FEM), and (b) Random Effects Model (REM). The analysis of the panel data begins with determining the type of regression needed for the study i.e. fixed effects or random effects models.

Fixed Effects Model (FEM): This model assumes that omitted effects that are specific to cross sectional units (company specific) are constant over time.

Random Effects Model (REM): This model assumes that omitted effects that are specific to cross sectional units (company specific) are random over time.

Hausman test is performed to decide between fixed or random cross section models. It test the null hypothesis (H_0) that unique errors are not correlated with the regressors and random effects is most appropriate and efficient estimator model not the fixed effects.

5.7.1.1 Hypothesis 1

H₀₁: There is no significant impact of corporate governance practices on capital structure.

This hypothesis is further broken into three sub hypothesis.

H_{01a}: There is no significant impact of board size on capital structure.

H_{01b}: There is no significant impact of board independence on capital structure.

H_{01c}: There is no significant impact of CEO duality on capital structure.

OLS (Ordinary Least Squares) estimators are considered to be unbiased and inconsistent in the presence of heteroskedasticity, so test statistics using the

standard error are not valid. It is always better to use either fixed effects or random effects instead. To deal with the possibility of heteroskedasticity, White developed heteroskedasticity-consistent standard errors and EViews has this program. When this analysis is made, at first the Hausman test was run to test the hypothesis that;

H_0 : Random effect is appropriate.

H_1 : Fixed effect is appropriate.

This study tested for this assumption and appropriateness of random-effects estimation using Hausman test. The insignificant Hausman test statistic suggests that the assumptions for random effects estimation are not violated. This also helps to determine the best fitting model of capital structure (leverage). According to the Hausman test, if the p-value is greater than 0.05 (critical value to reject or not) then H_0 i.e. null hypothesis is accepted. It basically tests whether the unique errors (u_i) are correlated with the regressors, the null hypothesis is they are not. In this study, Hausman test results shows that the random effects model is the appropriate model to be used.

All firm fixed effects regressions do not have a significant impact which implies the acceptance of the null hypothesis that the appropriate and efficient estimator model is random effects. Thus, fixed effects regressions are expected to give unreliable coefficients. The Hausman test used in the analysis (see Table 5.13) yields χ^2 of 3.722 and p- value of 0.59 which is insignificant at a 0.05 level of significance. As such fail to reject the null of a random effect model.

Table 5.13: Results of Hausman Test

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.722689	5	0.5900

Source: Author's computation

The Random effect model is used and is corrected for heteroscedasticity using the robust standard errors. Table 5.14 presents the result of the multivariate analysis in a panel data framework.

5.7.1.2 Regression Analysis-Random Effect with White Cross

Table 5.13 shows the regression results for the model using Debt to Equity ratio (capital structure) as dependent variable. The first column shows, the coefficient of all independent variables which indicates the magnitude and direction of relation between Debt to Equity (DE) and corporate governance variables along with control variables. Column two represents, their standard errors and column three exhibits, the t-value. Column four states, the significance of the outcomes obtained from the regression. The R-squared represents, the degree or percentage up to which the sample describes the dependent variables and F statistics tells us the overall significance of the model.

Table 5.14: Regression Analysis-Random Effect with White Cross

Dependent Variable: Debt to Equity
 Method: Panel EGLS (Cross-section random effects)
 Date: 05/ 01/17 Time: 15:52
 Sample: 2012 2015
 Periods included: 4
 Cross-sections included: 21
 Total panel (balanced) observations: 84
 Wansbeek and Kapteyn estimator of component variances
 White cross-section standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	57.83272	34.04719	1.698605	0.0934
LOGBS	-11.27319	6.109072	-1.845320	0.0688
BI	0.010033	0.120584	0.083207	0.9339
CEOD	1.288880	3.527282	0.365403	0.7158
ROA	-0.669295	0.377794	-1.771590	0.0804
LOGTA	-0.120070	1.634234	-0.073471	0.9416

Weighted Statistics			
R-squared	0.131519	Mean dependent var	3.889289
Adjusted R-squared	0.075847	S.D. dependent var	9.228429
S.E. of regression	8.871552	Sum squared resid	6138.947
F-statistic	2.362400	Durbin-Watson stat	1.970263
Prob (F-statistic)	0.047441		

Source: Author's computation

Where,

LOGBS=Log of Board Size

BI= Board Independence (%)

CEOD= CEO duality

ROA= Return on Assets (Profitability %)

LOGTA= Log of Total Assets (Size of the firm)

Ho_{1a}: There is no significant impact of board size on capital structure.

Interpretation of the results

The analysis shows that keeping all other independent variables and control variables constant, the regression outcomes show that the board size are negatively related with capital structure which is measured by Debt to Equity ratio. So, increase in a number of board size leads to 0.112% decrease in Debt to Equity ratio while a decrease in a number of board size lead to 0.112% increase in debt to equity ratio and it is significant at a 10% significance level. Therefore, null hypothesis which assumes that there is no significant impact of board size on capital structure, is rejected.

Ho_{1b}: There is no significant impact of board independence on capital structure.

Interpretation of the results

The analysis shows that keeping all other independent variables and control variables constant, the regression outcomes show that the board independence is positively related with capital structure which is measured by Debt to Equity ratio. However, the board independence is not found to be significant and hence, it does not impact capital structure (debt to equity ratio). In other words, the board independence coefficients is not significant at any level, suggesting that firm capital structure is not affected by whether there is any increase/decrease in number of independent directors on the board. Therefore, which assumes that there is no significant impact of board independence on capital structure is, not rejected.

Ho_{1c}: There is no significant impact of CEO duality on capital structure.

Interpretation of the results

The analysis shows that keeping all other independent variables and control variables constant, the regression outcomes showed that the CEO duality was positively related with capital structure which is measured by Debt to Equity

ratio. However, the CEO duality was not found to be significant and hence, it does not impact capital structure (debt to equity ratio). In other words, the CEO dummy coefficient is not significant at any level, suggesting that firm capital structure is not affected by whether there is a separation between CEO and chairperson positions or not. Therefore, null hypothesis which assumes that there is no significant impact of CEO duality on capital structure is, not rejected. The analysis also shows that control variable profitability (ROA) is significantly and inversely related to capital structure variable. It implies that as the profitability increases in a company its level of debt decreases. In case of other control variable used in the study i.e. size of the firm, the relationship is negatively related with capital structure. However, it is not found to be significant and hence, it does not impact capital structure (debt to equity ratio).

R^2 of 0.1315 indicates that independent variables (BS, BI, and CEO duality) and control variables (ROA, Size of the firm) explain 13.15 % of the systematic variation in the dependent variable (Debt to Equity ratio). The regression result of the given model indicates that 11.27% of the impact is explained by board size only. In addition, the Durbin Watson statistic is 1.97 which is close to two which means sampled data do not present the problem of autocorrelation. A general evaluation from this analysis is that F statistics and its p-values are 2.36 and 0.047 which is smaller than the critical point of 5% level of significance. Hence, corporate governance variables are significantly related with capital structure (debt to equity ratio). Adjusted R-squared of this model is 0.075 which means that the independent variables and control variables jointly explain approximately 7.5% of the systematic variation in the dependent variable (Debt to Equity ratio).

