

Research Article

Capital Structure and Factors Affecting Capital Structure

Bhadrappa Haralayya¹, Jeelan Basha V², Nitesh S Vibhute³

¹HoD and Associate Professor, Department of MBA, Lingaraj APPA, Engineering College Bidar, Karnataka, India.

²Dean and Professor of Commerce, Vijayanagara Sri Krishnadevaraya University, Bellary, Karnataka, India.

³Assistant Professor, Faculty of Business Studies MBA, Sharnbasva University, Karnataka, India.

I N F O

Corresponding Author:

Bhadrappa Haralayya, Department of MBA
Lingaraj APPA Engineering College Bidar.

E-mail Id:

bhadrappabhavimani@gmail.com

How to cite this article:

Haralayya B, Jeelan BV, Vibhute NS. Capital Structure and Factors Affecting Capital Structure. *J Adv Res Eco Busi Mgmt* 2021; 4(2): 4-35.

Date of Submission: 2021-12-13

Date of Acceptance: 2021-12-30

A B S T R A C T

Capital structure decisions are perhaps one of the most important decisions taken by financial managers. It is one of the important and challenging issues in corporate finance. What should be the appropriate mix of debt and equity in capital structure.

The answer to this question has been debated in different literatures pertaining to capital structure by different researchers. The enormous work in this area by different researchers has tried to investigate of optimal capital structure exists or not, which will help in maximization of the wealth of the shareholders. The optimal mix of debt and equity in capital structure will help in maximization the returns for the shareholders, while minimizing the cost of capital. Decisions relating to optimal combination of debt and equity have always raised the inquisitiveness of different researchers all over the globe.

Keywords: Capital Structure, Financial Leverage, Business Risk, Tangibility, Profitability

Introduction

There are number of capital structure theories which have been propagated and have guided the researchers across the globe to do their research in this area. We have basically focused our research paper on two theories namely-pecking order theory and trade off theories. The pecking off theory basically states that the firm resort to internal finances first and then debt capital as external financing. If required, the last option for a firm as source of external finance is distributed as dividend to the equity shareholders. The firm has an option not to distribute the entire profit as dividend, but retain a part of it as retained earnings for future growth and expansion. Thus, as pecking theory, if the firm is in need of funds, then it will first resort to the retained earnings as internal finance and then to debt and equity as external finance. The figures 1 explain the sources of funds as per the pecking order theory.

Table 1.Sources of funds as per the pecking order theory

Retained earnings (internal)	Debt (external)	Equity (external)
1 st preferred sources	2 nd preferred sources	last resort

As per pecking order theory, there is no existence of optimal capital structure. Trade off theory basically emphasizes on existence of optimal capital structure. This theory states that the firm should make a detailed cost-benefit analysis before including debt in the capital structure. As stated in the earlier paragraph, one of the important advantages of including debt component in capital structure is the benefit of tax shield on the interest component of the debt capital. However, one of the major disadvantages of

including debt in capital structure is that the financial risk increases because of the constant interest burden of the debt component. The finance manager should investigate the pros and cons of including debt component in the capital structure. Thus, an optimal capital structure can be achieved with an appropriate mixture of equity and debt in the capital structure so as to minimize the cost as well as maximize the returns.

Our research paper has tried to investigate what determinants the capital structure of a firm during the recessionary period comprising of the pre and post period. It is very important to understand the determinants of capital structure before taking various crucial decisions related to capital structure in an organization. When we were scanning the different past literatures related to capital structure, it was observed that the determinants of capital structure different from one industry to the other.

For example: the capital structure determinants for the textile industry differ from steel and cement industry. Thus we decided to take BSE30 for our research taking a cross section of different industries. It was prudent to take BSE30 for our research as the index represents 94% of the market capitalization of the BOMBAY STOCK EXCHANGE, which is a major and oldest stock exchange of INDIA. The index also covers all the 7 major industries of INDIA namely private and public banks, pharmaceutical, information technology, etc. Thus, we decided to take BSE30 for our study as it will include cross section industries of major sectors in INDIA rather than concentrating on one specific/ industries.

Our entire research work has been segregated into pre-recession period and post -recession period. Pre-recession period has been taken from 2010-11 to 2014-2015 (total 5 years) and post-recession period is from 2015-16 to 2019-2020 (total 5 years). Multiple regression analysis has been utilized in this study to understand the capital structure determinants for the firms which belong to BSE30 during the pre as well as post recession period. The dependent variable which has been taken in the study is "financial leverage " and 10 independent variables have been taken as probable determinants of financial leverage or capital structure during the pre and post period of recession. Hence, the main purpose for conducting this study is to investigate the determinants of capital structure or financial leverage of BSE30 companies during the pre and post recession period.

Objectives of the Study

The major objective of the research study focused on the follows:

To identify those independent variables which are significant determinants of capital structure (financial leverage) for

the firms belonging to BSE30 during the pre and post recession period.

To rank the above significant variables determining the financial leverage on the basis of their beta values.

To further investigate whether the variables significantly determining the capital structure for BSE30 companies are reflected pecking order or trade off theory during the pre and post period of recession.

Research Methodology

Data Source

The present study was taken into consideration the companies of BSE30. we derived a list of 30 companies belonging to the BSE for the year spanning from 2009 -2010 to 2019 - 2020, which is segregated as prerecession period from 2009-2010 to 2014-2015 and post recession period from 2015-2016 to 2019-2020. Overall, 30 companies, which satisfied all parameters, were utilized for the study.

Statistical Methods

Durbin Watson test has been used in this study to test if the data are having time series influence or not. If the data are stationary, then multiple recession analysis can be done, otherwise we have to go for panel recession. SPSS 20.0 software has been used to derive the correlation matrix between the financial leverage (which is taken as dependent variable) and the independent variables for both the pre and post recession period. With the help of this matrix, multi collinearity problem has been investigated. The correlation between the independent variable should be least for running multiple recession analysis. If the correlation among the independent variable is very high, then multicollinearity problem is assumed to exist and we cannot continue with the multiple recession analysis. High correlation has been defined in different researchers. Lewis-beck (1980) stated that if the correlation between the independent variables is equal to or more than .80, then multicollinearity problems will be assumed to exist. This reference has been used in this research article. Thus, thought correlation matrix, multi- collinearity problem has been investigated and then multiple recessions have been applied taking one dependent variable (financial leverage) and 10 independent variables.

Variables taken in the study

Financial leverage is taken as a dependent variable in this research paper. Financial leverage is defined as average total assets divided by average total debt. Total debt includes the sum total of both borrowings and currently liability and provisions. It has been an endeavor in this study so as to understand the determinants of financial leverage by taking 10 independent variables. The table 1 consists of the details

regarding the dependent and the independent variables taken for the study. The independent variable taken in the study may have some impact on financial leverage.

Tangibility

Tangibility has been defined in this research paper as average net fixed assets and average total assets. The trade off theory assumes a positive relation between tangibility and financial leverage.

Profitability

A return on assets has been taken as a proxy for profitability in this paper. One of the important parameters for measuring the financial performance of a firm is by profitability. The tradeoff theory indicates a positive relationship between profitability and financial leverage. Pecking off theory, which prefers internal financing to debt component as source of finance, has profitability and financial leverage are negatively related to each other.

Size of the firm

Some of the major studies in the past have indicated a relation between size of the firm and financial leverage. Trade off basically states a positive relationship between size and financial leverage. A larger sized firm has better debt bearing capacity, but pecking order theory emphasized that size and financial leverage are negatively related to each other. Two proxies have been used for "size of the firm" in this research study, that is, log (total sales) and log (total assets).

Interested coverage ratio: interest coverage ratio has been defined in this project as the ratio between average earnings before interest and tax and average interest paid. Positive relation between interest coverage ratio and average financial leverage is supporting by the tradeoff theory, but on the other hand, the pecking order theory emphasizes that interest coverage ratio and financial leverage are negatively related to each other.

Dividend Payout Ratio

Dividend payout ratio is defined as the ratio between dividend and total income available to shareholders (profit after tax). Here, dividend includes only dividend paid and proposed. The tradeoff theory states that dividend payout ratio and financial leverage are positively related to each other.

Non Debt tax shield

Non debt tax shield has been defined in this article as the ratio between the depreciation and total assets. It is the tax deduction enjoyed by the business in the form of depreciation. Tradeoff theory confirms a negative relationship between financial leverage and non debt tax shield.

Degree of Operating Leverage

Increase in degree of operating leverage in turn increases the fluctuation in the future profit earning. Operating leverage and debt level in capital structure are negatively related to each other. There is a greater chance that the business failure will increase if the degree of operating leverage increases. Hence, the organization will prefer lesser debt in the capital structure. Both the pecking order theory and tradeoff theory confirms a negatively relationship between degree of operating leverage and financial leverage.

Growth rate

Growth rate is an important determinant of capital structure. Pecking order theory confirms a positive relationship between the growth rate (assets) and financial leverage. It states that the highly growth oriented firms will prefer more debt in their capital structure as their profitability will allow them a cushion against the cost of debt. Thus, if the growth opportunities are less, the organization will prefer lesser debt in the capital structure and it will rely more on internal financing. Trade off theory suggests a negative relationship between growth rate (assets) and financial leverage. If the growth opportunities increase, the firm will prefer less leverage and retained more profit in the business.

Business risk

One of the important variables in financial from dominant knowledge is business risk. It is defined as the coefficient of variables of earnings before interest and tax. With the increases of business risk, the volatility of the earning will also increase. Hence, the firm will prefer lesser debt in the capital structure because of increased business risk. Thus, the company will rely more internal financing rather than debt as a source of financing. A negative relation is expected between business risk and financial leverage.

Third Module

Concept of Capital Structure

The capital structure of a company is made up of debt and equity securities that comprise a firm's financing of its assets. It is the permanent financing of a firm represented by long-term debt, preferred stock and net worth. So it relates to the arrangement of capital and excludes short-term borrowings. It denotes some degree of permanency as it excludes short-term sources of financing. The relative proportion of various sources of funds used in a business is termed as financial structure. Capital structure is a part of the financial structure and refers to the proportion of the various long-term sources of financing. It is concerned with making the array of the sources of the funds in a proper manner, which is in relative magnitude and proportion.

Meaning

The term capital structure refers to the percentage of capital (money) at work in a business by type. Broadly speaking, there are two forms of capital: equity capital and debt capital.

Each type of capital has its benefits and drawbacks and a substantial part of wise corporate stewardship and management is attempting to find the perfect capital structure regarding risk/reward payoff for shareholders. This is true for Fortune_500 companies as well as small business owners trying to determine how much of their start-up money should come from a bank loan without endangering the business.

Table 2. List of dependent and independent variables used in the study

Category	Variable code	Variable name	Details
Dependent	FL	Financial leverage	Average total debt/average total assets
Independent	FL	Interest coverage ratio	Average PBIT/average interest paid
	Profit-ability	Return on assets	Average PBIT/average total assets
	BR	Business risk	Standard deviation of PBIT/average PBIT
	GR	Growth rate (assets)	Compound growth rate of total assets
	DOL	Degree of operating leverage	% change in PBIT to % change in sales
	Size_1	Size of the firm (1)	Log (average total sales)
	Size_2	Size of the firm (2)	Log(average total assets)
	TAN	Tangibility	Average net fixed assets/average total assets
	NDTS	Non debt tax shield	Average depreciation/average total assets

	DPR	Dividend payout ratio	Average dividend/average PAT (Profit after Tax)
--	-----	-----------------------	---

Equity Capital

Equity capital refers to money put up and owned by the shareholders (owners). Typically, equity capital consists of two types:

- **Contributed capital:** The money that was originally invested in the business in exchange for shares of stock or ownership
- **Retained earnings:** Profits from past years that have been kept by the company and used to strengthen the balance sheet or fund growth, acquisitions, or expansion

Many consider equity capital to be the most expensive type of capital a company can use because its “cost” is the return the firm must earn to attract investment. A speculative mining company that is looking for silver in a remote region of Africa may require a much higher return on equity to get investors to purchase the stock than a long-established firm such as Procter & Gamble, which sells everything from toothpaste and shampoo to detergent and beauty products.

Debt Capital

The debt capital in a company’s capital structure refers to borrowed money that is at work in the business. The cost depends on the health of the company’s balance sheet—a triple AAA rated firm can borrow at extremely low rates vs. a speculative company with tons of debt, which may have to pay 15% or more in exchange for debt capital. There are different varieties of debt capital:

- **Long-term bonds:** Generally considered the safest type because the company has years, even decades, to come up with the principal while paying interest only in the meantime.
- **Short-term commercial paper:** Used by giants such as Wal-Mart and General Electric, this amounts to billions of dollars in 24-hour loans from the capital markets to meet day-to-day working capital requirements such as payroll and utility bills.
- **Vendor financing:** In this instance, a company can sell goods before they have to pay the bill to the vendor. This can drastically increase return on equity but costs the company nothing. One secret to Sam Walton’s success at Wal-Mart was selling Tide detergent before having to pay the bill to Procter & Gamble, in effect, using P&G’s money to grow his retail enterprise.

- Policyholder “float”: In the case of insurance companies, this is money that doesn’t belong to the firm but that it gets to use and earn an investment on until it has to pay it out for auto accidents or medical bills. The cost of other forms of capital in the capital structure varies greatly on a case-by-case basis and often comes down to the talent and discipline of managers.

