CHAPTER –III

IMPACT OF CORPORATE GOVERNANCE ON VALUE CREATION OF THE COMPANIES: A STUDY OF SELECTED COMPANIES IN INDIA

3.1 Introduction:

Corporate Governance is a very wide concept and it covers a range of compliances and responsibilities of the board. It deals with principles and practices which have a direct impact on the performance of the companies and their capacity to be accountable to its various stakeholders. Corporate governance is a four-dimensional term and those dimensions are:

1) Enforcing rights and equitable treatment of shareholders
2) Accountability
3) Disclosures and Transparency
4) Responsibilities of the Board

There are some generally accepted key convictions or components of good governance that are applicable to both the public and private sector. The most trivial principles are a) accountability—both internal and external, b) transparency/openness and c) recognition of stakeholder/shareholder rights. Some more principles that are generally accepted for the batter governance are efficiency, stewardship, leadership, integrity and an emphasis on performance as well as compliance, and stakeholder participation or inclusiveness.

The need for corporate governance has arisen because of the increasing concern about the non-compliance of standards of financial reporting and accountability by boards of directors and management of corporate inflicting heavy losses on investors. The collapse of international giants likes Enron, World Com of the US and Xerox of Japan are said to be due to the absence of good corporate governance and corrupt practices adopted by the management of these companies and their financial consulting firms. The failures of these multinational giants bring out the importance of good corporate governance structure making clear the distinction of power between the Board of Directors and the management which can lead to appropriate governance processes and

procedures under which management is free to manage and board of directors is free to monitor and give policy directions. In most of the crises in Asian, American and Russian countries frequently identified that Corporate Governance as the underlying cause for the domino effect. It is opportune to ask the question here "Whether Corporate Governance affects the performance of the company, which intern affects the shareholders' confidence?" Some recent researches have however answered these questions by showing that companies with good governance system have actually comparatively more returns for their shareholders thereby gaining shareholders confidence and improving economic conditions of a country.

3.2 Need of the Study:

A large number of studies provide evidence of an association between Corporate Governance and performance of the companies measured based on profitability and measures related to profit maximization such as net profit, profitability ratios, return on investment, return on fix assets employed, Market Capitalization to BV ratio, Tobin's q and so on by using Strong Cross-Sectional Correlation, Pooled OLS Regressions, Ordinary Least Squares Regressions Simultaneous Equations Approach or Simultaneous Equations Framework.

It is revealed from the literature that no studies have been conducted to measure the association of corporate governance with the value creation of the companies or a shareholder's value creation or shareholders' wealth maximization. The real investors (who are not speculators) and the long term investors, who invest in the equity of the company invest with long term motive of wealth maximization and value creation. So it is necessary to conduct the study to establish and gauge the relationship between the corporate governance practices followed the companies and the long-term motive of the shareholder i.e. wealth maximization or value creation, by analyzing the data of more than one year for the more than one company and for more than one sector.

In nutshell, it is necessary to conduct the study to establish and gauge the relationship between corporate governance practices and value creation by using panel data analysis.

The objective of this chapter is to examine the level to which companies are complying with Corporate Governance guidelines and how it affects the shareholders' value creation and value creation of the companies i.e. the main objective of the present chapter is to examine the impact of Corporate Governance practices on value creation of companies by Value-based performance measurements Economic Value Added (EVA) and Market Value Added (MVA).

Corporate governance is an effective tool for extremely all kinds of companies. Corporate Governance protects the financial interests of stakeholders in a company, whether they are owners, managers, employees or outside stakeholders. In India SEBI and the Ministry of Corporate Affairs (MCA) regulates the companies to comply with Corporate Governance norms. This study is important and useful for understanding the level of Corporate Governance compliance by Indian companies and how this compliance can impact the value creation of companies and create or destroy the investors' confidence in the company. In the present study, 80 companies private and public sectors have been selected from 15 sectors and corporate governance scores were computed and they were ranked based on their level of Corporate Governance compliance.

To achieve the objective of the study the present chapter is divided into four parts, Part one identifies the sample selection criteria and selection of sample based on criteria. Part two deals with the corporate governance practices in India and determining the corporate governance score for selected sample companies. Part three computes the Economic value Added (EVA) and Market Value Added (MVA) for selected sample companies. Part four of the chapter establishes the relationship between corporate governance practices through the corporate governance score (CG Score) and Value creation of the

companies i.e. EVA and MVA and testing of the hypothesis formed based on the objective of the study.

3.3 Hypotheses of the Study:

Based on the objectives of the chapter, the following hypotheses are formed to understand and analyze the impact of Corporate Governance on value creation of the companies which is measured by two important approaches i.e. Economic Value Added (EVA) and Market Value Added (MVA).

Hypothesis 1(Ho): *There is no impact of corporate governance practices on Economic Value Added (EVA)*

Hypothesis 2(Ho)*: There is no impact of corporate governance practices on Market Value Added (MVA)*

3.4 Sample Selection Criteria:

The total number of companies in India is divided into two categories that are listed and non-listed companies on leading exchanges like BSE/NSE. Among the total number of companies, it is found that there are 5,463 listed companies and remaining all companies is not listed on BSE/NSE. The Bombay Stock Exchange (BSE) which is one of the leading stock exchanges of India from February 2008, has classified Equity scripts into various categories such as A, B, T, & Z to provide assistance to the investors. The classification is based on a number of factors such as market capitalization, trading volumes and numbers, track records, profits, dividends, shareholding patterns, and some qualitative aspects. In the present study, 80 companies are selected representing A, B, T, & Z group from 15 sectors. So that impact of the corporate governance practices in India and its impact of value creation can be measured for the companies representing different market capitalization, trading volumes, and numbers, track records, profits, dividends, shareholding patterns, and sectors. Based on the contribution to the total market capitalization 15 most contributing sectors are identified and from each sector, 5 companies belonging to A, B, T, & Z group have been selected. In course of the sample selection, banking and insurance entities which are body corporate e.g. banks (including both private and public sector), insurance

companies, financial institutions, etc. have not been considered for the present study since the statutes of these body corporates are different from other listed companies.

3.4.1 Period of the Study:

The study is covered over a period of five years and the data has been collected on an annual basis i.e. for the purpose of analysis, the data were collected for five respective years i.e. 2012-13, 2013-14, 2014-15, 2015-16 and 2016-17.

3.4.2 Sectors from Where the Sample Companies Are Selected:

A sector is an area of the economy in which businesses share the same or a related product or service. It can also be thought of as an industry or market that shares common operating characteristics. Dividing an economy into different pieces allows for a more in-depth analysis of the economy as a whole. Almost all economies are comprised of four, high-level sectors, which are then each made up of smaller sectors. Of the large sectors within an economy, the first is called the primary sector and involves companies that involved in the extraction and harvesting of natural products from the earth, such as agriculture, mining, and forestry. The secondary sector consists of processing, manufacturing and construction companies. The tertiary sector is comprised of companies that provide services, such as retail sales, entertainment, and financial organizations. The quaternary sector is made up of companies in intellectual pursuits, such as educational businesses.

Investors use sectors to place stocks and other investments into categories such as technology, healthcare, energy, utilities, and telecommunications. Each sector has unique characteristics and a different risk profile that attracts a specific type of investor. It is, therefore, common for analysts and other investment professionals to specialize in certain sectors. For example, at a large research firm, an analyst may cover only pharmaceutical companies. Additionally, investment funds often specialize in a particular economic

sector, a practice known as sector investing. The oil and gas sector is an example of a portion of an economy that attracts specialized investment funds. The present study has taken the sample companies from the service sector and industrial sectors of the sectors based on their contribution to the total market capitalization. 15 industries are identified as most important industries based on share in total market cap and the contribution to the GDP of the Indian economy, however in course of the sample selection, banking and insurance entities which are body corporate e.g. banks (including both private and public sector), insurance companies, financial institutions, etc. have not been considered for the present study since the statutes of these body corporates are different from other listed companies.

The manufacturing industry and Service industry are the salvation for every economy. Therefore, the manufacturing sector is taken as a base in this study. In short from the following industries the sample companies are selected to measure the impact of the corporate governance practices in India on the value creation of the companies:

Table 3.1
Industry Grouping of a Sample Companies

Sr. No.	**Industry Groupings**	**Number of Companies**
	Type of Industry: Manufacturing	
1	Automobiles (Two wheelers/ Three wheelers/ cars/trucks)	12
2.	Cement & Cement Products	5
3.	Chemicals	5
4	Fertilizers	5
5	IT– Software	5
6.	Capital Goods (construction)	5
7.	Breweries	5
8.	Electrical Equipment	3
9.	Oil Exploration/Refineries	5
10	Engineering	5

11.	FMCG	5
12.	Pharmaceuticals	5
13.	Iron and Steel	5
Type of Industry: Service		
14.	Telecommunication – Services	5
15.	Travel And Transport	5
Total companies selected as sample		**80**

The sample companies are selected from the industries belonging to industrial and service sectors based on the level of corporate governance compliance financial characteristics.

3.4.3 Sample Companies:

The literature reviewed in earlier chapter leads to understanding that that majority of the studies have been conducted till date evaluate the impact of the corporate governance on firm valuation by taking nifty fifty companies listed on National Stock Exchange or the company representing the Sensex of the Bombay Stock Exchange as a sample. However, there very few studies have been conducted where the sample representing the different sectors or sample companies representing the different industries s have been selected. This study is unique from earlier conducted research in the fact that instead of taking the standard nifity-fifty companies or companies representing sensex, the companies representing diverse industries from public as well as private sector, having diffident scale of operations and different level of corporate governance practices have been selected as a sample.The sample companies are selected based on the following criteria:

1. Turnover of the company during the period of study.
2. Level of corporate governance practices adopted and complied by the company.
3. Board Size of the Company.

For this study the companies listed on Bombay Stock Exchange satisfying above three criteria have been selected. In the first stage of sample selection,as

reflected in table 3.1 fifteen industries were identified and from each industry 20 companies with highest turnover were selected, which amounts to 300 companies. In the second stage of sample selection, from the 300 companies, 150 companies were eliminated on the ground of having common level of corporate governance practices in terms of a) fairness (b) accountability (c) board responsibilities (d) Transparency and disclosure and 150 companies having different postulates of corporate governance were selected for the third level of sample section. The 150 companies were further screened-out on the basis of different type of board composition in terms of (a) combination of executive and non-executive director (b) women director is executive director or non-executive director (c) number of committees formed by the company, which resulted in to elimination of 70 companies and finally 80 companies were selected for the study. During the sample selection process effort has been made to select 5 companies from each identified industry. However in case of Auto (2/3 Wheeler) industry , Auto(Cars) industry , Auto (trucks) industry and Electrical Equipment industry, less than 5 companies are selected; as the number of companies satisfying the sample selection criteria are less than 5. The selected 80 companies represents all the identified Industries.

The selected companies are the homogeneous companies with heterogeneous characteristics, this sample will lead to accuracy in evaluation of results, as the sample companies are selected to represent all kind of industries with different corporate governance level and operational and financial characteristics. The final list of the companies considered for the study is annexed as **(Annexure II)**

3.5 Corporate Governance Principles:

It is been observed by reviewing provisions of the Companies Act,2013 relating to corporate governance, regulations of SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 relating to corporate governance and reports and recommendation of various committees on corporate governance, that all the provisions, regulations and recommendations for

better corporate governance are based on the principles of the corporate governance given by The Organization for Economic Co-operation and Development (OECD) developed and revised from time to time and the principles of disclosures given by International Organization of Securities Commissions (IOSCO).The basic principles underlying corporate governance practices are as follows:

1. The rights of shareholders
2. Timely information:
3. Equitable treatment:
4. Role of stakeholders in corporate governance:
5. Disclosure and transparency
6. Responsibilities of the board of directors

These principles based on which all most model codes, regulations, and provisions of the statutes relating to corporate governance have been emerging can be further minimized as into the ethics or pillars. So, the pillars on which the entire framework of corporate governance is created are:

1. **Fairness:**

Fairness refers to equal treatment, for example, all shareholders should receive equal consideration for whatever shareholdings they hold. In addition to shareholders, there should also be fairness in the treatment of all stakeholders including employees, communities and public officials. The fairer the entity appears to stakeholders, the more likely it is that it can survive the pressure of interested parties.

2. Accountability:

Corporate accountability refers to the obligation and responsibility to give an explanation or reason for the company's actions and conduct.

In brief:

- The board should present a balanced and understandable assessment of the company's position and prospects;
- The board is responsible for determining the nature and extent of the significant risks it is willing to take;
- The board should maintain sound risk management and internal control systems;

- The board should establish formal and transparent arrangements for corporate reporting and risk management and for maintaining an appropriate relationship with the company's auditor, and
- The board should communicate with stakeholders at regular intervals, a fair, balanced and understandable assessment of how the company is achieving its business purpose.

3. Responsibility:

The Board of Directors is given authority to act on behalf of the company. They should, therefore, accept full responsibility for the powers that it is given and the authority that it exercises. The Board of Directors is responsible for overseeing the management of the business, affairs of the company, appointing the chief executive and monitoring the performance of the company. In doing so, it is required to act in the best interests of the company.

Accountability goes hand in hand with responsibility. The Board of Directors should be made accountable to the shareholders for the way in which the company has carried out its responsibilities.

4. Transparency:

A principle of good governance is that stakeholders should be informed about the company's activities, what it plans to do in the future and any risks involved in its business strategies.

Transparency means openness, a willingness by the company to provide clear information to shareholders and other stakeholders. For example, transparency refers to the openness and willingness to disclose financial performance figures which are truthful and accurate.

Disclosure of material matters concerning the organization's performance and activities should be timely and accurate to ensure that all investors have access to clear, factual information which accurately reflects the financial, social and environmental position of the organization. Organizations should clarify and make publicly known the roles and responsibilities of the board and management to provide shareholders with a level of accountability.

Transparency ensures that stakeholders can have confidence in the decision-making and management processes of a company.

3.6 Rating Corporate Governance Performance:

Anything that exists can be quantified. Those quantifiable get measured. Corporate governance can be measured by value imperatives. In the absence of a normative and measurable approach, corporate governance may creep into boardrooms and executive suites. (Mishra K. C., 1998)

Growth and development of the Indian corporates have taken place after the liberalization in 1991 and it is created a avenues capital markets for raising the funds for the corporates Initially, equity research before making investment decisions was considered an entirely new and essential concept that would lead to better returns for investors. It is anybody's guess if someone who has invested on the basis of such research in the last few years got any better return. Then, attention shifted to the concept of earning per share, level playing field, and transparency in decision-making. None of these concepts have helped make better investment decisions or improved the bottom line. One such flair of the time is the talk about corporate governance in this country.