Table 5.15: Summary of Multiple Regression Analysis Interpretation

Dependent Variable	Independent Variable	Control Variable	Relationship Direction	Sig. Value	Result on Hypothesis
Capital structure Variable	Corporate Governance Variable	Profitability & Size of the firm	Positive /Negative		Ho Rejected/ Not Rejected
Debt to Equity ratio	Board Size		Negative	0.068	H ₀ Rejected
Debt to Equity ratio	Board Independence		Positive	0.933	H ₀ Not Rejected
Debt to Equity ratio	CEO duality		Positive	0.71	H ₀ Not Rejected
Debt to Equity ratio		Return on Assets	Negative	0.08	H ₀ Rejected
Debt to Equity ratio		Total Assets	Negative	0.94	H ₀ Not Rejected

Source: Author’s computation

Table 5.16: Predictor of Capital Structure – Model summary

Variable	Debt to Equity Ratio Sig. /Insig.
Board Size	-11.27
Board Independence	Not Significant
CEO duality	Not Significant
R2	0.1315
Adj R2	0.075
F-test	2.36(0.05)
Durbin Watson	1.97

<p>Regression equation for the model</p> $LEV_{it} = 57.83 - 11.27 (\text{Log BS})_{it} - 0.66 (\text{ROA})_{it} + \epsilon$

Regression results clearly show the mixed results between corporate governance variables and capital structure i.e. Debt to Equity ratio. However, the overall

model is significant which implies that corporate governance has an impact on capital structure.

5.7.1.3 Robustness Check for multiple regression result using debt ratio as dependent variable

In order to check the robustness of the regression result the proxy for capital structure (dependent variable) i.e. debt to equity ratio was replaced by debt ratio (DR).

Table 5.17: Robustness Check for Multiple Regression

Dependent Variable: Debt Ratio
 Method: Panel Least Squares
 Date: 06/01/17 Time: 18:16
 Sample: 2012 2015
 Periods included: 4
 Cross-sections included: 21
 Total panel (balanced) observations: 84
 White cross-section standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19.01833	5.689006	3.342998	0.0015
LOGBS	-2.353415	1.218395	-1.931570	0.0583
BI	-0.007845	0.052094	-0.150601	0.8808
CEOD	-0.777467	1.242016	-0.625972	0.5338
ROA	-0.113817	0.061208	-1.859509	0.0680
LOGTA	-0.078507	0.512902	-0.153065	0.8789
R-squared	0.958062	Mean dependent var	9.924166	
Adjusted R-squared	0.939985	S.D. dependent var	11.34509	
S.E. of regression	2.779315	Akaike info criterion	5.130960	
Sum squared resid	448.0263	Schwarz criterion	5.883356	
Log likelihood	-189.5003	Hannan-Quinn criter.	5.433417	
F-statistic	52.99955	Durbin-Watson stat	1.996718	
Prob(F-statistic)	0.000000			

Source: Author's computation

Where,

LOGBS=Log of Board Size

BI= Board Independence (%)

CEOD= CEO duality

ROA= Return on Assets (Profitability %)

LOGTA= Log of Total Assets (Size of the firm)

Interpretation of the results

Table 5.17 shows that similar results are obtained by using debt ratio in place of debt to equity ratio, as a measure of capital structure and therefore it is evident from the results that corporate governance has an impact on capital structure as the overall model is significant with F-statistic 52.99 at 5% level of significance. Board size is the only corporate governance variable which is found to be significant and negatively impacting the capital structure while board independence and CEO duality are not found to impact significantly the capital structure decisions. Profitability as control variable is found to be significant and negatively impacting the capital structure while size of the firm is not found to be significantly impacting the capital structure.

5.7.2 OBJECTIVE 2: To identify the relationship between profitability and capital structure.

5.7.2.1 Hypothesis 2

H₀₂: There is no significant correlation between profitability and capital structure.

Tables 5.18 to 5.21 describe the correlation between profitability and capital structure. The variable used for profitability is Return on Assets (ROA). Two variables of capital structure are used to check the correlation i.e. Debt to Equity ratio and Debt ratio. Thus, Table 5.18 shows the correlation between profitability (Return on Assets) and capital structure (Debt to Equity ratio) using Pearson's correlation while Table 5.19 shows the correlation between profitability (Return on Assets) and capital structure (Debt to Equity ratio) using Spearman's correlation. Similarly, Table 5.20 shows the correlation between profitability (Return on Assets) and capital structure (Debt ratio) using Pearson's correlation while Table 5.21 shows the correlation between

profitability (Return on Assets) and capital Structure (Debt ratio) using Spearman's correlation.

It is delineated in the normality section that all variable follow normality except dependent variable which suffers from slight non-normal behaviour but it is statistically tolerable. Taking into consideration both Pearson's parametric and Spearman's non-parametric correlation coefficients are applied on the variables. It is evident from the results of both the correlation coefficient (parametric and non-parametric bivariate correlations) are very similar. This similarity seems to suggest that any remaining non-normalities in the variables may be not serious or insignificant.

5.7.2.2 Correlation between Profitability (Return on Assets) and Capital Structure (Debt to Equity Ratio)

Table 5.18: Pearson's Correlation between Return on Assets (ROA) and Debt to Equity Ratio (DE)

Correlations			
		ROA	Debt to Equity
ROA	Pearson Correlation	1	-.538**
	Sig. (2 tailed)		.000
	N	84	84
Debt to Equity	Pearson Correlation	-.538**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Author's computation

Interpretation of the results

It is depicted from the Table 5.18 that profitability (Return on Assets) and capital structure (Debt to Equity ratio) are negatively correlated at 1%, 5% and 10% level of significance. The Pearson correlation coefficient is -0.538 which indicates that 1% change in one variable leads to 0.538% change in another variable in opposite direction. This shows a moderate negative correlation between profitability and capital structure. Therefore, null hypothesis which

states that, there is no significant correlation between profitability and capital structure is rejected.

Table 5.19: Spearman's Correlation between Return on Assets (ROA) and Debt to Equity Ratio (DE)

Correlations				
			ROA	Debt to Equity
Spearman's rho	ROA	Correlation Coefficient	1.000	-.718**
		Sig. (2-tailed)	.	.000
		N	84	84
	Debt to Equity	Correlation Coefficient	-.718**	1.000
		Sig. (2-tailed)	.000	.
		N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Author's computation

Interpretation of the results

It is depicted from the Table 5.19 that profitability (Return on Assets) and capital structure (Debt to Equity ratio) are negatively correlated at 1%, 5% and 10% level of significance. The spearman's correlation coefficient is -0.718 which indicates that 1% change in one variable leads to 0.718% change in another variable in opposite direction. This shows a moderate negative correlation between profitability and capital structure. Therefore, null hypothesis which states, that there is no significant correlation between profitability and capital structure, is rejected.

5.7.2.3 Correlation between Profitability (Return on Assets) and Capital Structure (Debt Ratio).

Table 5.20: Pearson's Correlation between Return on Assets (ROA) and Debt Ratio (DR)

Correlations			
		ROA	Debt Ratio
ROA	Pearson Correlation	1	-.566**
	Sig. (2-tailed)		.000
	N	84	84
Debt Ratio	Pearson Correlation	-.566**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Author's computation

Where,

$$\text{Debt Ratio (DR)} = \text{Debt to Total Assets}$$

Interpretation of the results

It is depicted from the Table 5.20 that profitability (Return on Assets) and capital structure (Debt Ratio) are negatively correlated at 1%, 5% and 10% level of significance. The Pearson correlation coefficient is -0.566 which indicates that 1% change in one variable leads to 0.566% change in another variable in opposite direction. This shows a moderate negative correlation between profitability and capital structure. Since the p-value is less than 0.05, the null hypothesis which states that, there is no significant correlation between profitability and capital structure, is rejected.

