The Impact of Financial Leverage on Dividend Policy- A Comparison of Nationalised and Private Banks in India

THESIS

Submitted in fulfilment of the requirement of the degree of

DOCTOR OF PHILOSOPHY

to

J.C.BOSE UNIVERSITY OF SCIENCE & TECHNOLOGY, YMCA

by

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January, 2019

DECLARATION

I hereby declare that this thesis entitled "**The Impact of Financial Leverage on Dividend Policy- A Comparison of Nationalised and Private Banks in India"** being submitted in fulfilment of the requirements for the Degree of Doctor of Philosophy in Department of Management Studies under Faculty of Management Studies of J.C.Bose University ofScience & TechnoLogy,YMCA, Faridabad, during the academic year 2018, is a bona-fide record of my original work carried out under the guidance and supervision of **Dr. MANISHA GOEL, ASSOCIATE PROFESSOR, DEPARTMENT OF MANAGEMENT STUDIES, J.C.BOSE UNIVERSITY OF SCIENCE & TECHNOLOGY, YMCA, FARIDABAD** and has not been presented elsewhere.

I declare that the suggestions given by experts during Pre. Ph. D. Seminar have been duly incorporated as part of the study. I further declare that the thesis does not contain any part of any work which has been submitted for the award of any degree either in this university or in any other university.

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CERTIFICATE

This is to certify that the thesis entitled "**The Impact of Financial Leverage on Dividend Policy- A Comparison of Nationalised and Private Banks in India"** by **RUCHI MANGLA** submitted in fulfilment of the requirements for the award of Degree of Doctor of Philosophy in Department of Management Studies, under Faculty of management Studies of J.C.Bose University of Science and TechnoLogy,YMCA, Faridabad, is a bona fide record of work carried out under my guidance and supervision.

I certify that the suggestions given by experts during Pre. Ph. D. Seminar have been duly incorporated as part of the study. I further certify that to the best of our knowledge, the thesis does not contain any part of any work which has been submitted for the award of any degree either in this university or in any other university.

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ACKNOWLEDGEMENT

First of all, I express my gratitude to almighty God for giving me strength and inspiration to complete this thesis.

I would like to express my sincere gratitude to my Supervisor Dr. Manisha Goel, Associate Professor, Department of Management Studies, J.C.Bose University of Science & TechnoLogy, YMCA, Faridabad for giving me the opportunity to work in this area. It would never be possible for me to take this thesis to this level without her continuous support and encouragement. Her knowledge of different perspectives of research provided me with the opportunity to broaden my knowledge and to make significant progress.

I gratefully acknowledge Dean and Chairperson of the department and university colleagues for their encouragement, support and invaluable suggestions in completing this research.

I also express my sincere gratitude to my parents, in-laws, husband, daughters, and other relatives for their continuous support

(Ruchi Mangla)

ABSTRACT

Dividend is one of the important financial decisions of the firm which has the capacity to affect the value of the firm. The decision affects not only the shareholders but also the financial position of the company, expansion or growth plans, liquidity, creditors, value of shares and even the perception about the company and management. Dividend as a policy decision is affected by lot of factors, which changes with country and industry concerned. Earnings, past earnings, ownership, risk, liquidity, growth opportunities, tax aspects and leverage are to name a few. Even the magnitude and direction of impact of these factors change with change in country and industry.

Financial Leverage is used as tool to magnify the returns for the shareholders by the business firms. Using the concept of financial leverage every business assumes that it will be able to earn more on borrowed money and the difference will be passed on to the shareholder, which will increase their return. So if financial leverage has a capacity to increase earnings for the shareholders it must have some effect on the portion of this earning distributed to the shareholders. Banks are being considered as profit making business opportunity by the investors in capital markets these days. With the privatization of banks, the expectations of investors from this sector have increased. In this study, an attempt has been made to understand the financial leverage of banks and its impact on the dividend paid by the banks. Further, it attempts to know whether there the impact of financial leverage on the dividend paid by nationalised banks and private banks in India.

This is a quantitative research where the relationships have been developed in the form of statistical model. A co relational research design has been adopted for the study to understand whether there exists any co-relation between financial leverage, earnings and dividend or not.

The study is limited to scheduled commercial banks in India. The period for the study has been from the year 2004-05 to year 2016-17. It is a study of the data related to 19 nationalised banks and 15 private Indian banks listed on Bombay stock Exchange. The independent sample t-test, correlation and regression (simple, multiple, linear and non-linear) have been used. General descriptive statistical analysis has been done for the dividend, earnings, leverage, and dividend payout ratio for the data for all banks

and in the groups. The data has been divided into two groups and independent sample t test has been performed for dividend, earnings and leverage. Correlation and regression models have been developed for the leverage, earnings and dividend, of commercial banks in India. Analysis has been performed with the help of the software i. e. Microsoft Excel 2007 and SPSS 21.0.

The results of the study suggest that there has been difference in dividend paid, earnings and financial leverage of nationalized and private banks. A negative relationship has been found between financial leverage and dividend of banks in India, whether taken together or separately as nationalized and private banks while a positive relationship has been found in earnings and dividend of banks in India. The linear regression model developed to find the impact of financial leverage and earnings on dividend of banks could not sustain the validity test even after transformation; therefore the non-linear regression model has been applied. The regression models developed under the study can help banking industry, financial institutions, investors, professionals, researchers and academicians in different ways.

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LIST OF ABBREVIATIONS

Abbreviation	Description
DPS	**Dividend paid per share**
EPS	**Earnings per share**
FL	**Financial leverage**
RBI	**Reserve Bank of India**
SPSS	**Statistical Package for Social Sciences**
Q-Q plot	**Quantile-Quantile plot**
P-P plot	**Probability- Probability plot**

CHAPTER I
INTRODUCTION

1.1 BACKGROUND OF THE RESEARCH

Dividend is one of the difficult choices that every business has to make. Dividend policy refers to the size and pattern of earnings distributed to shareholders. Various stakeholders of business consider dividend from different perspectives i.e. management as a choice between distribution and opportunity to reinvest, investors from the point of view of return either in form of dividend or increased prices for shares, lenders for informational content on one hand and less liquidity for redemption on the other. On one hand, it has the capacity to make shareholders happy to spread the positive information in the market; on the other hand it reduces the investment in projects which are capable of accelerating growth of the business and thus defeating the purpose of shareholders' wealth maximization. All this makes dividend an important decision for any business.

Financial Leverage is the "ability of a firm to use fixed financial charges to magnify the effects of changes in EBIT on the Earnings per share." It is widely used by the business to increase earnings per share and meet the objective of wealth maximization. In all the sectors, firms use borrowed funds to increase the earnings of shareholders. It is assumed that the firm would be able to earn at a rate higher than the charges paid for borrowings and the benefit from the difference will be available to the shareholders in the form of increased earnings. So if financial leverage has a capacity to increase earnings for the shareholders it must have some effect on the portion of this earning distributed to the shareholders. Therefore, it becomes important to understand the impact of financial leverage on the dividend policy.

Banks are not only the backbone of business of any country, today they are also looked upon as profit earning business opportunity by the investors in capital markets. They are the partners of growth and in turn get benefited from the growth in all other sectors. With the privatization of banks, investors also want to get benefitted out of this profit earned by the banks. In banking sector the nationalised banks existed since decades and have been working with aim to fulfil social and government objectives. With the privatization and entry of private banks in this sector, the banking scenario is changing. Banks are also under the pressure to pay dividend to their shareholders. In

this scenario, it becomes very important to know if there is any difference in dividend paid by nationalised banks and private banks. This study is an attempt to know whether there is any impact of financial leverage on dividend paid by banks and if there is difference in the impact of financial leverage on the dividend paid by nationalised banks and private banks in India.

1.2 DIVIDEND POLICY AND ITS TYPES

Dividend policy is defined as the set of instructions a company follows to decide the share of the earnings of the company to be paid out to its shareholders as dividends (Aggarwal 2013). It is the policy of distributing the earnings of the company among the shareholders with respect to the ownership they possess in the company. Dividend policy decides the amount and process of the distribution of cash. A company can choose to give a large share of its earnings or a smaller part of its earning to the shareholders and decide the amount it wants to retain and reinvest in the company. The value of any firm is estimated by the price of the firm's common stock in the financial market (Kapoor 2009). The dividend policy of any firm affects the current price of its stocks, so the corporate officials who set the policy must pay special attention to its formulation. Dividend policy can decide the future of a company and decide its profitability and productivity. A stable dividend policy is preferred for the better working condition of the firm as there is more lender risk associated with the dividend policies which fluctuate or are unstable and hence affecting the revenues of the firm(Lee 2009). Dividends are subject to risks and vary according to overall conditions of the firm.

There are basically 4 types of dividend policy:

1.) Regular dividend policy: In this type of dividend policy the investors get dividend at regular rate. This type of dividend payment can be maintained only if the company has regular earning. It boosts shareholders' confidence and maintains the value of shares in the market. In addition to provide regular income to investors it adds to the goodwill of the company.

2) Stable dividend policy: Under stable dividend policy, the payment of certain sum of money is regularly paid to the shareholders. It may be of three types:

a) Constant dividend per share where fixed dividend is paid even when the earnings are not sufficient. For this purpose a reserve fund is maintained.

b) Constant payout ratio where a fixed percentage of earning is paid as dividend every year.

c) Stable rupee dividend plus extra dividend where a fixed but low dividend is paid every year but in the years of substantially good earning extra dividend is paid.

3) Irregular dividend: In this policy, the company does not pay regular dividend to the shareholders. This policy is followed by corporate if they do not hold a successful business, earnings are uncertain and liquidity is less.

4) No dividend: If the company needs funds for growth and expansion then it may choose not to pay any dividend. Sometimes these decisions are taken due to legal compulsions also.

Most of the firms initially pay a low dividend to its investors but as the firm grows, there is a tendency for the firm to raise the dividend payments. There is a chance of the stock price of a firm to fall if the dividends paid out by the firm decreases since the investors start investing in the other firms which are paying higher dividends. Stability of the dividend pay-out ratio indicates a strong and accountable dividend policy of the company. According to Miller and Modigliani, a firm's value has beenindependent of its dividend pay-out ratio which means that the dividend pay-out ratio does not affect the capitalization rate of the earnings of the firm. On the other hand, Gordon and Lintner state that the dividend pay-out ratio affects the value of the firm (White 1964).

There is an inverse relationship between the retained earnings and the dividend paid to shareholders. So the decision involves the choosing between distributing the profits earned to the shareholders and keeping them back with the company for further investment. But the question is- does this decision affect the value of the business? The value of any firm is estimated by the price of the firm's common stock in the financial market (Kapoor 2009). A dividend policy is a result of a trade-off between equity agency costs and transaction costs. A dividend policy acts as a monitoring agent which is established at an optimum level for minimizing total of agency and transaction costs (Farinha 2002). There are conflicting and contradictory viewpoints and empirical evidences in this reference. Every business has to decide its own dividend policy i.e. decision to pay out earnings or to retain them for reinvestment.

1.3 UNDERLYING THEORIES OF DIVIDEND

When we look at the business decision about dividend policy there are various underlying theories which work behind the decision. Some of the theories have been explained below:

1.3.1 Agency Cost Theory

Agency cost refers to the cost that is paid out to the agent for working on behalf of the principal. In the context of the dividend policy theory, the agent is the management of the firm and the principal is the lender or the shareholder. Usually there is an internal conflict between the management and the shareholders of the firm due to the personal interests. Each wants to pursue and support the policy for increasing the value of the shares for oneself. Agents do not always perform in the best interest of the principal, so there is a requirement for the principal to provide beneficial and useful incentives for the agent. Agency cost can be defined as the sum of the expenditures incurred by the shareholders to monitor the managers, the expenditures incurred by the agents for bond and the residual loss (Jensen & Meckling 1976). Poor legal protection imposes an agency cost which leads to misallocation of investment. Anticipation of the agency costs has an effect on the value of the firm. Debt borne by a firm reduces the funds available for the agency cost. Easterbrook (1984) and Rozeff (1982) emphasized on the fact that dividend policy might reduce agency costs by enhancing the monitoring of managers. According to the free cash flow theory, existence of the agency theory is beneficial for the proper functioning of the firm. Some evidence shows that large share of stocks held by outside lenders and debt financing can decrease the agency costs of the firm (Byrd 2010). Lower dividends increases agency costs and by outside monitoring, dividends decrease agency costs as there is a negative relationship between the two. There is also a conflict between the groups of large shareholders and small shareholder which affects the agency cost of the firm (Berzins et al. 2013).

1.3.2 Signaling Effect Theory

Signaling refers to the concept that one party gives reliable information about oneself to another party. Signaling theory predicts the changes in future cash flows (Dionne & Ouederni 2010). According to *The Economic Times* dividend signaling is a situation

where a firm announces a raise in the dividends it will pay out to its shareholders which shows strong signals regarding the promising and vivid future goals and prospects of the organization (Kapoor 2009). This kind of notices from the company's end leaves a very assured effect on the shareholders and lenders of the firm, about the image of the company enhancing its growth and making it more stable and prosperous (Kapoor 2009). It gives an idea about the company's abilities to enhance the profits of the firms and the share of the shareholders. Signaling effect of any company sends out information about the current state of that company predicting its value in the market. Since the top managers of the company acquire more information about the stability, structure of the firm, its strategies. So the managers can predict and estimate the future earnings and profits of the firm. This leads to the problem of asymmetry of information. Dividend signaling predicts a positive relationship between asymmetry of information and dividend policy (Dionne & Ouederni 2010). The managers are able to send out signals about the firm's expected increase in the profits to attract lenders for investment in the firm and encourage old shareholders to stay faithfully attached to the company. A company can choose to send out its signals through an expensive method as well preventing some small firms to copy its signals. Signaling bears a cost, generally through dividend pay outs (Deeptee & Roshan 2009).

1.3.3 Irrelevance Proposition

Irrelevance proposition theory of capital structure states that if there is an absence of income taxes, market frictions, distress costs in the market the financial leverage is ineffective for the value of a firm. If the company is efficient, then the way company gets its finances, does not affects its performance. When the taxes, asymmetric information, incomplete information and other fees do not exist in the company, it does not matter from where the company gets its finances, either from equities or debts, the company is expected to perform well. In this situation the dividend policy of the company is irrelevant. Dividends become irrelevant. The lenders are indifferent between accepting and not accepting dividend payments as the lenders can always generate income by buying or selling the firm's shares. Under these conditions the market value does not get affected by the debt-equity ratio or the dividend policy (Villamil n.d.). So according to the irrelevance theorem developed by **Modigliani &**

Miller in 1961, the dividend policy has no role to play in the income generation for the investors.

1.3.4 Bird in The Hand Theory

Bird in the hand theory suggests that shareholders desire dividends from a stock more than the capital gains because the capital gains are uncertain and unstable. Since investors are more risk averse, they like to be assured of the safety of their investment and hence stable dividend amount is preferred over higher substantial gains to be realized in the future time. The dividend paid are less riskier than the retained earnings (Nikolaos et al. n.d.). This theory was developed by Myron Gordon and John Lintner to criticize the theory of dividend irrelevance developed by Modigliani & Miller; therefore it supports the view that there is a positive relation between dividend policy and value of the firm. So the value of the money paid to shareholders hold more value comparatively to the money which is reinvested in the firm (Nikolaos et al. n.d.). Dividend payments to the investors reduces the transaction costs as the shareholder now doesn't have to go out in the market and search a buyer of the stock. A return as dividend exhibits certainty whereas a return as capital gain shows uncertainty (Alzomaia & Al-Khadhiri 2013). Modigliani & Miller refer to the bird in the hand theory as a fallacy, stating that it is inconsistent and deviating as the shareholders usually reinvest the dividend payments in securities comprising of the similar properties of the risk as the stock used to make payment for the dividend.

1.3.5 The Tax Effect Theory

Taxes are an important aspect of the dividend policies for the investors. The tax rate for capital gains are less than the tax rate imposed on dividend payments. For this reason, shareholders might be willing to prioritize capital gains over dividend payments, making the capital gains more superior to dividends. This theory states the effect of taxes on an investor's decision making about the form of gain (either capital or dividends) he wishes to receive. Capital gains can only be realized after selling of the stock. If the scope of the income tax increases, there is a greater tax incidence on the dividends. There is a view called the "tax irrelevance view" which states that taxes imposed on the dividends are non-deteriorating, that is, decreasing the taxes on dividend payments does not affect the value of the stocks and the investment

decisions of the investors (Poterba & Summers 1984). Another study suggests that a raise in the tax on dividends might show lesser impact on the investment during the short run but it in the longer run; it might show a degradation of the economy's growth especially in the context of the firms which are low on cash and investment or the firms that are comparatively naïve in the market (Frank et al. 2012). The taxes decrease the value of the stocks of the company leading to the reduction in prices of the shares (Gordon & Dietz 2006).

1.3.6 Clientele Effect Theory:

When a company alters its dividend policies, there is a tendency for the investors to change their demands and goals accordingly which affects the stock price of that company. The change in the policy of a firm leads to the adjustments in holdings of stocks by the investors of the firm. This effect is known as clientele effect and was given by Miller and Modigliani in 1961. For example; if a company reduces the amount of divided payments it has been making according to the company policies, this will lead a lot of investors who preferred higher payments sell their shares and invest in some other firm that pays a higher dividends. This will decrease the stock price of the former company. As different clientele prefer different policies and benefits, therefore they get attracted to different companies according to their levels of expectations and satisfaction. So, a company's previous dividend policy plays a major role in determining the present investors. Dividend payments help in revealing the actual quality of the firm, hence the investors are able to decide whether to invest in a particular firm or not. Therefore dividends provide the ability to differentiate between low-quality and high quality firms. If the shareholders are risk averse and the investments are riskier, it leads to the dampening of clientele effect (Allen & Michaely 2002). Dividend payments make a huge difference on the kinds of clientele it attracts, that is, it attracts institutional clientele if the dividend payments are catchy enough and retail clientele are attracted to the firm if it pays either low dividends or no dividends at all (Allen & Michaely 2002). The Tax Reform Act of 1986 reduced the tax rates on the dividend payments relatively, hence depleting the clientele effect (Chetty et al. 2005).

1.4 DIVIDEND PUZZLE

"The harder we look at the dividend picture the more it seems like a puzzle, with pieces that just do not fit together" is what Black said in 1976, and it still holds good. Even today, the issue related to factors affecting dividend policy remained an unsolved puzzle.

There have been quite substantial researches on the factors affecting dividend. A lot of factors have been found having an impact on dividend which varies to great extent from country to country, sector to sector and business to business.

1.5 FACTORS AFFECTING DIVIDEND

a) Agency Cost: Agency costs affect the dividend payout ratio of a firm as the dividends decrease the costs associated with the investors and management conflict within the firm. Managers try to reduce the agency costs to secure the funds and hence the shareholders are benefited as they are able to receive higher dividends due to low agency costs. Agency problem is more severe in a large firm as compared to smaller firms as larger firm requires more monitoring. A higher dividend payout ratio is required to in a firm that has large numbers of owners in order to effectively control the agency costs. Hence, dividend payout ratio helps declining the severity of the agency cost variables (Rozeff, 1982; Hussain & Usman, 2013; Collins, Saxena, & Wansley, 1996)

b) Price volatility: Price Volatility is calculated by dividing the yearly range of share prices by the average value of higher and lower share prices during that year and then squaring the value (Sadiq et al. 2013). An increase in assets is irrelevant with the price volatility. According to Modigilani and Miller (1958), a firm's earning abilities decide the price volatility of the firm. The value of the firm is unaffected by its dividend policy (Shafai 2012). An inverse relationship has been witnessed between the price volatility and the dividend payout ratio of a firm. The relationship between the price volatility and the dividend payout ratio is associated and affected more with the industry rather than a firm individually. It is also observed that the size of the firm and the debt on the firm are highly correlated with the price volatility of the company, showing a negative and a positive correlation respectively with the price volatility (Hussainey et al. 2010).

c) Dividend yield: It is defined as the part of profit that a firm pays out as dividend payments relative to the price of the stock on which that profit is earned. For the investors who prefer accepting dividends more than receiving capital gains, dividend yield is the gain made on the invested capital for that stock of the firm. Dividend ratio helps in measuring the amount of cash earned on one unit (currency depending on the country) of money invested in the company. Prevalence of complete information in the market about the demands and expectations of different investors help the companies to alter their dividend policies according to the best expected dividend yield prevailing in the market. Hence there is equilibrium between the supply and demand of yields and the shareholders of the firm are satisfied with the variety of yields provided by the firm (Black & Scholes 1974). The dividend yield have uncertain effects on the returns on share indicating that the investors are not concerned with the portfolio returns, so they do not care about the yields in the short term provided by the firm. Constantly increasing or decreasing the average yield of the portfolio leads to an unstable and badly diversified portfolio.

d) Market value: According to the irrelevance theory, given perfect and efficient market conditions with no taxes and distress, there is no relationship between dividend policy and market value of the firm. But in the scenarios where irreverent theory does not hold up, clear relationship has been witnessed between the dividend policy and the market value of the firm. The irrelevance theory is based on the assumptions that do not exist in the real world and hence market value of the firm does get affected by the dividend policy of the firm. Dividend attracts different types of investors which in turn affect the market value of the firm. Since dividend policy of a firm states the amount of profits it would distribute to the shareholders as dividends, hence dividend policy states the dividend payout ratio of a firm. Dividend payout ratio of a firm signifies its strategies and plans of the future and hence keeps investors attracted. Market value of the firm helps the firm to keep the shareholders loyal with the firm which in turn raises the profit of the firm. Hence there is an affirmative relationship between market value of the firm and the dividend payout ratio.

e) Long term debts: Firms that face long term debt situations have to eventually decrease their dividend payout ratios. Dividing the long term debts by total debts determines the debt maturity. Long term debt has an inverse relationship between the dividend payout ratio and a positive relationship with the financial leverage. Debts decrease the free cash flow within a firm. When a firm has huge debts, it sends out a negative signal in the market which eventually degrades its reputation.

f) Firm size: Size of the firm affects the dividend payout ratio of the firm. The larger enterprises pay out a higher proportion of their profit as dividends to its shareholders as compared to the smaller enterprises, which keeps the investors interested in the big firms, raising the investments of the firm and hence the profits that firm earns also increases. Therefore, there is a positive relationship between the size of the firm and its dividend payout ratio (Maladjian & Khoury 2014).

g) Profitability: The Profitability of a firm affects the decisions involving dividend payments of that firm. Profitability is estimated by the return a firm earns on the assets it possesses. The increase in the profits of a company raises the probability of a firm to pay out dividends, spreading an affirmative message in the market. As profitable firms are more stable and functional, they can manage to have a high dividend payout ratio (Lin & Shen 2012). Therefore profitability of a firm has a positive relationship with the dividend payout ratio. On the other hand, Baker in 2007 suggested that there is a negative relationship between the profitability of the firm and its dividend payout ratio, as the higher the returns a firm gets on its assets, greater are the earrings that the firm will retain of its earnings and reinvest in the firm rather than paying as dividends to its shareholders (Maniagi G. Musiega, Dr. Ondiek B. Alala, Dr. Musiega Douglas, Maokomba O. Christopher 2013).

h) Financial leverage: Financial leverage can effectively alter the firm's dividends and hence affects the dividend payout ratio that the firm establishes. According to Rozeff(1982) if a firm has high financial leverage, it will pay out less dividends to its investors in order to reduce its costs incurred by debts. Hence a negative relationship between the dividend payout ratio and the financial leverage of a firm is implied. Whereas Hashemi and Akhlaghi in 2010 stated that there is a positive relation between financial leverage and

dividend policy of the firm(Hashemi& Zadeh 2012). This relationship may vary from one industry to another.

i) Growth and investment opportunities: In the firms with high growth trends and good investment opportunities, the dividend payout ratio is lower as compared to the firms with less investment opportunities in the market. When a company is growing, it needs funds to invest in new projects or reinvest in the old projects for better growth prospects. In order to attain higher stability and growth, the firm likes to retain a higher proportion of its profits and invest it in other projects. Hence a smaller portion of the profits is released for its investors. Therefore, good investment opportunities are inversely proportional to dividend payout ratio.

Dividends are part of profits from a company that are distributed to shareholder(Michaely & Roberts 2012). Dividends are usually paid quarterly or can be called out at any time. Dividends are paid after a company makes profits and are therefore not considered as business expenses but rather they are considered as sharing of profits among shareholders. Dividend policy on the other hand is a set of rules that are used in determining what fraction of profit should be paid out to shareholders.

Dividend policy is an important factor when determining a company's stock value. Investors can estimate their own dividends on other investment options. However, this is not recommendable since dividends tend to fluctuate from time to time, in addition to this, earning form dividends are taxed more when compared to capital gains. For this reasons, most investors are not attracted to relative corporate dividends policies of organization as accurate value of their stock.

Some companies do not give out dividends. The companies use the profits earned to reinvest and expand the company assets or even buy shares. For investors who value profit certainty, they should ensure that the company has a firm dividend policy. High and regular corporate dividends policy is a clear indication that a company is doing well. As a result more dividends can equate to overall health of a company. Dividends policies are most important for companies or cooperatives with extra money for investment in very few projects with positive net present values. Though a good dividend policy in an indicator of excess money within a company, the value of the

company is not linked to the dividends, there are other indicators of company's performance (Gao et al. 2013).

1.6 FINANCIAL LEVERAGE

Financial leverage is associated with the financial activities going within a firm. Financial leverage refers to the borrowing of funds from investors and investing them in purchasing of assets expecting a higher return on the asset so that the cost of borrowing is covered and compensated by the profits earned on the purchased assets. Financial leverage is associated with certain risks, such that the profits not being able to compensate for the borrowings and the borrower incurs loss on the purchased asset, or the value of the asset declines over a period of time (D'Hulster 2009). It is estimated as debt to equity ratio. Whenever a borrower borrows money, the rate at which he is borrowing is lower than the rate he is expecting to earn from the returns on the investment made, in order to reinvest the profits earned. Financial leverage can be used by a firm to alter the cash flows and the position of the firm in the market. A little leverage is required for funding the business as the debts are not taxed, so using appropriate amount of debts lowers the overall cost of the borrowing as the rate on return compensates for the funds borrowed. The fixed compensation linked with the earnings of the company leads to the financial leverage of the firm, through the usage of funds that the company has borrowed at a fixed cost to attain profits in the future (KHAN, n.d.).

There are two types of sources that provide financial leverage to the firms; the first source is the one which bears a ***fixed charge***, such as long term debts etc. There is an interest rate associated with the long term debts that the company has to bear as a fixed charge on a contract basis. Some of the debts need to be compensated by paying dividend which do not fall under the category of contracts but is a fixed compensation that needs to be given to the shareholders. The other source of financial leverage is the one which does not include any fixed charges that has to be borne by the firm (KHAN, n.d.).