Corporate governance has to be accepted as a fundamental fiduciary responsibility of corporate managers and the board of directors. The measurement approach to corporate governance would enable boards to recognize that despite good projections, the company's increasing cost of capital; rising investment requirements per Rupee of sale and lower margins on sales are clear signs of value erosion due to bad corporate governance. (Mishra K. C., 1998)

A recent study conducted by the Organization for Economic Cooperation & Development (OECD) reflects that non-financial performance data is relevant to shareholder evaluations and investment decisions.(Inta Kotane, 2011)

In a prevalent prosperity-oriented world, profits are the magnitude of success. It is essential to compare the benefits of good governance practices with the cost of compliance in monitory and ethical form.

Financial performance of is a benchmark of the success of anybody corporate in the globe and it is always measured in monetary term, on the other hand, the corporate governance practices is a qualitative aspect and it cannot be measured in monetary, so for measuring the effect of the corporate governance

on the financial performance of the corporates, it is essential to quantify the corporate governance practices. Corporate governance score or corporate governance rating is a tool through which the corporate governance practices can be quantified.

Corporate Governance Score or corporate governance rating of a company expresses an opinion about the extent to which a company adopts and conforms to codes and guidelines of good corporate governance practices.

Corporate Governance Rating is an emerging concept over the globe. In India, the corporate governance rating was obtained by ITC Limited by the ICRA in the year 2002.

The Institute of Company Secretaries of India (ICSI) has introduced an annual national award for the best-governed company. The ICSI has been quantifying the corporate governance practices by allocating marks to specified criteria. ICSI allocates marks in the following manner:

1. Statutory compliance 20%
2. Compliances of corporate Governance norms in true letter and spirit-50%
3. Other criteria such as investor-friendly procedures and practices useful for the investor and society at large-30%

Credit Rating Information Services Agency Limited (CRISAL) and Standard & poor's(S&P) are jointly engaged in India for Corporate Governance rating in collaboration with. They have developed a methodology to appraise Corporate Governance Standards of individual firms, which is a synthesis of principles of Corporate Governance practices followed by the corporates worldwide.

Durga Prasad Samontaray had also developed a tool to measure the level of corporate governance of the Nifty 50 companies based on the guidelines issued by the N.R. Narayan Murthu committee report on Corporate Governance, 2003 (Durgaprashad, 2010)

Department of public enterprises of the Ministry of heavy industries and public enterprises rates the public sector enterprises for the corporate governance practice adopted by them on the basis of compliance with guidelines on corporate governance for the central public sector.

In order to address these issues and as an initiative for the public good, BSE has collaborated with the International Finance Corporation (IFC) Washington, a member of the World Bank Group for developing a "CG Scorecard" for Indian corporates. The CG Scorecard will help companies to benchmark themselves on their Corporate Governance status as well as provide investors a standardized measure of the Corporate Governance status of any company. (Bombay Stock exchange)

There are many agencies have created a methodology and have developed the corporate governance rating tool, through which the qualitative practices adopted by the corporates are quantified. The vary object of rating is to testify the relative level to which an organization accepts and follows the codes and guidelines of corporate governance practices. The rate of corporate governance emulates the level and quality of governance practices.

3.6.1 Development of Corporate Governance Score Card:

This part of the chapter has made an attempt to develop a corporate governance scorecard and to adopt the rating process to measure level the corporates compliance for all 80 companies selected as a sample for the financial years 2012-13, 2013-14, 2014-15, 2015-16 & 2016-17.

Most corporates and legislators have focused on the model code of corporate governance. They do not have the number to communicate or estimate the scale of corporate governance. Observance of code can only be monitored on-line. No measurement may be perfect to quantify a qualitative dimension, but a good measurement can always show the direction of movement, considering this an effort has been made to develop the corporate governance scorecard to quantify the corporate governance practices adopted by the sample companies.

The corporate governance scorecard is developed based following tools developed by:

1. ICRA Limited
2. Marking scheme for CG Awards Adopted by The Institute of Company Secretaries of India (ICSI)
3. Credit Rating Information Services Agency Limited (CRISAL) and Standard & poor's(S&P)

4. BSE & International Finance Corporation (IFC)

The corporate governance scorecard is developed based on the tools and principles of corporate governance scoring adopted by the above-cited agencies, however considering the level of CG practices, financial characteristics and period of the study only selected variables are considered.

The corporate governance scorecard is created by considering all the principles of corporate governance given by the OECD as well as the basic principles of corporate governance. As the principal base corporate governance scorecard is formed to measure the level of corporate governance practices in selected sample companies, the statutory, as well as non-statutory components, are taken into consideration to allot the corporate governance score (CG Score) to the selected corporates.

During the period of the study, the (i.e. During the financial years 2012-13, 2013-14, 2014-15, 2015-16 & 2016-17) the statues governing corporate governance practices have changed and many amendments were arrived to incorporate the changes, the all the statutes applicable to the company for the particular financial year has been considered for the development of the corporate governance scorecard.

The following table shows the applicability of the laws, rules, and regulations relating to corporate governance to the selected companies during the period of study.

Table 3.2:
Applicable Laws for the Period of Study

Sr. No	Financial Year	Statues, Regulations or guidelines requiring Corporate Governance practices
01.	2012-13	Clause -49 of the Listing Agreement and "Corporate Governance Voluntary Guidelines 2009"
02	2013-14	Clause -49 of the Listing Agreement and "Corporate Governance Voluntary Guidelines 2009"
03	2014-15	Clause -49 of the Listing Agreement (revised) and Companies Act,2013
04	2015-16	Clause -49 of the Listing Agreement (revised) up to 31st December, 2015.and from 1st January 2016 SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, and Companies Act,2013

05	2016-17	SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, and Companies Act,2013

The corporate governance scorecard is developed considering the different sets of variables that have been identified are drawn from different guidelines, codes of governance and committee recommendations on the subject. These variables reflect the distribution of rights and responsibilities among the constituents of the corporate management including the shareholders, the board of directors, the executive management, and, of course, the committees constituted for specific purposes.

3.6.2 Evaluation Method for Corporate Governance Score:

For evaluating the level of corporate governance score, 50 questions are prepared based on the components and principles of corporate governance. The total score of the corporate governance scorecard is 100; the questions asked to derive the corporate governance score are classified into four major categories based on the corporate governance principles viz.: 1) Fairness 2) Accountability 3) Transparency 4) Responsibility. A detail questioner containing 50 questions is annexed in **Annexure-II.**

The quality of Corporate Governance practices referred to in each question shall be recognized on four levels, viz.:

- **2 Points:** If the company follows global level practices for that element of Corporate Governance
- **1 Point:** If the company follows reasonable practices or meets the Indian standard for that element of Corporate Governance
- **0 Point:** If the company needs to improve in that element of Corporate Governance

3.6.3 Calculation of CG Score:

For calculation of corporate governance score for each principle total of 50 question questions are asked, based on the compliance requirements of the particular principle, the total number of questions is classified as follows:

Table 3.3
Principle wise Questions and Maximum Marks

Principle	Questions	Maximum Possible Points
Fairness	15	30
Accountability	05	10
Disclosure & Transparency	15	30
Responsibilities of Board	15	30
Total Corporate Governance Score		**100**

On the basis of the questioner as annexed in **Annexure-II** and the marking criteria as developed, the corporate governed score has been calculated for the period 2012-13 to 2016-17 for all the selected 80 companies to measure the level of corporate governance practices adopted by companies.

The importance of corporate governance is not merely in drafting a code of corporate governance, but in practicing it. Even now, some companies are following voluntarily practices, without the existence of formal guidelines on this subject. In the present study it is observed there are practices that lead good governance was not mandatory during the financial years 2012-13 and 2013-14 then also many of the selected companies have followed that practices. Even some corporates follow corporate governance as a statutory requirement, but they follow the global standards in following these practices. The computed corporate governance scores for all the selected companies is annexed **(Annexure –III).** However the comparison of computed corporate governance score of all the selected companies, is describe as follow:

3.7. Industry wise comparison of computed Corporate Governance Score:

Table 3.4
Corporate governance score: Auto (2-3 wheeler) Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	HERO MOTOCORP LTD	83	85	86	85	89	85.6	83.1
2	ATUL AUTO LTD	78	80	81	80	84	80.6	

It can be noted from the Table 3.4 that the Average Corporate Governance Score (ACGS) of Hero Motocorp Ltd. is 85.6 which is highest amongst the companies selected from Auto (2-3 wheeler) Industry, moreover it is higher than the industry average of 83.1. This high score is a result of the strong corporate governance practices by Hero Motocorp Ltd. in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Atul Auto Ltd is 80.6 which is lower than the industry average and this score is lower due to comparatively weaker corporate governance practices in terms of fairness and accountability.

Table 3.5

Corporate governance score: Auto (Car) Industry

Sr No.	Name of Company	Corporate Governance Score					Agerage Score	Industry Average
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	TATA MOTORS LTD	84	86	86	87	91	86.8	85.3
2	MAHINDRA & MAHINDRA LTD	81	83	83	84	88	83.8	

It can be noted from the table 3.5 shows that the Average Corporate Governance Score (ACGS) of Tata Motors Ltd. is 86.8 which is highest amongst the companies selected from Auto (Car) Industry, moreover it is higher than the industry average of 85.3 This high score is a result of the strong corporate governance practices by Tata Motors Ltd in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Mahindra & Mahindra Ltd; is 83.8 which is lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of accountability.

Table 3.6
Corporate governance score: Auto Parts & Equipment Industry

Sr No.	Name of Company	Corporate Governance Score					Agerage Score	Industry Average
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	BANCO PRODUCTS (INDIA) LTD	82	84	86	86	90	85.6	73.4
2	SUPRAJIT ENGINEERING LTD	77	79	81	81	85	80.6	
3	GABRIEL INDIA LTD	72	74	76	76	80	75.6	
4	ENDURANCE TECHNOLOGIES LTD	66	68	70	70	74	69.6	
5	RANE ENGINE VALVE LTD	52	54	56	56	60	55.6	

It can be noted from the 3.6 shows that out of total 5 selected companies from the Auto Parts & Equipment Industry, the average corporate governance score of Banco Products (India) Ltd; is 85.6 which is highest amongst the selected companies and it is also higher than the industry average of 73.4. This high score is a result of the strong corporate governance practices by Banco Products (India) Ltd in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Rane Engine Valves Ltd is 55.6 which is lowest amongst all 5 companies selected from the Auto Parts & Equipment Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of accountability, fairness and disclosure & transparency.

Table 3.7
Corporate governance score: Auto (Trucks) Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	ASHOK LEYLAND LTD	85	83	85	86	89	85.6	81.6
2	FORCE MOTORS LTD	82	80	82	83	86	82.6	
3	SML ISUZU LIMITED	76	74	76	77	80	76.6	

Table 3.7 shows that out of total 3 selected companies from the Auto (Trucks) Industry, the average corporate governance score of Ashok Leyland Ltd; is 85.6 which is highest amongst the selected companies, moreover it is higher than the industry average of 81.6. This high score is a result of the strong

corporate governance practices by Ashok Leyland Ltd in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of SML Isuzu Ltd is 76.6 which is lowest amongst all 5 companies selected from the Auto (Trucks) Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of accountability, fairness.

Table 3.8

Corporate governance score: Cement & Cement Products Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	ULTRATECH CEMENT LTD	82	82	85	87	90	85.2	73
2	ACC LTD	77	77	80	82	85	80.2	
3	AMBUJA CEMENTS LTD	72	72	75	77	80	75.2	
4	SAURASHTRA CEMENT LTD	66	66	69	71	74	69.2	
5	KEERTHI INDUSTRIES LTD	52	52	55	57	60	55.2	

Table 3.8 exhibitss that out of total 5 selected companies from the Cement & Cement Products Industry, the average corporate governance score of Ultratech Cement Ltd; is 85.2 which is highest amongst the selected companies from the industry and it is also higher than the industry average of 73. This high score is a result of the strong corporate governance practices by Ultratech Cement Ltd; in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Keerthi Industries Ltd; is 55.2 which is lowest amongst all 5 companies selected from the Cement & Cement Products Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of accountability, fairness disclosure & transparency and responsibility of board.

Table 3.9

Corporate governance score: Chemicals Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	NATIONAL PEROXIDE LTD	90	87	81	92	91	88.2	76
2	KANCHI KARPOORAM LTD	85	82	76	87	86	83.2	
3	GALAXY SURFACTANTS LTD	80	77	71	82	81	78.2	
4	GODREJ INDUSTRIES LTD	74	71	65	76	75	72.2	
5	GEECEE VENTURES LIMITED	60	57	51	62	61	58.2	

It can be noted from the table 3.9 that out of total 5 selected companies from the Chemicals Industry ,the average corporate governance score of National Peroxide Ltd; is 88.2 which is highest amongst the selected companies from the industry and it is also higher than the industry average of 76. This high score is a result of the strong corporate governance practices by National Peroxide Ltd in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Geecee Ventures Limited is 58.2 which is lowest amongst all 5 companies selected from the Chemicals Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of accountability, fairness and responsibility of board.

Table 3.10

Corporate governance score: Fertilizers Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	COROMANDEL INTERNATIONAL LTD.	86	87	87	90	92	88.4	76.2
2	CHAMBAL FERTILISERS & CHEMICALS LTD	81	82	82	85	87	83.4	
3	ARIES AGRO LTD	76	77	77	80	82	78.4	
4	RASHTRIYA CHEMICALS & FERTILIZERS LTD	70	71	71	74	76	72.4	
5	SOUTHERN PETROCHEMICALS LTD	56	57	57	60	62	58.4	

Table 3.10 exhibits that out of total 5 selected companies from the Fertilizers Industry ,the average corporate governance score of Coromandel International Ltd.; is 88.4 which is highest amongst the selected companies from the industry and it is also higher than the industry average of 76.2. This high score is a result of the strong corporate governance practices by Coromandel International Ltd; in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Southern Petrochemicals Ltd; is 58.4 which is lowest amongst all 5 companies selected from the Fertilizers Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of accountability, fairness and disclosure & transparency.