Table 5.21: Spearman's Correlation between Return on Assets and Debt Ratio

Correlations				
			ROA	Debt Ratio
Spearman's rho	ROA	Correlation Coefficient	1.000	-.698**
		Sig. (2-tailed)	.	.000
		N	84	84
	Debt Ratio	Correlation Coefficient	-.698**	1.000
		Sig. (2-tailed)	.000	.
		N	84	84
**. Correlation is significant at the 0.01 level (2-tailed).				

Source: Author's computation

Interpretation of the results

It is depicted from the Table 5.21 that profitability (Return on Assets) and capital structure (Debt Ratio) are negatively correlated at 1%, 5% and 10% level of significance. The spearman's correlation coefficient is -0.698 which indicates that 1% change in one variable leads to 0.698% change in another variable in opposite direction. This shows a moderate correlation between profitability and capital structure. Since the p-value is less than 0.05, the null hypothesis which states that, there is no significant correlation between profitability and capital structure, is rejected.

It is evident from both the correlation coefficient (parametric and non-parametric) results that there is significant negative correlation between capital structure (debt ratio) and profitability (Return on Assets). Therefore null hypothesis which states that there is no significant correlation between capital structure and profitability is rejected.

5.7.3 OBJECTIVE 3 To identify the relationship between size of the firm and capital structure.

5.7.3.1 Hypothesis 3

H₀₃: There is no significant correlation between size of the firm and capital structure.

This section describes the correlation between size of the firm and capital structure. The variable used for size of the firm is total assets. Two variables of capital structure are used to check the correlation i.e. Debt to Equity ratio and Debt ratio. Table 5.22 shows the correlation between size of the firm (Total Assets) and capital structure (Debt to Equity Ratio) using Pearson's correlation while Table 5.23 shows the correlation between size of the firm (total assets) and capital structure (Debt to Equity ratio) using Spearman's correlation. Similarly, Table 5.24 shows the correlation between size of the firm (Total Assets) and capital structure (Debt Ratio) using Pearson's correlation while Table 5.25 shows the correlation between size of the firm (total assets) and Capital Structure (Debt Ratio) using Spearman's correlation.

It is delineated in the normality section that all variable follow normality except dependent variable which suffers from slight non-normal behaviour but it is statistically tolerable. Taking into consideration both Pearson's parametric and Spearman's non-parametric correlation coefficients are applied on the variables. It is evident from the results of both the correlation coefficient (parametric and non-parametric bivariate correlations) are very similar. This similarity seems to suggest that any remaining non-normalities in the variables may be not serious or insignificant.

5.7.3.2 Correlation between Size of the Firm (Total Assets) and Capital Structure (Debt to Equity Ratio)

Table 5.22: Pearson's Correlation between Total Assets and Debt to Equity Ratio

Correlations			
		Log of Total Assets	Debt to Equity ratio
Log of Total Assets	Pearson Correlation	.197	1
	Sig. (2-tailed)	.073	
	N	84	84
Debt to Equity ratio	Pearson Correlation	1	.197
	Sig. (2-tailed)		.073
	N	84	84

Source: Author's computation

Interpretation of the results

It is depicted from the Table 5.22 that size of the firm (total assets) and Capital Structure (Debt to Equity ratio) are positively correlated at 10% level of significance. The Pearson correlation coefficient is 0.197 which indicates that 1% change in one variable leads to 0.197% change in another variable in same direction. This shows a mild or weak positive correlation between firm size and capital structure. Therefore null hypothesis which states that there is no significant correlation between size of the firm and capital structure is rejected.

Table 5.23: Spearman's Correlation between Total Assets and Debt to Equity Ratio

Correlations				
			Log of Total Assets	Debt to Equity ratio
Spearman's rho	Log of Total Assets	Correlation Coefficient	1.000	.368**
		Sig. (2-tailed)	.	.001
		N	84	84
	Debt to Equity ratio	Correlation Coefficient	.368**	1.000
		Sig. (2-tailed)	.001	.
		N	84	84
**. Correlation is significant at the 0.01 level (2-tailed).				

Source: Author's computation

Interpretation of the results

It is depicted from the Table 5.23 that size of the firm (total assets) and capital structure (Debt to Equity ratio) are positively correlated at 1%, 5% and 10% level of significance. The spearman's correlation coefficient is 0.368 which indicates that 1% change in one variable leads to 0.368% change in another variable in same direction. This shows a mild or weak positive correlation between size of the firm and capital structure. Therefore null hypothesis which states that there is no significant correlation between capital structure and firm size is rejected.

5.7.3.3 Correlation between Total Assets and Debt Ratio

Table 5.24: Pearson's Correlation between Size of the Firm (Total Assets) and Capital Structure (Debt Ratio)

Correlations			
		Log of Total Assets	Debt to Equity ratio
Log of Total Assets	Pearson Correlation	1	.268*
	Sig. (2-tailed)		.014
	N	84	84
Debt to Equity ratio	Pearson Correlation	.268*	1
	Sig. (2-tailed)	.014	
	N	84	84

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Author's computation

Interpretation of the results

It is depicted from the Table 5.24 that size of the firm (total assets) and capital structure (Debt ratio) are positively correlated at 5% and 10% level of significance. Pearson's correlation coefficient is 0.268 which indicates that 1% change in one variable leads to 0.268% change in another variable in same direction. This shows a mild or weak positive correlation between size of the firm and capital structure. Therefore null hypothesis which states that there is no significant correlation between capital structure and firm size is rejected.

Table 5.25: Spearman's Correlation between Total Assets and Debt Ratio

Correlations				
			Log of Total Assets	Debt to Equity ratio
Spearman's rho	Log of Total Assets	Correlation Coefficient	1.000	.378**
		Sig. (2-tailed)	.	.000
		N	84	84
	Debt to Equity ratio	Correlation Coefficient	.378**	1.000
		Sig. (2-tailed)	.000	.
		N	84	84
**. Correlation is significant at the 0.01 level (2-tailed).				

Source: Author's computation

Interpretation of the results

It is depicted from the Table 5.25 that size of the firm (total assets) and capital structure (Debt ratio) are positively correlated at 1%, 5% and 10% level of significance. The spearman's correlation coefficient is 0.378 which indicates that 1% change in one variable leads to 0.378% change in another variable in same direction. This shows a mild or weak positive correlation between size of the firm and capital structure. Therefore, null hypothesis which states that there is no significant correlation between capital structure and firm size is rejected.

5.8 SUMMARY OF CHAPTER

This is the definitive chapter of this thesis which presents the analysis and interpretation of the data in a user-friendly format. The chapter has two major sections, one which displays data of the Descriptive Statistics and second which presents the Inferential Statistics and Testing of Hypothesis. Before performing the regression analyses, this study examined the various diagnostic tests.