Risk is a situation when actual amount received out of an investment bears the chances of being different from the amount expected from the investment made. Whenever an investor invests in a share, he/she fixes the money in the project as investment, in the expectation of earning more to increase the wealth the investor possess. Any investor makes any investment with mainly two kinds of expectations in

return, one is that any investment made creates returns on the assets purchased and second is that these returns are prone to fluctuations and uncertainty. Since the investment is associated with the future capital gains, the returns are unstable which makes the financial leverage risky (AL-Qudah & Laham, 2013). The systematic risk associated with a company rises with the rise in financial leverage (Gahlon 1981). There is another study by Levin, 1984 stating that leverage is proportional to the market risk. Risk is an essential part of setting up a business and accentuating it in the right direction, but for that, the knowledge of optimum level of risk is also essential. This is a very big and inevitable task for every firm that want to sustain and grow in the industry. A clear and better knowledge of risk leads to better business opportunities by reducing the chances of losing profits and bearing the losses associated with the risks involved (Bhatti, Majeed, Ijaz-ur-Rehman, & Khan, 2010).

The first way to measure the financial leverage is debt to equity ratio, that is, the ratio of the funds borrowed from others to the funds owned by one is a measure of financial leverage. Accounting measure involves both long and short term debts, total debts as a ratio of total assets of the firm (Abor 2005; Abor 2007; Kyereboah-coleman 2007). It consists of debt to equity ratio and ratio of total debt to total assets. The former is essential to measure the financial structure of the firm, that is, it signifies the proportion in which debt and equities are used in the investments made by the firm. The latter, that is, ratio of total debt to total assets, also known as the ratio of the capital (Raza, 2013). The estimation of financial leverage is usually expressed in terms of book values or market values. The present attitude of shareholders is depicted by market values in a more suitable way. The most accepted way to measure the financial leverage in firms and banks is debt to equity ratio. Another way to measure financial leverage is called the coverage ratio. This ratio signifies the ability of the firm to adhere to the fixed financial charges (Pandey, 2009).

Financial leverage refers to the extent to which an investor utilizes the money that has been borrowed for the business, indicating the existence of debt in the capital structure of the company. It is the situation in which the investor relies on the debts to operate the business. The investor is supposed to make payments for the debts in time to avoid risk of facing a situation of bankruptcy, as well as a situation where the investor is unable to seek lenders in the future because if the investor is not able to meet the present obligations, it is difficult to trust the business by lending new capital.

Debt is an integral part of setting up a business, as there is a necessity for capital. Financial leverage enhances the return on equity, that is, percentage of ROE. Financial leverage ratio is defined as the debt to equity ratio, that is, total debt/shareholders' equity, that is, the amount of debt taken against the value of equity. It is also measured through interest coverage ratio which is defined as the ratio of profits to interest. Christie in 1982 stated that financial leverage induces an inverse relationship between stock returns and volatility (Bekaert & Wu 2000). Financial leverage sometimes has its own advantages; it can increase the return on investment for the shareholder and also provides tax benefits associated with borrowing. Leverage maximizes the income of the shareholders. Financial leverage increases the risk quotient of the firm, due to which the firm pays out less dividends to its investors and retains a higher portion of the profits to reinvest in the investment projects that would eventually decrease the debts of the company, so making the dividend payouts lesser in value.

1.7 BANKING INDUSTRY IN INDIA

India has an interesting history in the banking sector. A bank is an institution which supplies financial services to its customers (Manikyam 2014). Banks in India have evolved from traditional banking system, changing its course from nationalization to privatization. Recent times have also seen a surge in number of foreign banks in the country. TechnoLogy has a huge role to play in the development of this sector revolutionizing the work culture of the banks. One of the major tasks of the banks includes the maintenance of faith and credence of its members in the organization (Goyal & Joshi 2012). India's banking sector has experienced a number of business cycles in past few decades, such as bank runs, crisis in the world economies, etc., despite all this, banks in India have established and maintained a stable structure and system ensuring the confidence in the banking system of the nation. Banking sector in India has undergone major growth in multiple areas. Banks help various sectors of the economy to become more profitable and productive which in turn demands the need of a stronger and sustainable banking industry. Banks helps in the development of other vital sectors by providing them funds, making deposits, issuing loans, bonds etc. (Manikyam 2014).

Prior to the 20th century, money was lent at a very high interest rate benefitting the local money lenders and suppressing the rural poor under never-ending debt. Public

savings were not secured and the loans were issued with no conformity and evenness, showcasing the evil intentions of the money lenders. The first bank in India was established in 1786 named as The General Bank of India. The base for advanced banking in the Indian economy was laid with the establishment of the banks namely; Bank of Calcutta, Bank of Bombay and Bank of Madras. Later in 1921 all these banks combined to form the Imperial Bank of India (Goyal & Joshi 2012). Finally the Reserve Bank of India was established in April 1935 and special attention was given to governance for the proper functioning of the banking industry.

Indian banking system lets cooperative banks exist side by side with commercial banks. The system supplies and delivers finance for various projects, giving special priority to agriculture-based industry. Until March 1966 cooperative banks were regulated by the state governments but since then these banks come under the regulation of the RBI. Indian banks are highly stable and hence the depositor can be rest assured about banks safeguarding the money. Insurance and investment are other two sectors in which banks play a crucial role.

Banks have invested in technoLogy on a large scale such as by introducing internet and mobile banking and also by building ATMs on a very wide range to reach out every customer whether in rural India or in the urban part. Indian banking system still possesses the enormous potential to evolve and develop. Existence of a stable and fair banking system is of utmost importance for the development of any economy. The enormous size of the Indian market imposes one of the biggest challenges to the banking sector of India. Banking industry in India has created new business opportunities and new markets for its citizens increasing the competition level which improves the services provided by the banking sector (Kamath et al. 2003).

The profits earned by the bank are an integral part of its success and functionality. Initially the banking sector was judged and analyzed on the profits it made and the role of distribution it played was intensely ignored. In the pre-reform period, the public sector banks made an average annual profit of 33.6% which reduced to 18.6% in the post-reform period. The profits made by bank arise due to three sources; through assets of the bank, through the liabilities of the bank and through market risk transformation. The operational costs were cut down, technoLogy was advanced and the standards of the customers were raised to increase the profits earned by the banks in India (Raul 2005).

The performance of the Indian banks are not solely judged on the annual turnover they make but rather on their contribution in the programs being led by the government such as creating employment, eliminating poverty, enhancing development, building infrastructures etc. The performance of the bank is usually measured by its efficiency at the branch level as well as the level of the employees working in the bank (Purohit 2012). The capital structure of the bank is a crucial decision for the management of the bank as it involves choosing the various sources of finance in the adequate proportion as it majorly influences the value of the bank by affecting the risk involved and liquidity of the bank. The public banks in India need to focus on the improvement of their capital structure (Phor 2014).

1.8 PROBLEM DEFINITION

The main concern of the financial leverage is raising the funds through the external source and then bearing the cost of it. One of the sources of raising fund for any company is to issue the shares. With the issue of the shares, company is liable to pay certain amount of profit to its shareholders which are known as dividends(The Institute of Company Secretaries of India 2013). In any company the management of the company must decide on how much of profits to be distributed to the shareholders as dividend and how much to reinvest. This leads to the conflict between the owners and the management in any company. In case of Indian Banks also there is conflict between the two parties. This paper attempts to study the impact of financial leverage in the Indian banking sector and making a comparison between the nationalised banks and the private banks. This research is expected to give the clear idea about the scenario of the financial leverage of the Indian banks and the dividend policy of the banks.

1.9 OBJECTIVES OF THE RESEARCH

The study has aimed to analyse financial leverage and dividend of banks in India. It has aimed to find out the impact of financial leverage on dividend policy of banks in India. Since the nationalised banks are now competing with private banks to keep their shareholders satisfied the researcher has attempted to explore if there has been any difference in the dividend paid by nationalised banks and private banks. Secondly, it has aimed to understand the relationship between two major financial decisions in banking industry i. e. financing decision and dividend decision. The objective includes the analysis of the dependence of dividend decision on financial

leverage of nationalised and private banks in India. Moreover the study has aimed to analyse the relationship between earnings and dividend paid by banks and the impact of earnings on dividend paid by these banks. The objectives of the study can be summarised as follow-

1. To understand the dividend behaviour of banks in India.
2. To find the relationship between earnings, financial leverage and dividend of banks in India
3. To find the impact of earnings and financial leverage on equity dividend of banks in India
4. To compare the group of nationalised and private banks in India for impact of earnings and financial leverage on equity dividend of banks.

1.10 ORGANIZATION OF PROPOSED THESIS (CHAPTER WISE)

The thesis has been principally divided into 7 chapters as follows-

CHAPTER 1: INTRODUCTION

Chapter 1 has been an introductory chapter which has basically discussed the background of study. The focus of the chapter has been the dividend puzzle and various dividend policies being followed by corporate. Then it has focused on the factors affecting dividend in brief and financial leverage at a length as the study is related to the impact of financial leverage on dividend policy. All these things change with the change in industry and country. The present study is related to banking industry in India, so the banking industry and its historical perspective have been discussed. Last but not the least the chapter has talked about the problem, objective and organization of the thesis.

CHAPTER 2: REVIEW OF LITERATURE

Earlier research and literature forms the basis of any further research. Chapter 2 has presented an overview of the studies done and the existing literature in this area. A step by step approach to the problem has been undertaken in discussing the literature. The studies have been summarized on the aspects like objective of the study, variables used for the study, sample taken, period of study, techniques and tools used and conclusions drawn out of the study. The literature has been approached in systematic manner where studies related to –factors affecting dividend, factors affecting dividend of banks, factors affecting dividend of banks in India, relationship of financial

leverage and dividend, relationship of financial leverage and dividend of banks, relationship of financial leverage and dividend of banks in India have been discussed.

CHAPTER 3: THE RESEARCH DESIGN AND METHODOLOGY

Chapter 3 has described the research methodoLogy adopted in order to achieve the objectives of the study. It has basically highlighted the nature of the problem. Various research hypothesis based on objectives has been defined. The chapter has elaborated upon the sample unit, sample design, sample size, methods of data collection, sources of data and statistical techniques used for analysis. In addition to all this, chapter contains the exact definition of the variables used for the study.

CHAPTER 4: AN OVERVIEW OF SELECTED BANKS

This chapter has given a brief explanation about each and every bank selected for the purpose of the study. It has discussed about the origin, historical perspective, type of company, position in the market, composition of share capital and shareholders, dividend behaviour and dividend policies etc.

CHAPTER 5-6: DATA ANALYSIS

These chapter has dealt with the analysis and interpretation of the data collected and analysed with the help of statistical tools. Various tables and graphs have been presented in the order of hypothesis made and observations have been mentioned. The chapter have given the analysis for the dividend of nationalised banks, private banks and all the banks taken together. Then on similar lines it has discussed the Financial Leverage and earnings of nationalised banks, private banks and all the banks taken together. The t-test statistics has been used to find out if any major difference existed between the two groups of banks with respect to dividend, earnings and financial leverage. The correlation results have been given for financial leverage, earnings and dividend of banks in general and nationalised banks and private banks in particular. Regression results have been given to find out the impact of financial leverage, earnings on dividend. The research has also mentioned the analysis of the dividend payout ratio of banks so that inferences can be drawn about dividend policy.

CHAPTER 7: FINDINGS AND CONTRIBUTION

The last chapter has summarized the acquired results and efforts have been made to draw viable conclusions out of the results. It has established whether there exists any

relationship between financial leverage, earnings and dividend, whether the relationship has been significant or not and whether there has been any difference between the two groups of banks as far as the relationship is concerned. It has also takeaways for the banks and investors. Further the chapter has discussed the limitations of the study and scope of further research in this area.

CHAPTER II

LITERATURE REVIEW

2.1 INTRODUCTION

The aim of this chapter has been to extend the understanding of dividend, its determinants and to comprehend the impact of financial leverage on dividend as discovered by past studies. This chapter has reviewed the literature on dividend, in general and its relationship with financial leverage, in particular. Further the relationship with reference to banking industry has been explored with the help of previous studies. The chapter also includes the studies where a comparison between nationalised and private banks has been made. The gaps in the literature have been found on the basis of literature review.

2.2 DIVIDEND AND ITS DETERMINANTS

"The harder we look at the dividend picture the more it seems like a puzzle, with pieces that just do not fit together" is what Black said in 1976, and it still holds good. Even today, the factors affecting dividend policy remains a puzzle. There have been quite substantial researches on the factors affecting dividend. A lot of factors have been found having an impact on dividend.

Lintner (1956), one of the earliest researchers in the field found the current profitability and past dividends to be the most important determinants of dividend in 1950's with reference to American companies. In his pioneering work he concluded that these two factors only determined the dividend payment. Since then various researchers have been taking up the issue from different perspectives and have found mixed results. Another researcher Darling (1957) considered four factors namely i) previous year's net profit, ii) present year's depreciation and amortization, iii) current year's change in revenue over the preceding two years, iv) present year's net profit. Brittain (1966), in his study considered current year's free cash flow and current year's depreciation as determinants of dividend payout decisions. Fama et al. (1968), used Lintner's model, and concluded that Lintner's model will be stronger, if last year's profit figure is also included. After testing on North American firms for almost 12 years they concluded that Lintner model applies well and sustainability of dividends is an important factor.

Rozeff (1982) conducting his research on 1000 companies for the period 1984-1990 found that ownership growth and beta have negative effect on dividend payout ratio.

Kevin (1992) researched the behaviour of 650 Indian companies in relation to dividend payment during 1983-84. He found profitability and earnings to be the most important determinants of dividend. He also observed that Indian firms strive to have stability of dividends. His results are not thought to be conclusive because of very short period of study.

Mahapatra and Panda (1995) after their study explained the dividend behaviour of cotton, paper and sugar industry in India. They observed companies from these sectors for 1977 to 1989. The results were different for different industries. Debt and cash flow were significant in cotton and paper industry while in sugar industry interest payment evolved as significant determinant. Investment opportunity was found to be insignificant by them.

Once again Lintner's model was supported by Garg et.al.(1996) for Indian textile firms, after being observed for 10 years.

Mishra and Narender (1996) studied the published data of 39 State Owned Enterprises from India for the period 1984 to 1994 for dividend. They divided the sample into three groups consisting of manufacturing, petroleum and services sector. They observed that Lintner's model applied to all State Owned Enterprises and past dividend is a more important factor than the other two.

Olantundun(2000) studied the factors affecting dividend in Nigeria. He studied the application of Lintner's model and its variants using the pooled cross sectional / time series data for a period of ten years. They found the growth prospects, level of gearing and firm size as factors on which the dividend of Nigerian firms depends. Lintner-Brittain model was not found relevant in the case.

In their research concerning determinants of dividend policy Baker and Powell (2000) described the current earnings, future earnings and dividend trend along with the type of industry as major determinants.

Another research was done by Reddy (2002) on all companies of India listed on BSE and NSE over a period of 12years to find out how many firms actually pay dividend, average dividend paid by Indian firms and average payout ratio. He found that very less number of Indian companies pay dividend and dividend paid is higher for the

firms which are a part of small indices. He found that trade-off theory do not apply in case of Indian firms. He concluded that dividend omission has informational content.

Ho (2003) when comparing the dividend policies in America and Japan concluded that factors affecting dividend varied in the two countries. In America the dividend policy was positively affected by size while in Japan it was positively affected by liquidity and negatively by risk. He further mentioned the importance of industry in which the firm operated, in both the countries.

While studying the dividend payout ratio of Indian firms, a positive relationship was found by Kumar (2003) between earnings, past investment opportunities and dividend and a negative relationship was found between debt -to -Equity ratio and dividend.
A research was conducted in Anand (2004) to explore the factors that affect the dividend policy decisions of corporate India. The study analyzed the conclusions derived from the survey conducted in the year 2001 comprising of 81 Chief financial officers (CFOs) of about 500 companies along with their most valuable PSUs in India to reach the conclusion of the paper. The methodoLogy applied was conducting a factor analysis of the responses provided by the CFOs along with the principal components analysis (PCA) to estimate relationships between certain variables. The results of the study revealed that dividend decisions provide a signalling mechanism concerning the future prospects of the firm and affecting the market value of the company, hence dividend decisions are an integral part of the corporate firms in India. The study also suggests that the management is considerable about the choices of the investors and shareholders of the firm as well as seek to provide stable dividend with growth.

Mayer and Bacon (2004) researched 483 companies from Multexinvestor and established a positive impact of debt-to equity ratio and price earnings ratio on dividend payout.

Another research was conducted by Kania and Bacon (2005) focusing on identifying the factors that motivate the dividend decisions adopted by the corporate. The objective of the study was to analyze the impact on the dividend decisions of the corporate firms imparted by certain financial variables. The research was based on estimating the financial data of 542 publicly traded firms gathered through the database of Multexinvestor.com. They chose the variables such as return on equity,

current ratio, financial leverage of the firm, insider and institutional ownership, sales growth, beta, capital spending and growth of EPS for the study and used regression using Ordinary Least Square (OLS) and a multivariate regression. The conclusion of the study reveals that leverage, return on equity and the insider ownership is inversely related to payout ratio of a firm. The study also reveals that an increase in the dividend payments by a firm reduces the liquidity of the firm and a large proportion of growth in EPS leads to an enhanced capacity to raise dividend payments by the firm.

Ben Naceur et al. (2006) conducted a research on Tunisian firms for finding the factors affecting dividend. Their sample size consisted of 48 firms and the study was done during the period 1996 to 2002. They concluded that Dividend per share is affected positively by profitability and negatively by size and market liquidity. Leverage was found to have no impact on dividend. They also made a strong observation that firm willing to increase debt increase dividend.

Kumar (2006) tried to find out a relationship between corporate governance and dividend of Indian companies. He considered dividend history, trend of earnings, financial structure, opportunities to invest and ownership of companies in the period 1994 to 2000. He found that earnings and dividend trend affected the dividend positively.

In another research Aivazian et al. (2007) established a link between stock market liquidity and dividend policy. They found that firms having less liquid equity shares are likely to give more dividends and vice versa.

Profitability, size and age of the firm are the determinants of dividend policy ain Jordan as concluded by Malkawi (2007), after his study for 11 years between 1989 and 2000. He found a strong support for agency cost hypothesis and pecking order theory.

A study by Twaijry (2007) done in Malaysia, revealed that past and future both have an impact on dividends. In an interesting conclusion he found less strong relationship between net earnings and dividend. Age and sector was relevant as per the researcher and size was found to be significant.

A famous researcher Al-Malkawi (2008) researched on 160 companies listed in Amman stock exchange for a long period of 14 years from 1989 to 2003 to find the

determinants of dividend and the relationship of various variables with dividend. He found that Dividend gets positively affected by size, profitability and growth &investment opportunities while it gets negatively affected by leverage.

Kanwar and Kapoor (2008) attempted to investigate the Indian Information TechnoLogy sector to find the determinants of dividend. They used pooled data for seven years period and concluded that cash flows, sales growth, tax and market to book value are not explanatory factors for dividend in IT sector while liquidity and risk are important determinants of dividend for this sector of India.

In his study on determinants of dividend for non financial firms of GCC countries Kuwari (2009) found that firms do not develop long term dividend policy and it changes frequently. Dividends are paid to reduce agency problem. He found a positive relationship of dividend with profitability, size and government ownership while a negative relationship with leverage ratio.

Moradi et al. (2010) while studying all listed companies in Tehran stock exchange found that Debt ratio has a reverse effect on dividend payout ratio while risk and profitability have direct relationship.

In reference to service and manufacturing firms of America, Gill et al. (2010) found that profit margin, debt-to-equity ratio, sales growth and tax are the factors on which the dividend payout ratio depends. Debt-to-equity ratio was found to be a factor in case of service firms while not in case of manufacturing firms.

Sim (2011) made very interesting observation in their research on listed companies of Malaysia in food industries. They observed that variables may have a strong relationship with dividend but they may not act as determining factors for dividend payment. The further confirmed debt-to-equity ratio and past dividend as important determinants of dividend payment.

Lily et al. examined the determinants of dividend for developing countries and studied the effect of variables like risk, cash flow, investment opportunities, firm size and financial leverage on dividend policy of Thailand SET 100 firms. They indicated a negative relationship of earnings and financial leverage with payout ratio. However cash flow, investment opportunities, firm size and agency cost were found to be insignificant by them.

In 2012 Rafique observed that dividend payout ratio is positively affected by corporate tax and the firm size in case of 53 companies of Karachi Stock Exchange 100 index. He conducted his research for the period 2005-2010. He also found that financial leverage is insignificant in Pakistani Market.

Anupam Mehta (2012) studied the important factors affecting dividend payout of firms from different areas of real estate, energy, construction, telecommunication, health care and industrial sector listed on Abu Dhabi stock exchange. He found that profitability, risk, liquidity, size and leverage as important determinants. However out of these he found size and profitability to be most important.

Alam and Hossain (2012) compared UK and Bangladesh based companies on dividend policy, where they studied the dividend theories, factors affecting dividend policy and relevance of dividend in two countries. Contrasting results were found for the two countries under consideration. In reference to determinants of dividend, leverage, profitability and market capitalisation were found to have a positive impact on dividend rate in UK while all these variables had a negative impact on dividend rate in Bangladesh. Growth had a positive impact in Bangladesh and a negative in UK.

In 2013, a research was conducted by Malik et al. to explore the factors that influence and effect corporate dividend payout decisions with respect to both financial and nonfinancial firms being a part of KSE-100 index. The aim of the paper was to find the factors determining the dividend policy of the firms and to analyze the difference within the financial characteristics of the firms following dividend paying policy (DP) and firms not following dividend paying policies (NDP). The research was done over a period of two years, from 2007 to 2009 over 100 financial and non-financial firms by using panel data analysis. The result of the study revealed that liquidity, financial leverage, earning per share and size of the firm indicate an affirmative relation with the dividends given out by the firm and growth and profitability of the firm does not play any significant role in estimating the dividends of a company. It was also revealed that the firms paying dividends in Pakistan are fewer in number and have been decreasing since last six years.

Another research was conducted by Alzomaia & Al-Khadhiri (2013) focusing on the determinants of dividend policy in Saudi Arabia. The study was conducted on public

non-financial companies listed in Saudi Arabia stock exchanges (TASI). They analyzed 105 firms over a period of 7 years using a regression model with the panel data to find the impact of earnings per share (EPS), previous dividends, growth, financial leverage, Beta and Capital Size on dividends per share. The results of the study suggested that a company in Saudi stock market decides to raise or reduce the dividend payments according to the profitability of the firm as well as the level of previous dividends, revealing an affirmative relationship of the dividend policy with the previous dividends and profits realized by the firm.

All the above reviews show that a great deal of research has been conducted to determine and analyse the factors acting as determinants of dividend. Various models have been developed, tested and retested in different countries and industries. Even after so much research no definite and conclusive factors evolved as determinants. Different researchers introduced different variables and found their impact on dividend. Empirically various variables emerged as factors affecting dividend like, current year profit, profitability, past profits, future earnings, price earnings ratio, return on equity, growth of EPS and trend of earning as earning variables; change in revenue, sales growth, present year depreciation and amortisation as operating variables; debt level, debt-to equity ratio, financial leverage, level of gearing, interest payments, financial structure etc. as Leverage variables. In addition to these variables like cash flow, firm size, firm age, current ratio, liquidity, institutional ownership, growth opportunities, capital spending, corporate governance and taxes were also suggested by various researchers all over the world.

2.3 FACTOR AFFECTING DIVIDEND OF BANKS

Having a look at the various factors that have evolved as determinant of the dividend policy of corporate it can be seen that these factors vary with the country and industry. Banking dividends are different from dividends of other industries (Casey and Dickens, 2000). Moreover significant variances have been found in the dividend of financial and non financial firms (Baker et al., 2001). As our study is related to banking sector it is important to understand the empirical researches being done for the factors affecting dividend of banks.

Bessler et al.(1996) showed that the main determinants of dividend in the banking sector of North America, are growth of profit and the number of shareholders,

however there is not much impact of past growth levels, beta as well as ownership structure of the banks.

Casey and Dickens (2000) affirmed that banking dividend policy is distinct from other industries tested previously. The studied the dividend policy of commercial banks in North America. The study was based on Rozeff's model. The results suggested that growth of profits and numbers of shareholders were the important drivers for dividend policy. However no significance was found for past growth levels, beta coefficients and insider ownership. These results were contrasting to the results for other industries tested earlier.

Baker et al. (2001) found significant variations in various factors that influenced dividend payment for financial and non-financial companies. Their research was based on 188 companies listed in Nasdaq. Though the four most important factors, out of 22, were same for financial and non-financial companies but 9 other factors varied in their importance as given by the managers of the two groups.

A famous research was conducted by Dickens et al. (2002) on banking firms where the studied 677 banking firm from period 1998 to 2000. As per the study size, future earnings, inside ownership and past dividends all had a positive impact on dividend yield while investment opportunity and risk had a negative impact.

An important research was conducted on the subject expressing the difference between the dividend policy within the banks and other non-banking firms and the data was picked form the banking industry of Brazil. The study was carried by Weber and Procianoy**.** The aim of the study was to find the indicators that affect the dividend policy of a bank and later the effect of these same indicators was tested for the dividend policy in non-banking sector. The study was carried over a period of six years from 2001 to 2006 by taking 181 financial institutions of Brazil under consideration. The test was done by conducting an unbalanced panel data regression analysis, since the use of panel data eliminates the risk of biasness and providing better information with more variable and efficient data. The amount of profits given out by different firms were calculated and in totality the amount was found similar of the dividend payments made by the banking and non-banking industry within the Brazilian economy. It was estimated that in the Brazilian banking sector, the dividend pay-out ratio is most affected by the profitability of the bank and it was also realized that the banks in Brazil are similar to the non-banking corporations in Brazil, there is not much difference between the two sectors of the economy.

In 2008, Nnadi et al. studied the impact of taxes on the dividend policy in Nigerian banks. The research was conducted by considering various factors that affects the dividend policy of a bank which comprised mainly of dividend payment pattern, complying with a preset capital structure, leverage of the bank, taxes etc. A correlation and regression analysis was performed between the various indicators and the dividend policy of the banking sector in Nigeria. The profits retained by the banks influenced the dividend payments positively as the banks functions with more stability attracting more investors. Also an affirmative relationship was realized between the profits, taxes and the dividend payout. Liquidity was also found out to be a major determinant of the dividend policy of the banks there as more liquidity indicates more profits.