Capital Structure

A company’s capital structure points out how its assets are financed. When a company finances its operations by opening up or increasing capital to an investor (preferred shares, common shares, or retained earnings), it avoids debt risk, thus reducing the potential that it will go bankrupt. Moreover, the owner may choose debt funding and maintain control over the company, increasing returns on the operations.

Debt takes the form of a corporate bond issue, long-term loan, or short-term debt. The latter directly impacts the working capital. Having said that, a company that is 70% debt-financed and 30% equity-financed has a debt-to-equity ratio of 70%; this is the leverage. It is very important for a company to manage its debt and equity financing because a favorable ratio will be attractive to potential investors in the business.

From a technical perspective, the capital structure is defined as the careful balance between equity and debt that a business uses to finance its assets, day-to-day operations and future growth.

From a tactical perspective however, it influences everything from the firm’s risk profile, how easy it is to get funding, how expensive that funding is, the return its investors and lenders expect and its degree of insulation from microeconomic business decisions and macroeconomic downturns. By design, the capital structure reflects all of the firm’s equity and debt obligations. It shows each type of obligation as a slice of the stack. This stack is ranked by increasing risk, increasing cost and decreasing priority in a liquidation event (e.g., bankruptcy).

For large corporations, it typically consists of senior debt, subordinated debt, hybrid securities, preferred equity and common equity. Any company’s capital structure serves several key purposes.

First and foremost, it’s effectively an overview of all the claims that different players have on the business. The debt owners hold these claims in the form of a lump sum of cash owed to them (i.e., the principal) and accompanying interest payments. The equity owners hold these claims in the form of access to a certain percentage of that firm’s future profit.

Secondly, it is heavily analyzed when determining how risky

it is to invest in a business and therefore, how expensive the financing should be. Specifically, capital providers look at the proportional weighting of different types of financing used to fund that company’s operations.

For example, a higher percentage of debt in the capital structure means increased fixed obligations. More fixed obligations result in less operating buffer and greater risk. And greater risk means higher financing costs to compensate lenders for that risk (e.g., 14% interest rate vs 11% interest rate).

Consequently, all else equal, getting additional funding for a business with a debt-heavy capital structure is more expensive than getting that same funding for a business with an equity-heavy capital structure.

“Capital structure is essentially concerned with how the firm decides to divide its cash flows into two broad components, a fixed component that is earmarked to meet the obligations toward debt capital and a residual component that belongs to equity shareholders”-P. Chandra.

Definition - What does Capital Structure mean?

Capital structure refers to a company’s outstanding debt and equity. It allows a firm to understand what kind of funding the company uses to finance its overall activities and growth. In other words, it shows the proportions of senior debt, subordinated debt and equity (common or preferred) in the funding. The purpose of capital structure is to provide an overview of the level of the company’s risk. As a rule of thumb, the higher the proportion of debt financing a company has, the higher its exposure to risk will be. Capital structure is commonly known as the debt-to-equity ratio. Capital structure is the mix of the long term sources of funds used by the firm. It is made up of debt and equity securities and refers to permanent financing of a firm. It is composed of long term debt, preference share capital and shareholders fund.

“Capital structure is essentially concerned with how the firm decides to divide its cash flows into two broad components, a fixed component that is earmarked to meet the obligations toward debt capital and a residual component that belongs to equity shareholders”-P. Chandra.

“Capital structure of a company refers to the composition or make up of its capitalization and it includes all long term capital resources viz., loans, reserves, shares and bonds” Gerstenberg.

Capital structure as, “balancing the array of funds sources in a proper manner, i.e. in relative magnitude or in proportions”- Keown et al.

Hence capital structure implies the composition of funds raised from various sources broadly classified as debt and equity. It may be defined as the proportion of debt and

equity in the total capital that will remain invested in a business over a long period of time. Capital structure is concerned with the quantitative aspect. A decision about the proportion among these types of securities refers to the capital structure decision of an enterprise.

Importance of the Capital Structure

Decisions relating to financial the assets of a firm are very crucial in every business and the financial managers is often caught in the dilemma of what the optimum proportion of debt and equity should be. As a general rule there should be a proper mix of debt and equity capital in financing the firm's assets. Capital structure is usually designed to serve the interest of the equity shareholders.

Description

Value maximization: capital structure maximizes the market value of a firm, i.e in a firm having a properly designed capital structure the aggregate value of the claims and ownership interests of the shareholders are maximized.

Cost minimization

Capital structure minimizes the firm's cost of capital or cost of financing. By determining a proper mix of funds sources, a firm can keep the overall cost of capital to the lowest.

Increase in share price: capital structure maximizes the company's market price of share by increasing earnings per share of the ordinary shareholders. It also increases dividend receipt of the shareholders.

Investment opportunity

Capital structure increases the ability of the company to find new wealth-creating investment opportunities. With proper capital gearing, it also increases the confidence of suppliers of debt.

Growth of the country

capital structure increases the country's rate of investment and growth by increasing the firm's opportunities to engage in future- creating investment.

Increases in value of the firm

A sound capital structure of a company helps to increases the market price of shares and securities which, in turn, lead to increase in the value of the firm.

Utilization of available funds

A good capital structure enables a business enterprise to utilize the available funds fully. Properly designed capital structures ensure the determinants' of the financial requirements' of the firm and raise the firm.

Maximization of available funds

A sound capital structure enables management you increase the profits of a company in the form of higher return to the

equity shareholders i.e. increasing in earning per share. It can be done by mechanism of trading on equity.

Minimization of cost of control

A sound structure of any business enterprises maximizes shareholders' wealth through minimization of the overall cost of capital. This can also be done by incorporation long-term debt capital in the capital structure as the cost of debt capitals lower than the cost of equity or preference share capital since the interest on debt is tax deductible.

Solvency or liquidity position

It never allows a business enterprise to go for too much rising of debt capital because, at the time of poor earning, the solvency is distributed for compulsory payment of interest to the debt-supplier.

Flexibility

A sound capital structure provides a room for expansion or reduction of debt so that, according to changing conditions, adjustment off capital can be made.

Table 3

Value maximization	Cost minimization
Cost minimization	Investment opportunity
Growth of the country	Increase in value of the firm
Utilization of available funds	Maximization of cost of capital
Solvency or liquidity position	Flexibility
Undistributed controlling	Minimization of financial risk

Undisturbed controlling

It does not aloe the equity shareholder control on business to be diluted.

Minimization of financial risk

If debt component increase in the capital structure of a company, the financial risk also increases good financial capital structure helps in protecting the business enterprise from such financial risk through a judicious mix of debt and equity in the capital structure.

Theory related to capital structure

Pecking order theory

History

Pecking order theory was first suggested by Donaldson in 1961 and it was modified by Stewart C. Myers and Nicolas Majluf in 1984. It states that companies prioritize their sources of financing (from internal financing to equity) according to the cost of financing, preferring to raise equity

as a financing means of last resort. Hence, internal funds are used first and when that is depleted, debt is issued and when it is not sensible to issue any more debt, equity is issued.

Theory

Pecking order theory starts with asymmetric information as managers know more about their company's prospects, risks and value than outside investors. Asymmetric information affects the choice between internal and external financing and between the issue of debt or equity. Therefore, there exists a pecking order for the financing of new projects.

Asymmetric information favours the issue of debt over equity as the issue of debt signals the board's confidence that an investment is profitable and that the current stock price is undervalued (were stock price over-valued, the issue of equity would be favoured). The issue of equity would signal a lack of confidence in the board and that they feel the share price is over-valued. An issue of equity would therefore lead to a drop in share price. This does not however apply to high-tech industries where the issue of equity is preferable due to the high cost of debt issue as assets are intangible.

Trade off theory

The trade-off theory of capital structure is the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. The classical version of the hypothesis goes back to Kraus and Litzenberger who considered a balance between the dead-weight costs of bankruptcy and the tax saving benefits of debt. Often agency costs are also included in the balance. This theory is often set up as a competitor theory to the pecking order theory of capital structure. A review of the literature is provided by Frank and Goyal.

An important purpose of the theory is to explain the fact that corporations usually are financed partly with debt and partly with equity. It states that there is an advantage to financing with debt, the tax benefits of debt and there is a cost of financing with debt, the costs of financial distress including bankruptcy costs of debt and non-bankruptcy costs (e.g. staff leaving, suppliers demanding disadvantageous payment terms, bondholder/stockholder infighting, etc.). The marginal benefit of further increases in debt declines as debt increases, while the marginal cost increases, so that a firm that is optimizing its overall value will focus on this trade-off when choosing how much debt and equity to use for financing.

Agency theory

The principal-agent problem, in political science and economics (also known as agency dilemma or the agency problem) occurs when one person or entity (the "agent"), is able to make decisions and/or take actions on behalf of, or that impact, another person or entity: the "principal".

This dilemma exists in circumstances where agents are motivated to act in their own best interests, which are contrary to those of their principals and is an example of moral hazard.

Common examples of this relationship include corporate management (agent) and shareholders (principal), elected officials (agent) and citizens (principal), or brokers (agent) and markets (buyers and sellers, principals). Consider a legal client (the principal) wondering whether their lawyer (the agent) is recommending protracted legal proceedings because it is truly necessary for the client's well being, or because it will generate income for the lawyer. In fact the problem can arise in almost any context where one party is being paid by another to do something where the agent has a small or nonexistent share in the outcome, whether in formal employment or a negotiated deal such as paying for household jobs or car repairs.

The problem arises where the two parties have different interests and asymmetric information (the agent having more information), such that the principal cannot directly ensure that the agent is always acting in their (the principal's) best interest, particularly when activities that are useful to the principal are costly to the agent and where elements of what the agent does are costly for the principal to observe (see moral hazard and conflict of interest). Often, the principal may be sufficiently concerned at the possibility of being exploited by the agent that they choose not to enter into the transaction at all, when it would have been mutually beneficial: a suboptimal outcome that can lower welfare overall. The deviation from the principal's interest by the agent is called "agency costs".

The agency problem can be intensified when an agent acts on behalf of multiple principals (see multiple principal problem). When one agent acts on behalf of multiple principals, the multiple principals have to agree on the agent's objectives, but face a collective action problem in governance, as individual principals may lobby the agent or otherwise act in their individual interests rather than in the collective interest of all principals. As a result, there may be free-riding in steering and monitoring, duplicate steering and monitoring, or conflict between principals, all leading to high autonomy for the agent. This has been coined the multiple principal problem and is a serious problem in particularly the public sector, where multiple principals are common and both efficiency and democratic accountability are undermined in the absence of salient governance. Various mechanisms may be used to align the interests of the agent with those of the principal. In employment, employers (principal) may use piece rates/commissions, profit sharing, efficiency wages, performance measurement (including financial statements), the agent posting a bond, or the threat of termination of employment to align worker interests with their own.

Table 4.Pre- results (2009-2010:2013-2014)

	BR	DOL	DP	FL	GR	ICR	NDTS	ROA	SF1	SF2	TAN
Mean	0.4772	0.8394	0.3279	0.2585	14.8357	120.6225	0.0228	0.1492	9.8455	10.7620	0.2661
Median	0.2437	0.8285	0.2773	0.1281	14.4947	10.37152	0.0207	0.1199	10.2640	10.5346	0.2323
Maximum	4.6148	5.6894	0.9228	0.8766	26.9862	932.7109	0.0806	0.3692	12.6252	14.1479	0.8504
Minimum	0.0805	-2.0020	0.0433	0.0000	-0.6961	-8.7540	0.0002	0.0078	5.9610	8.4897	0.0043
Std. Dev.	0.8230	1.1379	0.2159	0.3037	6.9594	246.8580	0.0202	0.1168	1.3839	1.4346	0.2147
Skewness	4.4780	2.1186	1.0929	11259	-0.3769	2.1558	1.3326	0.4748	-0.8667	0.4053	0.7312
Kurtosis	22.8615	13.2576	3.6011	2.7194	2.7008	6.3079	4.5610	1.8907	3.9361	2.3911	3.0864
Jarque-Bera	593.3606	153.9654	6.4235	6.4365	0.8220	36.9157	11.9244	2.6652	4.8511	1.2846	2.6825
Probability	0.0000	0.0000	0.0403	0.0400	0.6630	0.0000	0.0026	0.2638	4.8511	0.5261	0.2615
Sum	14.3172	25.1819	9.8358	7.7553	445.0707	3618.6740	0.6832	4.4753	295.3659	322.8602	7.9827
Sum Sq. Dev.	19.6408	37.5491	1.3520	2.6752	1404.5519	1767228.0000	0.0118	0.3958	55.5430	59.6810	1.3363
Observations	30	30	30	30	30	30	30	30	30	30	30
Coefficient of variables	1.7244	1.7244	0.6586	0.6586	0.46691	2.0465	0.8850	0.7831	0.1406	59.6810	1.3363

Table 5.Pre-Correlation Matrix

	BR	DOL	DP	FL	GR	ICR	NDTS	ROA	SF1	SF1	TAN
BR	1.0000	-0.4476	0.1430	-0.0771	0.1158	-0.0519	0.1146	-0.2081	-0.3583	-0.2278	-0.1446
DOL	-0.4476	1.0000	0.4159	-0.2981	-0.2946	0.1141	-0.0648	0.5326	-0.3614	-0.1813	-0.0109
DP	0.1430	0.4159	1.0000	-0.2981	-0.5383	0.3517	0.0092	0.5404	-0.2142	-0.2641	-0.0699
FL	-0.0771	-0.2981	-0.3640	1.0000	0.2753	-0.3770	-0.4867	-0.7497	0.0928	0.7411	-0.3175
GR	0.1158	-0.2946	-0.5383	0.2753	1.0000	-0.2139	-0.2681	0.1392	-0.1868	-0.0405	-0.0519
ICR	-0.1441	0.1141	0.3517	-0.3770	-0.2139	1.0000	0.3373	0.5620	0.1726	-0.1578	0.1146
NDTS	-0.1893	-0.0648	0.0092	-0.4867	-0.2681	0.3373	1.0000	0.2296	0.2625	-0.2844	0.6059
ROA	-0.2081	0.5326	0.5404	-0.7497	-0.1392	0.5620	0.2296	1.0000	-0.1421	-0.6261	0.0124
SF1	-0.3583	-0.3614	-0.2142	0.0928	0.1868	0.1726	0.2625	-0.1421	1.0000	0.5473	0.1630
SF1	-0.2278	-0.1813	-0.2142	0.7411	-0.0405	-0.1578	0.2625	-0.6261	1.0000	1.0000	0.1630
TAN	0.1446	-0.0109	-0.0699	-0.3175	-0.0519	0.1146	0.6059	-0.6261	0.1630	-0.1455	1.0000

Fourth module

Interpretation and analysis

The given above Table 4 includes the results of the given independent variables and dependent variable of capital structures. The following are the indication and explanation on the Table 4.