CHAPTER-6
FINDINGS,
CONCLUSIONS AND
RECOMMENDATIONS

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.0 INTRODUCTION

This chapter entails and outlines the comprehensive discussions on the findings of the study. Conclusions are thereafter made with a key focus on the research objectives i.e. focus on the linkage between corporate governance and capital structure, which form the core of this section. Later, relevant policy recommendations and areas of further research are suggested as a way of filling the gap.

6.1 SUMMARY OF THE STUDY

Chapter 1 is an introduction to the research subject, discusses the background, and speaks of few previous studies in the related area and describes the rationale of the study. It delineates the need of the research study highlighting the relevance of the topic. This chapter outlines the entire philosophy and through-process behind conducting this research. It also delineates the scope of the research while also stating its limitations.

Chapter 2 provides a theoretical grounding of the research and the review of literature was detailed in various sections. The literature review has expounded on the theoretical perspectives that are important in a study of corporate governance and capital structure. In addition, review of empirical literature identified the important corporate governance characteristics i.e. board size, board independence and CEO duality and these characteristics were examined in this study.

Chapter 3 provides an overview of corporate governance system. The chapter begins with the definitions of corporate governance given by different scholars,

committees and regulatory bodies. It outlines the evolution of corporate governance system by delineating the history of corporate governance. This chapter also describes the various committees formed to improve and reform the corporate governance system around the world. It is further extended to describe the evolution and restructuring of corporate governance in India

Chapter 4 provides a snapshot of the research method applied in this research. It gave an account of the research objectives, scope of the research, research methodology, research design, significance and need of the research and the necessary hypotheses. The research design was an exploratory research and the methodology used was quantitative research techniques. It justifies the reasons for the choice of the sampling unit, data collection and the sample size. The discussion on the adequacy of the sample and the sampling technique is also given. Further, a snapshot of the data analysis techniques is given which could be applied for testing the given research hypotheses derived from the research objectives forming the crux of the overall research. The chapter uses the grounding provided in chapter 2 from where it uses the existing literature available on the methodologies adopted by various scholars nationwide to come up with a better measure. Further, the relative merits and demerits of each method are also discussed.

Chapter 5 analyses the data exhaustively and presents the results for all the research objectives. The analysis and interpretation of the data were strictly based on the logic given in the chapter 4 describing research methodology focusing on research objectives and the research hypotheses. The analysis of data was done by using descriptive and inferential statistics in a comprehensive detail, to come up with appropriate answers of the set out objectives. The research hypotheses have also been tested and accepted or rejected based on the results. Based on all these tests and analysis, the researcher has drawn her inferences and conclusions. The same are elaborated in the last chapter i.e. chapter 6.

Chapter 6 discusses about the major findings and its implications in the research world. The researcher has compared the results obtained in her study with the

results obtained from the previous researches in related areas; the current study confirms the conformity of its findings with most of the results obtained by previous studies and also presents some new findings and conclusions. This section then proceeds towards conclusions of the study followed by recommendations and scope for future research.

6.2 FINDINGS OF THE STUDY

The findings are the research results of an extensive analysis of the data in the research study. All the findings are related and are in the context with the set out research objectives.

6.2.1 Findings from the Descriptive Analysis

- Results depicted that companies have an average debt to equity ratio of 0.199 with standard deviation 0.268 and average debt ratio of 0.099 with standard deviation 0.113. Therefore, the average ratio of the firms' capital mix is 19.9% which denotes the companies on an average are financed by 19.9% debt and 80.1% equity while, debt ratio indicates that only 9.9% of the assets are financed through debt. Maximum debt to equity ratio is 1.35 while maximum debt ratio is 0.40. Minimum of both the capital structure i.e. debt to equity ratio and debt ratio is zero.
- On an average, there are 12 directors that serve on the board with a standard deviation of 2 directors. The minimum size of the board is 6 members and the maximum is 19.
- The independent directors form 50.52% of members on the boards with standard deviation of 16.94%. The noticeable thing regarding independent directors is that the minimum and maximum percentage of independent directors on boards, are 0% and 80% respectively.
- About 43% of the study firms have CEO duality with 50% standard deviation.
- The mean for the profitability is 14.45% with standard deviation of about 13%.

The mean and standard deviation for the size of the firm (total assets) are Rs.263881 crores and Rs. 482437 crores respectively.

- Around 63% of the observations of the sampled companies for the year 2012-2015 are having 11 to 15 directors on their boards and around 27% of the companies have 5-10 board members. On the other hand, less than one percent of the companies are having more than 15 board members.
- Around 32% of the observations of the sampled companies for the year 2012-2015 are having board independence of equal or less than 50% while around 68% are having more than 50% board independence.
- Around 43% of the observations of the sampled companies for the year 2012-2015 are having CEO duality while around 57% have no CEO duality.

6.2.2 Findings for the Objective 1

- Diagnostic Regression: Before interpreting the results of the multiple-regression, various diagnostic tests were run on data to check the normality, multicollinearity, autocorrelation, heteroscedasticity and unit root test of the data.
- In this study, number of observations are 84, therefore applying thumb rule it can be assumed that the data tends to be normal. Also, for sufficiently large samples, violations of normality in the outcome may not be an issue. The other measures of normality i.e. kurtosis and skewness statistic failed to reject the null hypothesis (the absolute critical value for rejecting Kurtosis is three and skewness is less than 1). The statistics of the skewness and kurtosis indicated that the only capital structure variable is mildly non-normal as compared to normal distribution while other variables (on same data or after transformation) follow the normality. This is similar to the past researches in which variables were found to be non-normal and the researchers argued that parametric tests can be applied on the data as this amount of non-normality is statistically tolerable and would not affect the multiple regression to estimate the specified structural equations (Cheung and Wei, 2006; Haniffa and Hudaib, 2006; Francoeur et al., 2008). Overall all the

outcomes of the correlation are smaller than 0.80, which is considered to be the critical level to determine the multicollinearity problem and hence, data does not suggest multicollinearity problems for this analysis. Tolerance level is less than 1. Also, VIF values of all the variables are perfectly below 10. This implies that all the variables under study are retained. The result supports the absence of multicollinearity in the research model. The model provided the value of Durbin-Watson test as 1.97, which rejected the chance of having any autocorrelation problem. Software package EViews provide White e.s.e.'s cross section method as an option to adjust the standard errors. This test was performed with the regression to control and correct the suspected heteroscedasticity. Variables under study were subjected to Levin-Lin-Chu unit-root test. P-values of all the variables were less than 0.05 i.e. level of significance, which signifies the absence of unit root i.e. data are stationary.

6.2.2.1 Relationship between Corporate Governance and Capital Structure

The empirical findings suggest that corporate governance attributes in part explicate the financing behavior of Indian firms.

- **Board Size and Capital Structure**

The results acquired from testing the first hypothesis suggest that there is a significant negative impact of board size on capital structure.

- It implies that an increase in number of board size leads to 0.112% decrease in debt to equity ratio while a decrease in the number of board size leads to 0.112% increase in debt to equity ratio and it is significant at a 10% significance level.
- This significant negative impact of board size on capital structure is similar to some previous findings.