Table 3.11

Corporate governance score: IT Consulting & Software Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	INFOSYS LTD	95	94	94	95	95	94.6	76.2
2	HEXAWARE TECHNOLOGIES LTD	84	83	83	84	84	83.6	
3	JUST DIAL LTD	77	76	76	77	77	76.6	
4	KPIT TECHNOLOGIES LIMITED	66	65	65	66	66	65.6	
5	KELLTON TECH SOLUTIONS LTD	61	60	60	61	61	60.6	

Table 3.11 shows that out of total 5 selected companies from the IT Consulting & Software Industry, the average corporate governance score of Infosys Ltd.; is 94.6 which is highest amongst the selected companies from the industry and it is also higher than the industry average of 76.2. This high score is a result of the strong corporate governance practices by Infosys Ltd in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Kellton Tech Solutions Ltd; is 60.6 which is lowest amongst all 5 companies selected from the IT Consulting & Software Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of accountability, fairness and disclosure & transparency.

Table 3.12:

Corporate governance score: Capital Goods (Construction) Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	LARSEN & TOUBRO LTD	89	87	87	89	93	89	76.4
2	SIEMENS LTD	82	81	83	84	89	83.8	
3	HINDUSTAN CONSTRUCTION CO.LTD	78	75	76	79	85	78.6	
4	J.KUMAR INFRAPROJECTS LTD	67	66	65	69	77	68.8	
5	MAN INFRACONSTRUCTION LTD	60	59	60	62	68	61.8	

It can be noted from the table 3.12 shows that out of total 5 selected companies from the Capital Goods (Construction) Industry, the average corporate governance score of Larsen & Toubro Ltd.; is 89 which is highest amongst the selected companies from the industry and it is also higher than the industry average of 76.4. This high score is a result of the strong corporate governance practices by Larsen & Toubro Ltd in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Man Infra Construction Ltd; is 61.8 which is lowest amongst all 5 companies selected from the Capital Goods (Construction) Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of accountability, fairness and responsibility of board.

Table 3.13

Corporate governance score: Breweries & Distilleries Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	SOM DISTILLERIES & BREWERIES LTD	89	86	87	90	91	88.6	76.08
2	UNITED BREWERIES LTD	82	80	83	85	89	83.8	
3	ASSOCIATED ALCOHOLS & BREWERIES LTD	78	74	76	80	83	78.2	
4	JAGATJIT INDUSTRIES LTD	67	65	65	70	75	68.4	
5	KHODAY INDIA LTD	60	58	60	63	66	61.4	

Table 3.13 shows that out of total 5 selected companies from the Breweries & Distilleries Industry, the average corporate governance score of Som Distilleries & Breweries Limited; is 88.6 which is highest amongst the selected companies from the industry and it is also higher than the industry average of 76.08; This high score is a result of the strong corporate governance practices by Som Distilleries & Breweries Limited in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Khoday India Limited; is 61.4 which is lowest amongst all 5 companies selected from the Breweries & Distilleries Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of accountability and disclosure & transparency.

Table 3.14

Corporate governance score: Electrical Equipment Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	BHARAT HEAVY ELECTRICALS LTD	89	86	83	88	91	87.4	82.33
2	HONDA SIEL POWER PRODUCTS LTD	82	80	79	83	89	82.6	
3	EON ELECTRIC LTD	78	74	72	78	83	77	

It can be noted from the table 3.14 shows that out of total 3 selected companies from the Electrical Equipment Industry, the average corporate governance score of Bharat Heavy Electricals Limited; is 87.4 which is

highest amongst the selected companies and it is also higher than the industry average of 82.33. This high score is a result of the strong corporate governance practices by Bharat Heavy Electricals Limited in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Eon Electricals Limited; is 77.4 which is lowest amongst all 3 companies selected from the Electrical Equipment Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of fairness and disclosure & transparency.

Table 3.15

Corporate governance score: Refineries/ Petro-Products Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	HINDUSTAN PETROLEUM CORPORATION LTD	89	87	90	92	93	90.2	79.08
2	JINDAL DRILLING & INDUSTRIES LTD	79	78	83	84	83	81.4	
3	ASIAN OILFIELD SERVICES LTD	73	69	75	78	78	74.6	
4	RELIANCE INDUSTRIES LTD	85	83	85	88	90	86.2	
5	DOLPHIN OFFSHORE ENTERPRISES (INDIA) LTD	60	59	63	65	68	63	

Table 3.15 shows that out of total 5 selected companies from the Refineries/ Petro-Products Industry, the average corporate governance score of Hindustan Petroleum Corporation Limited ; is 90.2 which is highest amongst the selected companies from the industry and it is also higher than the industry average of 79.08; This high score is a result of the strong corporate governance practices by Hindustan Petroleum Corporation Limited in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Dolphin Offshore Enterprises Ltd; is 63 which is lowest amongst all 5 companies selected from the Refineries/ Petro-Products Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of fairness and disclosure & transparency.

Table 3.16
Corporate governance score: Engineering Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	ENGINEERS INDIA LTD	83	81	86	85	89	84.8	74.44
2	TIL LTD	76	75	82	80	89	80.4	
3	POWER MECH PROJECTS LTD	72	69	75	75	81	74.4	
4	AXTEL INDUSTRIES LTD	61	60	64	65	73	64.6	
5	TRF LTD	65	64	71	67	73	68	

It can be noted from the table 3.16 shows that out of total 5 selected companies from the Engineering Industry, the average corporate governance score of Engineers India Limited; is 84.8 which is highest amongst the selected companies from the industry and it is also higher than the industry average of 74.44; This high score is a result of the strong corporate governance practices by Engineers India Limited in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of TRF Ltd; is 68 which is lowest amongst all 5 companies selected from the Engineering Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of fairness and accountability.

Table 3.17
Corporate governance score: FMCG Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	HINDUSTAN UNILEVER LTD	89	87	87	88	91	88.4	75.88
2	HATSUN AGRO PRODUCT LTD	82	81	83	83	89	83.6	
3	NESTLE INDIA LTD	78	75	76	78	83	78	
4	VIRAT CRANE INDUSTRIES LTD	67	66	65	68	75	68.2	
5	TASTY BITE EATABLES LTD	60	59	60	61	66	61.2	

Table 3.17 shows that out of total 5 selected companies from the FMCG Industry, the average corporate governance score of Hindustan Uniliver Limited; is 88.4, which is highest amongst the selected companies from the

industry and it is also higher than the industry average of 75.88; This high score is a result of the strong corporate governance practices by Hindustan Uniliver Limited in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Tasty Bite Eatables Ltd ; is 61 which is lowest amongst all 5 companies selected from the FMCG Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of fairness ,accountability and responsibility of board.

Table 3.18

Corporate governance score: Pharmaceuticals Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	CIPLA LTD	85	87	87	87	88	86.8	74.4
2	FDC LTD	78	81	83	82	89	82.6	
3	AJANTA PHARMA LTD	74	75	76	77	80	76.4	
4	PFIZER LTD	63	66	65	67	72	66.6	
5	HIKAL LTD.	56	59	60	60	63	59.6	

It can be noted from the table 3.18 shows that out of total 5 selected companies from the Pharmaceuticals Industry, the average corporate governance score of Cipla Ltd; is 86.8, which is highest amongst the selected companies from the industry and it is also higher than the industry average of 74.4; This high score is a result of the strong corporate governance practices by Cipla Ltd; in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Hikal Ltd; is 59.6 which is lowest amongst all 5 companies selected from the Pharmaceuticals Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of fairness and responsibility of board.

Table 3.19
Corporate governance score: Iron & Steel Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	STEEL AUTHORITY OF INDIA LTD	89	89	89	92	93	90.4	77.8
2	SRIKALAHASTHI PIPES LIMITED	82	83	85	87	89	85.2	
3	PENNAR INDUSTRIES LTD	78	77	78	82	85	80	
4	JINDAL STEEL & POWER LTD	67	68	67	72	77	70.2	
5	GALLANTT ISPAT LTD	60	61	62	65	68	63.2	

Table 3.19 exhibitss that out of total 5 selected companies from the Iron & Steel Industry, the average corporate governance score of Steel Authority of India Ltd; is 90.4, which is highest amongst the selected companies from the industry and it is also higher than the industry average of 77.8; This high score is a result of the strong corporate governance practices by Steel Authority of India Ltd; in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Gallantt Ispat Ltd; is 63.2; which is lowest amongst all 5 companies selected from the Iron & Steel Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of fairness ,responsibility of board and disclosure & transparency.

Table 3.20

Corporate governance score: Telecom Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	TATA COMMUNICATIONS LTD	90	89	89	90	91	89.8	75.08
2	BHARTI AIRTEL LTD	87	85	85	86	89	86.4	
3	IDEA CELLULAR LTD	77	75	75	75	77	75.8	
4	MAHANAGAR TELEPHONE NIGAM LTD	60	63	63	62	65	62.6	
5	RELIANCE COMMUNICATIONS LTD	61	60	60	61	62	60.8	

It can be noted from the table 3.20 shows that out of total 5 selected companies from the Telecom Industry, the average corporate governance score of Tata Communications Ltd; is 89.8, which is highest amongst the selected companies from the industry and it is also higher than the industry average of 75.08; This high score is a result of the strong corporate governance practices by Steel Authority of India Ltd; in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Reliance Communications Ltd ; is 60.2; which is lowest amongst all 5 companies selected from the Telecom Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of fairness , ,responsibility of board and accountability.

Table 3.21

Corporate governance score: Logistics Industry

Sr No.	Name of Company	Corporate Governance Score					Average Score	Industry Avarage
		Financial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	VRL LOGISTICS LTD	89	87	87	89	93	89	76.4
2	GATEWAY DISTRIPARKS LTD	82	81	83	84	89	83.8	
3	TIGER LOGISTICS (INDIA) LTD	78	75	76	79	85	78.6	
4	CHARTERED LOGISTICS LTD	67	66	65	69	77	68.8	
5	ARSHIYA LIMITED	60	59	60	62	68	61.8	

Table 3.21 shows that out of total 5 selected companies from the Logistics Industry, the average corporate governance score of VRL Logistics Ltd; is 89, which is highest amongst the selected companies from the industry, moreover it is also higher than the industry average of 76.4; This high score is a result of the strong corporate governance practices by VRL Logistics Ltd; in terms of fairness, accountability, disclosure & transparency and responsibility of board. However average corporate governance score of Arshiya Limited; is 61.8; which is lowest amongst all 5 companies selected from the Logistics Industry and it is also much lower than the industry average and this score is lower due to comparatively poor corporate governance practices in terms of fairness, responsibility of board and accountability.

3.8 Economic Value Added as Measure of Value Creation:

It is revealed from the literature survey, that all most all the studies conducted to measure the impact of the corporate governance on performance of the corporates, have taken profitability and traditional profit-based measures like accounting ratios, earning per share, return on capital return on assets, shareholders value added (SVA) & Tobin's q as a dependent variable and have measured the impact of the corporate governance on firm performance. However, no studies have been conducted so far to measure the impact of corporate governance on the value creation of companies.

In this part of the chapter, an attempt is made to identify the value-based performance measure of the firm i.e. Economic Value Added (EVA) and the Economic value added (EVA) has been calculated for 80 sample companies for the 5 years.

Ample Corporates have struggled in recent years despite some huge competitive advantages of assets, technology, and functional skills. Corporate governance has to be accepted as a fiduciary responsibility of the board of directors. The measurement approach to corporate governance would enable the board to admit that despite good projects, the company's increase in the cost of capital, rise in investment requirement per Rupee of output and lower

margins on output are clear signs of value disintegration due to poor corporate governance". (Mishra K. C., 1998)

All the businesses in the world have emerged as a result of the entrepreneurial aptitude of a person willing to take all the risks necessary to make him earn some profit. Success is justifiable as a reward for profits. Creating wealth is the main objective of any business. The company which is attaining successful value creation never meets capital shortage, because, it can make enough capital internally and attract more capital from the markets.

The real owners and investors in the business working with the agency theory are the equity shareholders. They take the risk to invest with the motive of not only profit maximization but also with the reward in the form of wealth maximization. Profit earning is the primary concern of the shareholders; however, the scholars have pointed out that long term shareholders value creation by running the corporate as employee-driven and consumer-driven organizations will lead a value creation of the company as a whole.

Shareholder value creation is becoming the new corporate goal in India. Shareholder value is gauged by the returns they have received. The shareholders require a minimum return on their investment based on the risk in the investment. The companies cannot run and grow, if it fails to create value to its shareholders.

In the present scenario, the success of the companies is measured in terms of shareholders' value creation. Value creation may be short-term or long term but the real investors (other than speculators) invest in the companies which create the shareholders' value.

There are a number of value-based measures. Shareholder Value Added (SVA) is one of the values-based performance measures and helps to find out the value of the shareholders. It focuses mainly on the operating performance of the company and it combines income statement and balance sheet data to determine the excess returns available to all shareholders. Economic Value

Added and Market Value Added also has emerged as the most popular and efficient tool to measure the performance of the company.

Performance measurement is the current corporate standard in recent years used to measure shareholder's wealth. Traditional financial performance measures are based upon the companies' profitability and ratios only, but for driving shareholder value these methods were not found suitable while EVA has revealed its reign on these traditional measures. (Jain, 2016)

The empirical studies highlight that single accounting measures cannot be used for measuring shareholders' wealth. Financial measures used in measuring the firm's performance must be highly correlated with the wealth of shareholders. Traditional performance evaluation standard only considers the quantity of profit; however, in order to specify the real value of a company, the quality of profit must also be taken into account (Chen and Dodd, 1997)

To eliminate the shortcomings of traditional financial measures, EVA was introduced by Joule M. Stern and Stewart (1989). Stern Stewart and co-developed this tool to measure overall financial measures that encourage the company to concentrate on the delivery of shareholder value EVA enlightens whether the economic profit is enough to cover the cost of capital or not.

Economic Value Added (EVA) is the difference between operating profit and the cost of the capital used to attain that. EVA provides significant information beyond traditional accounting measures of EPS, ROA and ROE (Chen and Dodd, 1997)

EVA is a better measure than EPS, PAT and ROCE and better goal congruence than ROI. (Brewer, Peter C; atl.,, 1999)

Economic Value Added (EVA) is an improved measure of checking the company performance so that the stakeholders can decide that the company is generating or destroying their wealth. EVA is the latest and modern measure technique to know the efficiency of the companies whether they are

maximizing or reducing the value of shareholders' wealth. Therefore this paper is designed with an attempt to know which companies are the wealth generators or destroyer for the shareholders. The main objective of the study is to rank the companies on the basis of EVA. (Dhiman and Pruthi, 2012)

3.8.1. Calculation of EVA:

To achieve the objectives of the study and to evaluate the impact of the corporate governance on value creation of the company, EVA has been taking as a measure to calculate the value creation of the companies. The EVA of each sample company has been calculated for the financial year 2012-13, 2013-14, 2014-15, 2015-16 & 2016-17.