1. Mean: It implies the average and it is sum of set of data divided by the number of data. MEAN can be an effective tool when compared to different sets of data. The highest value from the variables are ICR=120.6225, GR=14.8357 and the lowest value are ROA=.1492, FL=.2585.
2. Median: It is the middle value when the data is arranged in numerical order. It is another effective tool to compare different sets of data. The negative impact of extreme values is lesser on median compared to mean. The highest variables with the value are GR=14.4947, SF (2) =10.5346 and the lowest value are ROA=0.1199, FL=0.1281.
3. Maximum: The highest value based variables are ICR=932.7109, GR=26.9862 and the lowest value based variables are NDTS=0.0806, ROA=0.3692.
4. Minimum: The highest value from the above variables are SF (2) =8.4897, SF (1) =5.9610 and the lowest value based variables are ICR=-8.7540, DOL=-2.0020.
5. Standard deviation: It is the measure of the average distance between the values of the data in the set and the mean. The higher standard deviation from the variables are ICR=246.8580, GR=6.9594 and the lowest standard deviation are NDTS=0.0202, ROA=0.1168
6. Skewness: It measures whether the data are heavy lopsidedness or lightly lopsidedness relative to a normal distribution. It indicates the shape of the distributed data. The highest variables are BR=4.4780, ICR=2.1558 and the lowest are SF (1) =-0.8667, GR=-0.3769.
7. Kurtosis: It is used to measure whether the data are heavy-tailed or light tailed relative to a normal distribution. It measures the data peak and flatness of the normal distribution. The highest value are BR=22.8615, DOL=13.2576 and the lowest are NDTS=1.8907, SF (2) =2.3911.
8. Jarque-bera test: This test is a goodness of fit test of whether sample data have the skewness and kurtosis matching the normal distribution. The highest values from the variables are BR=593.3606, DOL=153.9654 and the lowest values are GR=0.8220, SF (1) =1.2846.
9. Probability: The values of the variable are based on the underlying probability distribution. The highest probability variables are SF (1) =0.5261, ROA=0.2638 and lowest are BR=0.000, DOL=0.000.
10. Sum: The total value of the variables influenced with the higher value are ICR=3618.6740, GR=445.0707 and lowest value are NDTS=.6832, ROA=4.4753.
11. Sum of square deviation: the highest value are ICR=1767228.0000, GR=1404.5510 and lowest value are NDTS=0.0118, ROA=0.3958.
12. Observation: The total variables in the given table.

no-1 all the variables total observations are 30 taken into consideration.

13. Co-efficient of variables: It is the ratio between the standard deviation to the mean. The highest variable are ICR=2.0465, BR=1.7244 and the lowest variables are SF (1)0.1406, SF (2) =0.1333.

The following data represented in the table. No 4 are the pre-results of the dependent and independent variable that affects the capital structure of the companies.

A correlation matrix is a table showing co-efficient between the variables taken in the data analysis. A correlation matrix is used to summarize data to make key decisions including choice of correlation statistic, coding of the variables and treatment of missing data and presentation. Typically a correlation matrix is "square" with the same variables shown in the rows and columns. This shows the correlation between the different variables. The given table no. 5 the correlation matrix helps to identify the relationship between the different variables with each other variable along with the given data.

Table 6.Pre-Regression table

	Coefficient	Std. Error	t-ratio	p-value
Const	0.0543	0.3059	0.1776	0.8607
ROA	-1.21755	0.4839	-2.516	0.0201
BR	-0.169220	0.0401	-4.223	0.0004
GR	1.0172	0.4658	2.1840	0.0405
DOL	-0.0956939	0.0407	-2.353	0.0284
SF1	-0.0989235	0.0361	-2.740	0.0123
SF2	0.1224	0.0360	3.3960	0.0027
TAN	-0.273430	0.1096	-2.495	0.0210
DPR	0.3824	0.1753	2.1820	0.0406

R-squared	0.906501
Adjusted R-squared	0.870882
P-value(F)	3.86e-09x
Durbin-Watson	1.722701

In the given Table 5, the given matrix is the result of different variables multiplied with each and every factor variables which affects the companies and their capital structure. The line of 1.0000 from left top of the matrix till the right bottom of the matrix a cross line slopes downwards with the same results of 1.0000. This indicates that in the given matrix (Table 5) the variables which are calculated with it are more relative than any other variables in the given data.

Regression analysis is the powerful statistical method that allows you to determine the relationship between two or more variables. The examination of one or more independent variables and dependent variables on the

given data. It helps and allows you to determine which factors matter most and factor can be ignored.

In order to understand the regression analysis it is necessary to understand the following terms: dependent variables and independent variables.

Dependent variables: the main factor that we are trying to understand or predict. (I.e. financial leverage).

Independent variables: the factors that are hypothesized and have an impact on the dependent variable.(I.e. ICR, ROA, BR, GR, DOL, SF(1), SF(2), TANG, NDTs, DPR.).

In the given table 6, only the variables that are influenced by the dependent variables with that of independent variable are included with data as per there analyzed values of the calculated regression values. In the given table 6, the dependent variables that are influenced and accepted with given regression test condition's of the data which includes the variables that are ROA, BR, GR, DOL, SF(1), SF(2), TAN and DPR. These are the variables that are accepted with given conditions along with the given data. These factors are further utilized for the statistical method and data analyzed with following tests which includes r-square value 0.906501, adjusted R-squared calculated value 0.870882, P-value values 3.86e-09x (negative value) and Durbin Watson test value 1.722701. Where these test are proved and accepted with data analyses and results thereof.

The given Table 7, includes the results of different tests done to prove the given statistical data. It includes no of test done, name of the tests, null hypothesis (Ho), p-value or results of the test and acceptance or rejection of the null hypothesis after the examination of the data. The given null hypothesis of the specified tests are accepted only when the given results or p-value is more than or equal to 0.05 (p-value>=0.05) and the null hypothesis is rejects when the given p-value or results are less than 0.05(p-value<0.05). these are the conditions of acceptance and rejection of the given test between the dependent and independent variables.

The following are the name of the tests and their decision of acceptance and rejection based on the hull hypothesis criteria.

Reset Test: This is the general specification test for finding the relationship of the independent and dependent variables. The given null hypothesis states that "specification is adequate". The result of the given data is 5.03e-05(negative value). As the results is less than the criteria (I, e.5.03e-05<0.05). Hence the null hypothesis is rejected.

Breuch Pagan test for Heteroscedasticity: The null hypothesis of the test statistic has a p-value below the appropriate threshold. The given null hypothesis states "heteroskrdasticity is not present" between the variables.

Table 7.Pre- test analysis

S. No.	Test	HO	P-value/ Result	Acceptance/ Rejection
1.	Rest test	Specification is adequate	5.13E-05	Rejected
2.	Breusch-pagan test for heteroskedasticity	Heteroskedasticity not nresent	0.66398	Accepted
3.	normality of residuals	Error is normally distributed	0.257238	Accepted
4.	chow test for structural	Break at obsevation no structural break	0.884201	Accepted
5.	LM test for autocorrelation upto order-1	No autocorrelation	0.534286	Accepted
6.	ARCH of order-1	No ARCH effect is present	0.543447	Accepted
7.	QLR test for structrual break	No structural break	0.142242	Accepted
8.	CUSUM test for parmeter stability	No change in parameters	0.0918764	Accepted

The results of the test is 0.66398 which is more than the accepted criteria (i.e. $0.66398 \geq 0.05$). Hence the given null hypothesis is accepted.

Normality of Residual: If the data set is well modeled by a normal distribution. The null hypothesis of normality states that “error is normally distributed”. The given results of the test statics is 0.257238 which is more than the stated criteria (i.e. $0.257238 \geq 0.05$). Hence the null hypothesis is accepted.

Chowtest for structural Distribution: As the given data is on the basis of pre and post calculation here the term is assumed to be the same in both periods. The null hypothesis states that “no structural break”. The results of the test is 0.884201 greater then 0.05 (i.e. $0.884201 \geq 0.05$). Hence the null hypothesis is accepted.

LM for auto Correlation up to order 1: The null hypothesis of the given data states that “no autocorrelation”. The results of the given data is 0.534286 greater than 0.05 (i.e. $0.534286 \geq 0.05$). Hence the null hypothesis is accepted.

ARCH of Order 1: The null hypothesis of the test states that” no ARCH effect is present between the dependent and independent variables. The results of the given data and test is 0.543447 which is more than the 0.05 criteria (i.e. $0.543447 \geq 0.05$). Hence the null hypothesis is accepted.

QLR test for Structural break: The null hypothesis of the given data states “no structural break”. The results of the given test is 0.142243 which is greater than the 0.05 criteria (I.e. $0.142243 \geq 0.05$). Hence the null hypothesis is accepted.

Cusum Test for Parameter Stability: The null hypothesis of the given data states” no change in parameters”. The result of the given data is 0.0918764 which is greater than the 0.05 (i.e. 0.0918764). The null hypothesis is accepted.

Variance Influencing Factors (VIF): VIF detects

multicollinearity in regression analysis. Multicollinearity is when there’s correlation between independent variables in a model.

Table 8.Pre variance influencing factors

Independent factors	p-value	Correlates results
ROA	7.782	Correlates results
BR	2648	Highly correlated
GR	2.559	Moderated correalted
DOL	5.212	Highly correalted
SF1	6.077	Highly correalted
SF2	6.511	Highly correalted
TAN	1.348	Moderated correalted
DPR 7.782	3.486	Moderated correalted

$VIF(j) = 1 / (1 - R(j)^2)$, where $R(j)$ is the multiple correlation coefficient.

Between variable j and the other independent variables.

Variance inflation factors ranged from 1 upwards. The numerical value for VIF tells you what percentage of the variance is inflated for each co-efficient. In the given table we can justify that all the dependent variables are calculated with each other and every factor of the variables. From the table no 8, specifies clearly that the given variables are correlated with the given VIF tests under which the variables that results are between 5-10 are highly correlated. The results are given after the examination and calculation of the data under which the variables that highly correlated are ROA=7.782, DOL=5.212, SF (1)=6.077 and SF (2)=6.511. these variables are more relative and acceptable value of the variables.

Table 9.Post Descriptive

Post Descriptive Table											
	BR	DOL	DP	FL	GR	ICR	NDTS	ROA	SF1	SF2	TAN
Mean	0.2267	0.8154	0.2601	0.2692	11.4477	128.0691	0.0224	0.1423	10.3133	11.3845	0.2618
Median	0.1956	0.9979	0.2750	0.1233	12.0887	4.2773	0.0191	0.0887	10.7088	11.1079	0.2490
Maximum	4.4687	1.4257	0.9496	0.8881	30.9965	1863.7790	0.0618	0.6486	12.5882	14.8569	0.8491
Minimum	-2.8960	-0.3718	-1.7475	0.0000	-3.7109	-253.1280	0.0008	-0.0165	5.7089	9.2249	0.0040
Std. Dev.	1.1439	0.5045	0.4380	0.3203	6.9492	368.0821	0.0175	0.1555	1.4029	1.4666	0.2277
Skewness	0.6263	-1.3160	-3.1356	0.9201	0.1520	3.7424	0.5369	1.4596	-1.3945	0.4611	0.8608
Kurtosis	10.0806	3.6277	16.0957	2.3060	3.8916	17.8430	2.4518	5.0095	5.5155	2.3704	3.0461
Jarque-Bera	64.6300	9.1520	263.5314	4.8353	1.1093	345.4200	1.8167	15.6996	17.6325	1.5586	3.7076
Probability	0.0000	0.0103	0.0000	0.0891	0.5743	0.0000	0.4032	0.0004	0.0001	0.4587	0.1566
Sum	6.7998	24.4626	7.8024	8.0763	343.4301	3842.0720	0.6729	4.2685	309.4000	341.5334	7.8532
Sum Sq. Dev.	37.9447	7.3807	5.5633	2.9758	1400.4400	3929049.0000	0.0089	0.7009	57.0786	62.3777	1.5040
Observations	30	30	30	30	30	30	30	30	30	30	30
Coefficient of variation	5.0467	0.6187	1.6841	1.1899	0.6070	2.8741	0.7806	1.0927	0.1360	0.1288	0.8700

The table 8, consists of the post calculation of the descriptive values and variables determining their basic data analysis are done in order to determine the relationship and difference between the dependent and independent variable.