Table 6.1: Previous similar findings related to significant negative impact of board size on capital structure

Author	Country
Lipton and Lorsch (1992)	U.S.
Berger et al (1997)	U.S.
Abor and Bikpie (2007)	Ghana (West Africa)
Hassan and Butt (2009)	Pakistan
Bodaghi and Ahmadpour (2010)	Iran
Vakilifard et al. (2011)	Iran
Mahdi et. al. (2011)	Iran
Heng et. al., (2012)	Malaysia
Ganiyu and Abiodun (2012)	Nigeria (West Africa)
Ranti (2013)	Nigeria (West Africa)
Aziz et. al. (2013)	Pakistan
Uwigbe (2013)	Nigeria (West Africa)
Precious Angelo Brenni. (2014)	U.K.

- While it is contradictory to the findings of Jensen (1986); Wen et al. (2002); Coles et al. (U.S., 2008); Hussainey and Al-Nodel (2009); Jiraporn et al. (2009); Saad (2010) and Gill et al. (2012), as they argued a significant positive relationship between board size and capital structure.
- **Board Independence and Capital Structure**
- The results acquired from testing the first hypothesis suggested that there is a no significant impact of board independence on capital structure.
- This insignificant impact of board independence on capital structure is in line of some previous findings.

Table 6.2: Previous similar findings related to no significant impact of board independence on capital structure

Author	Country
Florinița DUCA (2013)	Romania
Bokpin and Arko (2009)	Ghana
Vikilifard et al. (2011)	Iran

- While it is contradictory to the findings of Abor and Biekpe (2007); Wen et al (2002) and Heng (2012).
- **CEO duality and Capital Structure**
- The results acquired from testing the first hypothesis suggest that there is a no significant impact of CEO duality on capital structure.
- This insignificant impact of CEO duality on capital structure is in line of some previous findings.

Table 6.3: Previous similar findings related to no significant impact of CEO duality on capital structure

Author	Country
Sheikh et. al (2012)	Pakistan
Saad (2010)	Pakistan
Florinița DUCA (2013)	Romania
Fama & Jensen (1983)	U.S.
Bokpin and Arko (2009)	Ghana
Jaradat, M.S. (2015)	Jordon
Singla, C. (2016)	India

- While it is contradictory to the findings of Abor and Biekpe (2007); Emamgholipour et al. (2013) and Fosberg (2004).

- **Profitability and Capital Structure**
- Profitability was used as control variable and the results revealed that it has significant negative impact on capital structure.
- This finding is in line with the theory and other studies like Myers and Majluf (1984); Titman and Wessel (1988); Barton et al. (1989); Mendell, (2006); Mohammad and Jaafer (2012); Kebewar (2013) and Anandasayanan & Subramaniam (2013). It signifies that increase in debt decreases the profitability while decrease in the debt increases the profitability.
- **Size of the firm and Capital Structure**
- Size of the firm was used as control variable and the results revealed that it has no significant impact on capital structure.
- This finding is in line with the studies of Kim and Sorensen (1986); Karadeniz et al. (2009) and Suhendra (2014).
- R² of 0.1315 indicates that independent variables (Board Size, Board Independence, and CEO duality) and control variables (Profitability and Size of the firm) explain 13.15 % of the systematic variation in the dependent variable (Capital Structure or Debt to Equity ratio). Therefore, the given model revealed that 11.27% of the impact is explained by board size only. This in a nutshell means that the value of the dependent variable can be explained by 11.27% of the independent variables. This value can be considered sufficient because the capital structure of a firm can also be influenced by other factors beside. Adjusted R-squared of this model is 0.075 which means that the independent variables and control variables jointly explain approximately 7.5% of the systematic variation in the dependent variable (Debt to Equity ratio).
- In addition, the Durbin Watson statistic is 1.97 which is close to two which means sampled data do not present the problem of autocorrelation.
- A general evaluation from this analysis is that F statistics and its p-values are

2.36 and 0.047 respectively. As p-value is smaller than the critical point of 5% level of significance, hence, it can be interpreted that simultaneously all the corporate governance variables used in the study are, significantly related with capital structure (debt to equity ratio).

- In order to check the robustness of the regression result the proxy for capital structure (dependent variable) i.e. debt to equity ratio was replaced by debt ratio (DR). Similar results are obtained by using debt ratio and therefore it is evident from the results that corporate governance has an impact on capital structure as the overall model is significant with F-statistic 52.99 at 5% level of significance.
- The model has no problem with multicollinearity and unit root. Altogether, the result of the regression analysis forms the following regression equation:

Regression equation for the model

$$LEV_{it} = \beta_0 + \beta_1(\text{Log BS})_{it} + \beta_2(\% \text{ BI})_{it} + \beta_3(\text{CEOD})_{it} + \beta_4(\% \text{ ROA})_{it} + \beta_5(\text{Log SZ})_{it} + \varepsilon$$

$$LEV_{it} = 57.83 - 11.27 (\text{Log BS})_{it} - 0.66 (\text{ROA})_{it} + \varepsilon$$

6.2.3 Findings for the Objective 2

Correlation between Profitability and Capital Structure

The results show that profitability has a significant and negative correlation with capital structure decisions i.e. both debt to equity ratio and debt ratio which are consistent with pecking order theory. According to pecking order theory firms use internally generated funds as first option to finance projects before raising funds through debt.

- Profitability (Return on Assets) and Capital Structure (Debt to Equity ratio) are negatively correlated at 1%, 5% and 10% level of significance. The Pearson correlation coefficient is -0.538 which indicates that 1% change in one variable leads to 0.538% change in another variable in opposite direction.

- Profitability (Return on Assets) and Capital Structure (Debt to Equity ratio) are negatively correlated at 1%, 5% and 10% level of significance. The spearman's correlation coefficient is -0.718 which indicates that 1% change in one variable leads to 0.71% change in another variable in opposite direction.
- Profitability (Return on Assets) and Capital Structure (Debt Ratio) are negatively correlated at 1%, 5% and 10% level of significance. The Pearson correlation coefficient is -0.566 which indicates that 1% change in one variable leads to 0.566% change in another variable in opposite direction.
- Profitability (Return on Assets) and Capital Structure (Debt Ratio) are negatively correlated at 1%, 5% and 10% level of significance. The spearman's correlation coefficient is -0.698 which indicates that 1% change in one variable leads to 0.698% change in another variable in opposite direction.

6.2.4 Findings for the Objective 3

Correlation between Size of the firm and Capital Structure

There is a significant positive correlation between Size of the firm and Capital Structure. This appears rational as larger firms have more assets for collateral and it is easier for them to negotiate better terms with creditors of funds. It may also be pointed out here that due to prudential banking norms regarding lending in India, most banks are conservative in taking risk. Hence, presence of a large assets base is necessary for raising funds through debt.

- Size of the firm (Total Assets) and Capital Structure (Debt to Equity ratio) are positively correlated at 10% level of significance. The Pearson correlation coefficient is 0.197 which indicates that 1% change in one variable leads to 0.197% change in another variable in same direction.
- Size of the firm (Total Assets) and Capital Structure (Debt to Equity ratio) are positively correlated at 1%, 5% and 10% level of significance. The spearman's correlation coefficient is 0.368 which indicates that 1% change in one variable

leads to 0.368% change in another variable in same direction.

- Size of the firm (Total Assets) and Capital Structure (Debt ratio) are positively correlated at 5% and 10% level of significance. Pearson's correlation coefficient is 0.268 which indicates that 1% change in one variable leads to 0.268% change in another variable in same direction.
- Size of the firm (Total Assets) and Capital Structure (Debt ratio) are positively correlated at 1%, 5% and 10% level of significance. The spearman's correlation coefficient is 0.378 which indicates that 1% change in one variable leads to 0.378% change in another variable in same direction.