EVA is based on the concept that a company should earn at least its cost of capital. Firms that earn higher returns than financing costs benefit shareholders and account for increased shareholder value. In its simplest form, EVA can be expressed as the following way:

EVA = NOPAT- (WACC × CE)

Where:

1. **NOPAT** = Net operating profit after tax, (operating profits before Interest & Deferred Tax but after Income Tax)
2. **WACC**= Weighted average cost of capital
3. **CE** = Total capital employed

Weighted average cost of capital of the company has been calculated based on the capital structure of the company and the weights are assigned to the particular source of finance based on the share of that particular source of capital in the total capital employed, further for calculation of cost of capital only that capital is considered which is applied to earn the operating profit, if out of the total capital employed if any amount invested for non-operating activities then that capital has been ignored.

$$WACC = \frac{Kd(1-T)D}{V} + \frac{KeE}{V} + \frac{KpP}{V}$$

Where:

1. **WACC** = Weighted Average Cost of Capital;
2. **Kd** = Cost of Debt (Coupon Rate);
3. **T** = Corporate Tax Rate;

4. **V** = Total Debt + Total Preference Share Capital + Market Value of Equity Capital (D+MVE+P);
5. **D** = Total Debt Capital;
6. **Ke** = Cost of Equity calculated using CAPM model;
7. **E** = Market Value of Equity Capital (as on 31st March);
8. **Kp**= Cost of Preference Capital (Coupon Dividend)
9. **P** = Preference Capital

The cost of equity is measured on the basis of capital asset pricing method for calculating and WACC Cost of debt is taken as after-tax cost. Under the Capital Asset Pricing Model, cost of equity (Ke) is calculated as:

Ke = Rf + β (Rm- Rf)

Where,

4. **Ke**= Cost of Equity
5. **Rf**= Risk-Free Rate of Return (using Interest Rate on 90 days T-Bills);
6. **Rm** = Market Return (Using SENSEX as benchmark index)
7. **β** = Risk coefficient

EVA is positive if NOPAT exceeds the cost of financing. The authors of EVA state that, in this case, the company has created shareholder value. On the other hand, when EVA is negative, the company is destroying the value of the shareholder. The computed EVA for all the selected companies is annexed **(Annexure-IV).** Industry wise comparative analysis of the computed Economic value added (EVA) is describe as follow:

3.9. Industry wise comparison of Economic Value Added:

Table 3.22
Economic Value Added: Auto (2/3 Wheelers) Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	HERO MOTOCORP LTD	3005.63	3240.86	3106.71	3939.09	3837.441	3425.95	1733.9
2	ATUL AUTO LTD	32.988	32.293	42.567	56.987	44.452	41.8574	

It can be noted from the table 3.22 that out of total 2 selected companies from the Auto (2/3 Wheelers) Industry, the average economic value added of Hero Motocorp Ltd is Rs.3425.95 crores, which is highest amongst the selected companies from the industry and it is also higher than the industry average of

Rs.1733.9 crores, However average economic value added of Atul Auto Ltd is Rs.41.85 crores , which is lowest amongst companies selected from the Auto (2/3 Wheelers) Industry.

Table 3.23
Economic Value Added: Auto (Car) Industry

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	MAHINDRA & MAHINDRA LTD	4227.4	3929.97	3269.79	3763.05	3595.163	3757.08	17171
2	TATA MOTORS LTD	22285.1	32539.4	37313.2	34202.7	26584.56	30585	

Table 3.23 exhibitss that out of total 2 selected companies from the Auto (Car) Industry, the average economic value added of Tata Motors is Rs.30585 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.1733.9 crores, However average economic value added of Mahindra & Mahindra Ltd is Rs.3757.08 crores, which is lowest amongst companies selected from the Auto (Car) Industry.

Table 3.24
Economic Value Added: Auto Parts & Equipment Industry

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	GABRIEL INDIA LTD	51.7432	46.0787	69.0133	75.2959	88.48392	66.123	55.703
2	SUPRAJIT ENGINEERING LTD	45.9339	46.0537	58.3278	44.7468	83.43428	55.6993	
3	BANCO PRODUCTS (INDIA) LTD	98.7572	93.1363	143.858	69.714	100.098	101.113	
4	SUBROS LTD	63.634	55.5564	51.3597	65.2749	73.30245	61.8255	
5	RANE ENGINE VALVE LTD	-7.6479	5.1618	-3.9394	-23.974	-0.82912	-6.2457	

It can be noted from the table 3.24 that out of total 5 selected companies from the Auto Parts & Equipment Industry, the average economic value added of Banco Products (India)Ltd is Rs.101.11 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.55.70 crores, However average economic value added of Rane Engine Valve Ltd is Rs.-6.24 crores, which is negative as well as lowest amongst companies selected from the Auto Parts & Equipment Industry.

Table 3.25
Economic Value Added: Auto (Trucks) Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	ASHOK LEYLAND LTD	458.746	-527.39	-75.519	1331.12	1562.648	549.919	202.186
2	FORCE MOTORS LTD	-66.728	-16.26	28.659	98.0381	68.27455	22.3966	
3	SML ISUZU LIMITED	54.8543	14.7184	31.2414	37.4091	32.99357	34.2434	

Table 3.25 shows that out of total 3 selected companies from the Auto (Trucks) Industry, the average economic value added of Ashok Leyland Ltd is Rs.549.11 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.202.18 crores, However average economic value added of Force Motors Ltd is Rs.22.39 crores, which is lowest amongst companies selected from the Auto (Trucks) Industry.

Table 3.26
Economic Value Added: Cement & Cement Products Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	AMBUJA CEMENTS LTD	1774.35	916.723	962.299	629.783	2856.715	1427.97	944.899
2	ACC LTD	1558.5	793.007	606.276	544.374	516.3495	803.701	
3	ULTRATECH CEMENT LTD	3705.08	2427.14	1855.29	2002.93	2046.818	2407.45	
4	SAURASHTRA CEMENT LTD	111.677	57.2254	88.4662	61.9869	21.63082	68.1973	
5	KEERTHI INDUSTRIES LTD	-0.4244	-0.2651	21.9117	36.8095	27.82029	17.1704	

It can be noted from table 3.26 that out of total 5 selected companies from the Cement & Cement Products Industry, the average economic value added of Ultratech Cement Ltd is Rs.1427.97 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.944.89 crores, However average economic value added of Keerthi Industries Ltd is Rs.17.17 crores, which is lowest amongst companies selected from the Cement & Cement Products Industry.

Table 3.27
Economic Value Added: Chemicals Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	CAMLIN FINE SCIENCES LTD	23.8941	39.3459	36.373	27.4803	-20.7972	21.2592	3.7612
2	KANCHI KARPOORAM LTD	5.22218	5.06458	0.47779	1.34042	4.513968	3.32379	
3	NATIONAL PEROXIDE LTD	51.8851	40.7131	-4.1614	11.7461	34.99018	27.0346	
4	GODREJ INDUSTRIES LTD	-10.459	26.6372	-14.849	-70.436	-76.74413	-29.17	
5	GEECEE VENTURES LIMITED	-13.653	-10.736	-7.152	14.5165	-1.183034	-3.6414	

It can be noted from table 3.27 that out of total 5 selected companies from the Chemicals Industry, the average economic value added of National Peroxide Limited is Rs.27.03 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.3.76 crores, However average economic value added of Geecee Ventures Ltd is Rs.-3.64 crores, which is negative as well as lowest amongst companies selected from the Chemicals Industry.

Table 3.28
Economic Value Added: Fertilizers Industry

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	CHAMBAL FERTILISERS & CHEMICALS LTD	516.304	396.437	418.578	521.536	429.6624	456.504	230.55
2	COROMANDEL INTERNATIONAL LTD.	423.169	523.898	622.074	343.399	505.066	483.521	
3	ARIES AGRO LTD	15.5872	9.8779	7.55255	-7.206	5.9756	6.35745	
4	RASHTRIYA CHEMICALS & FERTILIZERS LTD	290.416	230.064	383.786	125.454	-32.29188	199.486	
5	SOUTHERN PETROCHEMICALS LTD	5.17458	-20.606	35.8055	11.6356	2.39845	6.88171	

Table 3.28 exhibitss that out of total 5 selected companies from the Fertilizers Industry, the average economic value added of Coromandel International Ltd is Rs.483.52 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.230.55 crores, However average economic value added of Southern Petrochemicals Ltd is Rs6.88 crores, which lowest amongst companies selected from the Chemicals Industry.

Table 3.29
Economic Value Added: IT Consulting & Software Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	INFOSYS LTD	8591.12	10369.2	12413.7	13673.8	13819.48	11773.4	2487.05
2	HEXAWARE TECHNOLOGIES LTD	333.596	314.908	390.961	365.42	379.2187	356.821	
3	JUST DIAL LTD	64.8684	100.656	64.9941	149.633	110.3829	98.107	
4	KPIT TECHNOLOGIES LIMITED	149.222	194.46	236.654	228.307	183.4573	198.42	
5	KELLTON TECH SOLUTIONS LTD	4.01614	5.68654	8.60782	9.97088	14.13422	8.48312	

Table 3.29 shows that out of total 5 selected companies from the IT Consulting & Software Industry, the average economic value added of Infosys Ltd is Rs.11773.4 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.2487.05 crores, However average economic value added of Kellton Tech Solutions Ltd is Rs.8.48 crores, which lowest amongst companies selected from the IT Consulting & Software Industry

Table 3.30
Economic Value Added: Capital Goods (Construction) Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	LARSEN & TOUBRO LTD	3147.77	2398.82	1933.22	1173.41	2249.018	2180.44	450.934
2	SIEMENS LTD	71.0413	-38.13	250.774	255.504	318.9312	171.624	
3	HINDUSTAN CONSTRUCTION CO.LTD	-62.579	95.7234	-45.217	-299.69	-574.1063	-177.17	
4	J.KUMAR INFRAPROJECTS LTD	83.8724	109.418	205.332	167.913	77.90905	128.889	
5	MAN INFRACONSTRUCTION LTD	-15.279	-22.985	-51.734	-61.334	-94.23068	-49.113	

Table 3.30 exhibits that out of total 5 selected companies from the Capital Goods (Construction) Industry, the average economic value added of Larsen & Toubro Ltd is Rs.2180.44 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.450.93 crores, However average economic value added of Man Infra-construction is Rs.-49.11.48 crores, which negative as well as lowest amongst companies selected from the IT Consulting & Software Industry.

Table 3.31

Economic Value Added: Breweries & Distilleries Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	SOM DISTILLERIES & BREWERIES LTD	21.0868	20.2018	22.7875	25.3093	28.83816	23.6447	79.4397
2	UNITED BREWERIES LTD	240.927	368.171	466.984	517.733	485.6743	415.898	
3	ASSOCIATED ALCOHOLS & BREWERIES LTD	-3.5895	-4.4858	18.9884	28.5209	22.5644	12.3997	
4	JAGATJIT INDUSTRIES LTD	-32.565	-47.724	-69.105	-59.351	-94.42696	-60.635	
5	KHODAY INDIA LTD	1.09757	25.0273	-8.2689	18.8318	-7.232588	5.89105	

It can be noted that from table 3.31 that out of total 5 selected companies from the Breweries & Distilleries Industry, the average economic value added of United Breweries Ltd is Rs.415.89 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.79.43 crores, However average economic value added of Jagjit Industries Ltd is Rs.-60.11.48 crores, which negative as well as lowest amongst companies selected from the Breweries & Distilleries Industry.

Table 3.32

Economic Value Added: Electrical Equipment Industry

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	BHARAT HEAVY ELECTRICALS LTD	6998.57	801.075	-2694.1	-7199.9	-5490.881	-1517	-501.92
2	HONDA SIEL POWER PRODUCTS LTD	12.7768	8.6211	26.8133	39.2862	60.02803	29.5051	
3	EON ELECTRIC LTD	-28.401	-33.179	-24.319	-7.1392	1.97963	-18.212	

It can be noted that from table 3.32 that out of total 3 selected companies from the Electrical Equipment Industry, the average economic value added of Honda Siel Power Products Ltd is Rs.29.50 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.-501.92 crores, However average economic value added of Bharat Heavy Electrical Ltd is Rs.-1517 crores, which negative as well as lowest amongst companies selected from the Electrical Equipment Industry.

Table 3.33

Economic Value Added: Refineries/ Petro-Products Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	HINDUSTAN PETROLEUM CORPORATION LTD	2773.52	3741.27	3253.63	5459.93	7211.691	4488.01	4068.7
2	JINDAL DRILLING & INDUSTRIES LTD	52.7047	2.53772	-32.398	-38.736	-58.85629	-14.949	
3	ASIAN OILFIELD SERVICES LTD	-68.56	-2825.5	-1777.5	-1925.9	-1413.881	-1602.3	
4	RELIANCE INDUSTRIES LTD	16335.4	10651.4	12746.8	22572	25186.78	17498.5	
5	DOLPHIN OFFSHORE ENTERPRISES (INDIA) LTD	7.53544	-24.597	-38.752	-54.37	-18.59061	-25.755	

Table 3.33 shows that out of total 5 selected companies from the Refineries/ Petro-Products Industry, the average economic value added of Reliance Industries Ltd is Rs.17498.5 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.4068.7 crores, However average economic value added of Asian Oilfields Ltd is Rs.-1602.30 crores, which negative as well as lowest amongst companies selected from the Electrical Equipment Industry.

Table 3.34

Economic Value Added: Engineering Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	ENGINEERS INDIA LTD	425.471	175.283	-104.37	-91.291	-37.48608	73.5207	-5.2967
2	TIL LTD	-2.2902	-58.86	-83.907	-87.998	-26.58285	-51.927	
3	WINDSOR MACHINES LTD	5.81979	19.4905	7.29125	19.0024	14.47255	13.2153	
4	AXTEL INDUSTRIES LTD	3.80808	1.94256	-5.2251	7.7086	1.804408	2.00771	
5	TRF LTD	-103.47	-65.839	-90.703	-33.213	-23.26852	-63.3	

Table 3.34 shows that out of total 5 selected companies from the Engineering Industry, the average economic value added of Engineers India Ltd is Rs.73.52 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.-5.29 crores, However average economic value added of TRF Ltd is Rs.-63.30 crores, which negative as well as lowest amongst companies selected from the Engineering Industry.