1. **MEAN:** It is the efficient tool used to determine the values and relationship of the variables between each other. In the table.no-5 the highest carried mean for the variables are ICR=128.0691, GR=11.4477 and the lowest variable values are NDTs=0.0224, ROA=0.1423.
2. **Median:** It is the tool used to find out the middle values of the variables or statistical data given and provided. It also referred as another tool to compare the different sets of data. The highest value of the variable are GR=12.0887, SF (1)= 11.7088 and the lowest variable are NDTs=0.0191, BR= 0.01956.
3. **Maximum:** The highest values of the variable from the given data are ICR= 1863.7790, GR= 30.9965 and the lowest values of the variable are NDTs= 0.0618, ROA=0.6486.
4. **Minimum:** The highest values of the variable from the given data are SF (1)= 9.2249, SF (2)= 507089 and the lowest values in the data are GR= -3.7109, BR= -2.8960.
5. **Standard deviation:** A higher standard deviation indicated that the given data points are spread out over a large range of values. The highest value are ICR=368.0821, GR=6.9492 and lowest values of the variable are NDTs=0.0175, DP=0.4380.
6. **Skewness:** It measure of the data that are heavy lopsidedness and light lopsidedness related to a normal distribution. It is a curve that indicates the data are analyzed and assured. The longest slop cure are ICR=3.7424, GR=1.4596 and the lowest variables with lowest curve are ICR= -3.1356, DOL= -1.3160.
7. **Kurtosis:** It measures whether the data are heavy tailed or light tailed relative to a normal distribution. It ensures and finds out the flatness and peakness of the data. The highest peakness of the values of the variables are ICR=17.8430, DP=16.0957 and the flatness of the data are FL=2.3060, SF (2)= 2.3704.
8. **Jarque-bera:** It is the test that indicates the goodness of fit test of whether the sample data are matching with the skewness and kurtosis of normal distribution. The highest match of the samples are ICR=345.4200, DR=263.5314 and the lowest match of the samples are GR=1.1093, SF (2)= 1.5586.
9. **Probability:** It is the function that describes the possible values that random variables can assume. The highest probability of the variables are GR=0.5743, SF (2) =0.4587 and the lowest probability of the variables are BR=0.0000, DP= 0.0000.
10. **Sum:** The total of all the variables values that are calculated to know the overall results of the sample. In the given data base the highest value of the variables are ICR=3842.0720, GR=343.4301 and the lowest values are NDTs=0.6729, ROA= 4.2685.
11. **Sum square of deviation:** The highest values of the variables are ICR=3929049.000, GR=1400.4400 and the lowest values of the variable are NDTs=0.0089, ROA=0.7009.
12. **Observation:** The overall observations taken for the data interpretation are of 30 companies that is used for analyzing the data and results. The overall observations are 30.
13. **Co-efficient of variables:** It is the ratio between the standard deviation and mean. The highest value of the variables are BR=5.0467, ICR=2.8741 and the lowest values of the variable are SF (2) =0.1288, SF (1) =0.1360.

Table 10.Post Correlation matrix

	BR	DOL	DP	FL	GR	ICR	NDTS	ROA	SF1	SF2	TAN
BR	1.0000	-0.4476	0.1430	-0.0771	0.1158	-0.1441	-0.1893	-0.2081	-0.3583	-0.2278	-0.1446
DOL	-0.4476	1.0000	0.4159	-0.2981	-0.2946	0.1141	-0.0648	0.5326	-0.3614	-0.1813	-0.0109
DP	0.1430	0.4159	1.0000	-0.3640	-0.5383	0.3517	0.0092	0.5404	-0.2142	-0.2641	-0.0699
FL	-0.0771	-0.2981	-0.3640	1.0000	0.2753	-0.3770	-0.4867	-0.7497	0.0928	0.7411	-0.3175
GR	0.1158	-0.2946	-0.5383	0.2753	1.0000	-0.2139	-0.2681	-0.1392	-0.1868	-0.0405	-0.0519
ICR	-0.1441	0.1141	0.3517	-0.3770	-0.2139	1.0000	0.3373	0.5620	0.1726	-0.1578	0.1146
NDTS	-0.1893	-0.0648	0.0092	-0.4867	-0.2681	0.3373	1.0000	0.2296	0.2625	-0.2844	0.6059
ROA	-0.2081	0.5326	0.5404	-0.7497	-0.1392	0.5620	0.2296	1.0000	-0.1421	-0.6261	0.0124
SF1	-0.3583	-0.3614	-0.2142	0.0928	-0.1868	0.1726	0.2625	-0.1421	1.0000	0.5473	0.1630
SF2	-0.2278	-0.1813	-0.2641	0.7411	-0.0405	-0.1578	-0.2844	-0.6261	0.5473	1.0000	-0.1455
TAN	-0.1446	-0.0109	-0.0699	-0.3175	-0.0519	0.1146	0.6059	0.0124	0.1630	-0.1455	1.0000

Table 11. Post- correlation matrix

	Coefficient	Std. Error	t-ratio	p-value
Const	0.0257122	0.371932	0.06913	0.9455
ROA	-1.07546	0.371932	-3.635	0.0015
BR	-0.0356657	0.0307231	-3.635	0.2587
GR	0.00747675	0.0044414	-3.635	0.1071
DOL	-0.120352	0.0635683	-1.893	0.0722
SF1	-0.0815202	0.0235636	1.893	0.0023
SF2	-0.0815202	0.0330919	3.456	0.0024
NOTS	-4.75587	1.96806	-2.417	0.0249
OP	0.240059	0.101271	2.37	0.027
R-squared		0.8828		
Adjusted R-squared		0.8381		
P-value(F)		3.85E-08		
Durbin-Watson		1.6530		

A correlation matrix is a table showing co-efficient between the variables taken in the data analysis. A correlation matrix is used to summarize data to make key decisions including choice of correlation statistic, coding of the variables and treatment of missing data and presentation. Typically a correlation matrix is "square" with the same variables shown in the rows and columns. This shows the correlation between the different variables. In the given table.no-7 the correlation matrix helps to identify the relationship between the different variables with each other variable along with the given data.

In the given table 9, the given matrix is the result of different variables multiplied with each and every factor variables which affects the companies and their capital structure post years correlation matrix. The line of 1.0000 from left top of the matrix till the right bottom of the matrix a cross line

slopes downwards with the same results of 1.0000. This indicates that in the given matrix (table 9) the variables which are calculated with it are more relative than any other variables in the given data.

Table no. 10 Regression analysis is the powerful statistical method that allows you to determine the relationship between two or more variables. The examination of one or more independent variables and dependent variables on the given data .it helps and allows you to determine which factors matter most and factor can be ignored.

In order to understand the regression analysis it is necessary to understand the following terms: dependent variables and independent variables.

Dependent variables: the main factor that we are trying to understand or predict. (I.e. financial leverage).

Table 12. Post Test Analysis

S. No.	Tests	HO	p-value- results	Acceptance/ Rejection
1.	RESET test	Specification is adequate	0.0002	Rejection
2.	Breusch-pagan test for heteroskedasticity	Heteroskedasticity not nresent	0.9162	Acceptance
3.	Normality of residuals	Error is normally distributed	-3.635	Acceptance
4.	Chow test for structural	break at obsevation no structural break	0.8976	Rejection
5.	LM test for Sutocorrelation upto order-1	No autocorrelation	0.0762	Acceptance
6.	ARCH of order-1	No ARCH effect is present	0.1803	Acceptance
7.	QLR test for structrual break	No structural break	0.1273	Acceptance
8.	CUSUM test for parmeter stability	No change in parameters	0.3434	Acceptance

Independent variables: the factors that are hypothesized and have an impact on the dependent variable. (i.e. ICR, ROA, BR, GR, DOL, SF(1), SF(2), TANG, NDTs, DPR.)

In the given table 10 only the variables that are influenced by the dependent variables with that of independent variable are included with data as per there analyzed values of the calculated regression values. In the given table no 11 the dependent variables that are influenced and accepted with given regression test condition's of the data which includes the variables that are ROA, BR, GR, DOL, SF(1), SF(2), TAN and DPR. These are the variables that are accepted with given conditions along with the given data in post regression. These factors are further utilized for the statistical method and data analyzed with following tests which includes r-square value 0.8828, adjusted R- squared calculated value 0.8381, P-value values 3.85e-08(negative value) and Durbin Watson test value 1.6530. Where these test are proved and accepted with data analyses and results thereof.

The above given table no. 11 includes the results of different tests done to prove the given statistical data of post period. It includes no of test done, name of the tests, null hypothesis (Ho), p-value or results of the test and acceptance or rejection of the null hypothesis after the examination of the data. The given null hypothesis of the specified tests are accepted only when the given results or p-value is more than or equal to 0.05 ($p\text{-value} \geq 0.05$) and the null hypothesis is rejects when the given p-value or results are less than 0.05 ($p\text{-value} < 0.05$). these are the conditions of acceptance and rejection of the given test between the dependent and independent variables.

The following are the name of the tests and their decision of acceptance and rejection based on the hull hypothesis criteria.

Rest Test: This is the general specification test for finding the relationship of the independent and dependent variables. The given null hypothesis states that "specification is adequate". The result of the given data is 0.0002. As the results is less than the criteria (i, e. $0.0002 < 0.05$). Hence the null hypothesis is rejected.

Breuch Pagan test for Heteroskrdasticity: the null hypothesis of the test statistic has a p-value below the appropriate threshold. The given null hypothesis states "heteroskrdasticity is not present" between the variables. The results of the test is 0.9162 which is more than the accepted criteria (i.e. $0.9162 \geq 0.05$). Hence the given null hypothesis is accepted.

Normality of Residual: if the data set is well modeled by a normal distribution. The null hypothesis of normality states that "error is normally distributed". The given results of the test statics is 0.8976 which is more than the stated criteria

(i.e. $0.8976 \geq 0.05$). hence the null hypothesis is accepted.

CHOWTEST for structural distribution: as the given data is on the basis of pre and post calculation here the term is assumed to be the same in both periods. The null hypothesis states that "no structural break". The results of the test is 0.0486 lesser then 0.05 (i.e. $0.0486 \leq 0.05$). Hence the null hypothesis is rejected.

LM for auto correlation up to order 1: The null hypothesis of the given data states that "no autocorrelation". The results of the given data is 0.7962 greater than 0.05 (i.e. $0.7962 \geq 0.05$). Hence the null hypothesis is accepted.

ARCH of order 1: The null hypothesis of the test states that "no ARCH effect is present between the dependent and independent variables. The results of the given data and test is 0.1803 which is more than the 0.05 criteria (i.e. $0.1803 \geq 0.05$). Hence the null hypothesis is accepted.

QLR test for structural break: the null hypothesis of the given data states "no structural break". The results of the given test is 0.1273 which is greater than the 0.05 criteria (i.e. $0.1273 \geq 0.05$). Hence the null hypothesis is accepted.

Cusum Test for Parameter Stability: the null hypothesis of the given data states "no change in parameters". The result of the given data is 0.3434 which is greater than the 0.05 (i.e. $0.3434 \geq 0.05$). The null hypothesis is accepted.

Variance influencing factors (VIF): VIF detects multi collinearity in regression analysis. Multicollinearity is when there's correlation between independent variables in a model.

Table 13. Pre Variance influencing factors

Pre- variance Influencing factors		
Independent factors	p-value	Correlates results
ROA	7.782	Highly correlated
BR	2.648	Moderated correalted
GR	2.559	Moderated correalted
DOL	5.212	Highly correlated
SF1	6.077	Highly correlated
SF2	6.511	Highly correlated
TAN	1.348	Moderated correalted
DPR	3.486	Moderated correalted

$VIF(j) = 1 / (1 - R(j)^2)$, where $R(j)$ is the multiple correlation coefficient.

Between variable j and the other independent variables.

Variance inflation factors ranged from 1 upwards. The numerical value for VIF tells you what percentage of the variance is inflated for each co-efficient.

In the given table we can justify that all the dependent variables are calculated with each other and every factor of the variables of the post data analysis. From the table 13 specifies clearly that the given variables are correlated with the given VIF tests under which the variables that results are between 5-10 are highly correlated. The results are given after the examination and calculation of the data under which the variables that moderately correlated. But no results of the given table 13 are highly correlated under the test. The variables that moderately correlated with the results are ROA = 3.695, BR = 2.157, GR = 1.664, DOL = 1.909, SF(1) = 1.909, SF(2) = 4.114, NDTs = 2.073 and DP = 3.436. These statically data are moderately correlated but not highly correlated between 5-10.