Further in 2011, Nasirudeen Abubakar intended to determine the factors influencing dividend payout in the banks in Nigeria by taking out five sample banks out of total 25 banks listed in the Nigerian stock exchange. The indicators used in the study were profit after tax, funds of the investors, liquidity maintained in the bank and the leverage in the bank. A multiple regression analysis and a correlation technique were used to conduct the study with research being both qualitative and quantitative in nature taking a descriptive route. The data used was secondary in nature. The funds of the investors influenced the dividend payments significantly. The financial leverage of a bank was found to have affected the dividend policy negatively as a higher indebted bank will not be able to pay high dividends to its investors. The profits earned by the banks in Nigeria had a significant affect on their dividend policies as the more the profits, the more are the chances of having a stable dividend policy which keeps and helps the investors stay loyal to the bank.

Sajid Gul et al. in the year 2012 tried to determine the indicators which affect the dividend policy of the banks in Pakistan. The data was collected for 18 banks for the period 2006 to 2011 which were mentioned in Karachi Stock Exchange. The factors that were tested comprised of the size of the bank, profits earned by the bank, financial leverage of the bank and the risk associated with it and the growth rate of the bank. The methodoLogy adopted was finding the correlation coefficient for the factors influencing the dividend policy of the banks in Pakistan. It was concluded that the financial leverage and the risk associated with it showed an inverse impact on the dividend payments made by the bank whereas profits earned, size of the bank and the

growth rate of the bank expressed an affirmative relation with the dividend pay-out ratio of the bank. Hence by comparing the banks paying dividends with the banks not making dividend payments, it is established that the banks giving out dividends are more stable, attract more investors, profitable and also minimize the risk factor for the shareholders. It was also found that only 11 banks out of the 18 banks under study were found to make dividend payments to its investors.

Al-Khasawneh et al. (2012) on the basis of its study on the US banks concluded that the major determinants of dividend are the total assets, return on equity, and equity to liability ratio. This is a perspective from the developed market i.e. the USA. They used methodoLogy developed by Fama and French (2001), to understand the dividend policy of American banks and their propensity to pay dividends to attract the investors who looked for dividends.

Further, Sumaiya Zaman did a research in 2013 in Dhaka, Bangladesh estimating the determining factors of the dividend policy for private banks in Bangladesh with a comparison between three factors affecting the dividend policy of the banks which are profits realized by the bank, size of the bank or the growth rate of the bank. The study is established over the estimates collected for the 7 years from 2006 to 2012 done for the 30 commercial banks mentioned in the Dhaka stock exchange in Bangladesh. These banks were tested on their growth rate, size and profits realization yearly for 7 years for their effects on the dividend payments of the 30 selected banks. The results were reached by applying correlation and multiple regressions. Profits realized by the banks are measured by the yearly return attained on the assets of the bank. Growth of the bank was found by the interest income that the bank received yearly and finally the size of the bank was estimated by totalling the annual assets of the bank. Through regression it was realized that there is an insignificant positive correlation between the indictors of the dividend policy and the dividend payments used in this research paper. The results suggests that the profits realized by the bank affects the dividend pay-out decision of the bank more than the size and growth prospects of the bank but it cannot be concluded that this is the sole factor altering the dividend policy of the banks in Bangladesh.

All these researches proved that though the banking dividend were different from the dividend in other sectors but factors studied as the determinants of dividend are more or less same as in other corporate. Only the intensity of impact varied in various

countries. Here also we are able to see that financial leverage has been empirically tested (Abubaker,2011; Al-Khasawneh et al.,2012; Hosain) as a factor affecting dividend in various researches.

2.4 FACTORS AFFECTING DIVIDEND OF BANKS IN INDIA

As the factors also vary with the country concerned an effort has been made to explore the researches on the dividend of Banks in India.

Bodla et al. (2007) examined 33 Banks from India for a period of ten years i. e. from 1996 to 2006. In context to Indian banks they found a strong support for Lintner's model and concluded that past dividends, earnings and cash flow has a positive impact on dividend.

Another pair of researchers Sudhahar and Saroja (2010) studied the Indian banking sector in relation to factors affecting dividend. Their sample consisted of 20 banks actively traded on Bombay Stock Exchange India. They observed the period from 1997 to 2007. They found that out of the three models tested Brittain's explicit model of dividend best explained the dividend policy of banking sector in India. They also developed their own model taking 9 independent variables namely size, debt ratio, current ratio, tangibility, ROI, dividend tax, corporate tax, past payout, corporate tax and interest liability. Further they indicated that ROI, past payout and size were more significant as compared to other variables in case of Indian banks.

Rizvi and Khare(2011) studied 20 Indian banks selected from CNX Bankex index over a period of eight years that is from 2000 to 2008, to examine the factors which affected the dividend payout ratio in case of Indian banks. They attached a great importance to dividend decision of any firm. They used empirical investigations and intensive theoretical modelling. Correlation and regression war used to explore the relationship between variables. They concluded that EPS is an important determinant of dividend. Risk is also important determinant but has negative impact. Cash flow, debt equity ratio and tax were found to be insignificant.

Sura et al. (2012) also verified the application of Lintner's model and Brittan's model on Indian banks. They studied the dividend paying banks which were listed on NSE India the period of study was 1996 to 2006. After dong cross sectional analysis they found the support for both the models in commercial banks in India. They were of the opinion that Indian commercial banks followed stable dividend policy. Current earnings and past dividends emerged as important factors or determinants. They also supported informational content and signalling theory of dividends for banks in India.

Acharya and Mahapatra (2012) empirically tested the validity of Lintner's model in relation to dividend behaviour in Indian Banking Sector taking 3 major commercial banks as part of study. They discovered that out of three major banks (1nationalised sector bank, i.e. State Bank of India and 2 private sector banks namely, ICICI Bank and HDFC Bank), only ICICI Bank's dividend policy is in confirmation with the Lintner's model while the other two banks do not support the model.

Hari Babu Singh (2014) researched Dividend policy decisions in reference to banks in India. As banks have a significant role in economy he attempted to investigate the key factors that influenced dividend payout of banks. The study was covered 10 public and 10 private sector banks for the period of 5 years (2009-2013). The banks were chosen the basis of their market capitalization. He once again supported the Lintner's model, recognizing last year dividend and profitability to be most important and key factors for dividend payout of Indian banks. However, he found significant difference in the determinants of dividend for private sector and public sector banks.

Sangeeta D Misra (2015) analysed the factors affecting dividend policy of banking firms in India. She used panel data of 121 banks and developed two models using dividend rate and payout ratio as dependant variables. She considered variables of both types i. e. Internal to banks and external from macroeconomic environment. She concluded that Indian banks make more use of dividend payout ratio to decide their dividend policy as no significant variables were found having effect on dividend rate. However for the dividend payout ratio she found positive effect of GDP growth rate and negative effect of return on assets and deposits to total assets ratio.

Determinants of dividend of commercial banks in India were also studied by K. Devananadhen and P. Kartik(2015). They used fixed effect model of regression on panel data of 29 banks for the period 2007-2014.They divided the banks into two groups' i.e. public sector (19banks) and private sector (10 banks) and considered the factors like profitability, liquidity, leverage, growth opportunities and risk. They presented very different results for the banking sector, where they concluded that profitability ahs negative impact on dividend as more profitable banks have more avenues for growth and investment. They found positive effect of risk on dividend of banks. As per them liquidity had a negative effect and size and leverage not effected dividend.

To find out the factors influencing dividend payout of commercial banks of India Dinesh Kumar and Ritu Wadhwa (2017) used panel data of 42 banks of India for the period 2006 to 2015. The used pooled regression, fixed effect and random effect models of regression to investigate the factors. They concluded that profitability and liquidity have positive impact on dividend payments while risk and leverage were not found having any significant impact on dividend of selected banks.

Majority of studies on Indian banks concluded that Lintner's model applied to dividend of banks. Along with that they found return, Earnings, size, cash flow and liquidity to be important factors. However risk was found to have negative impact.

2.5 RELATIONSHIP OF FINANCIAL LEVERAGE AND DIVIDEND

While studying the determinants of dividend many of researches included leverage as an factor suggested that leverage could be one of the determinants. Now various studies those exploring the impact of financial leverage on dividend of corporate were explored to understand the relationship between two variables.

Another research was conducted by Manos (2001) on apt dividend policy and capital structure of the firms. This study was aimed at attaching an empirical proof to the functioning of the firms in the light of the dividend policy followed by the firm and the capital structure associated with the firm, mainly developed around emerging markets. The study shows the necessities and implications of the dividend policies inside the firm and the decisions about the capital structure in India. The methodoLogy used in this study is weighted least square strategy estimated for the firms in India observing the problem of agency costs inside the firm. Maximum likelihood technique is also used to express the effect on the dividend payment decisions taken by the firm. The study reveals that dividend policy and capital structure varies across different firms which also differentiates the dividend paid to the shareholders in different firms which are mainly the result of incomplete and imperfect information in the market and also due to the presence of the agency costs within the firms. The results also provide an insight to the private corporation in India and signify the factors affecting the dividends payments negatively which include insider ownership, risk, debts etc.

Gupta and Banga (2010) also opined that dividend decision is affected by a lot of factors which vary with industry and time. They used two step multivariate processes

to study the factors which affected dividend decision. They took 150 companies across 16 industries in India as their sample. The selected companies were studied for the period 2001-2007. In the first step they tried to explore the factors which affected dividend. As a result leverage, growth, liquidity, profitability and ownership emerged as important factors. In second step they run regression for these variables. It was concluded that leverage and liquidity are the major factors for dividend policy of companies in India and both effected dividend rate positively.

The impact of investment opportunities and corporate finance was analyzed by Abor and Bokpin (2010) on dividend payout policy. Their research was very extensive one as took a sample from 34 emerging market companies for a period of 17 years i. e. 1990 to 2006. A significant negative relationship was found by them between investment opportunity and dividend payout policy. However they found financial leverage, external financing and debt maturity to be insignificant effect as far as their impact on dividend policy is concerned. In addition to it profitability and stock market capitalization were also identified as important factors to impact dividend payout. They were of the opinion that profitable firms were more likely to pay high dividends to shareholders. They also concluded that companies in well developed markets pay relatively low dividend.

Researchers performed the studies on various firms to examine the impact of financial leverage on dividend policy of a company. The study was done by Asif et al. (2011) within stock exchange listed companies in Karachi. The study was conducted within 402 companies during the years 2002 to 2008. The methodoLogy that the researchers followed for conducting this research was based on the extended model of Linter which was formed back in 1956. This model was used to examine the dividend policy that the firms were conforming to in association with independent variables and dummy variables assumed by the researchers, forming a hypothesis, applying these resulted in a correlation matrix complied by a regression analysis. The aim of the paper was to assert that if the firm has an optimum debt equity ratio, that is, an apt quantity of financial leverage; it leads to the enhancement of the firm's business and leads to a higher rate of profit for the firm. The optimum amount of the leverage is chosen by the management of the firm and it also results in enhancing the profits of the investors which keeps them interested in the firm and maintain their loyalty with the company. To reach the results, a descriptive analysis was done which suggested

that the greater the amount of debt borne by a company, the lesser is the dividend paid out to its investors. It also suggested that dividend payments are a crucial part of any firm and financial leverage has a significant impact on the dividend policy of the company. The effect of the changes in earnings of the firm was also measured on the dividend payment decisions made by the firm and it was observed that there was no significance of the former on the latter in a firm.

Another researcher named Lalu Candra Karami proposed a study which showed the impact of financial leverage and the liquidity on the dividend policy of the firm, that is, the dividend payout ratio of the firm. The subject of the study was the 15 chosen companies in Indonesia, listed in stock exchange of LQ45 between the years 2008 to 2010. The methodoLogy applied was performing a multiple regression analysis, conducting an explanatory and quantitative research. The results of the study showed that the financial leverage has an inverse relationship with the dividend payments, as the higher the company is indebted, the lower will be amount left to pay out as dividends to its shareholders. Another result supports the proposition that liquidity has a significant positive effect on the dividend policy of the company, implying the more the liquidity; the greater is the dividend payout ratio of the firm. This suggests that higher liquidity attracts the investors to invest in a firm, as the investment in the firm is increased; the firm is more capable of giving out higher dividend payments to its shareholders, hence indicating an enhancement of the dividend policy in favour of the investors associated with the company.

Javed (2012) also accepted the role of optimum capital structure in increasing the profitability of the company. He analysed the impact of financial leverage on dividend policy of companies listed on KSE-30 index. He based his research on data pertaining to companies for the period 2005-2010. He observed a negative impact of increasing debt on dividend payment as the companies were not able to support profitability with increasing debt.

Farahani and Jhafari (2013) examined the same relationship for 33 food companies of Iran for the period 2003-2010. They used dividend yield and debt ratio as independent variable and dividend policy measured by DPS as dependant variable. They also considered earnings a dummy variable. Correlation and regression results showed that leverage as measure by corporate debt significantly affected the dividend policy of food industry.

Uwuigbe (2013) attempted to examine the effect of financial leverage and ownership structure on dividend payment by Nigerian firms. He used the judgemental sample of 50 companies from Nigerian Stock Exchange. Using regression analysis he observed a negative relationship of financial leverage and dividend payout while positive between ownership structure and dividend payout. More over the negative impact of financial leverage was quite significant in Nigerian firms.

Tamimi et al. (2014) in their research investigated the impact of age and financial leverage on dividend policies of manufacturing firms listed on Tehran Stock Exchange for the period 2005-2011. They used the systematic sample of 92 companies. For the manufacturing companies of Tehran they found a significant but negative relationship between financial leverage and dividend payment.

Amahalu et al. (2015) assessed the 9 Nigerian conglomerates for their impact of financial leverage on dividend policy. They used the panel data for the period 2010-2015. The study was based majorly on consumer goods firms. They concluded that leverage measured by short term debt, long term debt and total debt had a significant effect on DPS, dividend payout ratio and dividend yield , thus having an overall impact on dividend policy.

Most of these researches showed that there exist a relationship between financial leverage and dividend payment. As far as the impact is concerned few of the researchers found a positive impact of financial leverage on dividend(Mayer and Bacon,2004; Alam and Hosain,2012; Gul et al.,2012), some other found a negative impact (Kumar,2003; Al-Malkawi,2007; Kuwari,2009; Moradi et al.2010; Alam and Hosain,2012) while few of them found it to be insignificant (Ben Naceur,2006; Rafique,2012). In totality there was no consensus as to the impact of financial leverage.

2.6 RELATIONSHIP OF FINANCIAL LEVERAGE AND DIVIDEND OF BANKS

If the determinants of dividend can vary from industry to industry and country to country their impact may also vary with the variation in industry. Keeping the same in view few researches exploring the impact of financial leverage on dividend payment of banks have been reviewed.

During the period of 1965-1968 M.C. Gupta and Walker (1975) studied the data related to 198 banks . They affirmed that profit and growth affected the dividend positively. But they also concluded that dividend is negatively affected by leverage in banks.

Graf (2011) analysing the relationship between the financial leverage ratio and the profitability and risks associated with banks. The study was done for the banks of USA and Europe. The methodoLogy used in carrying this research was panel regression and controlling some characteristics associated with the functioning of the bank. It was also realized that the banks adjust their financial leverage more quickly than the non-financial firms. The leverage ratio of the bank affects its performance inversely showcasing a U- shape, suggesting that a higher and a lower leverage ratio than the optimum reduces the profitability of the banks. It was observed that in the case of the European banks, as the leverage ratio of the bank increases, the risk associated with it to go bankrupt also increases significantly leading to a decline in profits of the bank. The results are different in the case of the banks in USA, as they face a restriction in taking risks which weakens the effects the relationship of financial leverage and profitability of the banks in USA.

Kinfe (2011) investigated banking industry in Ethiopia to find out factors determining dividend. The study was based on secondary data from audited financial statements of banks for the period 2006 to 2010 using panel data approach. OLS regression was used to test seven different hypotheses considering the impact of profitability, liquidity, leverage, firm size, growth, and lagged dividend per share on dividend payout ratios. It was concluded on the basis of empirical research that firm size and lagged dividend per share were strongly affecting the dividend positively while the liquidity was having negative impact. Profitability, leverage and growth were found to be insignificant or not directly related to dividend. It was also interpreted that firm pay dividend to reduce agency problem.

Díez et al. while investigating dividend policy of European Banks found that though managers set long-term coefficient-objective for the distribution of dividends in relation to the profits of the period for themselves yet they do not apply this ratio to each year's profits. The purpose of their research was to test whether the dividend distribution policy of a company depends on factors other than profit also. After the theoretical and empirical analysis they zeroed down on the factor like profitability, stability of earnings, growth rate, opportunities

for investment, financial and governing structure, financial system of the country. As a conclusion they affirmed that the policy of payouts does not depend solely on business profits. They found an equally good importance of economic, financial factors and practices in determining the dividend of banks in Europe.

Lee (2013) researched 154 Korean banks for the period 1994 to 2009. It was found that dividend is positively affected by debt ratio, loan ratio and profitability.

Another study was carried out by Zameer et al.(2013) in which the Pakistani banking sector was studied to establish the factors that determine the dividend policy of the banks in Pakistan. The study was conducted by doing a regression analysis by using SPSS in which the data of 27 domestic and foreign banks was used. The approach of the research is explanatory. It was found that the profits realized by the bank, the past dividend payments given by the bank to its investors and the ownership structure of the banks have a significantly positive effects on the dividend policy within the banks of Pakistan. On the other hand the liquidity of the bank exhibits an inverse relationship with the dividend policy of the banks. It was also concluded that the factors such as size, agency costs etc. does not affect the dividend policy of the banks in Pakistan. The study also suggests some reforms to strengthen the banking sector in Pakistan by raising the profitability and improving the infrastructure and the importance of the corporate governance is also discussed during the research**.**

A research was carried by Maladjian & El Khoury (2014) which intended to show how dividend policy is estimated by the financial leverage in the banks. This research was carried out for the banks in Lebanon listed in Beirut exchange stock. Banks in Lebanon have a stable corporate governance structure which makes its functionality more reliable and more sustainable. The study is done by taking the data between the years 2005 to 2011 through an unbalanced panel data set of the banks listed in the Beirut exchange stock. The methodoLogy applied here is doing an OLS and panel regressions. The results imply that the dividend payments reduce the conflicts arising due to agency costs in the banks. Usually, there is found to be a mixed impact of financial leverage on the dividend policy of the firm but this study suggested a positive impact of the financial leverage on the dividend policy, indicating that leverage can be used to pay out dividend payments. It was also noticed that despite there being a positive relation between the two but the impact of the former on the latter is insignificant in the banking sector in the Lebanese economy, hence implying

that the financial leverage does not directly influence the dividend payments in the banks in Lebanon.

Another researcher Hosain (2016) investigated the determinants of dividend policy of the listed private commercial banks in Bangladesh. He considered 8 potential factors for determining the dividend policy of private banks. Using regression on data of ten listed private banks of Dhaka Stock Exchange for the period 2005-2015, they found five variables important to explain dividend policy. When finding the relationship with fixed effect regression model they found a significantly positive relationship of dividend with liquidity, growth and past year dividend, a negative relationship of dividend with leverage and profitability for banks in Bangladesh.

Edmund NKN (2018) aimed to observe the factors affecting dividend decision of banks in Ghana. They used secondary data of 7 banks listed on Ghana Stock Exchange (GSE) over a 10 year period. The results of the study showed that profitability ratio was the one significant factor for dividend payment and has a positive impact on dividend of banks. Cash flow, leverage, ratio of NPA to total assets and average level of inflation were found as other significant determinant of dividend. The study revealed that NPL/TA has negative and strong influence on dividend payment among listed banks on the GSE. The number of branches owned by listed banks does not affect their dividend payments. It was suggested that banks should improve their credit risk administration to improve profitability and to maintain sustainable payment of dividends.

When exploring the studies it was found that in some countries the impact was positive(Lee,2013; Maladjian & El Khoury,2014) while in few others the same was found to be negative(M.C. Gupta and Walker,1975;Graf,2011; Hosain,2016). Now it is to be seen in relation to Indian banking sector, what the earlier studies reveal about the impact of financial leverage on dividend.

2.7 RELATIONSHIP OF FINANCIAL LEVERAGE AND DIVIDEND OF BANKS IN INDIA

Sector is relevant for dividend payment (Twaijry, 2007). Along with it country is also important. So the relationship in context to Indian banks has been explored.

Cloyd et al. (2005) worked on nationalised and private banks and concluded that private banks give more dividend than nationalised sector banks and also concluded that dividend policy is affected by the control structure of the banks.

Gupta and Banga (2010) researched on the determinants of the corporate dividend policy which analyses the questions related to the dividend payments and financing policy of a bank. A regression analysis was conducted to find the conclusion of the research being conducted and it was made sure that the factors used during the analysis do not possess multi-co linearity problems. It also studies the effect of the financial leverage in determining the dividend policy of a firm suggesting that if the financial leverage is more than the required optimum then the firm has to bear a higher cost of transactions and the risk associated with the firm also increases. Therefore, financial leverage exhibits an inverse relationship with the dividend policy of a firm especially in context of the Indian firms and it was also found that the liquidity of the Indian firms affect the dividend decisions affirmatively.

Gupta (2012) examined the selected private and public sector banks in India and measured the effect of financial leverage on these selected banks. This study was carried over the period from 2007 to 2011. For analysing the results, the balance sheets of the respective banks were observed and also the effects of leverage ratio were deduced from the same. It was observed that the financial leverage in the commercial banks did not experience a rise in consecutive years following the year 2007 rather showed a decline in this area. Whereas, the government banks in the country showed a stable leverage ratio over the years and also experienced a movement towards an increased financial leverage ratio within the banks. On the other hand, public sector banks experienced a decline in the owner funds which were measured as a percentage of total sources of public and private sector banks, whereas on the other side, the commercial banks showcased a significant increase in the funds of the owners in the bank. The fixed asset turnover ratio was also estimated for the public and private sector banks from 2007 to 2011 and it was found that fixed assets turnover ratio increased in both the sectors of the banks but with the public sector experiencing a higher turn-over of the fixed assets compared to that experienced by the commercial banks in the country.

Dr. Souvik Banerjee and Dr. K.T. Rangamani analysed the dividend paid by forty banking sector companies of India for the period of 2010-2015. They took 24 public

sector banks and 16 private sector banks for the purpose of their study and concluded that dividend payout ratio of private banks and public banks were not statistically different from each other.

2.8 CONCLUSION/ RESEARCH GAP

On the analyses of the studies it has been observed that there has been a lot of research on determinants of dividend and their impact on dividend. In various studies financial leverage emerged as a strong variable related to dividend. But there has been no agreement on the impact being positive or negative. Similar observations have been discovered in the Indian corporate sector. Various studies have been conducted in different countries as well as in India, to understand the determinants and their impact on dividend, in banking sector. But as far as the impact of financial leverage on dividend policy is concerned, limited studies are available for baking sector. A few studies are available on dividend of banking sector in India and comparison between nationalised banks and private sector banks in india. They all compare either the dividend payment or the financial leverage as a variable. Hardly any study could be found which compares nationalised and private sector banks in India with reference to the impact of financial leverage on dividend policy of banks. So the need to fill the research gap which arises out of the literature has been undertaken by the researcher for the present study.

CHAPTER III

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Identification of the research design is one of the crucial elements of any research. The research design consists of the information about the key features of the research along with the methods and tools used in conducting the research. Research design can be different from one research to another. In some studies, research design has included entire research process starting from the conceptual framework and moving on to literature review, research questions, research methodoLogy, findings and conclusion whereas, in other researches it has been restricted to the research methodoLogy only. In the present study the research design explains only the methodoLogy used in the research.

Research methodoLogy explains the way in which a research is being conducted. The research methodoLogy can be more clearly understood with the help of the research onion model (Saunders et al. 2007), where the aspects related to research are revealed one after another; starting from research philosophy and moving gradually to research approaches, research strategies, research methods, research time horizon, research techniques and procedures. It gives a clear idea about the information regarding the data source, the statistical tool and the software used in the research. This chapter explains the complete process of research undertaken to study the impact of financial leverage on dividend of banks in India with reference to comparison between nationalised and private sector banks in India. The research gap, objectives and hypotheses of the study have been explained. The research design comprising of sample universe, sampling technique, sample size, type of data collected, data sources and data analysis techniques have been elaborated.

3.2 OBJECTIVE

Every company which raises the capital by the issue of shares has to pay a part of its profit to its shareholders as dividend. The entire process which decides as to how much profit to distribute and how much to retain, is the dividend policy, which is one of the debatable issue in the corporate world. There has been increase in the number of private sectors banks in India in the recent times and the profits of the public sector

banks have been declining over the period (Chaudhary 2014). So it is important to know how the financial leverage has affected the dividend distributed to the equity shareholders. Through the review of literature it has been observed that there is a research gap as far as the dividend of banks and their relationship with financial leverage is concerned. Keeping this in view, the main objective of the study has been to find out whether the financial leverage of the banks in India has an impact on the dividend policy of the banks and to make a comparison between the nationalised and the private sector banks. Other objectives of this research has been as follows:

1) To understand the dividend behaviour of banks in India.
2) To find the relationship between earnings, financial leverage and dividend of banks in India
3) To find the impact of earnings and financial leverage on equity dividend of banks in India
4) To find the impact of earnings and financial leverage on dividend of nationalised and private banks

3.3 RESEARCH METHODS

The quality of the any research is directly affected by the research method used, if the method used is not the appropriate than the quality of the research may be adversely affected. Generally there are two types of methods used in research i.e. quantitative research method and qualitative research methods. Some of the key characteristic of the quantitative research methods includes use of various statistical instruments (tests, surveys) to collect the required data and testing the hypothesis which corresponds to the research objective or research questions. The data collected in this method are in the form of numbers which are then used to find the end results which can also be presented in the numbers (Creswell, 2007).

The qualitative research method refers to *inductive, holistic, emic, subjective* and *process oriented* methods which can be used in explaining, and developing a theory (Burns & Grove 2003). For the purpose of the present research the quantitative research method has been used.

3.4 RESEARCH DESIGN

The present research is quantitative in nature. The aim of the quantitative research is to analyse the properties of the past records and to make predictions for the future by developing mathematical models. In social sciences like commerce, management and economics statistical methods are extensively used in quantitative research. In the present research, the quantitative values for dividend, financial leverage have been studied over a period of 13 years. Inferences have been drawn from the values collected for a set of nationalised and private commercial banks in India. Further the relationships have been developed in the form of statistical models. The focus of the study has been to find the impact of financial leverage and earnings on dividend of banks.