Table 3.35
Economic Value Added: FMCG Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	HINDUSTAN UNILEVER LTD	3913.82	4386.26	5026.15	5387.23	5612.769	4865.25	1354.22
2	HATSUN AGRO PRODUCT LTD	102.62	103.085	152.142	262.199	308.5735	185.724	
3	NESTLE INDIA LTD	1775.54	1921.37	1365.4	1590.44	1841.06	1698.76	
4	VIRAT CRANE INDUSTRIES LTD	2.4687	2.30457	8.13159	7.46173	2.586084	4.59054	
5	TASTY BITE EATABLES LTD	6.15972	2.86599	19.2897	27.5926	27.89054	16.7597	

Table 3.35 shows that out of total 5 selected companies from the FMCG Industry, the average economic value added of Hindustan Unilever Ltd is Rs.4865.25 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs1354 crores, However average economic value added of Tasty Bite Eatables Ltd is Rs16.57 crores, which lowest amongst companies selected from the FMCG Industry.

Table 3.36
Economic Value Added: Pharmaceuticals Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	AJANTA PHARMA LTD	163.152	264.196	389.846	377.372	485.0009	335.913	476.756
2	FDC LTD	163.242	175.914	176.08	199.887	211.4658	185.318	
3	CIPLA LTD	1604.61	1663.27	1682.99	1583.37	982.1588	1503.28	
4	PFIZER LTD	94.3142	195.985	350.691	401.974	270.861	262.765	
5	HIKAL LTD.	23.3629	96.0509	104.371	126.634	132.097	96.5032	

Table 3.36 shows that out of total 5 selected companies from the Pharmaceuticals Industry, the average economic value added of Cipla Ltd is Rs.1503.28 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs476.75 crores, However average economic value added of Hikal Ltd is Rs96.50crores, which lowest amongst companies selected from the Pharmaceuticals Industry.

Table 3.37

Economic Value Added: Iron & Steel Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	STEEL AUTHORITY OF INDIA LTD	434.114	-1773.2	-1416.4	-8962.1	-12700.96	-4883.7	-1782.4
2	SRIKALAHASTHI PIPES LIMITED	-36.009	-2.5931	100.36	134.388	53.92573	50.0144	
3	PENNAR INDUSTRIES LTD	47.2222	12.8091	21.2261	13.1791	28.07261	24.5018	
4	JINDAL STEEL & POWER LTD	435.486	-2196.6	-3587.4	-7122.3	-8081.974	-4110.6	
5	GALLANTT ISPAT LTD	-0.5421	-6.8678	7.22544	22.5374	15.68185	7.60694	

Table 3.37 shows that out of total 5 selected companies from the Iron & Steel Industry, the average economic value added of Srikal Ahasthi Pipes Ltd is Rs.50.01 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.-1782.40 crores, However average economic value added of Steel Authority of India Ltd is Rs.-4883.70 crores, which lowest amongst companies selected from the Iron & Steel Industry.

Table 3.38

Economic Value Added: Telecom Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	TATA COMMUNICATIONS LTD	170.679	543.623	471.138	462.865	254.9051	380.642	2238.85
2	BHARTI AIRTEL LTD	10752.6	13267.5	14902.5	15411.9	14973.93	13861.7	
3	IDEA CELLULAR LTD	3593.57	5330.69	7639.57	7847.12	3279.508	5538.09	
4	MAHANAGAR TELEPHONE NIGAM LTD	-5033.1	-3947.3	-5339.9	-3517	-3545.93	-4276.6	
5	RELIANCE COMMUNICATIONS LTD	-247.35	-4326.6	-4710.9	-5191.7	-7070.953	-4309.5	

Table 3.38 shows that out of total 5 selected companies from the Telecom Industry, the average economic value added of Bharti Airtel Limited is Rs.13861crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs2238.85 crores, However average economic value added of Reliance Communications

Ltd is Rs.-4309.5 crores, which is negative as well as lowest amongst companies selected from the Telecom Industry.

Table 3.39

Economic Value Added: Logistics Industry

Figures are in crore (INR)

Sr No.	Name of the Company	EVA					Average EVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	GATEWAY DISTRIPARKS LTD	78.5371	57.583	91.3291	48.732	32.09486	61.6552	-9.2229
2	VRL LOGISTICS LTD	143.574	153.177	221.818	219.763	170.5902	181.784	
3	TIGER LOGISTICS (INDIA) LTD	2.31065	1.28507	0.19383	3.07274	2.010576	1.77457	
4	CHARTERED LOGISTICS LTD	18.9992	3.00363	5.69774	3.22858	12.93026	8.77188	
5	ARSHIYA LIMITED	-254.26	-492.92	-279.73	-116.68	-356.92	-300.1	

Table 3.39 shows that out of total 5 selected companies from the Logistics Industry, the average economic value added of VRL Logistics Ltd is Rs.181.78 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.-9.22 crores, However average economic value added of Arshiya Limited is Rs.-4309.5 crores, which is negative as well as lowest amongst companies selected from the Logistics Industry.

3.10 Comparison of Corporate Governance Score with Economic Value Added

Table 3.40
Industry wise Comparison of Highest EVA with the Corporate Governance Score

Sr.No	Industry	Name of Company having highest Average EVA	Average EVA (crores)	Average CG Score	CG Score
1	AUTO (2/3 WHEELERS)	HERO MOTOCORP LTD	3425.946	85.6	Highest
2	AUTO (CARS)	TATA MOTORS LTD	30585.000	86.8	Highest
3	AUTO PARTS & EQUIPMENT	BANCO PRODUCTS (INDIA) LTD	101.113	85.6	Highest
4	AUTO (Trucks)	ASHOK LEYLAND LTD	549.919	85.6	Highest
5	CEMENT & CEMENT PRODUCTS	ULTRATECH CEMENT LTD	2407.450	80.2	Highest
6	CHEMICALS	NATIONAL PEROXIDE LTD	27.035	88.2	Highest
7	FERTILIZERS	COROMANDEL INTERNATIONAL LTD	483.521	88.4	Highest
8	IT CONSULTING & SOFTWARE	INFOSYS LTD	11773.444	94.6	Highest
9	CAPITAL GOODS (CONSTRUCTION)	LARSEN & TOUBRO LTD	2180.445	89	Highest
10	BREWERIES & DISTILLERIES	UNITED BREWERIES LTD	415.898	83.8	Above Average
11	ELECTRICAL EQUIPMENT	HONDA SIEL POWER PRODUCTS LTD	29.505	82.6	Above Average
12	REFINERIES/ PETRO-PRODUCTS	RELIANCE INDUSTRIES LTD	17498.466	86.2	Above Average
13	ENGINEERING	ENGINEERS INDIA LTD	73.521	84.8	Highest
14	FMCG	HINDUSTAN UNILEVER LTD	4865.246	88.4	Highest
15	PHARMACEUTICALS	CIPLA LTD	1503.282	86.8	Highest
16	IRON & STEEL	SRIKALAHASTHI PIPES LIMITED	50.014	85.2	Above Average
17	TELECOM	BHARTI AIRTEL LTD	13861.683	86.4	Above Average
18	LOGISTICS	VRL LOGISTICS LTD	181.784	89	Highest

It is evident from table 3.40, that the companies having the highest Economic Value Added in respective industries are also possess the highest corporate governance score. The Comparison of the highest Average EVA and CG score of 18 companies representing different industries establishes that higher the CG Score results in to Higher is the EVA and eighty percent (80% i.e15 out of 18 companies) of the companies establishes direct relationship between corporate governance practices and value creation, It is also prominently evident that the companies having the average corporate governance score above industry average have also been reported highest with corporate governance score.

Table 3.41

Industry wise Comparison of Lowest EVA with the Corporate Governance Score

Sr.No	Industry	Name of Company having Lowest Average EVA	Average EVA (crores)	Average CG Score	CG Score
1	AUTO (2/3 WHEELERS)	ATUL AUTO LTD	41.857	80.6	Lowest
2	AUTO (CARS)	MAHINDRA & MAHINDRA LTD	3757.076	83.8	Lowest
3	AUTO PARTS & EQUIPMENT	RANE ENGINE VALVE LTD	101.113	55.6	Lowest
4	AUTO (Trucks)	SML ISUZU LIMITED	-6.246	76.6	Lowest
5	CEMENT & CEMENT PRODUCTS	KEERTHI INDUSTRIES LTD	17.170	55.2	Lowest
6	CHEMICALS	GEECEE VENTURES LIMITED	-3.641	58.2	Lowest
7	FERTILIZERS	SOUTHERN PETROCHEMICALS LTD	6.882	58.4	Lowest
8	IT CONSULTING & SOFTWARE	KELLTON TECH SOLUTIONS LTD	8.483	60.6	Lowest
9	CAPITAL GOODS (CONSTRUCTION)	MAN INFRACONSTRUCTION LTD	-49.113	61.8	Lowest
10	BREWERIES & DISTILLERIES	JAGATJIT INDUSTRIES LTD	-60.635	68.4	Below Average
11	ELECTRICAL EQUIPMENT	BHARAT HEAVY ELECTRICALS LTD	-1517.048	87.4	Highest
12	REFINERIES/ PETRO-PRODUCTS	ASIAN OILFIELD SERVICES LTD	-1602.270	74.6	Below Average
13	ENGINEERING	TRF LTD	-63.300	68	Lowest
14	FMCG	TASTY BITE EATABLES LTD	16.760	61.2	Lowest
15	PHARMACEUTICALS	HIKAL LTD.	96.503	59.6	Lowest
16	IRON & STEEL	STEEL AUTHORITY OF INDIA LTD	-4883.711	90.4	Highest
17	TELECOM	RELIANCE COMMUNICATIONS LTD	-4309.495	60.8	Lowest
18	LOGISTICS	ARSHIYA LIMITED	-300.101	61.8	Lowest

The table 3.41revels that he companies having the lowest average Economic Value Added in a respective industries are also fond to have lowest corporate governance score. Comparison of the lowest Average EVA and CG score of 18 companies representing different industries, establishes that lower CG Score results in lower EVA, Furthermore the above figures eighty eight percentage (88% i.e.16 out of 18 companies) of the companies establishes direct relationship between corporate governance practices and value creation. The direct relationship between CGS and EVA is to be noted with a constraint that Corporate Governance Score (CGS) in respect of two public sector companies i.e. Bharat Heavy Electricals Limited and Steel Authority of India Limited are having the highest corporate governance score in the respective industry, still their average economic value added is lowest, this is due to very high cost of capital.

3.11 Market Value Added as Measure of Value Creation:

Most of the accounting-based measures such as Price: Earnings, Book Value, Returns on Equity, Return on Net worth, etc. fail to provide a clear understanding of the major variables that drive value, except to some extent Returns on Invested Capital. These methods are easily influenced by the smart and perhaps mischievous management through window dressings. They also do not incorporate the risk or time value of money also and do not help investors understand the intricate process of value creation. In addition, these traditional measures use, for the most part, historical data to measure current performance. Ideally, one would like to measure how current decisions will affect the firm's future performance.

EVA and MVA are the two measures of Value Added in corporate reality. The modern economy suggests one objective that is Value Added also known as Economic Profit.

"Value-added (VA) is the difference between the values produced by a firm/projectand all costs associated with the production of that value, including all opportunity costs."

Thus, a firm that chooses VA as its corporate objective strives to create more value for its owners (owners of Equity and Debt) than any comparable investments.

One of the widely used measures for determining the corporate value creation is the Market Value Added (MVA). Stewart calls that difference between the company's market value and book value as Market Value Added (MVA). EVA is an internal measure of performance that determines MVA which is an external measure of the firm's performance. MVA shows the additional value added to the book value of the invested capital. If MVA is positive, the firm has added value. If it is negative, the firm has destroyed value. The amount of value-added needs to be greater than the firm's investors could have achieved investing in the market portfolio, adjusted for the leverage (beta coefficient) of the firm relative to the market. MVA is not a performance metric like EVA, but instead is a wealth metric; measuring the level of value a company has accumulated over time. As a company performs well over time, it will retain earnings. This will improve the book value of the company's shares, and

investors will likely bid up the prices of those shares in expectation of future earnings, causing the company's market value to rise. As this occurs, the difference between the company's market value and the capital contributed by investors (MVA) represents the excess price tag that the market assigns to the company as a result of its past operating successes. The Market Value Added (MVA) can be mathematically presented as follows:

MVA = Market Capitalization – Net Worth

MVA indicates the company has created substantial wealth for the shareholders. A negative MVA means that the value of management's actions and investments are less than the value of the capital contributed to the company by the capital market (or that wealth and value have been destroyed). To achieve the objectives of the study and to evaluate the impact of the corporate governance on value creation of the company, EVA and MVA have been taking as a measure to calculate the value creation of the companies. The EVA & MVA of each sample company has been calculated for the financial year 2012-13, 2013-14, 2014-15, 2015-16 & 2016-17. The computed MVA for all the selected companies is annexed **(Annexure-V).**

3.12 Industry wise comparison of Market Value Added:

Table 3.42
Market Value Added: Auto (2/3 Wheelers) Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	HERO MOTOCORP LTD	25652.5	39895.2	46207.27	50999.85	54099.2	43370.8	22023.49
2	ATUL AUTO LTD	87.58	299.5	1112.66	1021.24	859.92	676.18	

Table 3.42 shows that out of total 2 selected companies from the Auto (2/3 Wheelers) Industry, the average market value added of Hero Motcorp Ltd is Rs.43370.08 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.22023 crores, However average market value added of Arshiya Limited is Rs.676.18 crores, which is lowest amongst companies selected from the Auto (2/3 Wheelers) Industry.

Table 3.43
Market Value Added: Auto (Cars) Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	MAHINDRA & MAHINDRA LTD	37679	43500	55212.2	50251.3	50588	47446	82375.7
2	TATA MOTORS LTD	66731	109613	162274	109691	138216.8	117305	

Table 3.43 shows that out of total 2 selected companies from the Auto (Cars) Industry, the average market value added of Tata Motors Ltd is Rs.117305 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.82375.7 crores, However average market value added of Mahindra & Mahindra Ltd is Rs.47446 crores, which is lowest amongst companies selected from the Auto (Cars) Industry.