Fifth Module

Finding and Solutions

1. Pre -descriptive analysis indicates the relationship of independent variables with the basic calculations where the value of mean = ICR, median = GR, maximum = ICR, minimum = SF (2), standard deviation = ICR, skewness = BR, kurtosis = BR, jarue-bera=BR, probability = SF (1), sum = ICR, sum square deviation = ICR and coefficient of variables = ICR.
2. Pre-correlation matrix explains the correlation between independent variables with each other independent variables.
3. Pre-regression analysis allows determining the relationship between 2 or more variables. The GR is highly correlated .where R-square 0.906501, adjusted R-square = 0.870882, P-value (f) = 3.86e-09x and Durbin Watson = 1.722701.
4. Pre-test analysis where statistical test under null hypothesis are accepted and rejected based on the accepted value 0.05.where RESET TEST is rejected and other test are accepted.
5. Pre-Variance influencing factor justify that all the dependent variables are calculated with each and every factor of the variable. Under these variables are highly correlated to ROA, DOL, SF (1) and SF (2). Where other variables are rejected.
6. Post-descriptive analysis where the value highest values of variables. Where mean = ICR, median = GR, maximum = ICR, minimum = SF (1), standard deviation = ICR, skewness = ICR, kurtosis=ICR, jarque-bera = ICR, probability = GR, sum = ICR, sum square = ICR and co-efficient of variables = BR.
7. Post-correlation matrix determines the correction between independent variables with each other.
8. Post-regression analysis where the highest value of the variables. Where DP is highly correlated. Where R- square = 0.8828, adjusted R- square = 0.8381, P-value (f) = 3.85e-08 and Durbin Watson = 1.6530.
9. Post-test analysis the variables are tested and verified based on the null hypothesis acceptance and rejection value i.e. 0.05. Where Reset Test is rejected and other test are accepted.
10. Post-variance influence factor justifies all the dependent variables are calculated under this no variables are highly correlated with any of the variables.

References

1. Haralayya B, Aithal PS. Performance Affecting Factors of Indian Banking Sector: An Empirical Analysis. *George Washington International Law Review* 2021; 7(1): 607-621.
2. Haralayya B, Aithal PS. Technical Efficiency Affecting Factors in Indian Banking Sector: An Empirical Analysis. *Turkish Online Journal of Qualitative Inquiry* 2021; 12(3): 603-620.
3. Haralayya B, Aithal PS. Implications Of Banking Sector On Economic Development In India. *George Washington International Law Review* 2021; 7(1): 631-642.
4. Haralayya B, Aithal PS. Study on Productive Efficiency Of Banks In Developing Country. *International Research Journal of Humanities and Interdisciplinary Studies* 2021; 2(5): 184-194.
5. Haralayya B, Aithal PS. Study on Model and Camel Analysis of Banking. *Iconic Research And Engineering Journals* 2021; 4(11): 244-259.
6. Haralayya B, Aithal PS. Analysis of cost efficiency on scheduled commercial banks in India. *International Journal of Current Research* 2021; 13(6): 17718-17725 .
7. Haralayya B, Aithal PS. A Study On Structure and Growth of Banking Industry in India. *International Journal of Research in Engineering, Science and Management* 2021; 4(5): 225-230.
8. Haralayya B. Retail Banking Trends in India. *International Journal of All Research Education and Scientific Methods* 2021; 9(5): 3730-3732.
9. Haralayya B, Aithal PS. Factors Determining the Efficiency in Indian Banking Sector : A Tobit Regression Analysis. *International Journal of Science & Engineering Development Research* 2021; 6(6):1-6.
10. Haralayya B, Aithal PS. Implications of Banking Sector on Economic Development in India. *Flusserstudies* 2021; 30: 1068-1080.
11. Haralayya B, Aithal PS. Study on Productive Efficiency of Financial Institutions. *International Journal of Innovative Research in Technology* 2021; 8(1): 159- 164.
12. Haralayya B. Study of Banking Services Provided By Banks in India. *International Research Journal of Humanities and Interdisciplinary Studies* 2021; 2(6): 6-12.
13. Haralayya B, Aithal PS. Analysis of Bank Performance Using Camel Approach. *International Journal of*

- Emerging Technologies and Innovative Research* 2021; 8(5).
14. Haralayya B, Aithal PS. Analysis of Bank Productivity Using Panel Causality Test. *Journal of Huazhong University of Science and Technology* 2021; 50(6): 1-16.
 15. Haralayya B, Aithal PS. Inter Bank Analysis of Cost Efficiency using Mean. *International Journal of Innovative Research in Science, Engineering and Technology* 2021; 10(6): 6391-6397.
 16. Haralayya B, Aithal PS. Analysis Of Total Factor Productivity and Profitability Matrix Of Banks By Hmtfp And FPTFP. *Science, Technology and Development Journal* 2021; 10(6): 2021: 190-203.
 17. Haralayya B, Aithal PS. Analysis of Banks Total Factor Productivity By Aggregate Level. *Journal of Xi'an University of Architecture & Technology* 2021; 13(6): 296-314.
 18. Haralayya B, Aithal PS. Analysis Of Banks Total Factor Productivity By Disaggregate Level. *International Journal of Creative Research Thoughts* 2021; 9(6): 488-502.
 19. Haralayya B. Importance of CRM in Banking and Financial Sectors. *Journal of Advanced Research in Quality Control and Management* 2021; 6(1): 8-9.
 20. Haralayya B. How Digital Banking has Brought Innovative Products and Services to India. *Journal of Advanced Research in Quality Control and Management* 2021; 6(1): 16-18.
 21. Haralayya B. Top 5 Priorities That will Shape The Future of Retail Banking Industry in India. *Journal of Advanced Research in HR and Organizational Management* 2021; 8(1&2): 17-18.
 22. Haralayya B. Millennials and Mobile-Savvy Consumers are Driving a Huge Shift in The Retail Banking Industry. *Journal of Advanced Research in Operational and Marketing Management* 2021; 4(1): 17-19.
 23. Haralayya B. Core Banking Technology and Its Top 6 Implementation Challenges. *Journal of Advanced Research in Operational and Marketing Management* 2021; 4(1): 25-27.
 24. Vibhute NS, Jewargi CB, Haralayya B. Study on Non-Performing Assets of Public Sector Banks. *Iconic Research And Engineering Journals* 2021 ; 4(12): 52-61.
 25. Jeelan B, Haralayya B. Performance Analysis of Financial Ratios - Indian Public Non-Life Insurance Sector 2021.
 26. Haralayya B. Testing Weak Form Efficiency of Indian Stock Market - An Empirical Study on NSE, Emerging Global Strategies for Indian Industry, 2021.
 27. Vinoth S, Vemula HL, Haralayya B et al. Application of cloud computing in banking and e-commerce and related security threats, *Materials Today: Proceedings*, 2021.
 28. Jeelan BV. Financial Performance Analysis of Post-Merger or Acquisition. *International Journal of Business and Administration Research Review* 2016; 1(1).
 29. Jeelan BV. Empirical Study on Estimation of Value using Constant Dividend Growth (Gordon) Model: With Special Reference to Selected Companies. *International Journal of Management and Social Sciences Research* 2014.
 30. Jeelan BV. Empirical Study on Determinants of Foreign Exchange Rates with Reference to Indian Rupee v/s US Dollar. *International Journal of Business and Administration Research Review* 2015; 2(10).
 31. Jeelan BV. An Empirical Study on Relationship between Future and Spot Price. *International Journal of Current Research* 2016; 8(6): 33775-33779.
 32. Jeelan BV. A Study on Private placement - A Key to Primary Market (April 1, 2015). *International Multidisciplinary E-Journal* 2015.
 33. Jeelan BV. Examination of GARCH Model for Determinants of Infosys Stock Returns. *International Journal of Current Research* 2015; 7(12): 24811-24815.
 34. Jeelan BV. Impact of Buyback Announcements on Stock Market in India. *Global Journal for Research Analysis* 2015.
 35. Jeelan BV. An Empirical Study on Analysis of Stock Brokers in Indian Stock Markets with Special Reference Cash Market. *Indian Journal of Applied Research* 2014.
 36. Jeelan BV. Performance Evaluation of Mutual Funds with Special Reference to Selected Schemes. *International Journal of Current Research* 2015; 7: 4: 15316-15318.
 37. Jeelan BV. Wealth Maximization: An Empirical Analysis of Bonus Shares and Right Issue. *Indian Journal of Applied Research* 2014.
 38. Jeelan BV. Forecasting Imports of India Using Autoregressive Integrated Moving Average. *International Journal of Business and Administration Research Review* 2015.
 39. Jeelan BV. Comparative Study on NPAs (With Special Reference to Scheduled Commercial Banks, Public Sector Banks and Foreign Banks in India). *Global Journal for Research Analysis* 201.
 40. Jeelan BV. Testing for Granger Causality between BSE Sensex and Forex Reserves: An Empirical Study. *International Journal of Current Research* 2015; 7(11): 23381-23385.
 41. Jeelan BV. A Study on Type and Method of Issues - A Corner Stone of Primary Market. *International Journal of Business and Administration Research Review* 2015.

Appendix

Appendix-1						
Company	Financial leverage=average total debt/ average total assets					
	PRE			POST		
	ATD	ATA		ATD	ATA	
HDFC Ltd	99311.7300	168904.4180	0.5880	231744.2220	347539.5360	0.6668
CIPLA	460.1800	10060.5520	0.0457	602.2360	16310.3740	0.0369
SBI	1216148.8380	1394335.7020	0.8722	2516268.8220	2833248.4640	0.8881
DR.Reddy laboratories Ltd	1558.8600	10892.4400	0.1431	2408.8800	16761.7200	0.1437
Here motocorp Ltd	570.1240	9775.4440	0.0583	0.0000	14387.3280	0.0000
Infosys Ltd	0.0000	37295.0000	0.0000	0.0000	73847.4000	0.0000
ONCG	4181.1280	173037.0720	0.0242	9715.7560	254133.8420	0.0382
Reliance	64910.7380	303440.4760	0.2139	107366.0000	559104.2000	0.1920
Tata steel Ltd	25423.8980	94614.2180	0.2687	28772.2380	122592.6760	0.2347
Larsen and turbro Ltd	7751.7860	64405.2700	0.1204	10848.7000	105509.5240	0.1028
Mahindra and mahindra Ltd	3069.5400	23704.6840	0.1295	2516.2980	41705.3140	0.0603
Tata motor Ltd	14211.9900	52346.2680	0.2715	17394.7140	57123.8760	0.3045
HUL	0.0000	11030.1680	0.0000	0.0000	15463.8120	0.0000
Asian paints Ltd	75.4800	4864.3560	0.0155	25.1940	10147.1360	0.0025
ITC Ltd	78.5720	30197.7220	0.0026	21.0320	56021.8540	0.0004
Wipro Ltd	4808.1000	37897.3200	0.1269	5737.7600	60231.9400	0.0953
Sun pharmaceutical industries	514.4920	9259.9380	0.0556	5705.9700	36002.1380	0.1585
Bhartie-airtel Ltd	10180.7840	78681.6000	0.1294	53125.0800	186142.4200	0.2854
Maruti-suzuki INDIA Ltd	1028.8400	22888.4200	0.0450	200.3200	49808.7000	0.0040
TCS Ltd	84.2220	36669.9320	0.0023	182.0540	84159.2600	0.0022
NTPC Ltd	47820.0720	143947.1440	0.3322	103133.5040	239974.3720	0.4298
PCGI Ltd	53683.6620	95985.0180	0.5593	112807.7180	198157.6020	0.5693
AP and SEZ Ltd	3157.1800	13776.9180	0.2292	17322.1100	36888.4140	0.4696
Bajaj auto Ltd	371.3580	11257.7040	0.0330	70.4880	20812.7180	0.0034
Coal India Ltd	948.0420	28286.9680	0.0335	0.0000	19983.9080	0.0000
Lupin	714.7220	6320.9920	0.1131	205.9840	16292.6600	0.0126
HDFC bank	281976.7220	345930.4100	0.8151	753044.4100	894332.7680	0.8420
ICICI bank	390345.8520	474943.3460	0.8219	665976.3700	796452.8300	0.8362
AXIS BANK	251190.3220	286558.9160	0.8766	536337.9580	616238.7580	0.8703
Kotak mahindra bank Ltd	53910.2480	65046.5600	0.8288	180215.1580	217993.4620	0.8267