A co relational research design has been adopted for the study to understand if there exists any correlation between financial leverage, earnings and dividend and whether the correlation is significant or not. Regression models have been developed for the leverage, earnings and dividend of commercial banks in India. Moreover as it has been a comparative study, the correlation and regression results have been found for both of the groups separately.

3.5 HYPOTHESES

To conduct the research various hypotheses have been framed based on the objectives. As the banks have been divided into two groups, the groups have been compared for dividend, earnings and financial leverage. For this purpose the following hypotheses have been framed:-

H1 : There is no significant difference between the level of Dividend paid by nationalised banks and private Indian banks in India.

H2 : There is no significant difference between the level of Financial Leverage of nationalised banks and private Indian banks in India.

H3 : There is no significant difference between the Earnings of nationalised banks and private Indian banks in India.

Then the relationship between leverage and dividend of banks has been explored. This relationship has been explored for all banks together and then for nationalised banks and private sector bank separately. For this purpose the following three hypotheses have been framed:

H4 : There is no significant relationship between the financial leverage and level of equity dividend of banks in India.

H5 : There is no significant relationship between the financial leverage and level of equity dividend in nationalised banks.

H6 : There is no significant relationship between the financial leverage and level of equity dividend in private Indian banks.

On similar grounds the relationship between the earnings and level of equity dividend has been studied with these three hypotheses:

H7 : There is no significant relationship between Earnings and level of equity dividend of banks in India.

H8 : There is no significant relationship between Earnings and level of equity dividend in nationalised banks.

H9 : There is no significant relationship between Earnings and level of equity dividend in private Indian banks.

To understand the impact of financial leverage on dividend the hypotheses have been developed for three groups separately i. e. for all banks taken together, nationalised banks and private sector bank. The hypotheses have been as follows:

H10: There is no significant impact of financial leverage on equity dividend of banks.

H11: There is no significant impact of financial leverage on equity dividend of nationalised banks.

H12: There is no significant impact of financial leverage on equity dividend of private Indian banks.

Similarly, to know the impact of earning on dividend the hypotheses have been developed as follows:

H13: There is no significant impact of earnings on equity dividend of banks.

H14: There is no significant impact of earnings on equity dividend of nationalised banks.

H15: There is no significant impact of earnings on equity dividend of private Indian banks.

3.6 SCOPE OF THE STUDY

The scope of the present study has been limited to scheduled commercial banks in India. Out of the scheduled commercial banks, nationalised and Indian private sector banks have been considered to conduct the research. In India total 20 banks were nationalised in two phases in 1969 and 1980. New Bank of India was merged with Punjab National Bank in 1993. At present there are 19 nationalised Banks and 26 Indian private banks in India which defines the scope of the study.

3.7 PERIOD OF STUDY

The data has been collected for a period of 13 years. The period has been taken from the year 2004-05 to year 2016-17. For the purpose of study, the financial data at the end of the year end i.e. 31st March has been considered.

3.8 VARIABLES USED

3.8.1 Dividend per share (DPS)

Dividend is the part of earnings of the firm paid to its shareholders. Out of the profit earned by the company, it distributes a part to its investors and keeps the remaining profit as retained earnings. The part paid to the shareholder is called dividend. The dividend is proposed by the directors of the company and then approved by the shareholders in AGM. It may be in the form of interim dividend or final dividend. For the purpose of the study the dividend has been taken as the total dividend paid per share by the banks in absolute terms for the financial year.

3.8.2 Earnings per share (EPS)

The part of the earning earned for each equity share is called the Earning per share.
To find the earnings per share the total profit after tax is reduced by the payment made for preference dividend and then divided by the number of equity.

EPS = (Profit after tax – Preference dividend) / Number of equity shares

The amount of income earned by a company is usually utilized in two ways; making dividend payments and keeping it as retained earnings for investments in business. For the purpose of the present research the earnings available to each equity shareholder in absolute terms has been taken as earning per share. Many of the researchers have found a positive relationship between earnings and dividends (Gupta and Banga 2010; El Essa, Hameedat, Altaraireh, & Nofal, 2012 and Rashid, et al. 2013) while a few have found a negative relationship.

3.8.3 Financial Leverage

A firm borrows funds to invest, in order to expand the business and increase the profitability. These borrowing, as the additional investment, allows the firm to raise its potentiality that it could not achieve by solely using its own funds (D'Hulster 2009). The use of debt may lead to significant variation in the return on the stocks of the firm even without having an impact on its operational profits, simply by increasing the rate of return for the shareholder as the interest paid on debt is less than the return earned on money invested. This is called financial leverage or gearing. Financial leverage may be measured in various ways. Few of the common measures of the financial leverage are:

a) Debt Ratio

It is the ratio of total debts to the total assets of the firm.

Financial leverage = Debt ratio = D/ (D+E)=D/V

Where D = Value of Total Debt

E= Value of Shareholders' Equity

V= Total Value of capital

b) Debt –Equity Ratio

When this ratio is used as measure of financial leverage then it is the number of times the equity value of the firm is represented by the total debts. It is the amount of debt taken for every rupee of equity capital.

Financial leverage= Debt Equity Ratio= D/ E

c) Interest Coverage Ratio

It is the ratio of net operating income of the firm and the interest charges.

Financial leverage= Interest Coverage Ratio = EBIT/Interest

There is hardly any difference between the first two measures of the financial leverage. Both of the methods are static in nature and depict the borrowing position of the company at a particular point of time. The value of debt ratio may lie between 0 and 1 while the value of debt equity ratio may lie between 0 and any greater number. Out of these, the debt equity ratio is used more in practice to measure the risk profile of the company concerned in general and by financial institutions and banks for lending in particular.

The third measure depicts the company's capacity to meet fixed financial charges. This measure suffers from few limitations like, cash flow information is needed for calculation of coverage ratio, it does not provide any information for the future risk profile of the company and it is a measure of short term liquidity only. So it is not used so much in practice as a measure of financial leverage.Various researchers have used debt equity ratio as a measure of financial leverage (Al Malkawi ,2007; Gill, Biger and Tibrewala,2010; Gupta and Banga,2010; Lalu Candra Karami ,2012; Zameer *et. al.2013;* Malik *et. al.,2013)* in their research related to dividend and other financial aspects. For the purpose of current research the debt equity ratio has been used as a measure of financial leverage.

3.9 SAMPLE DESIGN

The universe for the study has been nationalised and Indian private scheduled commercial banks in India. The sample has been designed on the basis of purposive sampling technique. A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study. The banks listed on Bombay Stock Exchange as on 31st December 2012 have been selected for the purpose of study. On that date, 19 nationalised banks and 15 private Indian banks were listed on Bombay stock Exchange. The list of banks selected for the study is as follows:

	Nationalised banks		**Private banks**
1	Andhra Bank	1	Axis Bank
2	Allahabad Bank	2	City Union Bank
3	Bank of Baroda	3	Development Credit Bank
4	Bank of India	4	Dhanlaxmi Bank
5	Bank of Maharashtra	5	Federal Bank
6	Canara Bank	6	HDFC Bank
7	Central Bank of India	7	ICICI Bank
8	Corporation Bank	8	IndusInd Bank
9	Dena Bank	9	J & K Bank
10	Indian Bank	10	Karnataka Bank
11	Indian Overseas Bank	11	Karur Vysya
12	Oriental Bank of Commerce	12	Kotak Mahindra Bank

	Nationalised banks		Private banks
13	Punjab National Bank	13	Lakshmi Vilas Bank
14	Punjab and Sind Bank	14	South Indian Bank
15	Syndicate Bank	15	Yes Bank
16	UCO Bank		
17	Union Bank of India		
18	United Bank of India		
19	Vijaya Bank		

3.10 SOURCE OF DATA

As the study is about dividend and financial leverage of banks in India which are listed on Bombay stock exchange the secondary data has been used for the purpose of the research. The data has been collected from the annual reports of banks, reports of RBI, reports of BSE India, Journals and other publications. Information available on different web sites has been the major source of data. The required data have also been collected from the Prowess data base process provided by Centre for Monitoring Indian Economy (CMIE).

3.11 DATA COLLECTION AND DATA MODIFICATION

The secondary data has been collected for dividend per share, earnings per share, total debt to owners fund as a representative of financial leverage. For any kind of analysis and comparison, all the data should have some common base. The dividend per share and earnings per share of the banks can be compared only if the face value (base) is equal. So, to make data comparable the collected values have been adjusted wherever split in the share has taken place. All the data has been adjusted taking the face value of Rs. 10 as base. After the collection of data from various sources as per the requirement, the tables have been developed in Microsoft Excel for individual bank, nationalised banks group and private banks group. Values for Dividend payout ratio have been calculated. For analysis banks have been divided into two groups, nationalised banks and Indian private sector banks. In total 19 nationalised banks and 15 Indian private sector banks have become the part of study.

3.12 VALIDITY AND RELIABILITY

Assessment of accuracy and evaluation of research uses reliability and validity as important aspects of the research (Tavakol and Dennick, 2011). Reliability and validity are judged differently in case of quantitative and qualitative research (Creswell, 2014). The research results are said be reliable if consisitent results are achieved repeatedly in similar situations and different circumstances (Twycross and Shields, 2004). So reliability is about consistency and stability. Validity means the instrument measures exactly what it intends to measure (Thatcher, 2010). A measurement may be reliable but invalid; however, it can't be unreliable but valid (Thatcher, 2010; Twycross and Shields, 2004). The validity of the data for the secondary sources is as important as in the case of primary source data. Many qualitative researchers who initially argued that the validity of data in qualitative research is not applicable, but over the time, they have realized that there is need for some tools to check the quality of the qualitative method(Creswell & Miller 2000). Various other scholars have created their own methods to check the validity like quality, rigor and trustworthiness(Seale 1999; Davies & Dodd 2002; Lincoln & Guba 1985). As far as the current study is concerned the information used is secondary in nature. Validity and reliability can be ensured on various criterions such as –

a) **The sample should be true representative of the population -** All the banks listed on BSE on 31st March, 2012 that have paid dividend have been selected for the purpose of the study. The study has considered 19 nationalised banks and 15 Indian private sector banks out of the total of 19 and 26 banks respectively. So it can be concluded that sample is the true representative of the population in the present study.

b) **The variables should be true representative of the problem** - The variables used in the present study have been used by various researchers in past. These variables are standardised in the worlds of finance and management.

c) **Reliable data source -** The data sources, sites of respective banks, Reserve Bank of India, which are used in the present study, are the reliable ones.

d) **Period of the Study -** The period of study is quite large. The data of 13 years has been used, so the results seem to be reliable.

e) **Appropriate tools and techniques** - Standardized and most accepted tools and statistical software are used for the purpose of study.

3.13 STASTICAL TECNIQUES USED

After the collection of data, analysis has been done using SPSS 21. Analysis has been done in the order of hypothesis. First general descriptive statistical analysis has been conducted for the dividend, earnings, debt /equity, and dividend payout ratio for the data for all banks and in groups. Then data has been divided into two groups and independent sample t test has been applied for dividend, earnings and debt/equity ratio. Correlation has been applied to find the relationship between variables in groups. Regression has been run among the variables in groups to understand the impact of independent variables on the dependent variable in the groups. Difference in correlation and regression results has also been analysed. Similarly correlation and regression has been run on the whole set of data. Earlier also various scholars have used this method to study the impact of the financial leverage in the dividend policy in corporate sector. (Asif et al. 2011) used the same method to study the impact of the financial leverage on the dividend policy for the companies listed on Karachi stock exchange. Similarly (Emamalizadeh et al. 2013; Khan et al. 2013) follow the method of correlation and regression method to find the impact of the financial performance on the dividend policy on Tehran stock exchange and the Pharmaceutical company in Pakistan respectively.

3.13.1 INDEPENDENT SAMPLE t-TEST

The independent t-test is known by various names like two sample t-test, independent-samples t-test or student's t-test. It is an inferential statistical test to determine whether the two unrelated groups have a statistically significant difference between their means. The assumption of the test is that there is no significant difference in the means of the two groups tested. The two groups are said to be statistically different from each other if we are able to reject this assumption or null hypothesis of the test and accept the alternate hypothesis. For this purpose, level of significance is being used on the basis of which we accept or reject the assumption. This significance level is called alpha. Mostly the alpha level is set at 0.05. If the variances in the two groups to be tested are unequal type 1 error rate may get affected. Levene's test of equality of variances which is used to test the homogeneity of variances of the group has been used with the help of SPSS. This test results are produced in SPSS when we run independent t-test procedure. If the significance level

for the test is more than 0.05 then the group variances are treated equal but if it is less than 0.05 then the assumption of homogeneity of variances is treated as violated.

3.13.2 CORRELATION

Correlation is a relationship or connection between two or more variables. It is a statistical technique that can show whether the two variables are related to each other or not and how strongly this relationship exists. The correlation results are in the form of correlation coefficient (or "r"). The value for "r" ranges between -1.0 and +1.0. The relationship is said to be stronger when the value of r is nearer to +1 or -1. The variables are said to be unrelated, if r is close to 0. Positive r denotes direct relationship which means both the variables move in same direction. Negative r denotes inverse relationship which means the variables move in opposite direction. Square of r makes the correlation easy to understand. The percentage of change in one variable that is explained by the other variable is denoted by the square of the coefficient of correlation (or r square). Statistical significance and size of the sample are also reported in correlation report. Pearson correlation technique is most suited for linear relationships where one variable changes with other variable either in the same direction or opposite direction but in the same proportion.

3.13.3 REGRESSION

Regression is a generously used statistical measure in social sciences like finance. It analyses the strength of relationship between independent and dependent variables. The dependent variable is denoted by Y and dependent variable is denoted by X or a series of X, which are usually free moving variables and keep on changing. It is a predictive modelling technique which is widely used for forecasting, time series effect and finding causal relationship among variables. It depicts the impact of independent variable or variables on dependent variable. Regression tries to establish a mathematical relationship between random variables X and independent variable Y where X has the power of predicting Y. It is an important tool for analyzing and modelling the financial data. For the purpose of prediction various kinds of regression are used which vary on the basis of number of independent variables, type of dependent variables and shape of regression line. Linear regression as a modelling technique assumes the relationship to be typically in the form of a straight line that approximates all the data points. The general form of this type of regression is

$$Y = a + bX + u$$

Where:

Y = the variable to be predicted (dependent variable)

X = the variable to be used for predicting Y (independent variable)

a = the intercept

b = the slope

u = the regression residual

if the number of independent variables is more than one then the linear regression is called multiple linear regression. **Multicollinearity, autocorrelation, heteroskedasticity are few of the problems from which multiple linear regression may suffer**. Linear Regression is very much affected by **Outliers**. Outliers can have a tremendous effect on the line of regression and the predicted values. Multicollinearity makes the model too sensitive to the changes and coefficient estimates become unstable.

Polynomial or nonlinear regression is the technique of regression in which the line of good fit is not a straight line. It is curvilinear in shape in this case. A polynomial regression equation can be written as

Y= a+b*X^2

Thus in polynomial equation the power of the independent variable is more than 1.

3.14 SUMMARY OF THE CHAPTER

So the chapter explained the research methodoLogy in general and the choices made for the current research. The research has been a quantitative co-relational research based on secondary data of 34 commercial banks over a period of 13 years using various research tools like Independent sample *t* test, correlation and regression with the help of software like MS Excel 2007 and SPSS 21.0.

CHAPTER – IV

INTRODUCTION TO CHOSEN BANKS

4.1 INTRODUCTION TO CHAPTER

In the previous chapters, the literature related to dividend, financial leverage and impact of financial leverage on dividend of corporate firms and banks has been explored. As the present study has been about determination of this relationship within the banking sector, this chapter gives the overview of banks (both nationalised and private) selected for research purposes. 19 nationalised banks and 15 private sector banks have been chosen for the analysis.

The history of banking structure and how nationalization, liberalization and privatization of banking structure took place in India, has been discussed in the first section of the chapter. The chapter has explained briefly about each and every bank selected for the purpose of the study. Certain important issues like the origin, historical perspective, type of company, presence and position in the market, composition of share capital and shareholders, dividend behaviour and dividend policies of the banks have been discussed. It would help in understanding their dividend behaviour and guide the researchers in the further analysis of the topic concerned.

4.2 BANKING STRUCTURE IN INDIA

The Indian Banking system is one of the fastest growing sectors and has also contributed significantly to the Indian economy. The current banking system in India, has evolved at a high pace contributing to the credit and banking needs of the economy. The first bank in India was established in FY1786 and was named "The General Bank of India". Eventually, nearly 2 decades later, with the entry of East India Company in India, other banks like The Bank of Bengal (1809), Bank of Bombay (1840) and Bank of Madras (1843) were established. These individual units were collectively known as Presidency Banks. In year 1865, Allahabad Bank was established which was the first bank to be under the governance of Indians. Nearly three decades later, Punjab National Bank Ltd. was set in FY1865. Financial period of 1906 to 1913 saw the establishment of several banks namely, Bank of India (BOI), Central Bank of India (CBI), Bank of Baroda (BOB), Canara Bank, Indian Bank and Bank of Mysore. In FY1921, the presidency bank was amalgamated which paved the way for the establishment of Reserve Bank of India was established in 1935.

After India gained independence, the initial stage of growth was weak which led to the establishment of Banking Company Act in FY 1949 followed by its amendment to

establish Banking Regulation Act in 1965 which led to nationalization of banks. State Bank of India with 7 subsidiaries was established in FY1955, wherein the nationalization of these subsidiaries was took 5 years. At the end of 1960s, nearly 15 commercial banks were nationalised and this number came to 20 in FY1980 when more banks were nationalised. Currently, India has 96 scheduled commercial banks,- 27 public sector banks (in which Government of India holds a stake), 31 private banks (in which government do not have stake; they may be publicly listed and traded on stock exchanges), 43 foreign banks, 1589 urban co-operative banks and 93550 rural co-operative banks. The Indian Banking sector has been summarized in Figure below:

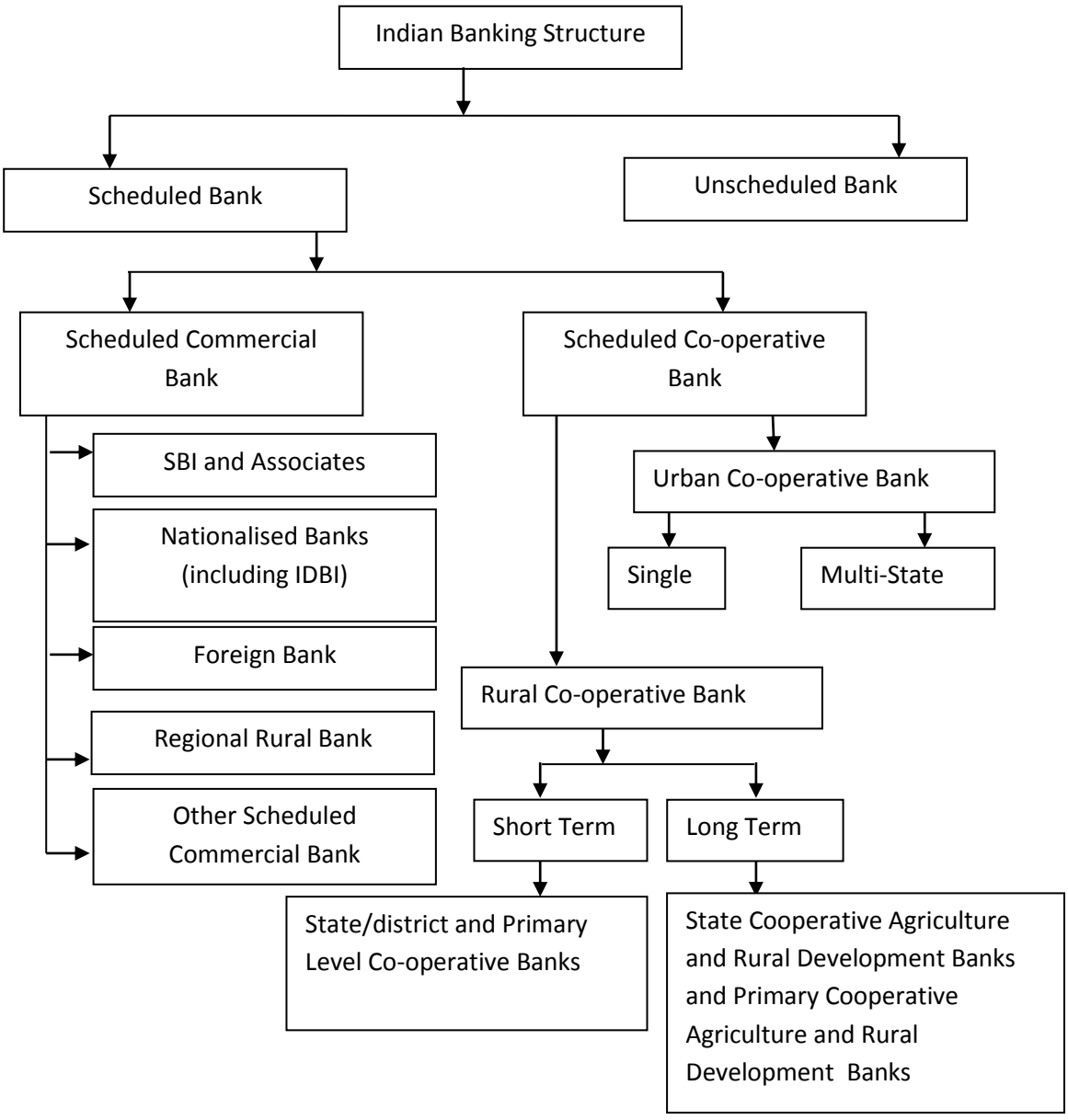


Figure 4.1: Overview of Banking Structure of India

In 1991 a marked decisive change took place in India's economic policy. Structural reforms changed the prevailing economic policy fundamentally and the private sector started playing an important role in so called mixed economy which characterized by far reaching government involvement till now (Acharya, 2002). These reforms affected the banking sector also. Deregulation of interest rates, an easing of directed credit rules under the priority sector lending arrangements, a reduction of statutory pre-emptions, and lowering of entry barriers for both domestic and foreign players were few of the major reforms which affected banking sector. This sector was characterized as inefficient, unprofitable and financially unsound till 1991 (Joshi and Little, 1997). Going with the overall goals of economic reforms of 1991, even in the banking sector the role of markets and private players was increased. As the entry barriers were reduced seven new private banks started their operations in India between 1994 and 2000. 2o foreign banks have also started operating in India since 1994. Private and foreign banks together had almost 20% share in total assets of bank within a span of 10 years i.e. by 2004. Improvement in technoLogy, specialized skills, better risk management and portfolio diversification were few of the benefits achieved by entry of private and foreign players.

In 1993, as another step towards structural changes the SBI Act of 1955 was amended to promote partial private shareholding. The SBI became the first public sector bank to raise equity in the capital markets. After the 1994 amendment, Public sector banks were allowed to offer up to 49% of their equity to the public. With this privatisation also took place in further 11 public sector banks. Still the government maintained strong administrative control over public sector banks. Now changes are taking place at a very fast pace in Indian banking industry.

The overview of the banks selected for the study has been presented in this section. Firstly, nationalised banks and then private banks have been presented.

4.3 NATIONALISED BANKS

a) Allahabad Bank

Allahabad Bank is one of the leading mid-cap nationalised bank having 3248 operational branches. The bank network is presently active in twenty nine states and three union territories of India. The head-quarter is in Kolkata, India. It is the oldest joint stock bank.Allahabad Bank was established in 1865. It was founded by a group

of Europeans at Allahabad. The main aim and the vision of the Allahabad Bank is becoming a leading bank in India which provides a complete range of services to its customers and continuously involved in providing innovative services while maximizing the value of its stakeholders. One of the important missions is achievement of world class standards for providing services to customers making maximum usage of technoLogy and human resources. The bank got nationalised in July 1969in the first phase of nationalization. In 1920, P & O Banking Corporation overtook bank by acquiring its shares. The first overseas office of the bank was opened at Hong Kong in 2007.

As per the last financial statements Government of India owns 55.23% shares of the bank and Institutional investors hold 08.74% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	1.63	2.5	6	6	6	5.5	2.5	3	3

b) Andhra Bank

Andhra Bank is one of the leading mid-cap nationalised bank having 2803 operational branches. The bank network is presently active in twenty five states and three union territories of India. The head-quarter is in Hyderabad, Telangana. Andhra Bank was established in 1923 with the initial paid up capital of Rs 1 lakh and authorized capital of Rs. one million. It was founded by Dr. Bhogaraju Pattabhi Sitaramayya, who is known to be an e eminent freedom fighter. The main aim and the vision of the Andhra Bank is becoming a leading bank in India which provides a complete range of services to its customers and continuously involved in providing innovative services while maximizing the value of its stakeholders. One of the important missions is achievement of world class standards for providing services to customers making maximum usage of technoLogy and human resources. It was nationalised in April 1980, along with 5 other banks in second phase of nationalization .Till then the bank is wholly owned by Government of India. The first overseas office of the bank was opened at Dubai in 2006 and the next at New Jersy in 2009. In 2010 a joint venture of Andhra Bank along with Bank of Baroda and Indian Overseas Bank incorporated India BIA Bank (Malaysia) and was successful in achieving the commercial banking

license. Andhra Bank has 25% stake in the joint-venture. In an another joint venture with Bank of Baroda, Indian overseas bank and Legal & General Group of UK it formed India First Life Insurance Company. It is also having bancassurance tie up with United India Insurance Company. As per its mission of introducing innovative services the bank was the first one to bring credit card in India way back in 1981.

As per the last financial statements Government of India owns 69.77% shares of the bank and Institutional investors hold 17.7% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0.5	2	1.1	5	5.5	5.5	5	4.5	4	3.8

c) **Bank of Baroda**

Bank of Baroda is a small-cap nationalised bank having 5481 operational branches. The head-quarter is in Vadodara, Gujarat, India. It was established by Maharaja Sayajirao Gaekwad III (Maharaja of Baroda) in 1908 in the State of Baroda, in Gujarat. The main aim and the vision of the Andhra Bank is becoming a leading bank in India which provides a complete range of services to its customers and continuously involved in providing innovative services while maximizing the value of its stakeholders. One of the important missions is achievement of world class standards for providing services to customers making maximum usage of technoLogy and human resources. This bank was also nationalised in first phase along with 13 others in 1969, by the Government of India. It designated as a profit-making public sector undertaking .The first overseas office of the bank was opened at Mombasa (in Kenya) and Kampala (in Uganda) in 1953. In 2010 a joint venture of Bank of Baroda along with Andhra Bank and Indian Overseas Bank incorporated India BIA Bank (Malaysia) and was successful in achieving the commercial banking license. Bank of Baroda has 40% stake in the joint-venture. In another joint venture with Andhra Bank, Indian overseas bank and Legal & General Group of UK it formed India First Life Insurance Company where Bank of Baroda has 44% stake.