6.3 CONCLUSIONS FROM THE STUDY

Based on the data analysis and findings, conclusions are presented as under:

- This study depicts that there are listed companies that have not raised their funds through debt and used only equity to finance their assets which is a very interesting set of result. Also, the average shows that companies use less debt in proportion to their equity. It can be concluded from the analysis that on an average, companies are using less debt in proportion to equity in financing their assets. This suggests that for listed firms in India on an average, total debt appears to constitute less than half of the capital of the sample firms.
- Board size has a mean of 12. The minimum size of the board is 6 members and the maximum is 19. In listed firms, the number of directors should be within a range as stated in Companies Act'2013 i.e. minimum board size of 3 and maximum of 15. Therefore, the results show that the maximum limit has been crossed by few companies. Jensen (1983) and Lipton & Lorsh (1992) suggested the optimum, minimum and maximum number of board for making the board effective. They recommended:

Optimal number of board size : 8-9 members
Minimum number of board size: 07
Maximum number of board size: 10

However, the mean and maximum of sampled companies for the current study seem to be much higher than their findings.

- The independent director forms about 50% of members on the boards which implies that half of the boards comprised of independent directors, which is a fairly good representation. The percentages of minimum and maximum independent directors on boards are 0% and 80% respectively. This is a noticeable thing regarding independent directors as it implies that there are companies that are unable to fulfill the mandatory requirement of independent directors.
- About 43% of the study firms have CEO duality, indicating that the phenomenon of CEO duality is voluntarily adopted by the companies as SEBI and Companies Act' 2013 has not mandated it yet.
- Corporate governance acts as a driver in enhancing the economic growth in general and improving the performance of company to achieve the objectives of wealth and value maximization in specific. The empirical findings suggest that corporate governance attributes in part explicate the financing behavior of the Indian firms. This study depicts that board size plays a significant role in monitoring management and determining the level of debt and firms. Negative significant impact of board size on capital structure shows that larger board size reduces the chances of inclusion of higher debt level while smaller board size employs more debt to lessen agency problem that arises due to the separation of ownership and control. There is always a high possibility of facing agency problem by the firms with small board size. Small size of the boards, limits its ability of taking effective decisions pertinent to finance. It also limits its ability to monitor executives and they employ more debt capital to fund their functioning and investment which increases the overall level of debt of firm's capital structure. While large boards emphasize managers to employ more equity capital than debt capital as they tend to reduce information asymmetries, expand board of directors' expertise, enhance financial accounting process and improve the performance of the firm. That is, firms with large board members tend to use

lower debt in their capital structure and helps in strengthening the corporate governance. Therefore, increasing the board size may improve the capital structure decisions.

- Evidences from this study suggest insignificant impact of board independence on capital structure and therefore, it can be inferred that it is not a significant corporate governance variable in the determination of capital structure.
- Few companies especially public sector companies failed to fulfill the mandatory criteria of independent directors. Most of the public limited companies were unable to fulfill the independent director norm in case their independent directors leave the board due to end of tenure or for any other reason. Appointment is done by government and as it takes time therefore during that time the seat is left vacant. In such a situation, it is difficult to expect any significant impact of independent directors on capital structure decisions. In Public Sector Enterprise, government is the dominant shareholder who appoints independent directors (IDs) as nominees and indirectly formulates corporate strategies. Government can remove them at its will. In family-managed company, family decision takes priority over the governance of the company. Board independence in India is heavily influenced by the incumbent family owners or private individuals who are actually responsible for the appointment of independent directors. Hence, it may be concluded that independent directors usually go with the management's decision and are not so strong a force, as is desired by the regulators. In case of company belonging to business group, group policy assumes priority in decision-making. In annual general session 2017 of CII, SEBI Chief Ajay Tyagi showed his discontent and concern on independent directors' participation in effective decision making. There are several cases that happened in the past where independent directors have resigned from the board of the company without giving any explanation. Therefore in reality, it is evident that the independent directors are not actually independent. This could be the reason that no significant impact of board independence on capital structure decisions is found in this study.

- This study suggests insignificant impact of CEO duality on capital structure in India, it can be inferred that it is not a significant corporate governance variable in the determination of capital structure. It neither gives full support to agency theory nor to stewardship theory. SEBI made CEO non-duality desirable but not mandatory as its impact is not globally settled. CEO duality is found to be highly insignificant in all regressions. Making it a desirable condition not mandatory SEBI left it at the discretion of the company to implement it or not. Taking a view of recent tussle in two Indian corporate Tata group and Infosys Ltd. in which CEO duality was absent apparently but not actually. It indicates that in spite of the separation of positions the influence of chairman or founder exists in the decision making. If this is the case of most respected corporates who were also involved in the evolution process and reforms of corporate governance in India then expectation from other listed companies would be a challenge. There is no denial that the interference of founder/chairman/mentor in the decision making would be for the best interest of the companies but, it limits the power, independence and innovative thinking of the CEOs at the same time. Now taking a look from other perspective, it might be possible the CEOs would be taking decisions that empower them and involved in decisions that are not feasible in long term and inclined towards their self-interest only.
- A large board will help in fulfilling the mandatory norm of having maximum number of independent directors and their effective participation in decision making as compared to small board.
- As corporate governance of India emphasizes on board independence, the CEO duality failed to make significant impact on capital structure decisions due to trade-off between large number of independent directors on boards and an empowered CEO who is also holding the position of chairman on the board.
- This study supported the inverse relationship between profitability and debt in capital structure, which is in line with pecking order theory and many empirical studies. The results of the analysis show the significant negative impact of profitability on debt level which implies that as profitability helps the companies

in reducing their debt level. Correlation analysis also justifies the significant negative correlation between profitability and capital structure.

- This study unable to find significant impact of size of the firm on capital structure but it found a positive correlation between size of the firm and capital structure which signifies that larger firms tend to take more debt as compared to smaller one.
- Good corporate governance helps the company to become competitive, enhancing the value of the company. It helps in attracting investors for raising funds at low cost of capital and in avoiding wrong selection of capital structure which otherwise lead to financial distress and scams.
- Major scams in India include Harshad Mehta scam (1992), UTI scam (2001), Ketan Parekh scam (2001), Satyam Fraud case (2009), Speak Asia scam (2011) Reebok India scam (2012), National Spot Exchange Ltd. scam (2013), Saradha Group chit fund scam (2013), Sahara Group (2014), Kingfisher money laundering case (2015), & Ricoh India accounting fraud (2016). Such scams forced the regulatory body to pay more focus on the impending need and utility for an appropriate analysis of financial statements of companies.
- There are some major corporates who adopted the high standard system of corporate governance voluntarily since long and even contributed towards the development of corporate governance. They are considered as benchmark for corporate governance but by the time of completion of this thesis two more cases emerged dealing with the issues of corporate governance and they were the oldest modest conglomerate i.e. Tata group and Infosys Ltd. These two biggest and reputed corporate group i.e. TATA group and Infosys Ltd. were seen to be struggling with their corporate governance. Although the issues were different in both the companies but they were woven around corporate governance. They have highlighted the need for better oversight and tighter regulation related to the board of the company. Although the managers should have their own conscience to act ethically but it would be too optimistic to think about stemming out the

self-interest of the managers. Therefore, there is a need to have good corporate governance mechanism that will help in effective monitoring, mitigating agency problem and reducing agency cost.