Appendix-2						
Company	Interest coverage ratio=average PBIT/ average interest paid					
	PRE			POST		
	Average PBIT	Avg int paid		Avg PBIT	Avg int paid	
HDFC Ltd	5692.96	11140.012	0.5110	11153.458	21663.694	0.5148
CIPLA	1527.954	70.238	21.7540	1775.022	43.332	40.9633
SBI	10826.802	64363.048	0.1682	5258.11	123601.838	0.0425
DR.Reddy laboratories Ltd	1520.7	43.958	34.5944	1516.42	60.94	24.8838
Here motocorp ltd	2699.53	4.512	598.3001	4527.35	7.376	613.7947
Infosys ltd	10856	0	#NAME?	18634.2	0	#DIV/0!
ONCG	30328.026	32.516	932.7109	28919.998	1309.854	22.0788
Reliance	25130.928	2646.8	9.4948	39807.6	4411.8	9.0230
Tata steel ltd	8879.92	1686.332	5.2658	8571.568	2429.35	3.5283
Larsen and turbro ltd	6380.294	775.452	8.2278	7325.744	1457.5	5.0262
Mahindra and mahindra ltd	3743.256	118.136	31.6860	5120.668	154.318	33.1826
Tata motor ltd	1103.244	1238.346	0.8909	-944.034	1666.366	-0.5665
HUL	3785.004	13.928	271.7550	6867.284	20.364	337.2267
Asian paints ltd	1356.396	23.314	58.1795	2601.688	24.092	107.9897
ITC ltd	9097.472	53.766	169.2049	15950.946	50.068	318.5856
Wipro ltd	6825.24	277.24	24.6185	10348.62	440.08	23.5153
Sun pharmaceutical industries	397.868	-45.45	-8.7540	-328.796	455.628	-0.7216
Bhartie-airtel ltd	8233.8	732.01	11.2482	2303.06	3434.54	0.6706
Maruti-suzuki INDIA ltd	3089.18	95.758	32.2603	8748.24	159.684	54.7847
TCS ltd	13536.958	19.996	676.9833	31318.194	61.714	507.4731
NTPC ltd	12736.932	2000.12	6.3681	11574.546	3667.644	3.1559
PCGI ltd	4614.434	2184.634	2.1122	8579.842	6420.034	1.3364
AP and SEZ ltd	1444.872	304.752	4.7411	3208.04	1128.072	2.8438
Bajaj auto ltd	3926.752	6.188	634.5753	5490.694	2.946	1863.7794
Coal India ltd	8589.436	244.108	35.1870	12961.67	-51.206	-253.1280
Lupin	1483.99	27.404	54.1523	3074.336	25.428	120.9036
HDFC bank	5449.368	14813.522	0.3679	15125.334	37149.244	0.4072
ICICI bank	6755.514	22253.998	0.3036	8168.69	32462.466	0.2516
AXIS BANK	4308.466	13081.616	0.3294	4842.61	26459.75	0.1830
Kotak mahindra bank ltd	1065.516	3408.26	0.3126	3263.378	9490.756	0.3438

Appendix-3						
Company	Return on assets=PBIT/ average total assets					
	PRE			POST		
	AVG PBIT	ATA		AVG PBIT	ATA	
HDFC Ltd	5692.96	168904.418	0.0337	11153.458	347539.536	0.0321
CIPLA	1527.954	10060.552	0.1519	1775.022	16310.374	0.1088
SBI	10826.802	1394335.702	0.0078	5258.11	2833248.464	0.0019
DR.Reddy laboratories Ltd	1520.7	10892.44	0.1396	1516.42	16761.72	0.0905
Here motocorp Ltd	2699.53	9775.444	0.2762	4527.35	14387.328	0.3147
Infosys Ltd	10856	37295	0.2911	18634.2	73847.4	0.2523
ONCG	30328.026	173037.072	0.1753	28919.998	254133.842	0.1138
Reliance	25130.928	303440.476	0.0828	39807.6	559104.2	0.0712
Tata steel Ltd	8879.92	94614.218	0.0939	8571.568	122592.676	0.0699
Larsen and turbro Ltd	6380.294	64405.27	0.0991	7325.744	105509.524	0.0694
Mahindra and mahindra Ltd	3743.256	23704.684	0.1579	5120.668	41705.314	0.1228
Tata motor Ltd	1103.244	52346.268	0.0211	-944.034	57123.876	-0.0165
HUL	3785.004	11030.168	0.3432	6867.284	15463.812	0.4441
Asian paints Ltd	1356.396	4864.356	0.2788	2601.688	10147.136	0.2564
ITC Ltd	9097.472	30197.722	0.3013	15950.946	56021.854	0.2847
Wipro Ltd	6825.24	37897.32	0.1801	10348.62	60231.94	0.1718
Sun pharmaceutical industries	397.868	9259.938	0.0430	-328.796	36002.138	-0.0091
Bhartie-airtel Ltd	8233.8	78681.6	0.1046	2303.06	186142.42	0.0124
Maruti-suzuki India Ltd	3089.18	22888.42	0.1350	8748.24	49808.7	0.1756
TCS Ltd	13536.958	36669.932	0.3692	31318.194	84159.26	0.3721
NTPC Ltd	12736.932	143947.144	0.0885	11574.546	239974.372	0.0482
PCGI Ltd	4614.434	95985.018	0.0481	8579.842	198157.602	0.0433
AP AND SEZ Ltd	1444.872	13776.918	0.1049	3208.04	36888.414	0.0870
Bajaj auto Ltd	3926.752	11257.704	0.3488	5490.694	20812.718	0.2638
Coal India Ltd	8589.436	28286.968	0.3037	12961.67	19983.908	0.6486
Lupin	1483.99	6320.992	0.2348	3074.336	16292.66	0.1887
HDFC bank	5449.368	345930.41	0.0158	15125.334	894332.768	0.0169
ICICI bank	6755.514	474943.346	0.0142	8168.69	796452.83	0.0103
AXIS BANK	4308.466	286558.916	0.0150	4842.61	616238.758	0.0079
Kotak mahindra bank Ltd	1065.516	65046.56	0.0164	3263.378	217993.462	0.0150

Appendix-4						
Company	Business risk=standard deviation of PBIT/average pbit					
	PRE			POST		
	Sd of PBIT	AVG PBIT		Sd of PBIT	AVG PBIT	
HDFC Ltd	1132.651995	5692.96	0.1990	1979.954854	11153.458	0.1775
CIPLA	372.6223795	1527.954	0.2439	483.7099833	1775.022	0.2725
SBI	2283.048379	10826.802	0.2109	8451.347129	5258.11	1.6073
DR. Reddy laboratories Ltd	816.2258897	1520.7	0.5367	501.4004557	1516.42	0.3306
Here motocorp Ltd	217.2515435	2699.53	0.0805	744.775917	4527.35	0.1645
Infosys Ltd	2643.133273	10856	0.2435	1398.873904	18634.2	0.0751
ONCG	4468.144303	30328.026	0.1473	6475.19058	28919.998	0.2239
Reliance	2730.981989	25130.928	0.1087	7363.276771	39807.6	0.1850
Tata steel Ltd	1256.402087	8879.92	0.1415	4434.615854	8571.568	0.5174
Larsen and turbro Ltd	597.898837	6380.294	0.0937	1084.336109	7325.744	0.1480
Mahindra and mahindra Ltd	688.3524492	3743.256	0.1839	1021.977718	5120.668	0.1996
Tata motor Ltd	1551.329084	1103.244	1.4062	2426.730166	-944.034	-2.5706
HUL	1152.045646	3785.004	0.3044	1054.23664	6867.284	0.1535
Asian paints Ltd	263.3701017	1356.396	0.1942	473.6885034	2601.688	0.1821
ITC Ltd	2660.733058	9097.472	0.2925	1734.157276	15950.946	0.1087
Wipro Ltd	1677.53313	6825.24	0.2458	369.3562873	10348.62	0.0357
Sun pharmaceutical industries	1836.075508	397.868	4.6148	952.1969053	-328.796	-2.8960
Bhartie-airtel Ltd	1652.348989	8233.8	0.2007	10291.68145	2303.06	4.4687
Maruti-suzuki INDIA Ltd	597.4662601	3089.18	0.1934	2562.259572	8748.24	0.2929
TCS Ltd	6701.18966	13536.958	0.4950	5911.465827	31318.194	0.1888
NTPC Ltd	2531.401484	12736.932	0.1987	1098.983123	11574.546	0.0949
PCGI Ltd	1413.900476	4614.434	0.3064	1643.902482	8579.842	0.1916
AP and SEZ Ltd	590.2292228	1444.872	0.4085	658.4595317	3208.04	0.2053
Bajaj auto Ltd	901.3378713	3926.752	0.2295	943.2765774	5490.694	0.1718
Coal India Ltd	4663.345785	8589.436	0.5429	3017.492016	12961.67	0.2328
Lupin	1004.702999	1483.99	0.6770	1000.901518	3074.336	0.3256
HDFC bank	2998.311565	4971.852	0.6031	4285.153426	15125.334	0.2833
ICICI bank	2827.752015	6453.424	0.4382	3128.827941	8168.69	0.3830
AXIS BANK	1104.361396	4610.556	0.2395	3162.100677	4842.61	0.6530
Kotak mahindra bank Ltd	828.5395637	1543.032	0.5370	1283.759781	3263.378	0.3934

Appendix-5				
Company	Growth Risk (ASSETS) = Compound Growth Rate Of Total Assets			
	PRE			POST
	GR	%	GR	%
HDFC Ltd	0.1795	17.9498	0.1593	15.9345
CIPLA	0.1123	11.2277	0.0493	4.9332
SBI	0.1422	14.2168	0.1559	15.5906
DR.Reddy laboratories Ltd	0.1477	14.7726	-0.0032	-0.3183
Here motocorp ltd	0.0433	4.3283	0.1379	13.7917
Infosys Ltd	0.1925	19.2501	0.0630	6.3018
ONCG	0.0436	4.3583	0.0978	9.7814
Reliance	0.0998	9.9797	0.1817	18.1728
Tata steel Ltd	0.1053	10.5251	0.0441	4.4149
Larsen and turbro Ltd	0.1377	13.7664	0.0967	9.6722
Mahindra and mahindra Ltd	0.1765	17.6533	0.1246	12.4604
Tata motor Ltd	-0.0068	-0.6761	0.0509	5.0878
HUL	0.0810	8.0996	0.0699	6.9903
Asian paints Ltd	0.2062	20.6182	0.1596	15.9630
ITC Ltd	0.1386	13.8598	0.1210	12.1026
Wipro Ltd	0.1082	10.8174	0.0583	5.8310
Sun pharmaceutical industries	0.2089	20.8909	0.0018	0.1788
Bhartie-airtel Ltd	0.1538	15.3790	0.1520	15.2035
Maruti-suzuki INDIA Ltd	0.1673	16.7331	0.1703	17.0284
TCS Ltd	0.2659	26.5896	0.1207	12.0748
NTPC Ltd	0.1240	12.4015	0.1022	10.2210
PCGI Ltd	0.2187	21.8734	0.1170	11.7047
AP AND SEZ Ltd	0.2699	26.9862	0.1643	16.4302
Bajaj auto Ltd	0.1399	13.9937	0.1517	15.1705
Coal India Ltd	0.0110	1.1015	-0.0371	-3.7109
Lupin	0.1899	18.9863	0.1565	15.6481
HDFC bank	0.2192	21.9244	0.2049	20.4888
ICICI bank	0.1310	13.1013	0.1053	10.5328
AXIS BANK	0.2069	20.6871	0.1475	14.7527
Kotak mahindra bank Ltd	0.2368	23.6758	0.3100	30.9965

Appendix-6						
Company	Degree of operating leverage = % of changes in ebit to %change in sales					
	PRE			POST		
	% EBIT	% SALES		% EBIT	% SALES	
HDFC Ltd	189.9802	212.9336	0.8922	152.1168	158.1978	0.9616
CIPLA	147.8337	160.6239	0.9204	161.8752	123.5989	1.3097
SBI	10826.8020	118929.9180	0.0910	-5.3300	158.9291	-0.0335
DR.Reddy laboratories Ltd	226.2537	219.4649	1.0309	82.5623	106.5011	0.7752
Here motocorp ltd	101.2544	159.3847	0.6353	150.5257	120.3740	1.2505
Infosys Ltd	186.1968	209.7493	0.8877	118.6272	154.5603	0.7675
ONCG	128.4939	138.0162	0.9310	148.3122	133.0326	1.1149
Reliance	135.2973	203.0888	0.6662	160.7405	112.7457	1.4257
Tata steel Ltd	134.6236	165.4778	0.8135	190.7094	166.3451	1.1465
Larsen and turbro ltd	124.0351	153.5086	0.8080	137.5596	150.4505	0.9143
Mahindra and mahindra ltd	157.4989	215.8277	0.7297	151.7193	137.9489	1.0998
Tata motor Ltd	-36.2532	95.8547	-0.3782	-60.3547	191.5963	-0.3150
HUL	198.5395	154.2467	1.2872	137.7311	124.8239	1.1034
Asian paints Ltd	157.8983	191.8919	0.8229	164.1818	141.1275	1.1634
ITC Ltd	211.7482	177.0979	1.1957	131.7673	123.1395	1.0701
Wipro Ltd	168.8968	169.0830	0.9989	93.4972	116.5495	0.8022
Sun pharmaceutical industries	-295.6015	147.6519	-2.0020	-46.1491	126.5476	-0.3647
Bhartie-airtel Ltd	78.6256	140.1829	0.5609	-33.2392	89.3896	-0.3718
Maruti-suzuki INDIA ltd	103.3066	145.4575	0.7102	214.9788	170.8171	1.2585
TCS Ltd	369.5929	280.6443	1.3169	165.8047	167.4004	0.9905
NTPC Ltd	128.9277	154.5700	0.8341	124.0844	123.4328	1.0053
PCGI Ltd	230.8374	212.5969	1.0858	141.4363	197.3029	0.7168
AP AND SEZ Ltd	283.9296	289.2238	0.9817	170.5470	144.5438	1.1799
Bajaj auto Ltd	196.1437	166.9112	1.1751	164.1005	140.1031	1.1713
Coal India Ltd	398.9563	70.1232	5.6894	77.3652	81.4709	0.9496
Lupin	442.9614	237.8582	1.8623	72.9213	114.7741	0.6353
HDFC bank	5449.3680	33549.9220	0.1624	206.3267	202.8981	1.0169
ICICI bank	6755.5140	41938.8080	0.1611	30.0957	127.1696	0.2367
AXIS BANK	4308.4660	26913.1320	0.1601	63.5597	155.3614	0.4091
Kotak mahindra bank Ltd	1065.5160	7034.8880	0.1515	260.7386	242.9899	1.0730