Table 3.44

Market Value Added: Auto Parts & Equipment Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	GABRIEL INDIA LTD	18.52	141.45	915.8	913.77	1317.92	661.492	510.308
2	SUPRAJIT ENGINEERING LTD	233.77	610.88	1312.99	1295.29	2613.12	1213.21	
3	BANCO PRODUCTS (INDIA) LTD	-46.06	129.75	345.53	346.26	1083.23	371.742	
4	SUBROS LTD	-147.72	-139.73	26.48	193.59	915.34	169.592	
5	RANE ENGINE VALVE LTD	-17.36	16.52	169.36	199.45	309.56	135.506	

Table 3.44 shows that out of total 5 selected companies from the Auto Parts & Equipment Industry, the average market value added of Superjit Engineering Ltd Rs.1213.21 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.510.30 crores, However average market value added of Rane Engine Valve Ltd is Rs.135.50 crores, which is lowest amongst companies selected from the Auto Parts & Equipment Industry.

Table 3.45
Market Value Added: Auto (Trucks) Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	ASHOK LEYLAND LTD	2766.87	3010.56	17045.11	26300.27	17813.2	13387.2	5101.231
2	FORCE MOTORS LTD	-714.65	-771.02	525.72	2275.26	4248.59	1112.78	
3	SML ISUZU LIMITED	164.41	211.49	1385.9	793.27	1463.48	803.71	

Table 3.45 exhibits that out of total 3 selected companies from the Auto (Trucks) Industry, the average market value added of Ashok Leyland Ltd Rs.13387.2 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.5101.23 crores, However average market value added of SML Isuzu Ltd is Rs.803.71 crores, which is lowest amongst companies selected from the Auto (Trucks) Industry.

Table 3.46
Market Value Added: Cement & Cement Products Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	AMBUJA CEMENTS LTD	18749.6	25362.7	21204.4	21607.13	34046.39	24194.04	20063.22
2	ACC LTD	12992	18052.2	17103.16	16163.93	23655.54	17593.36	
3	ULTRATECH CEMENT LTD	35695.2	42790.4	60383.9	67871.6	85673	58482.82	
4	SAURASHTRA CEMENT LTD	-45.2	-75.46	-15.76	158.55	134.23	31.272	
5	KEERTHI INDUSTRIES LTD	-28.2	-16.25	-11.04	52.55	76.03	14.618	

Table 3.46 exhibits that out of total 5 selected companies from the Cement & Cement Products Industry, the average market value added of Ultratech Cement Ltd Rs.58482.82 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.20063.22 crores, However average market value added of Keerthi Industries Ltd is Rs.14.61 crores, which is lowest amongst companies selected from the Cement & Cement Products Industry.

Table 3.47
Market Value Added: Chemicals Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	CAMLIN FINE SCIENCES LTD	11.7	104.12	748.87	734.55	748.96	469.64	1808.505
2	KANCHI KARPOORAM LTD	2.712	0.799	1.35	0.79	13.22	3.7742	
3	NATIONAL PEROXIDE LTD	79.05	41.02	113.96	99	295.75	125.756	
4	GODREJ INDUSTRIES LTD	8266.96	9116.47	9976.72	10358.94	5333.78	8610.574	
5	GEECEE VENTURES LIMITED	-210.7	-229.87	-208.41	-101.85	-85.26	-167.218	

Table 3.47 exhibits that out of total 5 selected companies from the Chemicals Industry, the average market value added of Godrej Industries Ltd Rs.8610.57crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.1808.50 crores, However average market value added of Geecee Ventures Ltd is Rs.-167.218 crores, which is negative as well as lowest amongst companies selected from the Chemicals Industry.

Table 3.48
Market Value Added: Fertilizers Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	CHAMBAL FERTILISERS & CHEMICALS LTD	67.18	-525.43	471.07	83.48	1144.47	248.154	968.418
2	COROMANDEL INTERNATIONAL LTD.	3046.24	4009.71	5631.07	3087.87	6388.87	4432.752	
3	ARIES AGRO LTD	-73.58	-65.99	1.87	-8.98	65.7	-16.196	
4	RASHTRIYA CHEMICALS & FERTILIZERS LTD	-362.04	-685.06	407.25	-663.03	1561.32	51.688	
5	SOUTHERN PETROCHEMICALS LTD	76.28	48.52	147.03	151.76	204.87	125.692	

Table 3.48 exhibits that out of total 5 selected companies from the Fertilizers Industry, the average market value added of Coromandel International Ltd Rs.4432.75 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.968.41

crores, However average market value added of Aries Agro Ltd is Rs.-167.218 crores, which is negative as well as lowest amongst companies selected from the Fertilizers Industry.

Table 3.49
Market Value Added: IT Consulting & Software Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	INFOSYS LTD	129754	144125	207238	218385	166839	173268.2	37131.56
2	HEXAWARE TECHNOLOGIES LTD	2749.82	4720.04	5928.23	4531.15	8091.32	5204.112	
3	JUST DIAL LTD	-425.91	10553.5	8692.39	4512.18	2801.23	5226.668	
4	KPIT TECHNOLOGIES LIMITED	927.7	1976.97	2464.16	1528.74	1071.15	1593.744	
5	KELLTON TECH SOLUTIONS LTD	25.92	20.4	260.72	952.9	565.54	365.096	

Table 3.49 exhibits that out of total 5 selected companies from the IT Consulting & Software Industry, the average market value added of Infosys Ltd is Rs.173268.20 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.37131.56 crores, However average market value added of Kellton Solutions Ltd is Rs.365.09 crores, which is lowest amongst companies selected from the IT Consulting & Software Industry.

Table 3.50

Market Value Added: Capital Goods (Construction) Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	LARSEN & TOUBRO LTD	53959.6	85863.2	123589.4	71654.7	101031.3	87219.64	23693.34
2	SIEMENS LTD	12978	25080.9	42093.1	37348.8	34632.6	30426.68	
3	HINDUSTAN CONSTRUCTION CO.LTD	-338.4	-241.87	710.19	-248.82	1317.84	239.788	
4	J.KUMAR INFRAPROJECTS LTD	33.52	-92.66	1409.05	778.61	574.83	540.67	
5	MAN INFRACONSTRUCTION LTD	150.41	-129.57	373.81	336.78	-531.83	39.92	

Table 3.50 exhibits that out of total 5 selected companies from the Capital Goods (Construction) Industry, the average market value added of Larsen & Toubro Ltd is Rs.87219.64 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry

average of Rs.23693 crores, However average market value added of Man Infra-construction Ltd is Rs.39.92 crores, which is lowest amongst companies selected from the Capital Goods (Construction) Industry.

Table 3.51

Market Value Added: Breweries & Distilleries Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	SOM DISTILLERIES & BREWERIES LTD	441.55	561.74	411.66	373.81	227.91	403.334	4075.91
2	UNITED BREWERIES LTD	16751.7	20060.7	24676.77	19492.08	18097.68	19815.8	
3	ASSOCIATED ALCOHOLS & BREWERIES LTD	-34.87	-41.72	16.4	60.5	201.52	40.366	
4	JAGATJIT INDUSTRIES LTD	-145.31	-65.05	-90.14	126.1	59.71	-22.938	
5	KHODAY INDIA LTD	63.76	126.18	160.23	190.35	174.38	142.98	

Table 3.51 exhibits that out of total 5 selected companies from the Breweries & Distilleries Industry, the average market value added of United Breweries Ltd is Rs.19815.80 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.4075.91 crores, However average market value added of Jagjit Industries Ltd is Rs.-22.93 crores, which is negative as well as lowest amongst companies selected from the Breweries & Distilleries Industry.

Table 3.52

Market Value Added: Electrical Equipment Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	BHARAT HEAVY ELECTRICALS LTD	12724.2	15491.3	24200.2	-4268.7	7829.1	11195.22	3923.878
2	HONDA SIEL POWER PRODUCTS LTD	124.7	358.39	829.34	953.5	945.97	642.38	
3	EON ELECTRIC LTD	-121.43	-106.29	-61.88	-30.16	-10.07	-65.966	

Table 3.52 exhibits that out of total 3 selected companies from the Electrical Equipment Industry, the average market value added of Bharat Heavy Electricals is Rs.11195 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.3923.87 crores, However average market value added of Eon

Electricals Ltd is Rs.-22.93 crores, which is negative as well as lowest amongst companies selected from the Electrical Equipment Industry.

Table 3.53

Market Value Added: Refineries/ Petro-Products Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	HINDUSTAN PETROLEUM CORPORATION LTD	-4139.5	-4521.5	5908.4	8935.7	33075.69	7851.752	16507.73
2	JINDAL DRILLING & INDUSTRIES LTD	-131.71	-222.54	-323.98	-491.8	-367.99	-307.604	
3	ASIAN OILFIELD SERVICES LTD	-606.78	-20192.4	-17900.3	-15954.8	-14406.2	-13812.1	
4	RELIANCE INDUSTRIES LTD	69943	101660	51244	84916	136323	88817.2	
5	DOLPHIN OFFSHORE ENTERPRISES (INDIA) LTD	-98.84	-77.77	29.84	-8.77	102.56	-10.596	

Table 3.53 exhibits that out of total 5 selected companies from the Refineries/ Petro-Products Industry, the average market value added of Reliance Industries Ltd is Rs.88817.20 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.16507.73 crores, However average market value added of Dolphin offshore Enterprise (India) Ltd is Rs.-10.59 crores, which is negative as well as lowest amongst companies selected from the Refineries/ Petro-Products Industry.

Table 3.54

Market Value Added: Engineering Industry

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	ENGINEERS INDIA LTD	2941.17	5125.39	4087.95	2965.92	6945.43	4413.172	972.6812
2	TIL LTD	-132.84	-118.14	243.95	166.04	1.11	32.024	
3	WINDSOR MACHINES LTD	32.99	104.1	71.64	153.81	692.08	210.924	
4	AXTEL INDUSTRIES LTD	-24.87	-46.1	-41.15	-49.73	45.98	-23.174	
5	TRF LTD	56.67	88.16	371.18	342.24	294.05	230.46	

It is noted from Table 3.54 that out of total 5 selected companies from the Engineering Industry, the average market value added of Engineers India Ltd is Rs.4413.17 crores, which is highest amongst the selected companies the industry and it is also much higher than the industry average of Rs.972.68

crores, However average market value added of Axiel Industries is Rs.-23.17 crores, which is negative as well as lowest amongst companies selected from the Engineering Industry.

Table 3.55

Market Value Added: FMCG Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	HINDUSTAN UNILEVER LTD	98402	127032	185505.2	181381	191426	156749.2	43651.31
2	HATSUN AGRO PRODUCT LTD	860.78	2762.96	3200.31	4226.14	7489.82	3708.002	
3	NESTLE INDIA LTD	48834.3	58012.2	53363.86	54769.07	72220.91	57440.06	
4	VIRAT CRANE INDUSTRIES LTD	-11.03	-10.67	14.75	107.4	68.57	33.804	
5	TASTY BITE EATABLES LTD	5.23	26.91	110.75	373.66	1110.84	325.478	

It is noted from Table 3.55 that out of total 5 selected companies from the FMCG Industry, the average market value added of Hindustan Univlever Ltd is Rs.156749.2 crores, which is highest amongst the selected companies the industry and it is also much higher than the industry average of Rs.43651.31 crores, However average market value added of Virat Crane Industries is Rs.33.804 crores, which is lowest amongst companies selected from the FMCG Industry.

Table 3.56

Market Value Added: Pharmaceuticals Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	AJANTA PHARMA LTD	1125.14	2919.72	9989.31	11102.64	13983.92	7824.146	9107.007
2	FDC LTD	882.09	1406.41	1777.01	2216.87	2362.28	1728.932	
3	CIPLA LTD	21705.7	20827.3	45734.5	29292	34841.2	30480.14	
4	PFIZER LTD	1445.54	3098.69	8260.39	6007.77	6112.21	4984.92	
5	HIKAL LTD.	186.89	268.39	586.93	401.77	1140.53	516.902	

It is noted from Table 3.56 that out of total 5 selected companies from the Pharmaceuticals Industry, the average market value added of Cipla Ltd is Rs.30480.14 crores, which is highest amongst the selected companies the industry and it is also much higher than the industry average of Rs.9107 crores, However average market value added of Hikal Ltd is Rs.516.90 crores,

which is lowest amongst companies selected from the Pharmaceuticals Industry.

Table 3.57

Market Value Added: Iron & Steel Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	STEEL AUTHORITY OF INDIA LTD	-15556	-13434.7	-15249.4	-21401.6	-10614.56	-15251.2	-4492.33
2	SRIKALAHASTHI PIPES LIMITED	-110.74	-124.76	289.58	207.4	733.08	198.912	
3	PENNAR INDUSTRIES LTD	-11	-26.25	319.51	206.22	110.54	119.804	
4	JINDAL STEEL & POWER LTD	11151.9	4042	-6591.5	-27016.2	-18843.63	-7451.49	
5	GALLANTT ISPAT LTD	-94.3	-94.66	-88	-103.49	-7.79	-77.648	

Table 3.57 exhibits that out of total 5 selected companies from the Iron & Steel Industry, the average market value added of Srikal Ahasthi Pipes Ltd is Rs.198.91 crores, which is highest amongst the selected companies the industry and it is also much higher than the industry average of Rs.-4492.33 crores, However average market value added of Steel Authority of India Ltd is Rs.-15251.20 crores, which is negative as well as lowest amongst companies selected from the Iron & Steel Industry.

Table 3.58

Market Value Added: Telecom Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	TATA COMMUNICATIONS LTD	-987.35	829.69	3564.47	2020.86	11121.69	3309.872	13118.28
2	BHARTI AIRTEL LTD	56426.8	62032	77842.1	29451	38078	52765.98	
3	IDEA CELLULAR LTD	22636.5	30910.4	44340.1	14768.4	7335.9	23998.26	
4	MAHANAGAR TELEPHONE NIGAM LTD	3929.76	-4087.51	-903.81	1522.57	4886.89	1069.58	
5	RELIANCE COMMUNICATIONS LTD	-22197	-5154.1	-20855.9	-14987.6	-14567.4	-15552.3	

Table 3.58 exhibitss that out of total 5 selected companies from the Telecom Industry, the average market value added of Bharti Airtel Ltd is Rs.52765.98 crores, which is highest amongst the selected companies the industry and it is also much higher than the industry average of Rs13118.28 crores, However

average market value added of Reliance Communication Ltd is Rs.-15552.3 crores, which is negative as well as lowest amongst companies selected from the Telecom Industry.