As per the last financial statements Promoters owns 58.7% shares of the bank and Institutional investors hold 19.86% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	6	0	16	21.5	21.5	17	16.5	15	9	8	6

d) **Bank of India**

Bank of India is also a small-cap nationalised bank having 4963 operational branches. The bank network is presently active all over India. The head-quarter is in Mumbai, Maharashtra. Bank of India was established in 1906. It was founded by a group of eminent businessmen. At the beginning the bank was started with the total paid up capital of Rs. 50 lakh and employee strength of 50 employees. At that time banks in India were mainly serving the interest of the community of the promoter- group. As most of the banks were owned by Europeans, they served the interests of European merchants. Bank of India was the first bank whose promoters decided to serve all the communities of India. Over the period of time bank has shown impressive growth and has made its presence not only on the domestic level but also in the international level. The main aim and the vision of the Bank of India is becoming a leading bank in India which provides a complete range of services to its customers and continuously involved in providing innovative services while maximizing the value of its stakeholders. The bank was nationalised in 1969 as a part of first phase of nationalization. Bank of India became the first bank to open a branch in London in 1946 and its international expansion started at that time.

As per the last financial statements Government of India owns 75.12% shares of the bank and Institutional investors hold 19.97% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	5	5	10	7	7	7	8	4	3.5

e) **Bank of Maharashtra**

Bank of Maharashtra is a small-cap nationalised bank having 1897 operational branches. The bank network is presently active in twenty nine states and five union territories of India. The head-quarter is in Pune, Maharashtra. Bank of Maharashtra

was established in 1935 with authorized capital of Rs. one million. It was founded by V. G. Kale and D. K. Sathe. The main aim and the vision of the Bank of Maharashtra is becoming a leading bank in India which provides a complete range of services to its customers and continuously involved in providing innovative services while maximizing the value of its stakeholders. One of the important missions is achievement of world class standards for providing services to customers making maximum usage of technoLogy and human resources. It was nationalised in 1969, along with 13 other banks in first phase of nationalization. Becoming the forward looking, customer centric and techno-savvy bank for the serving and enhancing the value of the shareholder is the main vision of the bank. The 3M in the bank's Logo symbolize the Modernization of Method, Mobilization of Money and motivating the employees. In 1998 it attained the autonomous status. Now, the Government bureaucracy has limited interference in the decision making process and internal affairs of the bank.

As per the last financial statements Government of India owns 82.91% shares of the bank and Institutional investors hold 12.4% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	0.8	1	2.3	2.2	2	2	1.5	2	2

f) **Canara Bank**

Canara Bank is one of the leading nationalised bank having 6639 operational branches. The head-quarter is in Bangalore, Karnataka. Canara Bank was established in the year 1906. It was founded by Ammembal Subba Rao Pai. The main aim and the vision of the Canara Bank is becoming a leading bank in India which provides a complete range of services to its customers and continuously involved in providing innovative services while maximizing the value of its stakeholders. One of the important missions is achievement of world class standards for providing services to customers making maximum usage of technoLogy and human resources. In 1969,it was nationalised in first phase with 13 other banks. The first overseas branch of Canara bank was opened in London in 1983. Indo Hong Kong International Finance is

a subsidiary of the bank established in Hong Kong in 1985. Commercial Bank of India LLC, Moscow is a joint venture of the bank with State Bank of India.

As per the last financial statements Government of India owns 66.3% shares of the bank and Institutional investors hold 19.99% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	1	0	10.5	11	13	11	11	10	8	8	7

g) Central Bank of India

Central Bank of India is another leading mid-cap nationalised bank having 4730 operational branches. The bank network is presently active in twenty seven states and three union territories of India. The head-quarter is in Mumbai, Maharashtra. It was founded by Sir Sorabji Pochkhanawala with Sir Pherozeshah Mehta as Chairman on 21 December 1911. It was the first commercial Indian bank which was fully owned and managed by Indians. The main aim and the vision of the Central Bank is becoming a leading bank in India which provides a complete range of services to its customers and continuously involved in providing innovative services while maximizing the value of its stakeholders. One of the important missions is achievement of world class standards for providing services to customers making maximum usage of technoLogy and human resources. In 1936, it played an instrumental role in establishment of the Central Exchange Bank of India (the first Indian exchange bank) in London which was taken over by Barclays Bank in 1938. Nationalization of the bank took place in first phase in 1969. In 1980 it became the first bank to introduce credit cards in India in collaboration with Mastercard. Central bank of India is one of 20 Public Sector banks in India to get recapitalisation finance from the government. At present, the bank has international presence in the form of overseas branches at Nairobi, Hong Kong and a joint venture with Bank of India, Bank of Baroda, and the Zambian government.

As per the last financial statements Government of India owns 81.91% shares of the bank and Institutional investors hold 13.71% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	0.5	0	2.5	2	2.5	2.2	2	2	3

h) Corporation Bank

Corporation Bank is a small-cap nationalised bank having 2440 operational branches. The head-quarter is in Mangalore, Karnataka. Corporation Bank was established in 1906. The main objective of forming the corporation bank was to *cultivate habits of thrift* for all classes of people in India without discrimination on the basis of the creed and cast and also promote the habit of co-operation among the different class of people. The main aim and the vision of the Corporation Bank is becoming a leading bank in India which provides a complete range of services to its customers and continuously involved in providing innovative services while maximizing the value of its stakeholders. One of the important missions is achievement of world class standards for providing services to customers making maximum usage of technoLogy and human resources. It was nationalised in April 1980, along with 5 other banks in second phase of nationalization .Till then the bank is wholly owned by Government of India.

As per the last financial statements Government of India owns 70.76% shares of the bank and Institutional investors hold 21.56% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	7	6.75	19	20.5	20	16.5	12.5	10.5	9

i) Dena Bank

Dena Bank is a small-cap nationalised bank having 1173 operational branches. The bank network is presently active in twenty eight states and five union territories of India. The head-quarter is in Mumbai, Maharashtra. Dena Bank was established in 1938. Devkaran Nanjee family founded the bank under the name Devkaran Nanjee Banking Company. In 1939, it was incorporated as public company and adopted its

new name, Dena Bank taking De from Devkaran and Na from Nanjee. The main aim and the vision of the Dena Bank is becoming a leading bank in India which provides a complete range of services to its customers and continuously involved in providing innovative services while maximizing the value of its stakeholders. One of the important missions is achievement of world class standards for providing services to customers making maximum usage of technoLogy and human resources. It also got nationalised in first phase in 1969.

As per the last financial statements Government of India owns 61.53% shares of the bank and Institutional investors hold 23.51% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	0.9	2.2	4.7	3	2.2	2	1.2	1	0.8

j) Indian Bank

Indian Bank is the leading mid-cap nationalised bank having 2682 operational branches. The head-quarter is in Chennai, Tamil Nadu. Indian Bank was established in 1907. V. Krishnaswamy Iyer , the famous lawyer in Madras, founded Indian bank while supporting the nationalistic feelings and Swadeshi movement in early 19th century. He was supported by Mr. Ramasamy Chettiar, elder brother of Annamalai Chettiar's. The city witnessed the collapse of British Arbuthnot Bank and emergence of Indian Bank. Sri V. Krishnaswamy Iyer and Mr. Ramasamy Chettiar became the first directors of the Bank. It commenced operations on 15 August 1907 with its head office in Parry's Building, Parry Corner, Madras. In 1915, Mr. Annamalai Chettiar was also included in the board of the bank. It started first overseas branch in Colombo in 1932 and second at Ceylon in 1935. The bank was nationalised in first phase of nationalization in 1969. Indian Bank has its presence in the various foreign countries also which includes Singapore and Srilanka. Indian Bank has two subsidiary companies: IndBank Housing ltd and Indbank Merchant Banking Services ltd.

As per the last financial statements Government of India owns 82.10% shares of the bank and Institutional investors hold 15.15% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	6	1.5	4.2	4.7	6.6	7.5	7.5	6.5	5	3	3

k) **Indian Overseas Bank**

Indian Overseas Bank is one of the leading mid-cap nationalised bank having about 3400 operational branches. The bank network is presently active in twenty nine states and six union territories of India. The head-quarter is in Chennai, Tamil Nadu. Indian Overseas Bank was established in 1937 by Thiru. M.Ct. M. Chidambaram Chettyar for encouraging overseas banking and foreign exchange operations. The bank was started simultaneously at three branches at Karaikudi, Madras, and Rangoon. As it was to encourage overseas banking it hurriedly opened branches in Kuala Lumpur and Singapore. In 1969, it was nationalised with 13 other banks. In the new century the bank took over Bharat Overseas Bank and once again got involved into international expansion. Three years later, a joint venture of Andhra Bank along with Bank of Baroda and Indian Overseas Bank incorporated India BIA Bank (Malaysia) and was successful in achieving the commercial banking license. The bank holds 35% stake in the joint venture. The core values of the bank are to make the banking system more customer-centric and make the system more transparent and also promote green banking. Indian Overseas bank has proposed the mission statement for the time period 2013-2020. The important mission of the bank includes delivering the best competitive service and product to the customers; optimize the Human Resource through various training and mentoring and to develop the future leaders for the banking industry.

As per the last financial statements Government of India owns 89.74% shares of the bank and Institutional investors hold 6.53% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	0	1.2	2	4.5	5	3.5	4.5	3.5	3

l) Oriental Bank of Commerce

Oriental Bank of Commerce is one of the leading mid-cap nationalised bank having 2323 operational branches. The bank network is presently active in twenty six states and five union territories of India. The headquarter is in Gurgaon, Haryana. Rai Bahadur Lalaji Sohanlalaji was the first Chairman of the Bank who founded the bank in 1943 in Lahore. Just after four years of establishment the banks had to close its branches in Pakistan after partition of the country and the registered office was transferred to Amritsar. The whole money deposited by depositors from Pakistan as a decision by then chairman of the bank Lala Karam Chand Thapar. It was nationalised in second phase of nationalization, in April 1980. In 1997, the bank acquired Bari Doab Bank and Punjab Cooperative Bank. The special features of the bank are focus on development of infrastructure and 14 point action plan. The bank is committed to credit to women and has 5 branches specially designated to women entrepreneurs.

As per the last financial statements Government of India owns 77.23% shares of the bank and Institutional investors hold 16.34% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0.7	3.3	7.6	9.2	7.9	10.4	9.1	7.3	4.7	4.7

m) Punjab and Sind Bank

Punjab and Sind Bank is a small-cap nationalised bank having 1466 operational branches. Out of the total 1466 branches, 623 branches are in the state of Punjab. The headquarter is in New Delhi, India. It was established by Bhai Vir Singh, Sir Sunder Singh Majitha, and Sardar Tarlochan Singh in 1908. In 1980 the bank was nationalised in second phase of nationalization along with 5 other banks. The first overseas branch of the bank was established in 1960s in London. In 1991 that London branch was taken over by Bank of Baroda because of Punjab & Sind's involvement in the Sethia fraud in 1987. Punjab & Sind has shown a wonderful growth chart since 2004. It has registered a growth rate of 40% from 2004 onwards and because of this its recent IPO was oversubscribed by more than 50 times. The bank has reached the level of business of Rs 1 lakh crore in the recent past. The mission statement of Bank

includes, dedicating the banking service with the motto of "*Sarva Jana HitaiSarva Jana Sukhai*" and also to provide quality customer service with the introduction of various innovative banking products and services.

As per the last financial statements Government of India owns 79.62% shares of the bank and Institutional investors hold 12.35% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	1.65	0.6	2.2	2.68	2	2	0	0	0	0

n) Punjab National Bank

Punjab National Bank is the one of the largest nationalised bank having 6937 operational branches in India which presence in almost every part of the country. The head-quarter is in New Delhi, India. It was established in 1894 with the objective of creating a national bank that would foster the economic interest of the country. The first board was composed of people from different parts of the country having different backgrounds and faith. Dyal Singh Majithia and Lala Harkishen Lal, Lala Lalchand, Kali Prosanna Roy, E. C. Jessawala, Prabhu Dayal, Bakshi Jaishi Ram, and Lala Dholan Dass were few of the founders of the bank. In early years Lala Lajpat Rai was also actively associated with the management of the Bank.years. The bank was started with the authorized capital of Rs. 2 lakhs with the total working capital at the beginning ofRs. 20,000. Punjab National bank was established with the main mission of "Banking *for the unbanked".* In 1969, the bank was nationalised in the first phase, along with 13 other banks. Nedungadi Bank, the oldest private bank in Kerala was taken over by PNB in 2003. At the time of the merger with PNB, Nedungadi Bank's shares had zero value, with the result that its shareholders received no payment for their shares. ." The vision of the bank is to become a global bank not only in India but also in the International market and become a brand for the Indo-Gangetic household. After opening a representative office in London, PNB also opened branches in Kabul, Afghanistan, Shanghai, and in Dubai.

As per the last financial statements Government of India owns 58.87% shares of the bank and Institutional investors hold 17.51% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	16.5	10	27	22	22	22	20	13	10

o) Syndicate Bank

Syndicate Bank is one of the oldest and major commercial nationalised bank having over 3500 operational branches. The head-quarter is in Manipal, India. It started its business with a capital of 8000 rupees. It was started by T M APai, UpendraPai and VamanKudva in 1925 at Udupi in Karnataka state. The main objective of establishing the bank was to provide financial assistance to the people who were affected by the crisis in handloom industry. With the passing times, twenty banks merged with the Canara Industrial and Banking Syndicate Limited including the Maharashtra Apex Bank Limited and Southern India Apex Bank Limited. The name of the bank was changed to Syndicate Bank Limited in 1964 and the head office of the bank was shifted to Manipal. In 1969 it was nationalised in the first phase along with 13 other banks. The bank in addition to expanding its operations in India has also expanded on the overseas front. The bank has a branch in London and the bank manages National Exchange Co. in Doha and Musandam Exchange Co. in Muscat.

As per the last financial statements Government of India owns 63.34% shares of the bank and Institutional investors hold 19.53% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	4.7	5.5	6.7	3.8	3.7	3	3	2.8	2.8

p) UCO Bank

UCO Bank is one of the leading mid-cap nationalised bank having more than 4000 operational branches. The bank network is presently active in all twenty nine states and seven union territories of India. The head-quarter is in Kolkata, West Bengal.

Ghanshyam Das Birla, the well known industrialist in India, thought of having a commercial bank with Indian management and capital during Quit India movement of 1942. He established the United Commercial Bank Limited, with paid up capital of Rs. 1 Crore with its head-office in Kolkata. The first chairman was Ghanshyam Das Birla and other members of the board included famous Indian personalities from different fields. 14 branches were opened simultaneously by the bank across India. In 1969 the United Commercial Bank was nationalised along with the other major banks in India and 100 % ownership was taken by the Indian government changing the name of the Bank to UCO bank in 1985 under the Act of parliament. The main mission of UCO bank was to develop a customer-friendly bank which should be committed towards the welfare of the society. The first overseas branch was in Rangoon and later on branches in Singapore, Hong Kong, London and Malaysia were opened. The bank have been competing the leading nationalised banks like State Bank of India, Punjab National Bank and Bank of Baroda, HDFC Bank, but now the competition has increased with the growth of private sector banks like ICICI Bank, HDFC Bank and Axis Bank.

As per the last financial statements Government of India owns 80.5% shares of the bank and Institutional investors hold 12.3% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	2	3	1.6	3	3	1.5	1	1	1

q) Union Bank of India

Union Bank of India is another leading mid- cap nationalised bank having 4214 operational branches, including 4 overseas branches in Hong Kong, Dubai, Antwerp, and Sydney (Australia). The bank network is presently active in almost all over India. The head-quarter is in Mumbai. It was started as a limited company in 1919 and nationalised in 1969 in first phase of nationalization. In 1985 it took over Miraj State Bank, which was having 26 branches. In 1999 it took over Sikkim bank at the request of the Reserve Bank of India.

As per the last financial statements Government of India owns 55.52% shares of the bank and Institutional investors hold 23.93% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	1.95	6	4	8	8	8	5.5	5	4	3.5

r) United Bank of India

The United Bank of India was initiated in FY 1914, however it was formed in 1950 with the merger of the four banks namely Bengal Central Bank (1918), Comilla Banking Corporation (1914), Hooghly Bank ltd (1932) and Comilla Union Bank ltd (1922). In 1961, Cuttak Bank and Tezpur Industrial bank was merged into UBI. In 1969, the bank was nationalised. It further took over Hindustan Mercantile bank in 1973 and Narang Bank of India in 1976. It is a government owned financial services company having its head-quarter in Kolkata with a network of 2054 branches spread all over India. The main mission of the bank is to emerge as the techno savvy, dynamic, progressive, customer centric and financially strong bank of the country. Building trust and making the banking system more transparent and the welfare of the stakeholder are also included in the mission of the bank. The bank has got SEBI approval for 1000 crore equity issue by way of institutional placement.

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	0	0	2.1	2.4	2.2	2	0	0.3	0.3

s) Vijaya Bank

Vijaya Bank is one of the leading mid-cap nationalised bank having 2031 operational branches. The bank network is presently active in twenty eight states and five union territories of India. The head-quarter is in Bangalore, Karnataka. It was established in 1931 by Shri A.B Shetty in Karnataka. Being established on Vijayadashmi it was named as Vijaya Bank. It was started with authorized capital of Rs. 5 lakh and issued up capital of only Rs. 2 lakh. It was nationalised in second phase in 1980. The objective of the banks is to promote the banking culture and also promote the

entrepreneurship in the Indian farming community with special attention to the Karnataka state. The Bank has been active in making the banking services available to rural masses and their financial empowerment.

As per the last financial statements Government of India owns 68.77% shares of the bank and Institutional investors hold 18.24% of the shares. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	1.5	0	1.5	2	2.5	2.5	2.5	2.5	1	2	2

4.4 PRIVATE SECTOR BANKS

a) Axis Bank

Axis Bank is the third largest private sector bank in India which was established on 1993.as UTI bank. UTI Bank was jointly established by the Life Insurance Corporation (LIC), General Insurance Corporation of India (GIC) and Union Trust of India (UTI). Currently Axis Bank offers various banking service to the large as well as the medium corporate and Agriculture sector. The first overseas branch of the bank was opened in 2006 in Singapore and then in Dubai and Hongkong in 2007. In 2007 UTI Bank changed its name to Axis Bank. The main vision of the bank is to become the preferred financial solution banker and deliver excellence in customer satisfaction and also to empower the employees. Currently there are total 3304branches and the head office is located in Mumbai.

As far as share holding is concerned almost 31% of the shares of the bank are held by promoters i.e. United India Insurance Company Limited, Oriental Insurance Company Limited, National Insurance Company Limited, New India Assurance Company Ltd, GIC, LIC & UTI.

Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	25	25	23	20	18	16	14	12	10	6	4.5

b) City Union Bank

City Union Bank is one of the leading mid-cap private bank having more than 600 operational branches. The bank network is presently active in fourteen states and three union territories of India. The City Union Bank Limited is an Indian bank which was originally incorporated as a limited company The Kumbakonam Bank Limited, in 1904. Initially it was a regional bank in Thanjavur, Tamil Nadu. It became a scheduled bank in 1945. In 1969 the bank, took its turning point towards growth under the chairmanship of Shri. O.R. Srinivasan, former officer of Reserve Bank of India. In 2016, City Union bank introduced the first banking robot, Lakshmi, in India. The robot is capable of multitasking sensitive financial information like account details.

Institutional investors hold approximately 50% of shares of the bank. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	3	12	11	10	10	10	8.5	7.5	7.5	5	4

c) **Developmental Credit bank**

DEVELOPMENTAL CREDIT Bank Ltd. is another private sector scheduled commercial bank in India having a network of 310 branches. It provides its services to individuals, small and medium businesses and corporate. The bank network is presently active in nineteen states and three union territories of India. The head quarter is in Mumbai, Maharashtra. The establishment of Development Credit bank can be traced back in 1930's when a series of co-operative banks merged in Ismailia Co-operative Bank Limited and the Masalawala Co-operative Bank. Later, these 2 banks later merged to form Development Co-operative Bank. In 1995, it became a scheduled bank and changed its name to Development Credit Bank. The first IPO of the bank came in 2006, which was very successful. Development Credit Bank Ltd. went on to successfully offer shares to the public by an Initial Public Offering (IPO) in 2006.

The Aga Khan Fund for Economic Development (AKFED) is the promoter of the Bank and holds about 15% shares in the banks while aprox. 40% shares are held by

public under the Resident Individual category. The bank has started paying dividend only in year 2017.Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0.5	0	0	0	0	0	0	0	0	0	0

d) Dhanlaxmi Bank

Dhanlaxmi Bank is an old private sector bank which comes in the category of small cap banks. It has its head quarter in Thrissur , Kerala, with 280 branches spread throughout India. It was incorporated in 1927 with a capital of just Rs. 11000 and had only 7 employees at that time. In 1977 it became a scheduled bank. The bank network is presently active in fifteen states and two union territories of India. In 2010, the name of the bank was changed from Dhanalakshmi Bank to Dhanlaxmi Bank. The mission of the bank is to become innovative, adopt social responsibility and also maximize the stakeholder satisfaction and provide various range of banking products and service. "*Banking on Relationship forever*" is the main vision presented by the bank. Today bank is providing a whole range of services to its customers, which include Demat and online trading in association with Religare securities and insurance in association with Bajaj Allianz Life Insurance.

From the past few years bank has not paid any dividend. Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	0	0	0	0	0	0.5	1	1	0.5	1

e) Federal Bank

Federal Bank earlier known as the Travancore Federal Bank, was established in 1931 with a capital of Rs.5000 under Travancore Company's Act. It functioned for nearly 15 years from home and dealt in the business of auction-chitty and basic banking transactions related to agriculture and industry. Over the period of the time the bank has been transformed into the fully functional bank in 1947. It was named as Federal

Bank Limited in 1949. It became a scheduled commercial bank in 1994 and came out with its initial public offer. The main vision of the Federal Bank includes; becoming more customer centric bank and become the trusted partner among the Small and Medium Enterprises and Retail sector and become the role model for the corporate governance and corporate social responsibility. The first overseas branch of the bank was opened in 2008 in Abu Dhabi. Currently there are 1252 branches and its head office is located in Kochi. The bank network is presently active in twenty five states and five union territories of India.

Dividend paid by the bank during the period has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	4.5	3.5	11	10	9	9	8.5	5	5	4	4

f) HFDC Bank:

The Housing Development Finance Co-operation Limited (HDFC) was established in August 1994. HDFC was among the first banks to receive the approval from the Reserve Bank of India (RBI) for the establishment of the private bank in India. Today it is the leading large cap private bank of the country. It has its head-quarter in Mumbai and 4715 branches operative throughout India with presence in Bahrain, HongKong and Dubai. It is the largest bank India and was included in Top100 Most Valuable Global brands. The wide range of services provided by the bank include, retail as well as wholesale banking and all types of loans. In year 2000 the bank merged with Times bank and in 2008 it took over centurion bank (one of the largest merger in financial sector).The shares of the bank are listed in the Bombay Stock Exchange and also the National Stock Exchange of India. The main objective of the bank is to build a World Class Indian bank through building customer franchises across distinct business.

The promoter group hold approx. 22% of the shares of bank, while 32% are held by FIIs and approx. 8% each by retail and corporate investors. The remaining is either in the form of ADRs and GDRs or held by other financial institutions. The dividend paid by the bank over the period of study has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	55	47.5	40	34.25	27.5	21.5	16.5	12	10	8.5	7

g) ICICI Bank

ICICI (Industrial Credit and Investment Corporation of India) bank is large- cap private sector bank in India, which was established in 1994. It has 4850 branches and presence in 19 countries. The head office is located in Mumbai and registered office is in Vadodara. It serves both retail as well as corporate customers through its wide range of services which are provided through a number of delivery channels and specialised subsidiaries. In the initial period the main aim of the bank was to provide the financial support to projects. Gradually the bank has started supporting various services groups and also provides wide range of banking products and services. In 1998 the bank came up with its first public offer and I in 2000 with an ADR issue. It took over Bank of Madura in 2001. ICICI bank is also the first Asian bank (non – Japanese) listed in the New York Stock Exchange (NSYE). In 2002 two of the subsidiaries of ICICI, ICICI personal Finance Services Ltd. and ICICI capital services Ltd. Were merged with ICICI bank. Since its incorporation the bankhas acquired various financial institutions like SCICI Ltd., ITC Classic Finance, Anagram(ENAGRAM) Finance, Darjeeling and Shimla branches of Grindlays Bank, Investitsionno-Kreditny Bank (IKB), Sangli Bank and The Bank of Rajasthan.It has contributed to many Indian institutions over the years like it promoted National Stock Exchange, it helped in setting up of CRISIL, promoted NCDEX, and helped in setting up of CIBIL. It has started various innovative services for its customers like iMobile Smart Keys, icici Merchant Services, Extra home loans, Smart Vault, Saral Loans, ICICI Bank Unifare Bangalore Metro Card,'Touch n Remit' facility for NRIs in Kingdom of Bahrain, Video Banking for NRI, Pockets by ICICI Bank, ICICIBankPay on Twitter, Contactless Credit and Debit Cards, My Savings Rewards, iWish-and blockchain platform.

It has various subsidiaries which include ICICI Prudential Life Insurance Company Limited, ICICI Lombard General Insurance Company Limited, ICICI Prudential Asset Management Company Limited, ICICI Prudential Trust Limited, ICICI Securities Limited, ICICI Securities Primary Dealership Limited, ICICI Venture

Funds Management Company Limited, ICICI Home Finance Company Limited, ICICI Investment Management Company Limited, ICICI Trusteeship Services Limited and ICICI Prudential Pension Funds Management Company Limited. It has many foreign subsidiaries also. The dividend paid by over the past years has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	12.5	25	25	23	20	16.5	14	12	11	11	10

h) IndusInd Bank

IndusInd Bank Limited is the pioneer in private sector banks of new generation which was started in 1994 with its base in Mumbai. It raised 60% of its starting capital of Rs. 1 billion, from Indian residents while 40% from NRIs. The bank was started with special objective of providing services to the NRI community of the country. It derived its name from the old Indian civilisation, the the Indus Valley Civilisation. The specialisation of the bank is in retail banking and it keeps on upgrading its services with the help of new technoLogies. It has 1004 operational branches with more concentration in metro cities like Mumbai, Delhi and Chennai. The overseas offices of the bank are opened in London, Dubai and Abudhabi. The bank is actively expanding its network across India and also globally.