- Each country should analyze empirically the impact of corporate governance variables on financing or capital structuring decisions to form their best corporate governance practices that helps in selecting optimal capital structure that minimizes the overall cost of capital of the firm and ultimately resulting in value maximization and eventually confiscate any chances of bankruptcy or corporate scams. Therefore, implementing good corporate governance based on relevant empirical study will help companies to avoid excessive debt and enhancing value maximization which ultimately contributes positively towards country's economic growth. Also, it is expected that significance of corporate governance will continue to increase in the following years with its effective implementation.

6.4 RECOMMENDATIONS

Based on the analysis and findings of the present study the following recommendations are given:

- Corporate governance norms are becoming stricter day by day in India but there is a need to analyze these norms and rules scientifically before implementing it.
- This study suggests the need for robust research in the field of corporate governance research that would support policy formulation in order to make the corporate governance reforms more effective for the Indian conditions.
- Efforts should be made to make improvement in the quality of corporate governance attributes.
- There is a need to bring clarity in the definition of Independent Director.
- There is a need to determine the size of board as what how many members will make it large or small. Also it should be done empirically according to size, sector and nature of company as one size doesn't fit all.

- There is a need to overcome the shortage of independent directors with relevant expertise and to reduce the supply-demand gap of independent directors as the same person carries the responsibilities of being independent director on the board of different companies. In such a situation there are possibilities that they are unable to give sufficient time and contribute effectively in decision making of the companies.
- Independent directors are appointed for being independent, fair and unbiased therefore their decision making should be free from any influence. Along with that executive directors are also expected to act in the same way. They should not just attend the board meetings to agree with the Chairman/CEO decisions.
- The effectiveness of board is a critical component in making sound corporate governance so there is a need to understand and focus on the factors that help these boards to be more effective in performing their roles.
- There is a need to inculcate and adopt good corporate governance practices.

6.5 CONTRIBUTIONS OF THE STUDY

- This study contributes to the body of knowledge and filling the gap by illuminating the significant link between some corporate governance measures and capital structure choices of firms in India.
- This study contributes to the literature on the factors that improve the debt management and its association with corporate governance.
- The findings may be useful for financial managers, investors, financial management consultants, and other stakeholders in order to ensure soundness in the management system of the firms.
- This study provides good opportunity for academics and practitioners to understand the role of corporate governance principles for economies especially transiting economies like India.

- It focuses on Indian firms while very limited research has been conducted recently. This study validates the findings of previous authors by testing the relationships between corporate governance and financial leverage of the sample firms. Thus, this study adds substance to the existing theory developed by previous authors. The usefulness of boards in India will therefore have a significant impact on the state of corporate governance at firm level and also in the country. Thereby, alleviating bankruptcy and lessen the financial scams.
- The empirical results of this study provide support to corporate managers in establishing an optimal capital structure, and to top management in enacting laws and developing institutional support to make corporate governance mechanisms work more effectively in the country.
- The study contributes in understanding the board-capital structure relationship by examining both the traditional variables. This approach offers a newer light into the constitution and functioning of top management teams as strategic decision making groups (Forbes & Milliken, 1999).
- In addition to providing support to existing theories, this study has empirically contributed knowledge. From these findings, firms should understand that improving good corporate governance is a significant tool to achieve financial sustainability, good financial performance and market value of the firm.
- The findings of the study would give insights and add on empirical evidence in the areas of corporate governance and capital structure for future academic research. Therefore this study provides a direction for further studies in this and related directions.
- It will help policy makers to design proper strategies regarding how corporate governance could be followed and regulatory authorities for enacting laws by evaluating the current governance practices and to make the appropriate amendments, if required.

- The results of the study indicate that corporate governance impacts the capital structure that will help in enhancing the performance of the company which ultimately contributes to country's economy so government might give more importance to improve the corporate governance by making new regulations or recommendations.

6.6 DIRECTIONS FOR FUTURE RESEARCH

No research in any subject is complete in itself. Several extensions to this study are possible. This study might be extended in various aspects:

- The time period was four years from 2012-2015. In order to be more accurate, this time period might be extended more than 4 years. Also, other index consisting of large number of companies can be included to form large sample size which will help in making more generalized conclusions.
- Future research could use primary data along with secondary data to have more reliable results.
- Future studies could explore these effects in small, medium and public sector companies.
- Future studies could include and analyze other corporate governance variables along with more control variables to study their impact on capital structure decisions.
- Studies on financial and banking sector companies could be conducted to propose better norms related to corporate governance making them less susceptible to loan default which may help them in reducing the Non-Performing Assets (NPA).

6.7 SUMMARY OF CHAPTER

This chapter is the crux of the entire research study. It summarizes the results of the entire study and also relates these results to the previous research studies in related areas. The overall conclusion is that there is a marked and significant impact of board size on capital structure. The impact of other corporate governance variables i.e. board independence and CEO duality is not so pronounced. The study also confirms that the overall corporate governance has an impact on capital structure decision in India.

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APPENDICES

APPENDICES

Appendix A

Hausman Test (Debt to Equity as dependent variable)

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.722689	5	0.5900

Appendix B

Random Effect with White Cross (DE)

Dependent Variable: Debt to Equity
 Method: Panel EGLS (Cross-section random effects)
 Date: 05/ 01/17 Time: 15:52
 Sample: 2012 2015
 Periods included: 4
 Cross-sections included: 21
 Total panel (balanced) observations: 84
 Wansbeek and Kapteyn estimator of component variances
 White cross-section standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	57.83272	34.04719	1.698605	0.0934
LOGBS	-11.27319	6.109072	-1.845320	0.0688
BI	0.010033	0.120584	0.083207	0.9339
CEOD	1.288880	3.527282	0.365403	0.7158
ROA	-0.669295	0.377794	-1.771590	0.0804
LOGTA	-0.120070	1.634234	-0.073471	0.9416

Weighted Statistics			
R-squared	0.131519	Mean dependent var	3.889289
Adjusted R-squared	0.075847	S.D. dependent var	9.228429
S.E. of regression	8.871552	Sum squared resid	6138.947
F-statistic	2.362400	Durbin-Watson stat	1.970263
Prob (F-statistic)	0.047441		

Appendix C

Robustness Check using Debt Ratio in place of Debt to Equity (Capital Structure) as Dependent Variable

Dependent Variable: Debt Ratio
 Method: Panel Least Squares
 Date: 06/01/17 Time: 18:16
 Sample: 2012 2015
 Periods included: 4
 Cross-sections included: 21
 Total panel (balanced) observations: 84
 White cross-section standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19.01833	5.689006	3.342998	0.0015
LOGBS	-2.353415	1.218395	-1.931570	0.0583
BI	-0.007845	0.052094	-0.150601	0.8808
CEOD	-0.777467	1.242016	-0.625972	0.5338
ROA	-0.113817	0.061208	-1.859509	0.0680
LOGTA	-0.078507	0.512902	-0.153065	0.8789
R-squared	0.958062	Mean dependent var		9.924166
Adjusted R-squared	0.939985	S.D. dependent var		11.34509
S.E. of regression	2.779315	Akaike info criterion		5.130960
Sum squared resid	448.0263	Schwarz criterion		5.883356
Log likelihood	-189.5003	Hannan-Quinn criter.		5.433417
F-statistic	52.99955	Durbin-Watson stat		1.996718
Prob(F-statistic)	0.000000			