Table 3.59

Market Value Added: Logistics Industry

Figures are in crore (INR)

Sr No.	Name of the Company	MVA					Average MVA	Industry Avarage
		Finacial year						
		2012-13	2013-14	2014-15	2015-16	2016-17		
1	GATEWAY DISTRIPARKS LTD	677.85	1222.89	3813.23	2253.27	2010.22	1995.492	559.4432
2	VRL LOGISTICS LTD	-289.41	-306.39	-356.19	2869.25	2298.16	843.084	
3	TIGER LOGISTICS (INDIA) LTD	10.26	32.27	131.28	190.88	172.89	107.516	
4	CHARTERED LOGISTICS LTD	70.6	76.11	69.76	66.87	56.34	67.936	
5	ARSHIYA LIMITED	-516.23	-476.57	41.43	224.23	-356.92	-216.812	

Table 3.59 exhibitss that out of total 5 selected companies from the Logistics Industry, the average market value added of Gateway Distriparks Ltd is Rs.1995.49 crores, which is highest amongst the selected companies from the industry and it is also much higher than the industry average of Rs.559crores, However average market value added of Arshiya Limited is Rs.-216.81 crores, which is negative as well as lowest amongst companies selected from the Logistics Industry.

3.13 Comparison of Corporate Governance Score with Market Value Added

Table 3.60

Industry wise Comparison of Highest MVA with the Corporate Governance Score

Sr.No	Industry	Name of Company having highest Average MVA	Average MVA (crores)	Average CG Score	CG Score
1	AUTO (2/3 WHEELERS)	HERO MOTOCORP LTD	43370.802	85.6	Highest
2	AUTO (CARS)	TATA MOTORS LTD	117305.300	86.8	Highest
3	AUTO PARTS & EQUIPMENT	SUPRAJIT ENGINEERING LTD	1213.21	80.6	Above Average
4	AUTO (Trucks)	ASHOK LEYLAND LTD	13387.202	85.6	Highest
5	CEMENT & CEMENT PRODUCTS	ULTRATECH CEMENT LTD	58482.82	85.2	Highest
6	CHEMICALS	GODREJ INDUSTRIES LTD	8610.574	72.2	Below Average
7	FERTILIZERS	COROMANDEL INTERNATIONAL LTD.	4432.752	88.4	Highest
8	IT CONSULTING & SOFTWARE	INFOSYS LTD	173268.2	94.6	Highest
9	CAPITAL GOODS (CONSTRUCTION)	LARSEN & TOUBRO LTD	87219.640	89	Highest
10	BREWERIES & DISTILLERIES	UNITED BREWERIES LTD	19815.796	83.8	Above Average
11	ELECTRICAL EQUIPMENT	BHARAT HEAVY ELECTRICALS LTD	11195.220	87.4	Highest
12	REFINERIES/ PETRO-PRODUCTS	RELIANCE INDUSTRIES LTD	88817.2	86.2	Above Average
13	ENGINEERING	ENGINEERS INDIA LTD	4413.172	84.8	Highest
14	FMCG	HINDUSTAN UNILEVER LTD	156749.230	88.4	Highest
15	PHARMACEUTICALS	CIPLA LTD	30480.136	86.8	Highest
16	IRON & STEEL	SRIKALAHASTHI PIPES LIMITED	198.912	85.2	Above Average
17	TELECOM	BHARTI AIRTEL LTD	52765.980	86.4	Highest
18	LOGISTICS	GATEWAY DISTRIPARKS LTD	1995.492	83.8	Above Average

It is evident from table 3.60, the companies having the highest market value added in a respective industry are also having the highest corporate governance score. On the comparison of the highest Average MVA and CG score of 18 companies representing different industries, it is observed that higher CG Score results in to Higher MVA and 72% (13 out of 18 companies) of the companies establishes direct relationship between corporate governance practices and value creation, even the companies having the average corporate governance score above industry average have also reported highest market value added.

Table 3.61

Industry wise Comparison of Lowest MVA with the Corporate Governance Score

Sr.No	Industry	Name of Company having lowest Average MVA	Average MVA (crores)	Average CG Score	CG Score
1	AUTO (2/3 WHEELERS)	ATUL AUTO LTD	676.180	80.6	Lowest
2	AUTO (CARS)	MAHINDRA & MAHINDRA LTD	47446.000	83.8	Lowest
3	AUTO PARTS & EQUIPMENT	RANE ENGINE VALVE LTD	135.506	55.6	Lowest
4	AUTO (Trucks)	SML ISUZU LIMITED	803.710	76.6	Lowest
5	CEMENT & CEMENT PRODUCTS	KEERTHI INDUSTRIES LTD	14.618	55.2	Lowest
6	CHEMICALS	GEECEE VENTURES LIMITED	-167.218	58.2	Lowest
7	FERTILIZERS	ARIES AGRO LTD	-16.196	78.4	Above average
8	IT CONSULTING & SOFTWARE	KELLTON TECH SOLUTIONS LTD	365.096	60.6	Lowest
9	CAPITAL GOODS (CONSTRUCTION)	MAN INFRACONSTRUCTION LTD	39.920	61.8	Lowest
10	BREWERIES & DISTILLERIES	JAGATJIT INDUSTRIES LTD	-22.938	68.4	Below Average
11	ELECTRICAL EQUIPMENT	EON ELECTRIC LTD	-65.966	77	Lowest
12	REFINERIES/ PETRO-PRODUCTS	ASIAN OILFIELD SERVICES LTD	-13812.098	74.6	Below Average
13	ENGINEERING	AXTEL INDUSTRIES LTD	-23.174	64.6	Below
14	FMCG	TASTY BITE EATABLES LTD	325.478	61.2	Lowest
15	PHARMACEUTICALS	HIKAL LTD.	516.902	59.6	Lowest
16	IRON & STEEL	STEEL AUTHORITY OF INDIA LTD	-15251.212	90.4	Highest
17	TELECOM	RELIANCE COMMUNICATIONS LTD	-15552.300	60.8	Lowest
18	LOGISTICS	ARSHIYA LIMITED	-216.812	61.8	Lowest

It is evident from table 3.61, the companies having the lowest average market value added in a respective industry are also having the lowest corporate governance score. On the comparison of the lowest Average MVA and CG score of 18 companies representing different industries, it is observed that lower CG Score results in to lower EVA and 66% (12 out of 18 companies) of the companies establishes direct relationship between corporate governance practices and value creation. However there is public sector companies i.e. Steel Authority of India Limited are having the highest corporate governance score in the respective industry, still their average market value added is lowest, this is due to lower market value of listed capital and weak market fundamentals.

3.14 Research Methodology for Panel Data Analysis

For the empirical examination of the issue concerned with the effect of corporate governance on the value creation of the Companies proxied by the EVA and MVA, the panel data econometric techniques have applied. There are other names of penal pooled data indicating the pooling of time series and cross-sectional observations, longitudinal data and event history analysis. Essentially, the penal data analysis involves the study of movement over the period of time of cross-sectional units.

As it is discussed in section 3.7, 3.8 & 3.9 the data on corporate governance score, EVA and MVA have been calculated for the 80 companies pertaining to 15 industries for the period from 2012-13 to 2016-17. It is clearly evident that the data structure involves the combination of both time-series and cross-sectional phenomena, making the data penal data. It is important to note that the time period for all the companies remains the same and there is not any missing entry, so this kind of panel data structure is called balance panel data.

3.14.1. Importance of Panel Data:

a) Since panel data relates to the cross-sectional units over a period of time, there is bound to heterogeneity in these units. The technique of penal data estimation can take such heterogeneity into account and allow the analysis of individual-specific variables.
b) By combining the time series and cross-sectional observations it is possible to incorporate more information, more variability, less collinearity amongst the variable and allow more degrees of freedom.
c) Panel data analysis is more suitable when the study involves the analysis of dynamic change.
d) Panel data can batter detect and measure the effects that simply cannot be observed in cross-sectional and time series analysis.

3.14.2. Approach to the Panel Data Analysis:

The panel data regression, estimation, and analysis widely differ from that of regular time series and cross-section analysis. The general form of panel regression equation can be represented as follows[1]:

$$Y_{it} = \propto + \beta_1 X_{1it} + \beta_2 X_{2it} + \mu_{it} \quad \text{.....(3.4)}$$

Where ***i*** stands for the i^{th} cross-sectional unit ***i= 1, 2,….., N,*** and

t stands for the t^{th}time period ***t = 1, 2,….., T***

α is an intercept and βs are the slope coefficients of independent variable ***Xs.***

It is important to note that ***i*** denote the cross-section identifier and ***t***the time identifier.at the assumption that the maximum of **N** cross-sectional unitsis involved having a maximum **T** time period.

3.14.3. Estimation of Panel Regression:

The identification and estimation of the panel regression depend on the assumptions made for the intercept, slope coefficient, and the data structure. For the empirical examination of the study undertaken, the three basic approaches of the panel data regression analysis have been carried out which are as follows:

3.14.3.1 Pooled Regression Model:

The conventional and the simplest approach to the panel regression analysis is the pooled regression. Under this approach, the cross-sectional and time-series dimensions in the panel data are ignored and all the cross-sectional units are considered identical.

$$Y = \propto + \beta_1 X_1 + \beta_2 X_2 + \mu \text{ .....(3.5)}$$

The pooled regression equation (3.5) is a general representation of the pooled regression, where it is clearly indicated compare to the equation (3.4), the cross-section (***i***) and the time dimensions (***t***) are discarded. The parameters in the equation (3.5) α and βs can be estimated using the Ordinary Least Square method of estimation.

[1] See Damodar N Gujarati and Sangeeta, *Basic Econometrics,* Tata McGrew Hill, 4th Edition , 2007, Chapter-16 , PP 650

However, it is important to note that, in reality, all the cross-sectional units are not identical and heterogynous characteristics. The assumptions of uniformity under pooled regression is highly restrictive and do not incorporate the individualistic characteristics of cross-sectional units.

3.14.3.2 Fixed Effect Model:

One way to take into account the individualistic characteristics of the cross-sectional is to allow the intercept to vary for each cross-sectional unit. However, there an important assumption regarding this kind of structure is that the slope coefficients ***(βs)*** are constant across cross-sectional units

$$Y_{it} = \alpha_i + \beta_1 X_{1it} + \beta_2 X_{2it} + \mu_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots \textbf{(3.6)}$$

It is important to notice that the subscript $\boldsymbol{i}$ incorporated in the intercept $\boldsymbol{\alpha}$ indicates that all the cross-sectional units in the panel data are different and the difference may be due to the special characteristics of the individual cross-sectional units.

The model (3.6) is known as the Fix Effect Model (FEM). The term fixed effect indicates that although the intercept may differ, the cross-sectional units and the individual intercept does not change over the period of time.

Now the important question is how to allow the intercept to vary between the cross-sectional units? It can easily be done by incorporating dummy variable techniques. The model (3.6) can further be expressed as:

$$Y_{it} = \alpha + \alpha_1 D_{1i} + \alpha_2 D_{2i} + \beta_1 X_{1it} + \beta_2 X_{2it} + \mu_{it} \ldots\ldots\ldots\ldots \textbf{(3.7)}$$

In model (3.7) it is assumed that there are three cross-sectional units. To capture the individual effect in the intercept two dummies are incorporated (D2 and D3) to avoid the dummy variable trap the dummies to be incorporated in the fixed effect model would be (i-1). As it is assumed that there are three cross-sectional units the dummies would be (3-1 =2), where $\boldsymbol{D_{1i}}$ =1 if observation belongs to Unit -1 and 0 otherwise. $\boldsymbol{D_{2i}}$ =1 if the observation belongs to Unit-2 and 0 otherwise. As the dummies, the dummies are incorporated in the model (3.7). In the literature, the model (3.7) is known as the Least Squares Dummy Variable Model (LSDV)[2]. The coefficients of the

[2] See Damodar N Gujarati and Sangeeta, *Basic Econometrics,* Tata McGrew Hill, 4th Edition , 2007, Chapter-16 , PP 656

model (3.7) can be estimated using the Generalized Least Square (GLS) technique.

Though it is easy to use the LSDV approach for the estimation of the fix effect model there is some problem with the technique.

a) Introducing too many dummy variables in the model will create a problem of degrees of freedom
b) With so many variables in the model may create a problem of multicollinearity.
c) The fix effect model is not suitable in the case where there are many cross-sectional Units and less time-series dimensions.

3.14.3.3 Random Effect Model:

Though it is easy to apply the fix effect model to analysis the panel data structure there will always be a problem of degrees of freedom if three are several cross-sectional units. According to Kemnta (1986), 'An obvious question in connection with the covariance [i.e. LSDV] model is whether the inclusion of dummy variables- and the constant loss of the number of degrees of freedom – is really necessary. The reasoning underlying the covariance model is that in specifying the regression model we have failed to include relevant explanatory variables that do not change over time (and possibly other that do change over time but have the same value for all cross-sectional units) and that the inclusion of dummy variables is a cover-up of our ignorance. (Dielman, Jan kmenta, 1986)

If the fixed effect model does not provide sufficient information the Error Component Model (ECM) or Random Effect Model (REM) can be applied.

The basic idea of REM starts with the model (3.6).

$$\boldsymbol{Y_{it} = \alpha_i + \beta_1 X_{1it} + \beta_2 X_{2it} + \mu_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots} \textbf{ (3.8)}$$

Instead of α_i as fixed, it is assumed the intercept is a random variable with the mean value of, and the intercept value of an individual cross-sectional unit can be **express as**

$$\boldsymbol{\alpha = \alpha + \varepsilon_i \qquad i = 1, 2, \ldots, N \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots} \textbf{ (3.9)}$$

Where ε_i is a random error with a mean value of zero and constant variance. By substituting equation (3.9) in to (3.8) we obtain

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \varepsilon_i + \mu_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \textbf{(3.10)}$$

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \theta_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \textbf{(3.11)}$$

Where

$$\theta_{it} = \varepsilon_i + \mu_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \textbf{(3.12)}$$

The usual assumption made for the random effect model is:

$$\varepsilon_i \sim N(0, \sigma_\varepsilon^2)$$

$$\mu_{it} \sim N(0, \sigma_\mu^2)$$

$$E(\varepsilon_i \mu_{it}) = 0 \quad E(\varepsilon_i \varepsilon_j) \quad i \neq j$$

$$E(\mu_{it}\mu_{is}) = E(\mu_{it}\mu_{jt}) = E(\mu_{it}\mu_{js}) = 0 \quad (i \neq j; t \neq s).$$

The random-effects model (3.11) can be estimated using the generalize least square technique[3]. The random-effects model, as it is discussed, is more suitable when the cross-sectional units are considerably large and the time dimensions are small.