Currently approx 45% of the shares in bank are held by FIIs and approx. 15% by foreign promoters. The dividend paid by the bank over the past years has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	6	4.5	4	3.5	3	2.2	2	1.8	1.2	0.6	0.6

i) J& K Bank

Jammu and Kashmir Bank (J&K Bank) is the only private sector bank which has been designated as agent of RBI for banking business in state of Jammu and Kashmir. It

collects taxes for CBDT and carries banking business of the central Government. The bank head-quarter is in Srinagar, Jammu and Kashmir. The bank was incorporated in 1938 as a semi-state Bank in which the capital was contributed by state and public but control was in hands of state .In 1971 the bank became a scheduled bank. In 2013, celebrated the platinum jubilee and declared a special dividend of Rs. 50 per share for 2012-13. The bank has network of 904 branches across India. The dividend declared by the bank in past years has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	0	17.5	21	50	50	33.5	26	22	16.9	15.5	11.5

j) Karnataka Bank

The Karnataka Bank Limited is an A1+ class scheduled bank of Private sector in India. The bank was started in 1924 with its base in Mangaluru Karnataka. In 1960's it acquired three banks, Sringeri Sharada Bank, Chitradurga Bank and Bank of Karnataka. It is having a network of 800 branches spread across 22 states and 2 union territories. The shares are owned by private shareholders entirely. In 2008 it got recognition from Microsystems and NDTV for its green policies. It has introduced its" Money Plant" services across country. It is a small sector bank known for its management of IT Risk. It introduced Quick Remit, a facility to make money transfer easy for Non-Resident Indians living in Canada. The dividend paid by the bank over the past years is tabulated in the table below:-

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	4	5	5	4	4	3.5	3	4	6	5	3.5

k) Karur Vysya

Karur Vysya Bank (Tamil) is another old private sector Indian bank started in 1916 by M. A. Venkatarama Chettiar and Athi Krishna Chettiar. It has its headquarter in

Karur, Tamilnadu and after the name of the place named so. It provides services in retail, corporate and treasury sectors. The bank has an active network of 778 branches. Various newer initiatives taken by bank include reloadable cards, kisan credit cards, automatic passbook kiosk, fast tag and e-book, etc. All the shares of the bank are held by individual investors/promoters. The dividend paid by the bank in past years has been as follows-

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	13	14	13	13	14	14	12	12	12	12	10

l) Kotak Mahindra Bank

Kotak Mahindra bank is a banking venture of Kotak Mahindra Finance Limited which was established in 1985 by Uday Kotak. It got banking licence form RBI in 2003. It was the first non-banking finance company which converted into a bank. It is the fourth largest bank of the country with reference to market capitalisation. The vision of the bank is to become one of the most trusted financial service provider and also the most preferred employer with special focus on maximizing the welfare of its stakeholders. It provides an expanded range of products and services to is retail and wholesale customers with the help of delivery channels and specialised subsidiaries. The services include personal finance, investment banking, insurance-both general and life, wealth management. Currently the bank operates through a network of 1369 branches across India. Recently Kotak Mahindra and ING Vysya Bank has merged and become a combined bank with the name Kotak Mahindra Bank. In 2015, the bank took over ING Vysya Bank after which ING group holds 7% shares in the bank. 30% shares of the bank are held by promoters while approx. 40% are held by Foreign Investors. The dividend paid by the bank in past has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	1.2	1	1.8	1.6	1.4	1.2	1	0.85	0.75	0.75	0.7

m) Laxmi Vilas Bank

Laxmi Vilas Bank was established in 1926 in Karur under Indian Companies Act, by seven businessmen lead by Shri V.S.N. Ramalinga Chettiar. The main motive for setting up this bank was to provide the financial support to the need of local people around the Karur. In 1958, the bank became a Scheduled Commercial bank after obtaining a licence from RBI. During the period of 1961 to 1965 the bank took over nine other small banks and in 1974, it started expanding outside Tamilnadu. In 1976, the bank obtained the status of Authorised Foreign Exchange Dealer. The bank started with computerisation with its in house team in 1993 only. It started with core banking in 2006 and completed the migration of all branches to core banking by 2008. Bank now operates 523 branches across India. Approximately 48% shares of the bank are held by general Public. The dividend paid by the bank in past is as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	2.7	3	2	1	3	3.5	2.5	0.6	2.5	1.5	0.7

n) The South Indian Bank

The South Indian Bank is one of the oldest bank in the Southern part of India which was established during the Swadeshi movement. The South Indian bank was established mainly to fulfil the dream of local people in Thrissur, to provide efficient and safe savings for the community and alternative for the local people who were forced to lend from the greedy moneylenders. Bank received a very good support from public at large but the growth was slow in beginning years. It was the first private bank provided a status of scheduled bank in 1946. It opened first currency chest by ant private bank in 1992. It has in house developed integrated branch automation software. Currently, The South Indian bank has 852 branches and 20 regional offices spread across almost all over India. 31% shares of the bank are owned by foreign institutional investors while 38% are held by general public. The dividend paid by the bank has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	4	5	6	8	7	6	5	4	3	3	2.5

o) Yes Bank

Yes bank is the fifth largest bank in the private sector in India which has its presence across all states. The Bank was established by Rana Kapoor and Ashok Kapoor in 2004, with the main aim of providing high standard of banking services and financial solution to the customers. It is a "Full Service Commercial Bank", providing corporate, Retail & SME, Financial Market, Investment banking, wealth management services to its customers. The IPO of the bank came in 2005. The long term mission of the bank is to build the finest quality bank in India by 2020. It is one of the most trusted brands of the country. Promoter group holds 22% shares of the bank and FII hold 41% approximately. The dividend paid by the bank has been as follows:

Year	16-17	15-16	14-15	13-14	12-13	11-12	10-11	09-10	08-09	07-08	06-07
DPS	12	10	9	8	6	4	2.5	1.5	0	0	0

4.5 SUMMARY TO THE CHAPTER

The Indian banking industy has been mostly dominated by the public sector banks which nearly account for 70 percent of the market in India. However in the recent times some private sector banks have also emerged as the leading banks in India and are earning significant profits. The Indian banking sector is expected to grow at significant rate in the near future. The government of India is also promoting the sector with inititaive like *Pradhanmantri Jan Dhan Yojna (PMJDY).* So the chapter has been successful in

providing an overview of nationalised and private sector banks operating in India which are relevant for the pupose of the present study.

CHAPTER V
DATA ANALYSIS - I

5.1 INTRODUCTION

After collecting data from the reliable secondary sources the data has been tabulated in Microsoft Excel and SPSS in form of various tables. Initially 19 nationalised banks and 26 Indian private sector banks were taken for the purpose of the study but the data related to 11 private banks was either incomplete or the banks did not declared dividend at all during the period or started operation after the start of study period. So they were dropped and finally 19 nationalised and 15 Indian private sector banks become the part of study.

Data analysis has been divided into two parts. The first part of the data analysis has expained about the behaviour of Dividend and Financial leverage of the banks along with a comparison between the nationalised and private sector banks. Moreover correlation has been found between variables group wise and in totality for all banks together.

5.2 DIVIDEND PAID BY BANKS IN INDIA

First of all the dividend paid by banks have been analysed. On analyzing the figures for dividend paid per share for banks over the period of study we have found out as below-

Table 5.1 Descriptive Statistics of Dividend Paid by Banks in India

	Range	Minimum	Maximum	Mean	Std. Deviation
DPS	55.00	.00	55.00	5.9204	7.65198
Payout Ratio	80.10	-.42	79.68	16.2175	9.73826

Dividend paid per share for banks during the period of study has been between 0 and 55 with an average of 5.9. The maximum payout ratio has been 79.68% while the banks on an average have paid only 16.22% of earnings as dividend to shareholders during the period.

Then the data for dividend was analysed group wise i.e. separately for nationalised banks and private sector Indian banks.

As per the table 5.2 nationalised banks have actively paid dividend over the period of study except for the years 2015-2016 and 2016-2017 where, only 5 and 4 banks respectively, have paid dividends. Therefore the average has been low for these years. For the years 2010-11 to 2012-2013 the figures for dividend have been comparatively higher than other years. Looking at the average dividend paid by an individual bank highest average has been recorded by Punjab National Bank followed by Bank of Baroda and Corporation bank. Lowest dividend have been paid by Punjab and Sind Bank and United bank of India, as they have not paid dividend for a number of years during the period of study.

Table 5.2 Summary of the Dividend Paid by Nationalised Banks

Name of the Bank	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Mean
Andhra Bank	0	0.5	2	1.1	5	5.5	5.5	5	4.5	4	3.8	3.5	3	3.32
Allhahabad Bank	0	0	1.63	2.5	6	6	6	5.5	2.5	3	3	4	3	3.34
Bank of Baroda	6	0	16	21.5	21.5	17	16.5	15	9	8	6	5	5	11.27
Bank of India	0	0	5	5	10	7	7	7	8	4	3.5	3	2	4.73
Bank of Maharstra	0	0	0.8	1	2.3	2.2	2	2	1.5	2	2	0.4	1.4	1.35
Canara Bank	1	0	10.5	11	13	11	11	10	8	8	7	6.6	5.5	7.89
Central Bank of India	0	0	0.5	0	2.5	2	2.5	2.2	2	2	3	0.5	0.3	1.35
Corporation Bank	0	0	7	6.75	19	20.5	20	16.5	12.5	10.5	9	7	6.5	10.40
Dena Bank	0	0	0.9	2.2	4.7	3	2.2	2	1.2	1	0.8	0	0	1.39
Indian Bank	6	1.5	4.2	4.7	6.6	7.5	7.5	6.5	5	3	3	1.4	0	4.38
Indian Overseas Bank	0	0	0	1.2	2	4.5	5	3.5	4.5	3.5	3	2.6	2.4	2.48
Oriental Bank of Commerce	0	0.7	3.3	7.6	9.2	7.9	10.4	9.1	7.3	4.7	4.7	4.5	3	5.57
Punjab National Bank	0	0	16.5	10	27	22	22	22	20	13	10	6	6	13.42.
Punjab and Sind Bank	0	1.65	0.6	2.2	2.68	2	2	0	0	0	0	0	0	.93
Syndicate Bank	0	0	4.7	5.5	6.7	3.8	3.7	3	3	2.8	2.8	2.5	2	3.12
UCO Bank	0	0	2	3	1.6	3	3	1.5	1	1	1	0	1	1.39
Union Bank of India	0	1.95	6	4	8	8	8	5.5	5	4	3.5	3.5	3.5	4.69
United Bank of India	0	0	0	0	2.1	2.4	2.2	2	0	0.3	0.3	0.25	0	.80
Vijaya Bank	1.5	0	1.5	2	2.5	2.5	2.5	2.5	1	2	2	1	2.5	1.81
Mean	0.76	0.33	4.38	4.80	8.02	7.25	7.32	6.36	5.05	4.04	3.60	2.72	2.77	

Table 5.3 Summary of the Dividend Paid by Private Banks

Name of the Bank	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Mean
Axis Bank	25	25	23	20	18	16	14	12	10	6	4.5	3.5	2.8	13.83
City Union Bank	3	12	11	10	10	10	8.5	7.5	7.5	5	4	4	4	7.42
Developmental Credit Bank	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Dhan Laxmi Bank	0	0	0	0	0	0	0.5	1	1	0.5	1	0.7	0	0.36
Federal Bank	4.5	3.5	11	10	9	9	8.5	5	5	4	4	3.5	2.5	6.12
HDFC Bank	55	47.5	40	34.25	27.5	21.5	16.5	12	10	8.5	7	5.5	4.5	22.29
ICICI Bank	12.5	25	25	23	20	16.5	14	12	11	11	10	8.5	8.5	15.15
Induslnd Bank	6	4.5	4	3.5	3	2.2	2	1.8	1.2	0.6	0.6	0	1.8	2.40
J & K bank	0	17.5	21	50	50	33.5	26	22	16.9	15.5	11.5	8	8	21.53
Karnataka Bank	4	5	5	4	4	3.5	3	4	6	5	3.5	3	2	4.00
KarurVysya Bank	13	14	13	13	14	14	12	12	12	12	10	12	10	12.38
Kotak Mahindra Bank	1.2	1	1.8	1.6	1.4	1.2	1	0.85	0.75	0.75	0.7	0.6	1.25	1.08
Laxmi Vilas Bank	2.4	2.7	3	2	1	3	3.5	2.5	0.6	2.5	1.5	0.7	2.5	1.96
South Indian Bank	4	5	6	8	7	6	5	4	3	3	2.5	1.8	0	4.25
Yes Bank	12	10	9	8	6	4	2.5	1.5	0	0	0	0	0	4.08
Mean	9.56	11.53	11.45	12.42	11.53	9.39	7.73	6.42	5.79	4.89	4.00	3.57	3.02	

It has been observed from the table 5.3 that the dividend paid by private Indian banks has not been showing the same trend as by nationalised banks. Even in the years 2015-2016 and 2016-2017, most of the private banks have paid dividend. Though, the DPS has been low in the two years yet not as much in case of nationalised banks. On analysing the private sector banks individually, it has been found that the HDFC bank has paid highest average dividend per share over the period. Few of the banks like Dhan Laxmi, Development Credit and Yes bank have not paid dividend for a number of years during the period of study.

5.2.1 Comparision Between DPS of Nationalised and Private Indian Banks

A comparison has been made between DPS of nationalized banks and private Indian banks. Hypothesis has been framed for this purpose, which has been as below:-

H1: There is no significant difference between the level of Dividend paid by nationalised banks and private Indian banks in India.

On comparing descriptive statistics group wise i. e. for nationalised banks and private banks, the following results have been obtained-

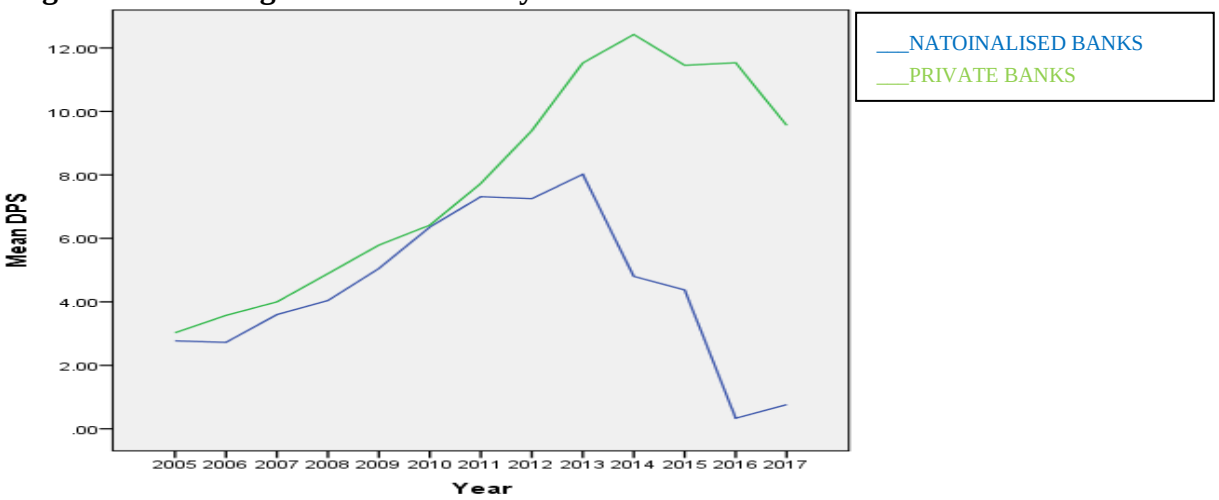
Table 5.4 Descriptive Statistics for Dividend paid by Nationalised and Private Banks

	Range	Minimum	Maximum	Mean	Std. Deviation
Nationalised banks	27.00	.00	27.00	4.4294	5.05600
Private banks	55.00	.00	55.00	7.7936	9.69601

It has been found that dividend of nationalized banks ranged between 0 and 27 with a mean of 4.43 while that of private banks ranged between 0 and 55 with a mean of 7.80.

The difference between the DPS of two groups of banks has been depicted with the help of the graph:-

Figure 5.1 Average Dividend Paid by Nationalised and Private Banks



In the graph and table Average DPS of nationalized and private banks has been shown over the period where it has been observed that for the period 2005 to 2011 both the groups were moving along with each other. In The Year 2012 And 2013 Private Banks took a leap and growth in dividend has been higher than that of nationalized banks and after that nationalized banks has been showing a sharp fall. Because of this fall the average DPS of nationalized banks remained below that of Private Banks.

It seems that there has been difference in the dividend paid by nationalized banks and private banks, but it need to be statistically tested and for this purpose independent sample t-test has been run on DPS .

Table 5.5 Independent Sample t-Test For Dividend Paid

Variable		Levene's Test for Equality of Variances	
		F	Sig.
DPS	Equal variances assumed	38.639	.000

As, for the DPS, the Sig. (2-tailed) <0.05 the null hypothesis that there has been no significant difference between the dividend paid by nationalized banks and private banks in India has been rejected and it has been concluded that dividend paid by nationalized banks has been different from dividend paid by private banks with an average difference of 3.37 in the mean value.

5.2.2 COMPARISION BETWEEN PAYOUT RATIO OF NATIONALISED AND PRIVATE INDIAN BANKS

On comparing descriptive statistics group wise i. e. for nationalised banks and private banks, the following results are obtained-

Table 5.6 Descriptive Statistics for Payout Ratio of Nationalised and Private Banks

	Range	Minimum	Maximum	Mean	Std. Deviation
Nationalised Banks	80.10	-.42	79.68	15.8657	9.95980
Private banks	34.17	.00	34.17	16.6595	9.45944

The average payout ratio of nationalized banks has been 15.87 while that of private banks has been 16.66.

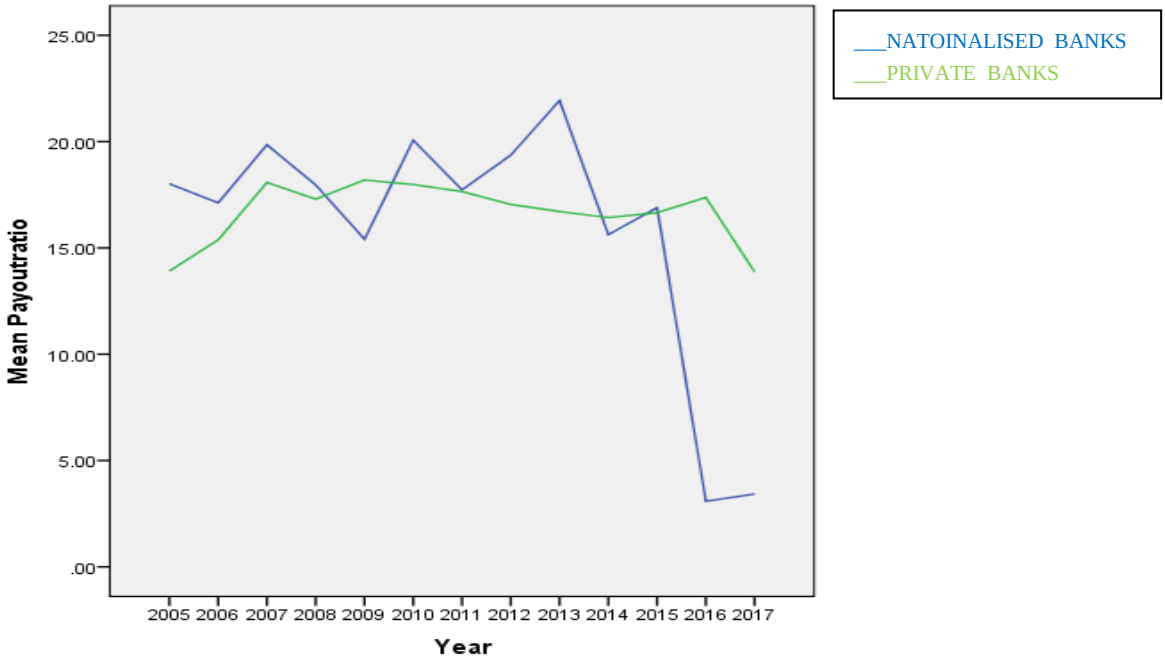
When independent sample t test has been run on payout ratio of two groups of banks, p value (As per table 5.7) has been found greater than 0.05, so it has been concluded that, the dividend payout ratio of nationalized banks has not been significantly different from that of private banks.

The graph line for mean payout ratio over the period for the two groups has been depicted in figure 5.2

Table 5.7 Independent Sample t-Test for Payout Ratio

Variable		Levene's Test for Equality of Variances	
		F	Sig.
Payout Ratio	Equal variances assumed	.002	.967

Figure 5.2 Average Dividend Payout Ratio of Nationalised and Private Banks



In the above line graph it has been clearly observed that the private banks have followed a comparatively stable dividend payout ratio than nationalized banks, where huge ups and downs are visible. As observed with DPS the average payout ratio of nationalised banks has seen a steep fall after 2013.

5.3 FINANCIAL LEVERAGE OF BANKS IN INDIA

After dividend the values for financial leverage of banks have been analysed. On analyses the figures for dividend paid per share for banks over the period of study we have found out as per table 5.8. The financial leverage of banks has been between 3.06 and 37.92 with an average of 15.6 approximately. The measure tells about the number of times the total debt is in relation to total equity funds.

Table 5.8 Descriptive Statistics of Financial Leverage of Banks in India

	Range	Minimum	Maximum	Mean	Std. Deviation
Financial Leverage	34.86	3.06	37.92	15.5978	5.72676

As per the table 5.9 the average financial leverage of nationalised banks has been between 14 and 28 for the period concerned. UCO bank has the highest average financial leverage i. e. 27.14 and Oriental Bank of Commerce has the lowest i. e. 14.61. As far as the yearly average is concerned there has been not much variation and it has been between 17 and 21.

Table 5.9 Summary of Financial Leverage of Nationalised Banks

Name of the Bank	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Mean
Andhra Bank	17.97	16.74	16.92	17.74	15.98	14.15	14.19	17.62	16.28	15.21	13.13	11.72	15	15.59
Allhahabad Bank	18.51	18.87	17.61	18.54	17.99	16.54	17.26	18.02	17.07	13.65	13.3	13.33	17.51	16.78
Bank of Baroda	15.69	15.11	16.39	16.83	15.65	14.01	14.51	15.96	14.99	13.77	14.44	11.94	14.45	14.90
Bank of India	18.83	18.19	18.19	17.56	17.44	18.19	18.19	17.56	17.44	17	20.86	19.46	18.33	18.25
Bank of Maharashtra	23.84	19.79	19.92	21.9	22.87	20.51	22.94	26.33	25.31	23.65	19.77	17.42	19.06	21.79
Canara Bank	18.89	19.37	18.88	18.57	16.47	15.86	16.39	18.71	18.62	18.57	17.55	16.64	16.17	17.75
Central Bank of India	17.72	19.14	18	21.26	20.66	22.13	34.13	37.47	37.92	35.8	33.38	22.66	22.16	26.34
Corporation Bank	18.78	20.36	19.95	20.38	17.29	16.45	16.36	16.06	15.11	13.11	11.25	9.74	8.91	15.67
Dena Bank	17.26	17.32	16.04	16.13	18.32	17.98	18.56	21.46	22.09	21.67	22.33	22.17	20.25	19.35
Indian Bank	13.49	13.49	13.69	14.5	13.88	13.12	13.4	13.33	13.32	13.37	14.74	17.99	18.53	14.37
Indian Overseas	19.64	18.99	18.97	17.58	--	16.54	17.79	17.45	16.85	17.78	17.75	16.54	18.18	17.84
Oriental Bank of Commerce	18.46	16.14	16	15.76	15.17	14.07	13.62	16.43	15.25	13.48	11.43	9.71	14.38	14.61
Punjab National Bank	17.39	17.28	14.51	14.48	13.8	13.65	14.55	15.36	15.96	15.44	13.79	13.19	13.14	14.81
Punjab and Sind Bank	14.41	15.76	16.04	18.09	16.62	19.08	21.03	20.43	24.61	16.06	16.7	22.07		18.41
Syndicate Bank	22.09	26.78	23.22	21.25	20.72	19.65	20.37	22.41	25.22	24.62	24.69	20.33	23.15	22.65
UCO Bank	22.72	24.33	18.81	20.95	25.45	24.75	28.59	34.21	36.11	32.16	29.33	27.45	27.98	27.14
Union Bank of India	17.91	18.4	19.21	19.34	18.33	17.17	18.28	19.31	19.66	18.47	18	18.1	19.69	18.61
United Bank of India	20.15	24.28	21.57	29.94	23.68	21.72	22.07	23.69	23.23	17.65	15.39	15.99	16.63	21.23
Vijaya Bank	19.68	20.78	22.56	22.88	25.25	22.32	22.4	23.44	23.74	22.76	20.31	17.1	16.68	21.53
Mean	**18.60**	**19.01**	**18.24**	**19.14**	**18.64**	**17.78**	**19.19**	**20.80**	**20.99**	**19.17**	**18.32**	**17.03**	**17.79**	

As per the table 5.10 the average financial leverage of private banks has been between 5 and 19 for the period concerned. Though the difference between the maximum and minimum has been same as that of nationalised banks but overall the financial leverage of private banks seems to be on lower side as compared to that of nationalised banks. Dhanlaxmi bank has the highest average financial leverage i. e. 18.05 and Kotak Mahintra bank has the lowest i. e. 5.81. As far as the yearly average is concerned there has been not much variation and it has been between 10 and 13 approximately.