Appendix D

Unit Root Test

Panel unit root test: Summary

Series: Debt to Equity

Date: 11/13/16 Time: 10:51

Sample: 2012 2015

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-9.66631	0.0000	16	48
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	46.5774	0.0463	16	48
PP - Fisher Chi-square	59.2014	0.0024	16	48

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: LOGBS

Date: 10/14/16 Time: 21:28

Sample: 2012 2015

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-63.9164	0.0000	14	42
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	37.3709	0.1109	14	42
PP - Fisher Chi-square	39.0801	0.0796	14	42

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: BI

Date: 10/14/16 Time: 21:29

Sample: 2012 2015

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-14.2478	0.0000	18	54
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	45.8241	0.0539	16	48
PP - Fisher Chi-square	60.8339	0.0016	16	48

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: CEOD

Date: 10/14/16 Time: 21:29

Sample: 2012 2015

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.84277	0.1997	2	6
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	1.29767	0.8618	2	6
PP - Fisher Chi-square	0.38919	0.8232	1	3

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: ROA

Date: 10/14/16 Time: 21:31

Sample: 2012 2015

Exogenous variables: Individual effects

Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-60.8051	0.0000	21	63
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	62.2729	0.0227	21	63
PP - Fisher Chi-square	76.5362	0.0009	21	63

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: LOGTA

Date: 10/14/16 Time: 21:31

Sample: 2012 2015

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-10.6964	0.0000	21	63
Null: Unit root (assumes individual unit root process)				
ADF - Fisher Chi-square	96.4931	0.0000	21	63
PP - Fisher Chi-square	136.694	0.0000	21	63

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Appendix E

BSE SENSEX (2012-15)

SCRIP GROUP- A (Blue-chip Companies)

1. BAJAJ-AUTO
2. BHARTIARTL
3. **JINDAL STEEL AND POWER LTD*****
4. LT
5. BHEL
6. M&M
7. CIPLA
8. MARUTI
9. COALINDIA
10. NTPC
11. DRREDDY
12. ONGC
13. GAIL
14. RELIANCE
15. **HDFC***
16. **SBIN***
17. **HDFCBANK***
18. **STERLITE INDUSTRIES*****
19. HEROMOTOCO
20. **SUNPHARMA****
21. **HINDALCO*****
22. TATAMOTORS
23. HINDUNILVR
24. **TATAPOWER*****
25. TCS
26. **ICICIBANK***
27. TATASTEEL
28. INFOSYS
29. ITC
30. WIPRO

Note: Companies in **BOLD** letters are excluded from the study due to:

- *Financial nature of the company
- **Amalgamation of the company
- ***Exclusion from the Sensex 30 during the period of 2012-15

Appendix-F PANEL DATA SHEET									
Year	ID	Company	D/E	DR	BS	BI	CEOD	ROA	SZ
2012	1	Reliance Industries Ltd.							
2013	1	Reliance Industries Ltd.							
2014	1	Reliance Industries Ltd.							
2015	1	Reliance Industries Ltd.							
2012	2	Bharti Airtel Ltd.							
2013	2	Bharti Airtel Ltd.							
2014	2	Bharti Airtel Ltd.							
2015	2	Bharti Airtel Ltd.							
2012	3	Infosys Ltd.							
2013	3	Infosys Ltd.							
2014	3	Infosys Ltd.							
2015	3	Infosys Ltd.							
2012	4	Larsen & Toubro Ltd.							
2013	4	Larsen & Toubro Ltd.							
2014	4	Larsen & Toubro Ltd.							
2015	4	Larsen & Toubro Ltd.							
2012	5	Maruti Suzuki India Ltd.							
2013	5	Maruti Suzuki India Ltd.							
2014	5	Maruti Suzuki India Ltd.							
2015	5	Maruti Suzuki India Ltd.							
2012	6	Mahindra & Mahindra Ltd.							
2013	6	Mahindra & Mahindra Ltd.							
2014	6	Mahindra & Mahindra Ltd.							
2015	6	Mahindra & Mahindra Ltd.							
2012	7	Tata Motors Ltd.							
2013	7	Tata Motors Ltd.							
2014	7	Tata Motors Ltd.							
2015	7	Tata Motors Ltd.							
2012	8	Tata Consultancy Services Ltd.							

2013	8	Tata Consultancy Services Ltd.							
2014	8	Tata Consultancy Services Ltd.							
2015	8	Tata Consultancy Services Ltd.							
2012	9	Coal India Ltd.							
2013	9	Coal India Ltd.							
2014	9	Coal India Ltd.							
2015	9	Coal India Ltd.							
2012	10	ITC Ltd.							
2013	10	ITC Ltd.							
2014	10	ITC Ltd.							
2015	10	ITC Ltd.							
2012	11	Cipla Ltd.							
2013	11	Cipla Ltd.							
2014	11	Cipla Ltd.							
2015	11	Cipla Ltd.							
2012	12	Oil And Natural Gas Corporation Ltd.							
2013	12	Oil And Natural Gas Corporation Ltd.							
2014	12	Oil And Natural Gas Corporation Ltd.							
2015	12	Oil And Natural Gas Corporation Ltd.							
2012	13	Tata Steel Ltd.							
2013	13	Tata Steel Ltd.							
2014	13	Tata Steel Ltd.							
2015	13	Tata Steel Ltd.							
2012	14	NTPC Ltd.							
2013	14	NTPC Ltd.							
2014	14	NTPC Ltd.							
2015	14	NTPC Ltd.							
2012	15	Dr. Reddy's Laboratories Ltd.							
2013	15	Dr. Reddy's Laboratories Ltd.							
2014	15	Dr. Reddy's Laboratories Ltd.							
2015	15	Dr. Reddy's Laboratories Ltd.							

2012	16	Hindustan Unilever Ltd.							
2013	16	Hindustan Unilever Ltd.							
2014	16	Hindustan Unilever Ltd.							
2015	16	Hindustan Unilever Ltd.							
2012	17	Bharat Heavy Electricals Ltd.							
2013	17	Bharat Heavy Electricals Ltd.							
2014	17	Bharat Heavy Electricals Ltd.							
2015	17	Bharat Heavy Electricals Ltd.							
2012	18	Hero Motocorp Ltd.							
2013	18	Hero Motocorp Ltd.							
2014	18	Hero Motocorp Ltd.							
2015	18	Hero Motocorp Ltd.							
2012	19	Wipro Ltd.							
2013	19	Wipro Ltd.							
2014	19	Wipro Ltd.							
2015	19	Wipro Ltd.							
2012	20	Bajaj Auto Ltd.							
2013	20	Bajaj Auto Ltd.							
2014	20	Bajaj Auto Ltd.							
2015	20	Bajaj Auto Ltd.							
2012	21	Gail (India) Ltd.							
2013	21	Gail (India) Ltd.							
2014	21	Gail (India) Ltd.							
2015	21	Gail (India) Ltd.							
<p>D/E= Debt to Equity ratio DR = Debt ratio BS = Board Size BI = Board Independence (%) CEOD = CEO duality ROA = Return on Assets (%) SZ= Size of the firm</p>									