Appendix-7						
Company	Size Of The Firm (1) = Log (Average Total Sales)					
	PRE			POST		
	ATS	LOG (ATS)	ATS	LOG (ATS)	% SALES	
HDFC Ltd	17355.9320	9.7617	34890.9200	10.4600	158.1978	0.9616
CIPLA	7121.3500	8.8709	11024.3980	9.3079	123.5989	1.3097
SBI	118929.9180	11.6863	224195.7600	12.3203	158.9291	-0.0335
DR.Reddy laboratories Ltd	6840.8000	8.8307	9916.3400	9.2019	106.5011	0.7752
Here motocorp ltd	21541.2860	9.9777	29752.2980	10.3007	120.3740	1.2505
Infosys Ltd	31777.0000	10.3665	59124.0000	10.9874	154.5603	0.7675
ONCG	73455.7820	11.2044	86020.8540	11.3623	133.0326	1.1149
Reliance	304115.9740	12.6252	293064.0000	12.5881	112.7457	1.4257
Tata steel Ltd	33325.1460	10.4141	50803.8660	10.8357	166.3451	1.1465
Larsen and turbro Ltd	50283.7520	10.8254	67969.4000	11.1268	150.4505	0.9143
Mahindra and mahindra Ltd	30563.3640	10.3276	44646.0820	10.7065	137.9489	1.0998
Tata motor Ltd	42902.8200	10.6667	49556.4880	10.8109	191.5963	-0.3150
HUL	22300.0800	10.0123	32710.7000	10.3955	124.8239	1.1034
Asian paints Ltd	7764.3680	8.9573	13308.0100	9.4961	141.1275	1.1634
ITC Ltd	25404.3200	10.1427	39377.5460	10.5810	123.1395	1.0701
Wipro Ltd	30577.8200	10.3280	44854.0000	10.7112	116.5495	0.8022
Sun pharmaceutical industries	2228.8180	7.7092	8164.2160	9.0075	126.5476	-0.3647
Bhartie-airtel Ltd	42100.0880	10.6478	56268.8000	10.9379	89.3896	-0.3718
Maruti-suzuki INDIA Ltd	37026.0000	10.5194	66617.4800	11.1067	170.8171	1.2585
TCS Ltd	40855.4940	10.6178	94532.2120	11.4567	167.4004	0.9905
NTPC Ltd	59724.2300	10.9975	78359.0860	11.2691	123.4328	1.0053
PCGI Ltd	10682.7340	9.2764	25453.1440	10.1446	197.3029	0.7168
AP AND SEZ Ltd	2541.1100	7.8404	4847.8660	8.4863	144.5438	1.1799
Bajaj auto Ltd	17159.3880	9.7503	23779.3420	10.0766	140.1031	1.1713
Coal India Ltd	387.9920	5.9610	301.5400	5.7089	81.4709	0.9496
Lupin	5843.9800	8.6732	10703.8940	9.2784	114.7741	0.6353
HDFC bank	33549.9220	10.4208	84420.2980	11.3436	202.8981	1.0169
ICICI bank	41938.8080	10.6440	70657.8800	11.1656	127.1696	0.2367
AXIS BANK	26913.1320	10.2004	55060.0240	10.9162	155.3614	0.4091
Kotak mahindra bank Ltd	1224.7060	7.1105	1494.9280	7.3098	242.9899	1.0730

Appendix-8						
Company	Size of the firm (2) = Log (Average Total Assets)					
	PRE			POST		
	ATA	LOG (ATA)	ATA	LOG(ATA)	% SALES	
HDFC Ltd	168904.418	12.03708826	347539.536	12.75863371	158.1978	0.9616
CIPLA	10060.552	9.216377313	16310.374	9.699556626	123.5989	1.3097
SBI	1394335.702	14.14792866	2833248.464	14.85693448	158.9291	-0.0335
DR.Reddy laboratories Ltd	10892.44	9.29582425	16761.72	9.726852994	106.5011	0.7752
Here motocorp Ltd	9775.444	9.187628806	14387.328	9.574103098	120.3740	1.2505
Infosys Ltd	37295	10.52661455	73847.4	11.20975608	154.5603	0.7675
ONCG	173037.072	12.06126114	254133.842	12.44561634	133.0326	1.1149
Reliance	303440.476	12.62294075	559104.2	13.23409114	112.7457	1.4257
Tata steel Ltd	94614.218	11.45756304	122592.676	11.71662256	166.3451	1.1465
Larsen and turbro Ltd	64405.27	11.07295074	105509.524	11.5665565	150.4505	0.9143
Mahindra and mahindra Ltd	23704.684	10.07342794	41705.314	10.63838383	137.9489	1.0998
Tata motor Ltd	52346.268	10.86563592	57123.876	10.95297745	191.5963	-0.3150
HUL	11030.168	9.308389343	15463.812	9.646257864	124.8239	1.1034
Asian paints Ltd	4864.356	8.489689612	10147.136	9.224946777	141.1275	1.1634
ITC Ltd	30197.722	10.31552177	56021.854	10.93349714	123.1395	1.0701
Wipro Ltd	37897.32	10.54263568	60231.94	11.00595806	116.5495	0.8022
Sun pharmaceutical industries	9259.938	9.133452632	36002.138	10.4913336	126.5476	-0.3647
Bhartie-airtel Ltd	78681.6	11.27316461	186142.42	12.13426736	89.3896	-0.3718
Maruti-suzuki INDIA Ltd	22888.42	10.03838638	49808.7	10.81594495	170.8171	1.2585
TCS Ltd	36669.932	10.50971241	84159.26	11.34046624	167.4004	0.9905
NTPC Ltd	143947.144	11.87720146	239974.372	12.38828741	123.4328	1.0053
PCGI Ltd	95985.018	11.4719474	198157.602	12.19681796	197.3029	0.7168
AP AND SEZ Ltd	13776.918	9.530749862	36888.414	10.5156528	144.5438	1.1799
Bajaj auto Ltd	11257.704	9.328807973	20812.718	9.943319521	140.1031	1.1713
Coal India Ltd	28286.968	10.25015648	19983.908	9.902682629	81.4709	0.9496
Lupin	6320.992	8.751631437	16292.66	9.698469979	114.7741	0.6353
HDFC bank	345930.41	12.75399291	894332.768	13.70383321	202.8981	1.0169
ICICI bank	474943.346	13.0709508	796452.83	13.58792318	127.1696	0.2367
AXIS BANK	286558.916	12.56569943	616238.758	13.33138976	155.3614	0.4091
Kotak mahindra bank Ltd	65046.56	11.0828586	217993.462	12.29222035	242.9899	1.0730

Appendix-9						
Company	Tangibility = average net fixed assets/average total assets					
	PRE			POST		
	ANFA	ATA		ANFA	ATA	
HDFC Ltd	17283.984	168904.418	0.1023	33914.842	347539.536	0.0976
CIPLA	3366.35	10060.552	0.3346	4478.486	16310.374	0.2746
SBI	5930.166	1394335.702	0.0043	28365.436	2833248.464	0.0100
DR.Reddy laboratories Ltd	2589.4	10892.44	0.2377	4927.84	16761.72	0.2940
Here motocorp Ltd	3178.388	9775.444	0.3251	4612.278	14387.328	0.3206
Infosys Ltd	5083.2	37295	0.1363	9891.6	73847.4	0.1339
ONCG	95406.614	173037.072	0.5514	141840.022	254133.842	0.5581
Reliance	144359.342	303440.476	0.4757	266223.2	559104.2	0.4762
Tata steel Ltd	27444.13	94614.218	0.2901	66769.584	122592.676	0.5446
Larsen and turbro Ltd	7856.828	64405.27	0.1220	7745.216	105509.524	0.0734
Mahindra and mahindra Ltd	5123.358	23704.684	0.2161	10113.492	41705.314	0.2425
Tata motor Ltd	18902.502	52346.268	0.3611	26400.808	57123.876	0.4622
HUL	2501.446	11030.168	0.2268	3950.308	15463.812	0.2555
Asian paints Ltd	1600.302	4864.356	0.3290	3291.524	10147.136	0.3244
ITC Ltd	11442.288	30197.722	0.3789	18778.916	56021.854	0.3352
Wipro Ltd	4554.04	37897.32	0.1202	5203.96	60231.94	0.0864
Sun pharmaceutical industries	1256.068	9259.938	0.1356	5000.852	36002.138	0.1389
Bhartie-airtel Ltd	41408.54	78681.6	0.5263	108968.7	186142.42	0.5854
Maruti-suzuki INDIA Ltd	9017.64	22888.42	0.3940	14939.36	49808.7	0.2999
TCS Ltd	5900.914	36669.932	0.1609	10660.846	84159.26	0.1267
NTPC Ltd	89145.626	143947.144	0.6193	177858.914	239974.372	0.7412
PCGI Ltd	81624.23	95985.018	0.8504	168256.794	198157.602	0.8491
AP AND SEZ Ltd	7870.244	13776.918	0.5713	9557.102	36888.414	0.2591
Bajaj auto Ltd	1784.892	11257.704	0.1585	2020.248	20812.718	0.0971
Coal India Ltd	191.696	28286.968	0.0068	385.082	19983.908	0.0193
Lupin	1978.806	6320.992	0.3131	3614.352	16292.66	0.2218
HDFC bank	2973.762	345930.41	0.0086	3545.766	894332.768	0.0040
ICICI bank	4379.368	474943.346	0.0092	7188.518	796452.83	0.0090
AXIS BANK	2104.152	286558.916	0.0073	3558.538	616238.758	0.0058
Kotak mahindra bank Ltd	638.456	65046.56	0.0098	1494.928	217993.462	0.0069

Appendix-10						
Company	Non debt tax shield = average depreciation/ average total assets					
	PRE			POST		
	AVG DEP	ATA		AVG DEP	ATA	
HDFC Ltd	241.686	168904.418	0.0014	799.222	347539.536	0.0023
CIPLA	270.036	10060.552	0.0268	495.038	16310.374	0.0304
SBI	1080.776	1394335.702	0.0008	2248.376	2833248.464	0.0008
DR.Reddy laboratories Ltd	292.94	10892.44	0.0269	685.82	16761.72	0.0409
Here motocorp Ltd	788.062	9775.444	0.0806	526.342	14387.328	0.0366
Infosys Ltd	879.6	37295	0.0236	1273.2	73847.4	0.0172
ONCG	7942.946	173037.072	0.0459	12999.312	254133.842	0.0512
Reliance	10750.506	303440.476	0.0354	9331.4	559104.2	0.0167
Tata steel Ltd	1389.978	94614.218	0.0147	3206.368	122592.676	0.0262
Larsen and turbro Ltd	658.644	64405.27	0.0102	1067.926	105509.524	0.0101
Mahindra and mahindra Ltd	586.986	23704.684	0.0248	1381.84	41705.314	0.0331
Tata motor Ltd	1577.86	52346.268	0.0301	2834.018	57123.876	0.0496
HUL	223.936	11030.168	0.0203	401.138	15463.812	0.0259
Asian paints Ltd	118.802	4864.356	0.0244	290.038	10147.136	0.0286
ITC Ltd	731.738	30197.722	0.0242	1098.26	56021.854	0.0196
Wipro Ltd	672.76	37897.32	0.0178	930.12	60231.94	0.0154
Sun pharmaceutical industries	79.436	9259.938	0.0086	517.426	36002.138	0.0144
Bhartie-airtel Ltd	5695.136	78681.6	0.0724	11494.92	186142.42	0.0618
Maruti-suzuki INDIA Ltd	1384.5	22888.42	0.0605	2733.88	49808.7	0.0549
TCS Ltd	715.75	36669.932	0.0195	1558.154	84159.26	0.0185
NTPC Ltd	3093.288	143947.144	0.0215	6071.606	239974.372	0.0253
PCGI Ltd	2819.844	95985.018	0.0294	7644.578	198157.602	0.0386
AP and SEZ Ltd	289.518	13776.918	0.0210	498.676	36888.414	0.0135
Bajaj auto Ltd	149.698	11257.704	0.0133	292.468	20812.718	0.0141
Coal India Ltd	6.68	28286.968	0.0002	17.098	19983.908	0.0009
Lupin	127.116	6320.992	0.0201	364.924	16292.66	0.0224
HDFC bank	551.52	345930.41	0.0016	848.34	894332.768	0.0009
ICICI bank	1036.018	474943.346	0.0022	723.696	796452.83	0.0009
AXIS BANK	316.362	286558.916	0.0011	527.24	616238.758	0.0009
Kotak mahindra bank Ltd	251.616	65046.56	0.0039	288.13	217993.462	0.0013