Table 5.10 Summary of Financial Leverage of Private Banks

Name of the Bank	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Mean
Axis Bank	9.31	8.60	9.00	8.67	8.96	9.65	9.96	8.81	11.49	9.99	17.28	13.97	13.17	10.68
City Union Bank	8.58	8.94	8.99	11.02	12.67	13.15	12.83	12.46	12.42	11.33	12.85	12.29	12.86	11.57
Developmental Credit Bank	10.56	9.24	8.98	10.18	10.45	7.88	9.97	8.86	8.67	9.74	13.39	19.03	19.62	11.27
Dhan Laxmi Bank	17.48	22.85	18.41	18.29	17.51	16.21	14.83	16.13	11.71	20.95	20.95	18.84	20.50	18.05
Federal Bank	11.58	10.05	9.45	9.41	9.87	8.43	7.70	7.45	6.61	14.43	14.38	21.22	21.02	11.66
HDFC Bank	8.02	8.25	8.00	9.36	9.09	8.24	8.22	7.78	9.75	8.76	10.62	10.53	8.04	8.82
ICICI Bank	6.58	6.86	6.64	6.65	6.57	4.23	4.10	3.91	4.42	5.27	9.50	7.45	7.98	6.17
Induslnd Bank	7.36	6.66	9.25	8.72	8.58	9.39	9.00	12.35	15.49	17.16	16.70	17.33	15.81	11.83
J & K bank	12.99	11.15	11.14	12.42	13.42	13.34	13.16	12.73	12.96	12.71	12.85	13.20	13.19	12.71
Karnataka Bank	11.19	13.97	13.88	13.92	13.17	12.17	11.25	12.95	12.98	12.33	11.33	11.92	11.08	12.47
KarurVysya Bank	11.00	11.30	11.21	14.14	13.82	11.86	11.69	11.90	11.18	10.55	8.79	8.69	8.77	11.15
Kotak Mahindra Bank	6.46	6.66	6.15	5.86	7.56	4.85	4.31	5.26	4.01	4.57	6.62	7.59	5.68	5.81
Laxmi Vilas Bank	16.44	16.43	15.17	19.48	17.19	16.05	13.74	12.28	16.22	13.45	12.67	14.90	15.20	15.32
South Indian Bank	14.79	15.65	15.69	15.52	15.89	18.02	17.53	15.68	14.07	13.27	16.91	14.95	18.65	15.89
Yes Bank	8.23	10.40	10.05	13.41	15.13	10.51	12.11	8.67	9.96	10.06	10.44	5.08	3.06	9.78
Mean	**10.70**	**11.13**	**10.80**	**11.80**	**11.99**	**10.93**	**10.69**	**10.48**	**10.80**	**11.64**	**13.02**	**13.13**	**12.98**	

5.3.1 Comparision between Financial Leverage of Nationalised and Private Indian Banks

A comparison has been made between financial leverage of nationalized banks and private Indian banks. Hypothesis has been framed for this purpose, which has been as below:

H2: There is no significant difference between the level of Financial Leverage of nationalised banks and private Indian banks in India.

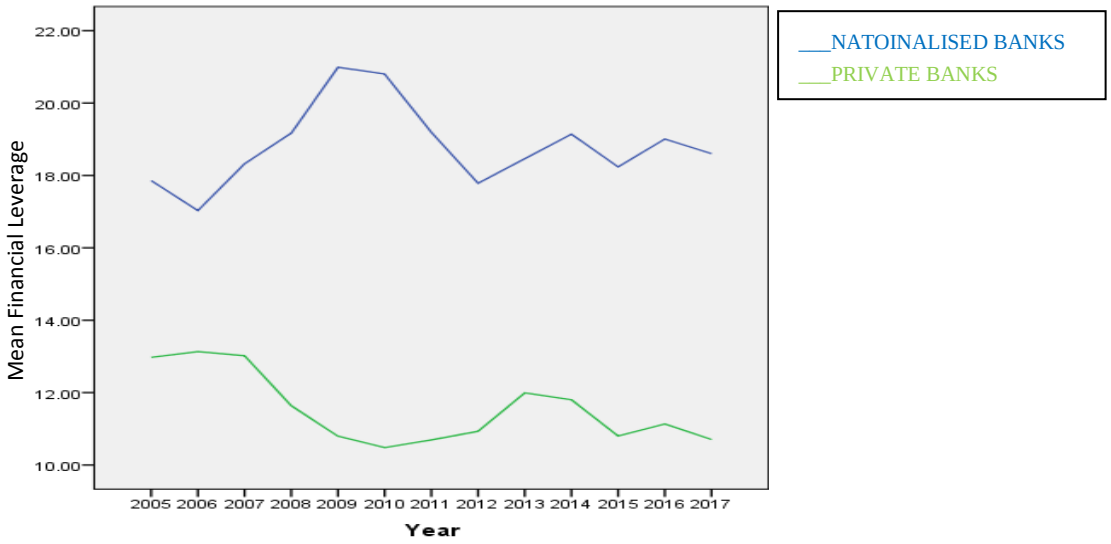
When the financial leverage of banks was analysed group wise, following results has been found-

Table 5.11 Descriptive Statistics of Financial Leverage of Nationalised and Private Banks

	Range	Minimum	Maximum	Mean	Std. Deviation
Nationalised banks	29.01	8.91	37.92	18.8225	4.74627
Private banks	19.79	3.06	22.85	11.5463	4.03097

Table 5.11 depicts that financial leverage ratio of nationalized banks has ranged between 8.91 and 37.92 with an average of 18.82 while that of private banks has ranged between 3.06 and 22.85 with an average of 11.55. On the graphical representation the difference between the two groups has been quite visible.

Figure 5.3 Financial Leverage of Nationalised and Private Banks in India



The line showing mean financial leverage for nationalized banks has been much above the financial leverage for private banks. Even the slopes are not same. For the years 2007 to 2010 when financial leverage of nationalized banks has been rising there has been a fall in the values for private banks and vice versa for the years2011 and 2012. After 2012 the lines have been of similar shape but the gap has been still very much rather broadened. To know whether the difference has been statistically significant or not independent sample t-test has been run on financial leverage of two groups of banks-

Table 5.12 Independent Sample t-Test for Financial Leverage

Variable		Levene's Test for Equality of Variances	
		F	Sig.
Financial leverage	Equal variances assumed	.346	.000

As the sig (2-tailed) has been less than 0.05, it has been found that the hypothesis that there has been no significant difference in the financial leverage of nationalized banks and private banks stands rejected as the difference has been found in the financial leverage of nationalized and private banks to the average value of 7.28.

5.4 EARNINGS OF BANKS IN INDIA

The values for earning per share of banks have been analysed. On analyses the figures for earning per share for banks over the period of study we have found out as below-

Table 5.13 Descriptive Statistics of EPS for Banks in India

	Minimum	Maximum	Mean	Std. Deviation
EPS	-335.90	285.90	29.6735	45.49036

Average earnings per share of banks during the period have been 29.67. Huge variations were observed between the maximum and minimum value for EPS of banks.

As per the table 5.14 nationalised banks have earned well over the period of study except for the years 2015-2016 and 2016-2017 where, EPS has been either negative or very low. Therefore the average for the year 2016-17 has been negative. For the years 2010-11 to 2012-2013 the figures for earnings have been comparatively higher than other years. Looking at the average dividend paid by an individual bank highest average has been recorded by Punjab National Bank followed by Bank of Baroda and Corporation bank. Lowest earnings have been recorded by United bank of India and Central Bank of India.

Table 5.14 Summary for EPS of Nationalised Banks

Name of the Bank	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Mean
Andhra Bank	2.56	8.60	10.82	7.67	23.04	24.03	26.05	21.56	13.46	11.90	11.10	11.78	13.00	14.27
Allhahabad Bank	-4.36	-12.68	11.39	22.89	23.70	39.18	31.85	27.01	17.20	21.82	16.79	16.06	15.63	17.42
Bank of Baroda	30.00	-119.45	79.15	107.38	108.84	127.84	116.37	83.96	61.14	39.41	28.18	27.10	23.08	54.85
Bank of India	-15.72	-83.01	26.57	44.74	47.79	48.98	47.35	33.15	57.26	40.83	23.04	14.39	6.98	22.49
Bank of Maharashtra	-11.75	0.91	4.50	4.56	11.88	7.59	6.86	10.21	8.71	7.63	6.31	1.18	4.11	4.82
Canara Bank	20.63	-53.61	58.59	54.48	64.83	74.10	97.83	73.69	50.55	38.17	34.65	32.76	27.06	44.13
Central Bank of India	-12.82	-8.55	4.27	-11.10	11.24	5.95	22.04	24.65	12.17	12.48	15.37	31.18	-70.87	2.77
Corporation Bank	25.85	-27.40	34.85	35.75	96.74	101.67	98.50	81.58	62.24	51.24	37.39	30.99	28.04	50.57

Name of the Bank	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Mean
Dena Bank	-11.89	-15.50	4.94	14.40	23.15	24.08	21.26	17.83	14.74	12.54	7.03	2.54	2.82	9.07
Indian Bank	29.27	14.81	21.62	26.07	35.80	39.57	38.79	35.09	27.96	22.52	20.46	14.67	-7.48	24.55
Indian Overseas Bank	-15.78	-19.86	-3.68	6.05	6.14	16.93	19.63	12.98	24.34	22.07	18.51	14.38	11.96	8.74
Oriental Bank of Commerce	-31.82	5.20	16.58	38.73	45.51	39.13	59.90	45.29	36.14	14.10	23.18	32.92	50.49	28.87
Punjab National Bank	32.25	-104.10	84.55	93.91	139.52	154.02	140.60	123.86	98.03	64.98	48.84	52.93	45.65	75.00
Punjab and Sind Bank	5.02	8.39	3.59	10.69	13.49	19.24	26.40	60.41	44.64	6.60	2.63	-1.96	0.00	15.32
Syndicate Bank	4.21	-24.82	24.38	28.21	33.30	22.89	20.03	15.58	17.49	16.25	13.72	10.60	8.54	14.64
UCO Bank	-13.29	-26.03	11.20	19.44	6.28	15.02	14.29	18.42	7.63	5.16	3.95	2.46	4.32	5.30
Union Bank of India	8.08	20.42	28.05	27.99	38.93	34.07	39.71	41.08	34.18	27.47	16.74	14.58	15.64	26.69
United Bank of India	1.86	-3.36	3.78	-28.68	8.64	15.79	14.38	2.51	1.21	2.08	1.74	1.33	0.00	1.64
Vijaya Bank	7.57	4.44	5.11	7.64	9.41	9.49	9.89	11.70	6.05	8.33	7.64	2.93	8.78	7.61
Mean	**2.62**	**-22.93**	**22.65**	**26.89**	**39.38**	**43.14**	**44.83**	**38.98**	**31.32**	**22.40**	**17.75**	**16.46**	**9.88**	

As per the table 5.15 private banks have earned well over the period of study. The average EPS has been higher for the period 2012-13 to 2015-16, though it has fallen again in the year 2016-17.Looking at the average earning per share by an individual bank highest average has been recorded by HDFC bank followed by Axis and ICICI, while the lowest average has been for private banks like Development Credit Bank, Dhanlaxmi Bank and Laxmi Vilas bank. On face it appears that earnings of private banks has been much higher than those of nationalised banks.

Table 5.15 Summary of EPS of Private Banks

Name of the Bank	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Mean
Axis Bank	77.00	172.95	155.90	132.56	119.67	102.94	82.95	65.78	50.61	32.15	23.50	17.45	14.32	80.60
City Union Bank	83.90	74.40	68.20	66.90	66.50	68.90	53.50	40.30	38.20	35.60	2.99	23.49	19.30	49.40
Developmental Credit Bank	7.01	6.86	7.21	6.05	4.19	2.73	1.07	4.25	5.05	2.32	0.70	-32.36	-25.23	-0.78
Dhan Laxmi Bank	0.59	-11.80	-13.60	-20.00	0.31	-13.58	3.31	3.64	9.16	8.88	5.03	2.97	-6.74	-2.45
Federal Bank	24.15	13.85	58.75	49.05	49.00	45.41	34.32	27.16	29.26	32.42	28.74	32.71	13.73	33.73
HDFC Bank	285.90	244.20	210.75	177.35	142.45	110.55	85.00	67.56	52.85	46.22	36.29	27.92	22.92	116.15
ICICI Bank	84.20	83.75	96.60	84.99	72.20	56.11	45.27	36.14	33.76	32.19	0.92	32.49	27.55	52.78
Induslnd Bank	48.06	39.68	33.99	26.85	21.83	17.20	13.16	9.01	4.25	2.34	2.31	1.27	7.07	17.46
J & K bank	335.90	85.80	104.90	243.92	217.65	165.69	126.90	105.69	84.54	74.26	56.62	36.48	23.74	76.18

Name of the Bank	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Mean
Karnataka Bank	19.38	22.04	23.96	16.51	18.48	13.07	15.23	13.50	21.96	19.92	14.60	14.52	34.06	19.02
KarurVysya Bank	49.75	46.59	39.86	40.08	51.35	46.81	44.90	62.23	43.71	38.62	32.80	75.28	58.59	48.51
Kotak Mahindra Bank	37.14	22.84	48.40	39.24	36.62	29.38	22.70	16.18	8.00	8.78	4.36	3.83	7.08	21.89
Laxmi Vilas Bank	14.07	10.05	9.16	6.11	9.39	10.97	10.37	4.95	10.31	5.18	3.60	11.50	2.91	8.35
South Indian Bank	26.10	24.70	22.80	37.80	40.30	35.50	25.90	20.69	17.23	18.77	14.79	10.25	2.10	22.84
Yes Bank	78.89	60.62	49.34	44.92	36.53	27.87	21.12	15.65	10.24	7.02	3.46	2.20	-0.24	27.51
Mean	**33.35**	**59.77**	**61.08**	**63.49**	**59.10**	**47.97**	**39.05**	**32.85**	**27.94**	**24.31**	**15.38**	**17.33**	**13.41**	

5.4.1 Comparision Between Earnings of Nationalised and Private Indian Banks

A comparison has been made between earnings of nationalized banks and private Indian banks. Hypothesis has been framed for this purpose, which has been as below:

H3: There is no significant difference between the Earnings of nationalised banks and private Indian banks in India.

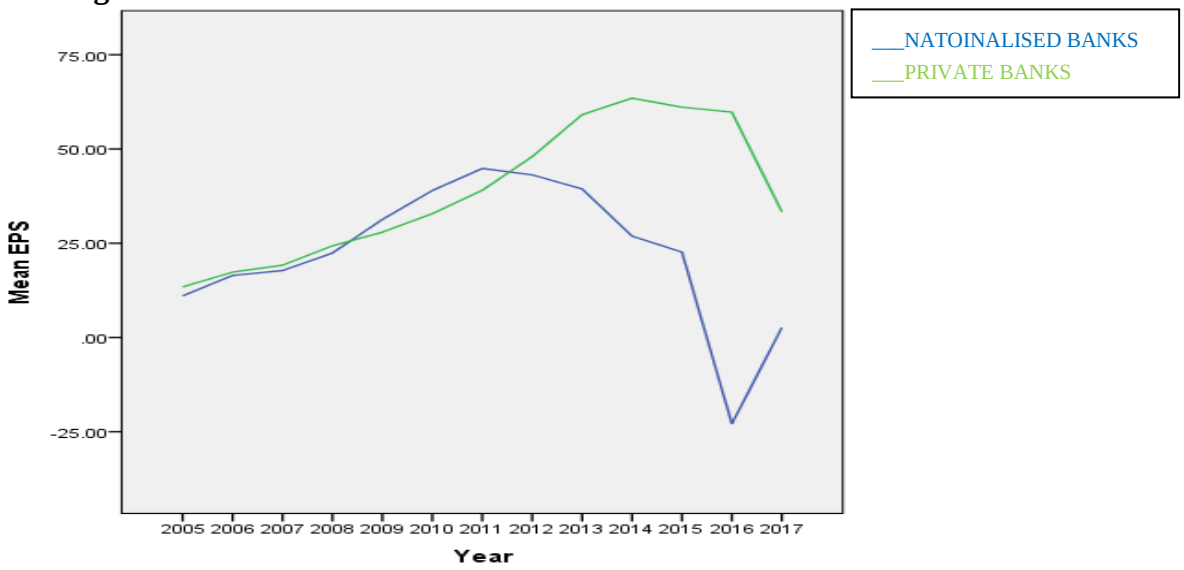
The descriptive statistics for Earning per share have been analysed for the two groups of banks

Table 5.16 Descriptive Statistics of Earnings of Nationalised and Private Banks

	Minimum	Maximum	Mean	Std. Deviation
Nationalised bank	-119.45	154.02	22.7510	34.11128
Private Banks	-335.90	285.90	38.3710	55.52234

The values for private banks have been much higher from the values for nationalized banks. The average earning per share of nationalized banks has been 22.75 while that of private banks has been 38.37. Even the range of earnings per share has been much broader in case of private banks. Having a look graphically will clear the picture.

Figure 5.4 Mean EPS of Nationalised and Private Banks in India



The lines showing average EPS for nationalized banks and private banks have been almost similar till the year 2011, after which EPS of nationlised banks has seen a fall. The fall has increased and Average EPS has become negative for the year 2016 for nationalized banks. The EPS for private banks have risen till 2014 and has seen a fall in year 2017but still it has remained positive. But this difference in EPS of two groups needs to be statistically tested.

Table 5.17 Independent Sample t-Test for EPS

Variable		Levene's Test for Equality of Variances	
		F	Sig.
EPS	Equal variances assumed	11.344	.001

As the sig (2-tailed) has been less than 0.05, the hypothesis that there has been no significant difference in the EPS of nationalized banks and private banks stands rejected as the difference has been found in the EPS of nationalized and private banks to the average value of 15.6.

5.5 RELATIONSHIP BETWEEN THE FINANCIAL LEVERAGE AND DIVIDENDS OF BANKS IN INDIA

A hypothesis has been framed to know the relationship between financial leverage and dividend of banks in India as follows:-

H4: There is no significant relationship between the financial leverage and level of dividend of banks in India.

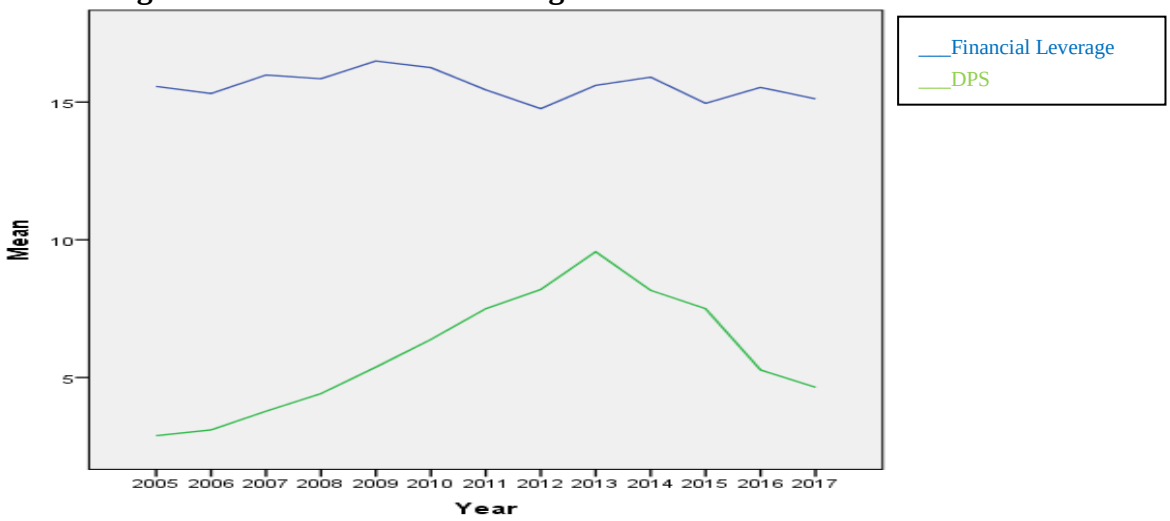
To find the relationship between the level of financial leverage and level of dividends the Pearson's correlation test has been run on the two variables namely financial leverage and dividend per share for all banks.

Table 5.18 Correlation between Financial Leverage and DPS of Banks in India

		Financial Leverage	DPS
Financial Leverage	Pearson Correlation	1	-.350**
	Sig. (2-tailed)		.000
DPS	Pearson Correlation	-.350**	1
	Sig. (2-tailed)	.000	

Since the value Sig. (2-tailed) < 0.05 the variables are significantly correlated at 0.01 levels. It means that there has been a significant correlation between financial leverage and DPS of banks. The direction of relationship has been negative or inverse, which means with increase in Financial leverage the DPS decreases and vice versa. The magnitude of correlation has been moderate as the coefficient of correlation lies between .3 and .5.

Figure 5.5 Financial Leverage and DPS of Banks in India



So the hypothesis that there is a no significant correlation between financial leverage and dividend of banks in India stands rejected as moderate, negative correlation has been observed between them which has been statistically significant.

5.6 RELATIONSHIP BETWEEN THE FINANCIAL LEVERAGE AND DIVIDEND OF NATIONALISED BANKS

Similarly, a hypothesis has been framed to know the relationship between financial leverage and dividend of nationalised banks in India as follows:-

H5: There is no significant relationship between the financial leverage and level of dividend in nationalised banks.

The relationship has been found with the help of Pearson's coefficient of correlation.

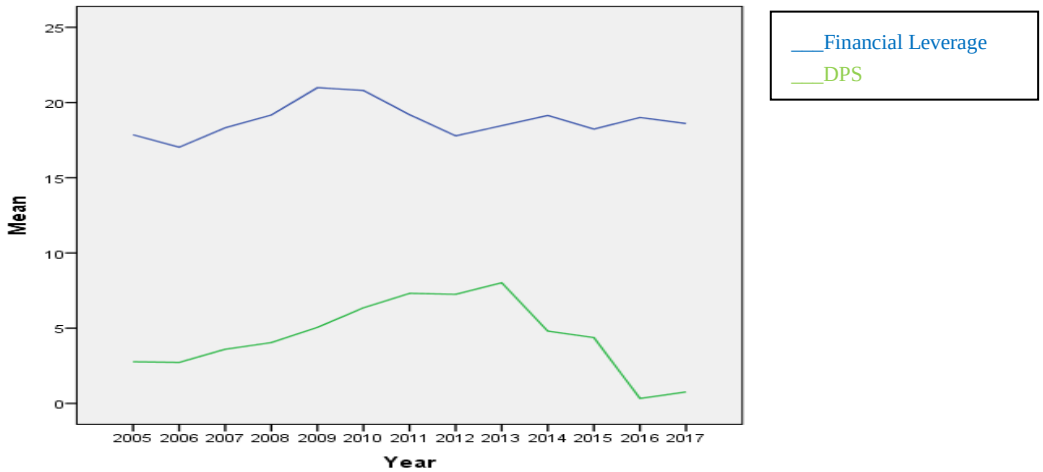
Table 5.19 Correlation between Financial Leverage and DPS of Nationalised Banks

		Financial Leverage	DPS
Financial Leverage	Pearson Correlation	1	-.380**
	Sig. (2-tailed)		.000
DPS	Pearson Correlation	-.380**	1
	Sig. (2-tailed)	.000	

Since the value Sig. (2-tailed) < 0.05 the variables are significantly correlated at 0.01 level even for nationalized banks. It means that there has been a significant correlation between financial leverage and DPS of nationalized banks. The direction of relationship has been negative or inverse, which means with increase in financial leverage the DPS decreases and vice versa. The magnitude of correlation has been moderate as the coefficient of correlation lies between .3 and .5.

So the hypothesis that there has been a no significant correlation between financial leverage and dividend of nationalised banks in India stands rejected as moderate, negative correlation has been observed between them which has been statistically significant.

Figure 5.6 Financial Leverage and DPS of Nationalised Banks



5.7 RELATIONSHIP BETWEEN THE FINANCIAL LEVERAGE AND DIVIDEND OF PRIVATE BANKS

A hypothesis has also been framed to know the relationship between financial leverage and dividend of private banks in India as follows:-

H6: There is no significant relationship between the financial leverage and level of dividend in private Indian banks.

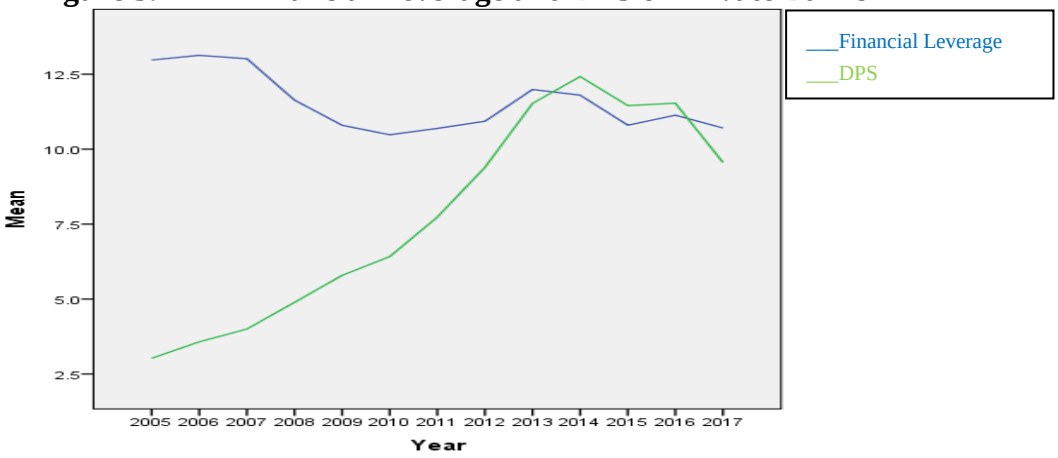
On similar lines the correlation has been analysed between financial leverage and dividend of private banks.

Table 5.20 Correlation between Financial Leverage and DPS of Private Banks

		Financial Leverage	DPS
Financial Leverage	Pearson Correlation	1	-.244**
	Sig. (2-tailed)		.001
DPS	Pearson Correlation	-.244**	1
	Sig. (2-tailed)	.001	

Since the value Sig. (2-tailed) < 0.05 the variables are significantly correlated at 0.01 level even for private banks. It means that there has been a significant correlation between financial leverage and DPS of private banks. The direction of relationship has been negative or inverse, which means with increase in Financial leverage the DPS decreases and vice versa. The magnitude of correlation has been low as the coefficient of correlation has been less than 0.3. Like nationalized banks though the relationship has been negative and significant but the coefficient of correlation has been lower in case of private banks, so we can say that a there has been a difference in the correlation between two groups.

Figure 5.7 Financial Leverage and DPS of Private Banks



So the hypothesis that there is a no significant correlation between financial leverage and dividend of nationalised banks in India stands rejected as low, negative correlation has been observed between them which has been statistically significant.

5.8 RELATIONSHIP BETWEEN EARNINGS AND DIVIDENDS OF BANKS IN INDIA

A hypothesis has been framed to know the relationship between earnings and dividends of banks in India as follows:-

H7: There is no significant relationship between Earnings and level of equity dividend of banks in India.