3.14.4. Model Diagnostics and Hypothesis Testing:

The model diagnostic is important to understand and analyze the goodness of the estimated model. The conventional approaches such as Goodness of Fit, t-Test, and F-statistics have been applied to check the validity of the fitted models.

1.4.1 t-Test

The t-test is applied to validate the significance of the estimated coefficients in the model[4]. The t value is obtained from the t-test. The t-test is the test of the significance of βs. It is counted to find out that the value of estimated βs is significant or not? In t-test first, the t ratio is calculated as:

$$t^* = \frac{\beta_2}{se(\hat{\beta}_2)}$$

"*df* " i.e. degrees of freedom find out as:

$$df = N - K$$

Where *N* = number of observations

[3] See Damodar N Gujarati and Sangeeta, *Basic Econometrics,* Tata McGrew Hill, 4th Edition , 2007, , PP 405

[4] See Damodar N Gujarati and Sangeeta, *Basic Econometrics,* Tata McGrew Hill, 4th Edition , 2007, , PP 257-258

K = parameters.

Then table value of *t* at 5% is found out on the basis of "*df*" i.e.

If,

1. $t_{\beta}^{*} > t_t \rightarrow significant$
2. $t_{\beta}^{*} < t_t \rightarrow insignificant$

It indicates that if the *t* statistical value is greater than the tabular value than the *t*-test is significant, and if *t* statistical value is less than tabular value than the *t*-test is insignificant. Also, when the *t*-test is significant we accept the alternative hypothesis and reject the Null hypothesis when the *t*-test is insignificant than we accept the Null and reject the alternative hypothesis.

3.14.4.1 Goodness of Fit – R2:

The coefficient of determination**,** R^2, is the summary measure that tells how well the sample regression line fits the data.

To compute R^2, we proceed as follows:

$$\boldsymbol{Y_i = \hat{Y}_i + \hat{u}_i}$$

Or in the deviation form

$$\boldsymbol{y_i = \hat{y}_i + \hat{u}_i}$$

Squaring on both sides and summing over the sample, we obtain

$$\sum y_i^2 = \sum \hat{y}_i^2 + \sum \hat{u}_i^2 + 2\sum \hat{y}_i \hat{u}_i$$

$$= \sum \hat{y}_i^2 + \sum \hat{u}_i^2$$

$$= \hat{\beta}_2^2 \sum x_i^2 + \sum \hat{u}_i^2$$

The quantity R2 thus defined is known as the (sample) coefficient of determination and is the most commonly used measure of goodness of fit of a regression line. Verbally, R2 measures the proportion or percentage of the total variation in Y explained by the regression model.

3.14.4.2 F –TEST:

The usual t-test cannot be used to test the joint hypothesis that the true partial slope coefficients are zero simultaneously. However, this hypothesis can be tested by the analysis of variance technique.

TABLE 3.62.
F- test

Source of variation	SS	df	MSS
Due to regression (ESS)	$\hat{\beta}_2 \sum y_i x_{2i} + \hat{\beta}_3 \sum y_i x_{3i}$	2	$\frac{\hat{\beta}_2 \sum y_i x_{2i} + \hat{\beta}_3 \sum y_i x_{3i}}{2}$
Due to residual (RSS)	$\sum \hat{u}_i^2$	$n-3$	$\hat{\sigma}^2 = \frac{\sum \hat{u}_i^2}{n-3}$
Total	$\sum y_i^2$	$n-1$	

3.15. Empirical Analysis

For the empirical examination of the issue related to the impact of corporate governance on the value creation of the companies, as discussed in the 3.10, panel data analysis has been carried out. There have been 80 companies pertaining 15 to different industries (Annexure -II) taken into account and the time period is 2012-13 to 2016-17. The estimation of and analysis of penal data models have been carried out using EViews-9.

3.15.1 Estimation of Pooled Regression Model

As it is discussed in section 3.10.3.1, equation No. 3.5 has been estimated for the following two different approaches to understand the impact of corporate governance on the value creation of the companies.

a. $\boldsymbol{EVA_{it} = f\ (CGS_{it})}$

b. $\boldsymbol{MVA_{it} = f\ (CGS_{it})}$

Table No: 3.63
Estimation of pooled Regression Model - 1

Dependent Variable: EVA				
Method: Panel Least Squares				
Sample: 2012-13 2016-17				
Periods included: 5				
Cross-sections included: 80				
Total panel (balanced) observations: 400				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8213.076	1709.509	-4.804349	0.0000
CGS	121.8461	22.10511	5.512127	0.0000
R-squared	0.170926			
F-statistic	30.38354			
Prob(F-statistic)	0.000000			

Table No. 3.63 indicates the estimation of the function $\boldsymbol{EVA_{it} = f\ (CGS_{it})}$**.** It is clearly indicated that the CGS is positively affected by the EVA and the

coefficient of CGS is 121.85. The concerning t-statistic is 5.51 and the probability at which the null hypothesis is rejected is <1 meaning that the null hypothesis i.e. CGS does not affect the EVA is rejected and the alternative hypothesis i.e. CGS has a significant impact on EVA is accepted. The F-statistics also indicates that the model is highly significant (F-Prob is <1) the R^2 is 0.17 which is a matter of concern and does not specify the good fit of the estimated model.

Table 3.64
Estimation of pooled Regression Model - 2

Dependent Variable: MVA				
Method: Panel Least Squares				
Sample: 2012-13 2016-17				
Periods included: 5				
Cross-sections included: 80				
Total panel (balanced) observations: 400				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-79739.32	11931.20	-6.683259	0.0000
CGS	1215.809	154.2785	7.880611	0.0000
R-squared	0.134978			
F-statistic	62.10403			
Prob(F-statistic)	0.000000			

The estimated results in the table no.3.64 examine the effect of MVA on CGS. The coefficient of MVA (1215.809) is positive and highly significant. Here is also the null hypothesis is rejected and the alternative hypothesis is accepted and it is clearly evident that the CGS plays an important role to determine MVA. The F-statistic indicates that the overall model is highly significant as the probability is <1.

The estimated pooled regression for the penal data analysis, in general clearly explains that the EVA and MVA are significantly affected by CGS meaning that the value creation in the companies is affected the corporate governance practices.

3.15.2 Estimation of Fixed Effect Model

Further to overcome the limitations of the pooled regression model, the fixed effect models to analyses the panel data have been estimated. The general specification an explanation of the fixed-effect model has been depicted in

section 3.10.3.2and equation 3.7 has been estimated for two dependent variables EVA and MVA separately.

Table: 3.65
Estimation of Fixed Effect Model - 1

Dependent Variable: EVA				
Method: Panel Least Squares				
Sample: 2012-13 2016-17				
Periods included: 5				
Cross-sections included: 80				
Total panel (balanced) observations: 400				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1567.412	2037.842	0.769153	0.4424
CGS	57.86495	26.57512	-0.217741	0.0581
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.920512			
F-statistic	46.17708			
Prob(F-statistic)	0.000000			

Table 3.65 is the estimation of the fixed-effect model to analyze the effect of CGS on EVA. The estimated results indicate that the coefficient of CGS (57.86) is significant at 5%. The R^2 is 0.92 explaining 92% of the variation in EVA by CGS which is a good indicator of goodness of fit. The overall significance of the model is indicated by the F-statistic.

Table: 3.66
Estimation of Fixed Effect Model - 2

Dependent Variable: MVA				
Method: Panel Least Squares				
Sample: 2012-13 2016-17				
Periods included: 5				
Cross-sections included: 80				
Total panel (balanced) observations: 400				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11701.15	14109.62	-0.829303	0.4076
CGS	327.9301	184.0009	1.782220	0.0657
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.927164			
F-statistic	50.75904			
Prob(F-statistic)	0.000000			

The estimation of the fixed-effect model for MVA is depicted in Table No.3.66 it is clearly examined that the coefficient of CGS is 327.93 which is

significant at 6% indicating that the CGS positively and significantly affect the MVA. The overall fitted model is good as the R^2 is 0.92 and the F-Prob is <1. The Estimated results of the fixed effect model are also in line with the results of the pooled regression analysis. In both the estimated fixed effect models (table No. 3.64 and 3.65) the null hypothesis is rejected and the alternative hypothesis is accepted. i.e. the CGS positively and significantly affects EVA and MVA.

3.15.3 Estimation of Random Effect Model

The empirical analysis of the issue related to the impact of corporate governance practices on Value creation has further been extended using the random effect model as it is discussed in section 3.13.3.

Table No: 3.67

Estimation of Random Effect Model - 1

Dependent Variable: EVA				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2012-13 2016-17				
Periods included: 5				
Cross-sections included: 80				
Total panel (balanced) observations: 400				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-800.2231	1860.964	-0.430005	0.6674
CGS	25.11049	23.40725	1.072765	0.0640
Effects Specification				
			S.D.	Rho
Cross-section random			4383.354	0.8945
Idiosyncratic random			1505.381	0.1055
Weighted Statistics				
R-squared	0.002847			
F-statistic	1.136465			
Prob(F-statistic)	0.047047			
	Unweighted Statistics			
R-squared	0.026221			

Table No. 3.67 estimates the random effect model for the effect of CGS on EVA It is observed that as in the pooled regression model and fix effect model the CGS positively and significantly affects EVA. The coefficient of CGS in both the random effect models is positive and significant at 6%. The F-statistic is highly significant as the value of the probability is <1.

The Estimated results of the random effect model are also in line with the results of the pooled regression analysis. In both the estimated fixed effect models (table No. 3.67) the null hypothesis is rejected and the alternative hypothesis is accepted. i.e. the CGS positively and significantly affects EVA

Table No: 3.68

Estimation of Random Effect Model - 2

Dependent Variable: MVA				
Method: Panel EGLS (Cross-section random effects)				
Sample: 201213 201617				
Periods included: 5				
Cross-sections included: 80				
Total panel (balanced) observations: 400				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-27948.98	12916.38	-2.163840	0.0311
CGS	539.9597	162.3835	3.325212	0.0010
Effects Specification				
			S.D.	Rho
Cross-section random			30622.65	0.8962
Idiosyncratic random			10422.97	0.1038
Weighted Statistics				
R-squared	0.026704			
F-statistic	10.91975			
Prob(F-statistic)	0.001038			
Unweighted Statistics				
R-squared	0.093269			

Table No. 3.68 estimates the random effect model for the effect of CGS on MVA It is observed that as in the pooled regression model and fix effect model the CGS positively and significantly affects MVA. The coefficient of CGS in both the random effect models is positive and significant at 6%. The F-statistic is highly significant as the value of the probability is <1.

The Estimated results of the random effect model are also in line with the results of the pooled regression analysis. In both the estimated fixed effect

models (table No. 3.68) the null hypothesis is rejected and the alternative hypothesis is accepted. i.e. The CGS positively and significantly affects MVA.

3.16 Findings and Conclusions

There are some generally accepted key convictions good governance are: **a)** accountability **b)** transparency **c)** recognition of stakeholder/shareholder rights. Some more principles that are generally accepted for the batter governance are efficiency, stewardship, leadership, integrity and an emphasis on performance as well as compliance, and stakeholder participation or inclusiveness. The need for corporate governance has arisen because of the increasing concern about the non-compliance of standards of financial reporting and accountability by boards of directors and management of corporate inflicting heavy losses on investors.

There are a number of norms and laws that have been prevailing around the globe for the batter governance practices, so it is necessary to check the impact of such laws on the performance of the companies. Some recent researches have however answered these questions by showing that companies with good governance system have actually comparatively more returns for their shareholders thereby gaining shareholders confidence and improving economic conditions of a country.

It is revealed from the literature that no studies have been conducted to measure the association of corporate governance with the value creation of the companies or a shareholder's value creation or shareholders' wealth maximization. So it is necessary to conduct the study to establish and gauge the relationship between the corporate governance practices followed by the companies and the long-term motive of the shareholder. This study has been conducted with the motive to measure the impact of corporate governance practices in India on the shareholders' value creation.

The study has been conducted by selecting 80 companies from the manufacturing and service sector based on the various criterions and corporate

governance scores have been calculated for each company for the financial years 2012-13 to 2016-17 as an independent variable, whereas for all the sample companies for the period under the study as depended variables EVA and MVA, have been calculated to represent the value creation of the Companies. It is evident that the data structure involves the combination of both time-series and cross-sectional phenomena, making the data penal data. It is important to note that the time period for all the companies remains the same and there is not any missing entry, so this kind of panel data structure is called balance panel data. For the empirical examination of the issue concerned with the effect of corporate governance on the value creation of the Companies proxied by the EVA and MVA, the panel data econometric techniques have applied. In-depth analysis has been made by using the following three models of penal data analysis.

1. Pooled regression Model
2. Fixed Effect Model
3. Random Effect Model

The hypothesis testing and the estimation of the above models of the penal data analysis have shown the following results:

Table No: 3.69

Overall Observation of estimated Panel Models

Null Hypothesis	Estimated Models			Overall Observation
	Pooled Regression	Fixed Effect Model	Random Effect Model	
There is no impact of corporate governance (CGS) practices on economic value added (EVA)	Rejected	Rejected	Rejected	There is positive and significant effect of CGS on EVA
There is no impact of corporate governance (CGS) practices on market value added (MVA)	Rejected	Rejected	Rejected	There is positive and significant effect of CGS on MVA

- The estimated pooled regression for the penal data analysis, in general clearly explains that the EVA and MVA are significantly affected by CGS meaning that the value creation in the companies is affected the corporate governance practices.
- The Estimated results of the random effect model are also in line with the results of the pooled regression analysis. In both the estimated fixed-effect models, the null hypothesis is rejected and the alternative hypothesis is accepted. i.e. the CGS positively and significantly affects EVA
- The Estimated results of the random effect model are also in line with the results of the pooled regression analysis. In both the estimated fixed-effect models, the null hypothesis is rejected and the alternative hypothesis is accepted. i.e. The CGS positively and significantly affects MVA.

So it is concluded that corporate governance practices highly and significantly affects the value creation of the companies. The high value of R^2 describes that there is a strong positive relationship between corporate governance practices and value creation of companies. Further from the corporate governance scorecard developed for the study, it is also observed that the companies following internationally accepted practices of corporate governance are having a very high EVA and MVA, means that companies are creating more wealth for the shareholders than the companies following the corporate governance practices merely for the complying the laws and regulations.

Corporate governance practices followed by the companies should be principle-based and not merely for complying with the laws and regulations As high standard corporate governance practices result in to high wealth creation for the shareholders, the corporate governance practices should be considered by the companies as a tool to enhance the wealth of the shareholders instead of responsibility towards the regulators.

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