Appendix-11						
Company	Dividend payout ratio = average dividend/ average profit aafter tax (PAT)					
	PRE			POST		
	AVG DVD	AVG PAT		AVG DVD	AVG PAT	
HDFC Ltd	16.5	43.436	0.3799	18.2	50.228	0.3623
CIPLA	2.16	15.098	0.1431	2.4	17.342	0.1384
SBI	1.74	7.43	0.2342	1.74	7.43	0.2342
Dr. Reddy laboratories Ltd	13.85	68.962	0.2008	20	74.508	0.2684
Here motocorp Ltd	77	107.814	0.7142	79.8	160.006	0.4987
Infosys Ltd	47.4	139.59	0.3396	34.9	65.828	0.5302
ONCG	14.1	36.032	0.3913	7.83	18.064	0.4335
Reliance	8.4	61.19	0.1373	8.8	72.004	0.1222
Tata steel Ltd	10	63.1	0.1585	9.8	56.096	0.1747
Larsen and turbro Ltd	15.25	69.892	0.2182	17.9	51.182	0.3497
Mahindra and mahindra Ltd	12.1	50.312	0.2405	10.6	49.694	0.2133
Tata motor Ltd	8.6	14.714	0.5845	0.04	-3.83	-0.0104
HUL	10.4	13.732	0.7574	18	22.416	0.8030
Asian paints Ltd	30.06	76.626	0.3923	8.62	18.256	0.4722
ITC Ltd	6.04	9.082	0.6651	6.08	10.398	0.5847
Wipro Ltd	6.6	25.014	0.2639	4.4	25.93	0.1697
Sun pharmaceutical industries	5.6	12.894	0.4343	2.45	-1.402	-1.7475
Bhartie-airtel Ltd	1.16	18.032	0.0643	2.81	4.654	0.6038
Maruti-suzuki INDIA Ltd	8.2	78.71	0.1042	59	209.59	0.2815
TCS Ltd	22.6	56.624	0.3991	49.9	109.568	0.4554
NTPC Ltd	4.62	12.286	0.3760	4.366	12.268	0.3559
PCGI Ltd	2.138	7.092	0.3015	4.448	14.032	0.3170
AP AND SEZ Ltd	1.58	9.358	0.1688	1.14	12.84	0.0888
Bajaj auto Ltd	44	110.798	0.3971	56	133.49	0.4195
Coal India Ltd	12.08	13.09	0.9228	19.52	20.556	0.9496
Lupin	5.94	37.798	0.1572	6.5	49.892	0.1303
HDFC bank	9.03	46.886	0.1926	11.3	58.192	0.1942
ICICI bank	17.1	58.802	0.2908	3	13.714	0.2188
AXIS BANK	16	98.056	0.1632	3.12	20.034	0.1557
Kotak mahindra bank Ltd	0.69	15.932	0.0433	0.7	20.2	0.0347

Appendix-12						
Company	Dividend payout ratio = average dividend/ average profit aafter tax (PAT)					
	PRE			POST		
	AVG DVD	AVG PAT		AVG DVD	AVG PAT	
HDFC Ltd	16.5	43.436	0.3799	18.2	50.228	0.3623
CIPLA	2.16	15.098	0.1431	2.4	17.342	0.1384
SBI	1.74	7.43	0.2342	1.74	7.43	0.2342
Dr. Reddy laboratories Ltd	13.85	68.962	0.2008	20	74.508	0.2684
Here motocorp Ltd	77	107.814	0.7142	79.8	160.006	0.4987
Infosys Ltd	47.4	139.59	0.3396	34.9	65.828	0.5302
ONCG	14.1	36.032	0.3913	7.83	18.064	0.4335
Reliance	8.4	61.19	0.1373	8.8	72.004	0.1222
Tata steel Ltd	10	63.1	0.1585	9.8	56.096	0.1747
Larsen and turbro Ltd	15.25	69.892	0.2182	17.9	51.182	0.3497
Mahindra and mahindra Ltd	12.1	50.312	0.2405	10.6	49.694	0.2133
Tata motor Ltd	8.6	14.714	0.5845	0.04	-3.83	-0.0104
HUL	10.4	13.732	0.7574	18	22.416	0.8030
Asian paints Ltd	30.06	76.626	0.3923	8.62	18.256	0.4722
ITC Ltd	6.04	9.082	0.6651	6.08	10.398	0.5847
Wipro Ltd	6.6	25.014	0.2639	4.4	25.93	0.1697
Sun pharmaceutical industries	5.6	12.894	0.4343	2.45	-1.402	-1.7475
Bhartie-airtel Ltd	1.16	18.032	0.0643	2.81	4.654	0.6038
Maruti-suzuki INDIA Ltd	8.2	78.71	0.1042	59	209.59	0.2815
TCS Ltd	22.6	56.624	0.3991	49.9	109.568	0.4554
NTPC Ltd	4.62	12.286	0.3760	4.366	12.268	0.3559
PCGI Ltd	2.138	7.092	0.3015	4.448	14.032	0.3170
AP AND SEZ Ltd	1.58	9.358	0.1688	1.14	12.84	0.0888
Bajaj auto Ltd	44	110.798	0.3971	56	133.49	0.4195
Coal India Ltd	12.08	13.09	0.9228	19.52	20.556	0.9496
Lupin	5.94	37.798	0.1572	6.5	49.892	0.1303
HDFC bank	9.03	46.886	0.1926	11.3	58.192	0.1942
ICICI bank	17.1	58.802	0.2908	3	13.714	0.2188
AXIS BANK	16	98.056	0.1632	3.12	20.034	0.1557
Kotak mahindra bank Ltd	0.69	15.932	0.0433	0.7	20.2	0.0347

Appendix-13						
Company	Business risk				Growth rate	Degree of operating level
	PRE	POST	PRE	POST	PRE	POST
HDFC Ltd	0.1990	0.1775	0.1795	0.1593	0.8922	0.9616
CIPLA	0.2439	0.2725	0.1123	0.0493	0.9204	1.3097
SBI	0.2109	1.6073	0.1422	0.1559	0.0910	-0.0335
DR. Reddy laboratories Ltd	0.5367	0.3306	0.1477	-0.0032	1.0309	0.7752
Here motocorp Ltd	0.0805	0.1645	0.0433	0.1379	0.6353	1.2505
Infosys Ltd	0.2435	0.0751	0.1925	0.0630	0.8877	0.7675
ONGC	0.1473	0.2239	0.0436	0.0978	0.9310	1.1149
Reliance	0.1087	0.1850	0.0998	0.1817	0.6662	1.4257
Tata steel Ltd	0.1415	0.5174	0.1053	0.0441	0.8135	1.1465
Larsen and turbro Ltd	0.0937	0.1480	0.1377	0.0967	0.8080	0.9143
Mahindra and mahindra Ltd	0.1839	0.1996	0.1765	0.1246	0.7297	1.0998
Tata motor Ltd	1.4062	-2.5706	-0.0068	0.0509	-0.3782	-0.3150
HUL	0.3044	0.1535	0.0810	0.0699	1.2872	1.1034
Asian paints Ltd	0.1942	0.1821	0.2062	0.1596	0.8229	1.1634
ITC Ltd	0.2925	0.1087	0.1386	0.1210	1.1957	1.0701
Wipro Ltd	0.2458	0.0357	0.1082	0.0583	0.9989	0.8022
Sun pharmaceutical industries	4.6148	-2.8960	0.2089	0.0018	-2.0020	-0.3647
Bhartie-airtel Ltd	0.2007	4.4687	0.1538	0.1520	0.5609	-0.3718
Maruti-suzuki INDIA Ltd	0.1934	0.2929	0.1673	0.1703	0.7102	1.2585
TCS Ltd	0.4950	0.1888	0.2659	0.1207	1.3169	0.9905
NTPC Ltd	0.1987	0.0949	0.1240	0.1022	0.8341	1.0053
PCGI Ltd	0.3064	0.1916	0.2187	0.1170	1.0858	0.7168
AP AND SEZ Ltd	0.4085	0.2053	0.2699	0.1643	0.9817	1.1799
Bajaj auto Ltd	0.2295	0.1718	0.1399	0.1517	1.1751	1.1713
Coal India Ltd	0.5429	0.2328	0.0110	-0.0371	5.6894	0.9496
Lupin	0.6770	0.3256	0.1899	0.1565	1.8623	0.6353
HDFC bank	0.6031	0.2833	0.2192	0.2049	0.1624	1.0169
ICICI bank	0.4382	0.3830	0.1310	0.1053	0.1611	0.2367
AXIS BANK	0.2395	0.6530	0.2069	0.1475	0.1601	0.4091
Kotak mahindra bank Ltd	0.5370	0.3934	0.2368	0.3100	0.1515	1.0730

Appendix-14						
	Size of the firm (1)				Size of the firm (2)	Tangibility
	PRE	POST	PRE	POST	PRE	POST
HDFC Ltd	9.7617	10.4600	12.0371	12.7586	0.1023	0.0976
CIPLA	8.8709	9.3079	9.2164	9.6996	0.3346	0.2746
SBI	11.6863	12.3203	14.1479	14.8569	0.0043	0.0100
DR.Reddy laboratories Ltd	8.8307	9.2019	9.2958	9.7269	0.2377	0.2940
Here motocorp Ltd	9.9777	10.3007	9.1876	9.5741	0.3251	0.3206
Infosys Ltd	10.3665	10.9874	10.5266	11.2098	0.1363	0.1339
ONCG	11.2044	11.3623	12.0613	12.4456	0.5514	0.5581
Reliance	12.6252	12.5881	12.6229	13.2341	0.4757	0.4762
Tata steel Ltd	10.4141	10.8357	11.4576	11.7166	0.2901	0.5446
Larsen and turbro Ltd	10.8254	11.1268	11.0730	11.5666	0.1220	0.0734
Mahindra and mahindra Ltd	10.3276	10.7065	10.0734	10.6384	0.2161	0.2425
Tata motor Ltd	10.6667	10.8109	10.8656	10.9530	0.3611	0.4622
HUL	10.0123	10.3955	9.3084	9.6463	0.2268	0.2555
Asian paints Ltd	8.9573	9.4961	8.4897	9.2249	0.3290	0.3244
ITC Ltd	10.1427	10.5810	10.3155	10.9335	0.3789	0.3352
Wipro Ltd	10.3280	10.7112	10.5426	11.0060	0.1202	0.0864
Sun pharmaceutical industries	7.7092	9.0075	9.1335	10.4913	0.1356	0.1389
Bhartie-airtel Ltd	10.6478	10.9379	11.2732	12.1343	0.5263	0.5854
Maruti-suzuki INDIA Ltd	10.5194	11.1067	10.0384	10.8159	0.3940	0.2999
TCS Ltd	10.6178	11.4567	10.5097	11.3405	0.1609	0.1267
NTPC Ltd	10.9975	11.2691	11.8772	12.3883	0.6193	0.7412
PCGI Ltd	9.2764	10.1446	11.4719	12.1968	0.8504	0.8491
AP AND SEZ Ltd	7.8404	8.4863	9.5307	10.5157	0.5713	0.2591
Bajaj auto Ltd	9.7503	10.0766	9.3288	9.9433	0.1585	0.0971
Coal India Ltd	5.9610	5.7089	10.2502	9.9027	0.0068	0.0193
Lupin	8.6732	9.2784	8.7516	9.6985	0.3131	0.2218
HDFC bank	10.4208	11.3436	12.7540	13.7038	0.0086	0.0040
ICICI bank	10.6440	11.1656	13.0710	13.5879	0.0092	0.0090
AXIS BANK	10.2004	10.9162	12.5657	13.3314	0.0073	0.0058
Kotak mahindra bank Ltd	7.1105	7.3098	11.0829	12.2922	0.0098	0.0069

Appendix-15				
Company	Non-debt tax schdule		Dividend payout ratio	
	PRE	POST	PRE	POST
HDFC Ltd	0.0014	0.0023	0.3799	0.3623
CIPLA	0.0268	0.0304	0.1431	0.1384
SBI	0.0008	0.0008	0.2342	0.2342
DR.Reddy laboratories Ltd	0.0269	0.0409	0.2008	0.2684
Here motocorp Ltd	0.0806	0.0366	0.7142	0.4987
Infosys Ltd	0.0236	0.0172	0.3396	0.5302
ONCG	0.0459	0.0512	0.3913	0.4335
Reliance	0.0354	0.0167	0.1373	0.1222
Tata steel Ltd	0.0147	0.0262	0.1585	0.1747
Larsen and turbro Ltd	0.0102	0.0101	0.2182	0.3497
Mahindra and mahindra Ltd	0.0248	0.0331	0.2405	0.2133
Tata motor Ltd	0.0301	0.0496	0.5845	-0.0104
HUL	0.0203	0.0259	0.7574	0.8030
Asian paints Ltd	0.0244	0.0286	0.3923	0.4722
ITC Ltd	0.0242	0.0196	0.6651	0.5847
Wipro Ltd	0.0178	0.0154	0.2639	0.1697
Sun pharmaceutical industries	0.0086	0.0144	0.4343	-1.7475
Bhartie-airtel Ltd	0.0724	0.0618	0.0643	0.6038
Maruti-suzuki INDIA Ltd	0.0605	0.0549	0.1042	0.2815
TCS Ltd	0.0195	0.0185	0.3991	0.4554
NTPC Ltd	0.0215	0.0253	0.3760	0.3559
PCGI Ltd	0.0294	0.0386	0.3015	0.3170
AP AND SEZ Ltd	0.0210	0.0135	0.1688	0.0888
Bajaj auto Ltd	0.0133	0.0141	0.3971	0.4195
Coal India Ltd	0.0002	0.0009	0.9228	0.9496
Lupin	0.0201	0.0224	0.1572	0.1303
HDFC bank	0.0016	0.0009	0.1926	0.1942
ICICI bank	0.0022	0.0009	0.2908	0.2188
AXIS BANK	0.0011	0.0009	0.1632	0.1557
Kotak mahindra bank Ltd	0.0039	0.0013	0.0433	0.0347