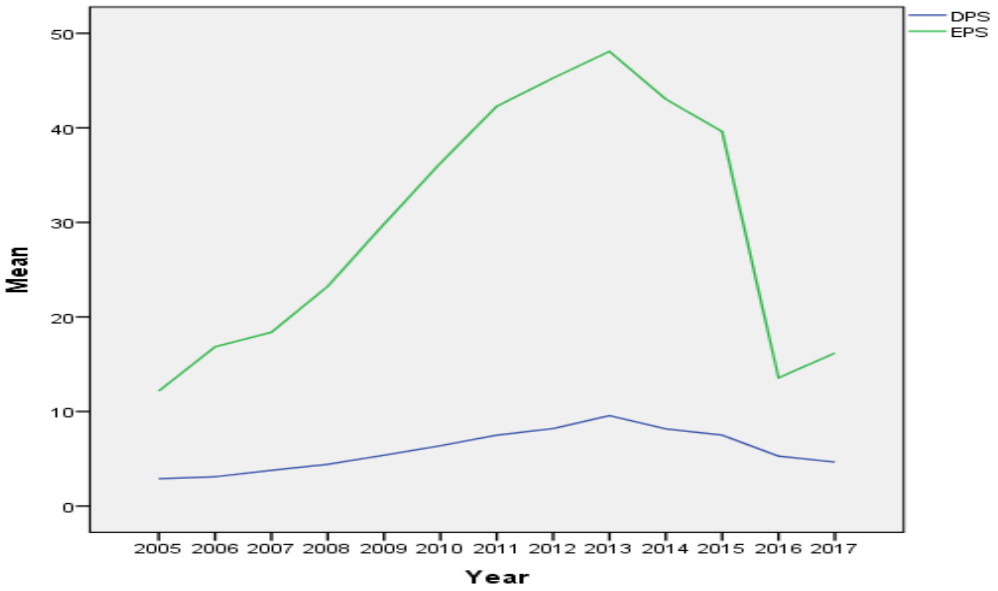
To know the relationship, Pearson's correlation has been run on the data related to earnings and dividend.

Table 5.21 Correlation between EPS and DPS of Banks in India

		EPS	DPS
EPS	Pearson Correlation	1	.866**
	Sig. (2-tailed)		.000
DPS	Pearson Correlation	.866**	1
	Sig. (2-tailed)	.000	

The correlation coefficient has been .866 which has been very high and positive which shows direct relationship between variables. It means with increase in EPS, the dividend for banks increase. As the Sig. (2-tailed)< 0.05 the relationship has been statistically significant. So we can say that statistically significant highly positive correlation exist between Earnings and Dividend of banks.

Figure 5.8 EPS and DPS of Banks in India



So the hypothesis that there is a no significant correlation between Earnings and dividend of banks in India stands rejected.

5.9 RELATIONSHIP BETWEEN EARNINGS AND DIVIDENDS OF NATIONALISED BANKS

Similarly, a hypothesis was framed to know the relationship between Earnings and dividend of nationalised banks in India as follows:-

H8: There is no significant relationship between Earnings and level of equity dividend in nationalised banks.

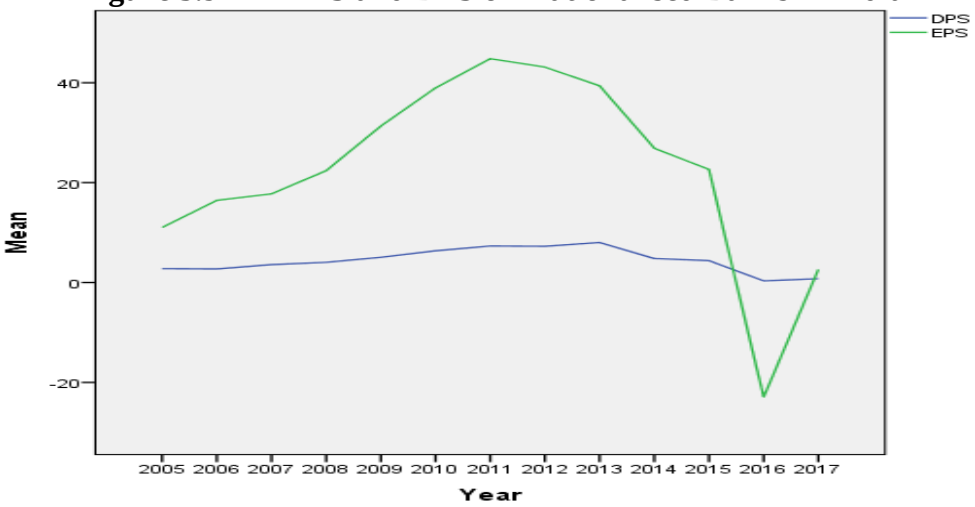
The correlation test has been run on the data related to nationalised banks and following results have been found.

Table 5.22 Correlation between EPS and DPS of Nationalised Banks

		EPS	DPS
EPS	Pearson Correlation	1	.872**
	Sig. (2-tailed)		.000
DPS	Pearson Correlation	.872**	1
	Sig. (2-tailed)	.000	

The correlation coefficient has been .872 which has been very high and positive which shows direct relationship between variables. It means with increase in EPS, the dividend for nationalised banks increase. As the Sig. (2-tailed) < 0.05 the relationship has been statistically significant. So we can say that statistically significant highly positive correlation exist between Earnings and Dividend of nationalized banks.

Figure 5.9 EPS and DPS of Nationalised Banks in India



So the hypothesis that there is a no significant correlation between Earnings and dividend of nationalised banks in India stands rejected.

5.10 RELATIONSHIP BETWEEN EARNINGS AND DIVIDENDS OF PRIVATE BANKS

A hypothesis was also framed to know the relationship between earnings and dividend of private banks in India as follows:-

H9: There is no significant relationship between Earnings and level of equity dividend in private Indian banks.

The correlation test has been run on the data related to private banks and following results have been found.

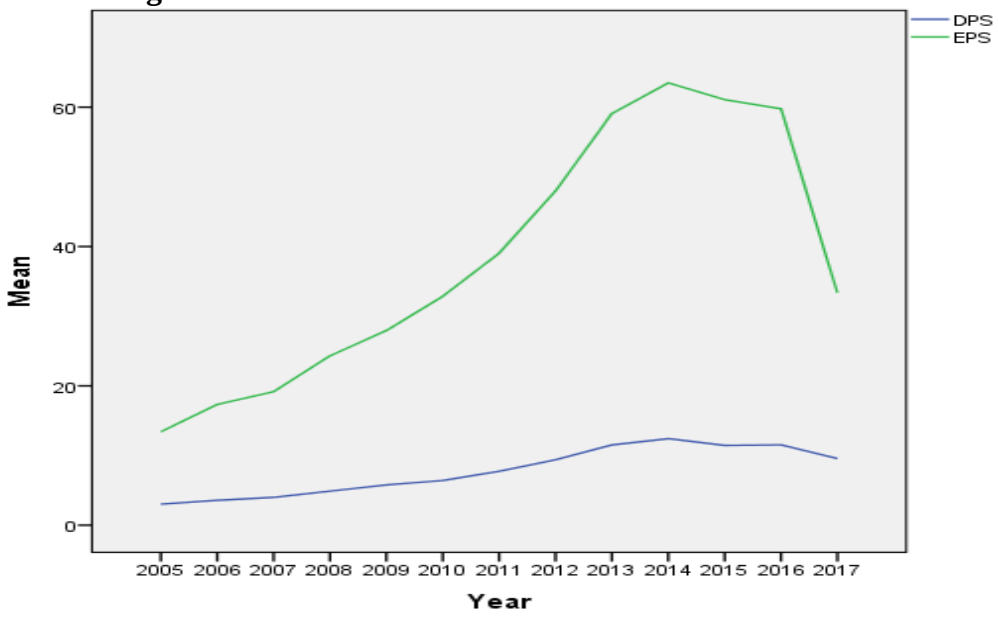
Table 5.23 Correlation between EPS and DPS of Private Banks

		EPS	DPS
EPS	Pearson Correlation	1	.861**
	Sig. (2-tailed)		.000
DPS	Pearson Correlation	.861**	1
	Sig. (2-tailed)	.000	

The correlation coefficient has been .861 which has been very high and positive which shows direct relationship between variables. It means with increase in EPS, the dividend even for private banks increase. As the Sig. (2-tailed) < 0.05 the relationship has been statistically significant. We can say that statistically significant highly positive correlation exist between Earnings and Dividend of private banks. So as far

as the correlation between earnings and dividend is concerned it has been highly positive in case of all banks, nationalized bank and private banks.

Figure 5.10 EPS and DPS of Private Banks in India



So the hypothesis that there is a no significant correlation between Earnings and dividend of private banks in India stands rejected.

5.11 CONCLUSION

On the basis of descriptive analysis it can be concluded that Punjab national Bank and HDFC bank have paid the highest dividend. Dividend paid by nationalised banks has been lower than the dividend paid by private Indian banks. On comparing the average payout ratio, it has been observed that, the dividend payout ratio of nationalised banks has been not significantly different from that of private Indian banks. It has been found that there has been significant difference in the financial leverage of nationalised banks and private Indian banks. The average financial leverage of nationalised banks has been higher than that of private Indian banks. It has been observed that the banks which have earned highest EPS, have paid the highest DPS. It has been found that there has been significant difference in the EPS of nationalised banks and private Indian banks. Average EPS of private banks has been higher than the average EPS of nationalised banks. Statistically moderate negative correlation has been found between FL and DPS of banks in India.

CHAPTER VI

DATA ANALYSIS - II

6.1 INTRODUCTION

The behaviour of dividend, financial leverage and earnings of the banks and correlation between various variables has been analysed in the previous chapter. In this second chapter of analysis, impact of financial leverage and earnings has been found on the dividend of banks.

In this chapter, the regression results have been analysed to find the impact of financial leverage on dividend of banks, group wise and in total. Efforts have been made to develop a regression model where the value of dividend can be predicted with the help of financial leverage. Then the models developed have been checked for reliability and validity.

The analysis has been done in SPSS 21.0. Initially 19 public sector banks and 15 private sector banks became the part of the study where the banks have been analysed for the period of 13 years i. e. from 2004-05 to 2016-17. When finding regression the years 2016, 2017 have been ignored as during these years majority of banks did not pay any dividend. Moreover the values for the years where banks have paid no dividend have been ignored.

6.2 IMPACT OF FINANCIAL LEVERAGE ON DIVIDEND OF BANKS

To find out the impact of financial leverage on DPS of banks in India hypothesis has been framed as follows:-

H10: There is no significant impact of financial leverage on equity dividend of banks.

The regression has been used as a tool to know the impact. Taking DPS as a dependent variable and financial leverage as independent variable, firstly the regression has been run been on data of all banks together and then for nationalised and private Indian banks separately.

6.2.1 LINEAR REGRESSIONOF DPS AND FL FOR BANKS IN INDIA

Simple linear regression is linear approach to modelling the relationship between a dependant variable and an independent variable. The same has been used first to analyse the impact of financial leverage on dividend of banks. The results are tabulated in table 6.1.

Table 6.1 Correlation of DPS and FL of Banks in India

Correlations			
		DPS	Financial leverage
Pearson Correlation	DPS	1.000	-.338
	Financial Leverage	-.338	1.000
Sig. (1-tailed)	DPS	.	.000
	Financial Leverage	.000	.

Table 6.2 Model Summary of Regression of DPS and FL of Banks in India

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.338[a]	.114	.111	6.87143	.505

Table 6.3 Coefficients of Regression of DPS and FL of Banks in India

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	13.635	1.104		12.354	.000
	Financial Leverage	-.420	.067	-.338	-6.313	.000

From the above tables it has been concluded that there has been a significant negative relationship between DPS and Financial Leverage. Financial Leverage has a negative impact on DPS i.e. with the increase in financial leverage, DPS decreases in case of banks in India. The regression coefficient has been -0.420 with a constant of 13.635.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

DPS= 13.635 – 0.420(Financial Leverage)

As the value of R^2 has been 0.114 , it means that only 11.4 % of variations in DPS are explained by Financial Leverage for all the banks taken together. Since the p value has been less than 0.05, the null hypothesis that there is no significant impact of financial leverage on equity dividend of banks, has been rejected. It has been found that there has been significant impact of financial leverage on equity dividend of banks.

B) Validity of Regression Results

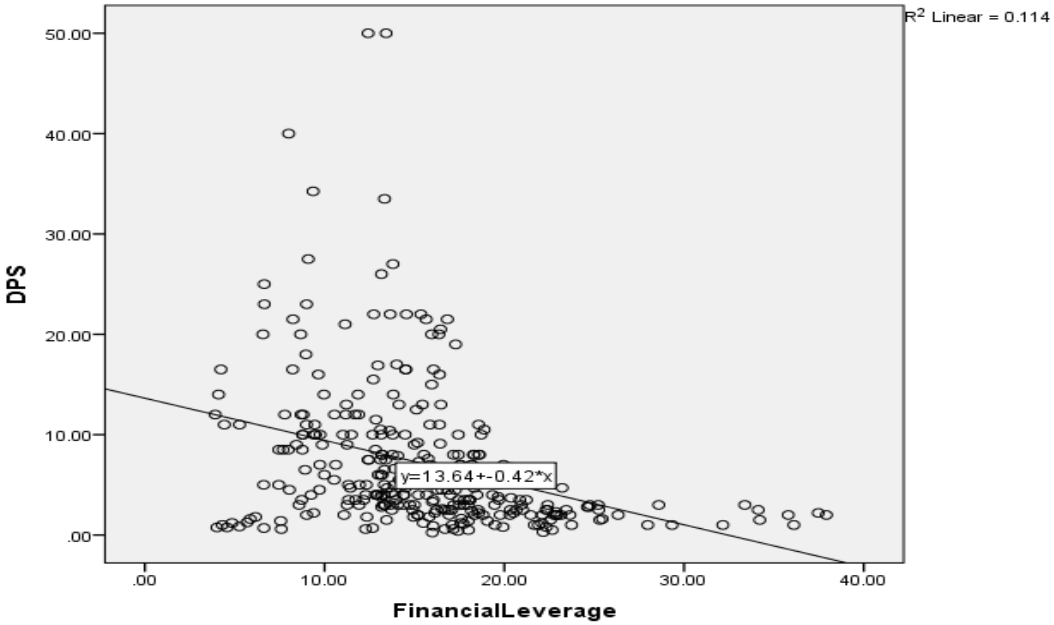
Before we reach any conclusion regarding this model it is necessary to check the validity of regression results. To check validity and robustness of regression results there are few basic assumptions of classic linear regression model. These must be

tested for identification and specification to improve quality of research. These are- tests of linearity, normality, stationarity, auto collinearity and homoscedasticity.

1. **Assumption of Linearity**

According to this assumption of linear regression the relationship between dependant and independent variable should be linear. This can be checked with the help of Scatter diagram. The scatter diagram of the above said data has been represented in figure 6.1.

Figure 6.1 Scatter Plot of DPS and FL for Banks in India .



There have been a number of outliers present, it has been observed that the relationship is not linear between Financial Leverage and DPS.

2. **Assumption of Normality**

This assumption assumes the errors of prediction to be normally distributed. It assumes that the sample has been drawn from a normally distributed population (Park, 2002). The Skewness-Kurtosis,Shapiro-Wilk, Shapiro-Francia tests, in addition to QQ plot of residuals and Bera-Jarcques Statistics can be used to check it.

Researcher has used Shapiro-Wilk test along with Q-Q plot to test the normality of data.

i. **Shapiro-Wilk Test**- This is a way to test if a random sample comes from a normal distribution. The results of the test are as below:-

Table 6.4 Test of Normality of DPS and FL of Banks in India

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
DPS	.175	311	.000	.752	311	.000
Financial Leverage	.082	311	.000	.953	311	.000

As we have been able to see that level of Significance for Shapiro-Wilk test has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which is not normal, are not valid.

ii. **Q-Q Plot** – It is a graphical tool to help us access if a set of data plausibly comes from some theoretical distribution such as normal.

Figure 6.2 Normal Q-Q plot of DPS

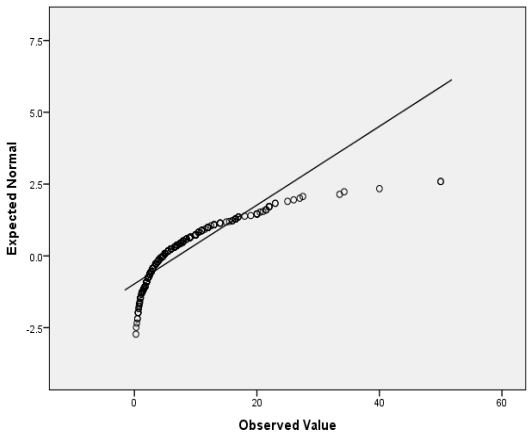
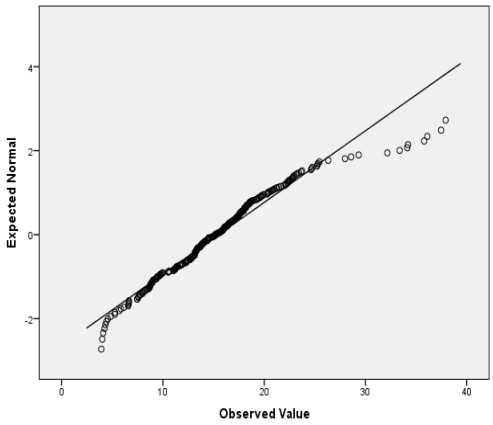


Figure 6.3 Normal Q-Q plot of FL



On the observation of the data of DPS and Financial Leverage on Q-Q plots, it has been found that it is not normally distributed.

3. Assumption of Stationarity and auto correlation

This is an assumption about no change in mean, variance and autocorrelation of variable over the time. The data should be stationary and its behaviour and properties should not change over time, for regression results to be valid. Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test

Figure 6.4 ACF Chart of Financial Leverage

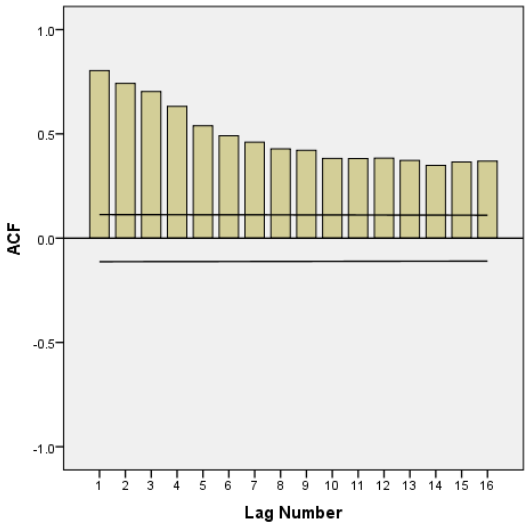
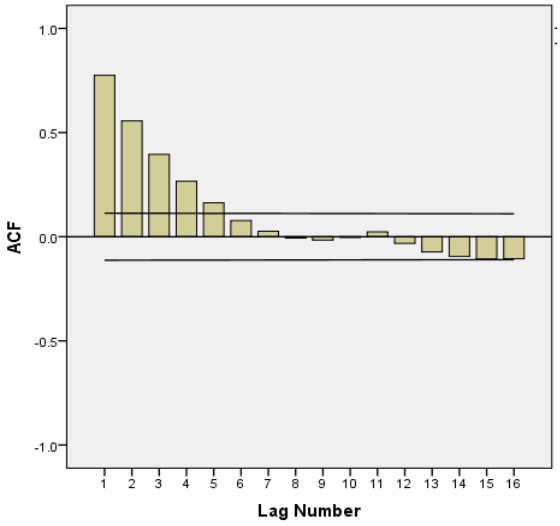


Figure 6.5 ACF Chart of DPS



The results of Auto correlation test show that data has not been stationary.

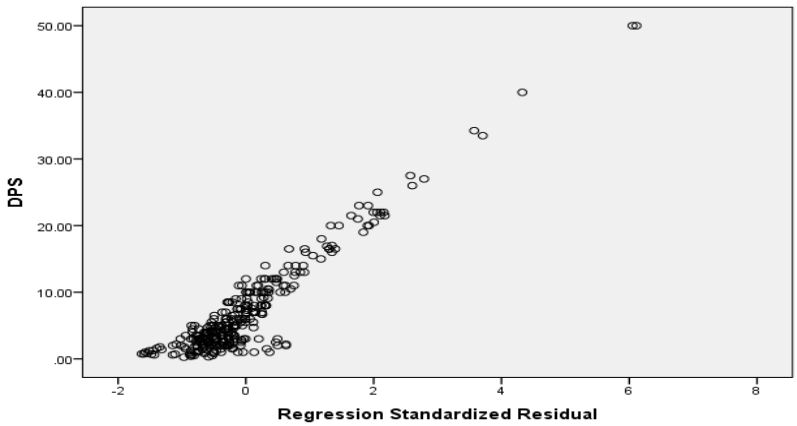
ii. Durbin –Watson Statistics

As per the model summary in table 6.2 of, the Durbin-Watson value has been 0.505 which very far off from the expected value of 2, for that to fulfil the assumption. So the data is having auto- collinearity.

4. Assumption of Homoscedasticity

As per this assumption the data should be homoscedastic. It means that the residuals should be equally spread across the regression line and should not form any particular pattern. To check this assumption the scatter plot of residuals has been observed.

Figure 6.6 Scatter Plot of Regression Standardized Residuals of FL and DPS

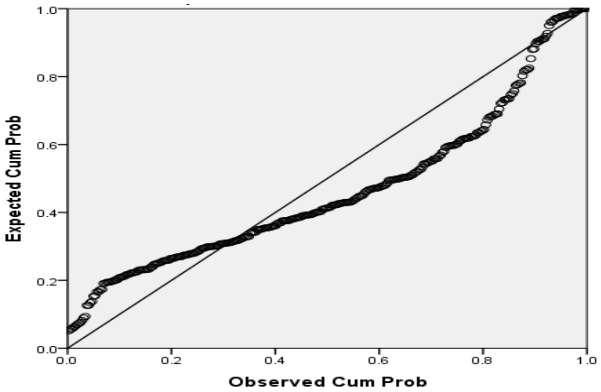


The scatter plot of residuals has been not equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity

5. **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. In the observed P-P plot the residuals have been far from the expected line. So the regression has been not a good fit.

Figure 6.7 Normal P-P Plot of Regression Standardized Residuals of FL and DPS



It has been analysed that the majority of assumption of linear regression model have not been satisfied in the above case, so some kind of transformation is needed to make the data normal and fit the regression line. This transformation has been done by taking Log values.

6.2.2. Linear Regression with Log of DPS and Fl for Banks in India

The transformation has been done with the help of taking Log of all the values. After transformation the model has been developed in the form of:-

Log DPS= a + b (Log Financial Leverage)

The linear regression has been run on data with Log and results are summarised in the form of tables.

Table 6.5 Linear Regression with Log of DPS and FL of Banks in India

Correlations			
		Log DPS	Log Financial Leverage
Pearson Correlation	Log DPS	1.000	-.302
	Log Financial Leverage	-.302	1.000
Sig. (1-tailed)	Log DPS	.	.000
	Log Financial Leverage	.000	.

Table 6.6 Model Summary of Linear Regression with Log of DPS and FL of Banks in India

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.302[a]	.091	.089	.40259	.479

Table 6.7 Coefficients of Linear Regression with Log of DPS and FL of Banks in India

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.501	.152		9.878	.000
	Log Financial Leverage	-.724	.130	-.302	-5.579	.000

From the above tables it has been concluded that there is a negative relationship between Log DPS and Log Financial Leverage of banks which is significant as the p value has been less than 0.05. Financial Leverage has a negative impact on DPS i.e. with the increase in leverage, DPS decreases in case of banks in India. The regression coefficient has been -0.724 with a constant of 1.501.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

Log DPS = 1.501 – 0.724 (Log Financial Leverage)

As the value of R^2 has been .091, it means that only 9% of variations in DPS are explained by Financial Leverage for the banks.

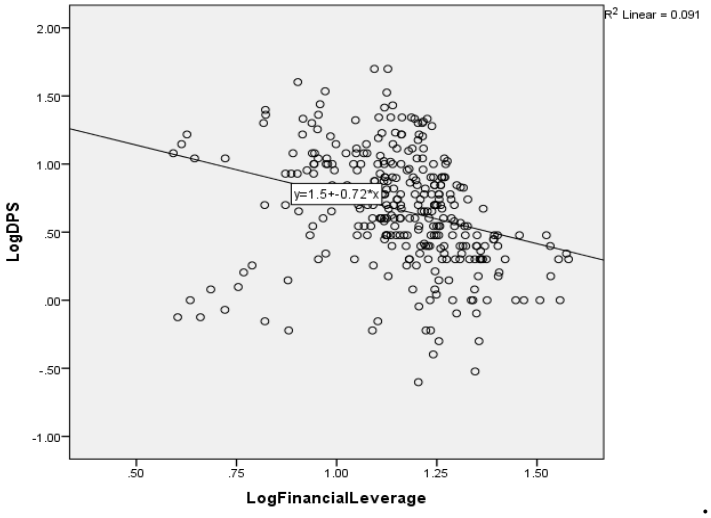
B) VALIDITY OF REGRESSION RESULTS WITH LOG

Before we reach any conclusion regarding this model it is necessary to check the validity of regression results. To check validity of regression results few basic assumptions of classic linear regression model have been checked with -. tests of linearity, normality, stationarity, auto collinearity and homoscedasticity.

a) Assumption of Linearity

This has been checked with the help of Scatter diagram. The scatter diagram of the above said data has been represented in figure 6.8.

Figure 6.8 Scatter Plot of Log DPS and Log FL for banks in India



As there have been number of outliers present and a cluster has been formed, it has been observed that the relationship has not been linear between Financial Leverage and DPS.

b) **Assumption of Normality**-

Shapiro-Wilk test along with Q-Q plot has been used to test the normality of data.

i. **Shapiro-Wilk Test**- the results of the test are as below:-

Table 6.8 Test of Normality of Log DPS and Log FL of Banks in India

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Log DPS	.044	311	.200*	.994	311	.254
Log Financial Leverage	.104	311	.000	.959	311	.000

As we have been able to see that level of Significance for Shapiro-Wilk test has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which is not normal, are not valid.

ii. **Q-Q Plot** –. On the observation of the data of Log DPS on Q-Q plots, it has been found that it has been quite along the expected line but this has not been the case of Log Financial Leverage.

Figure 6.9 Normal Q-Q plot of Log DPS

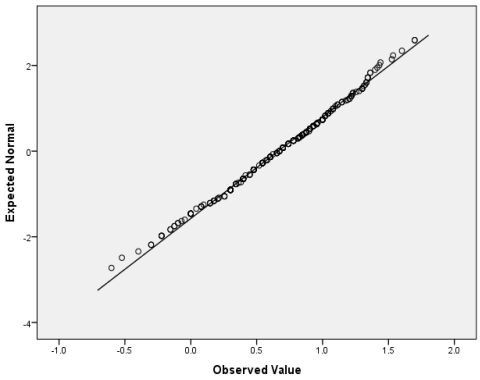
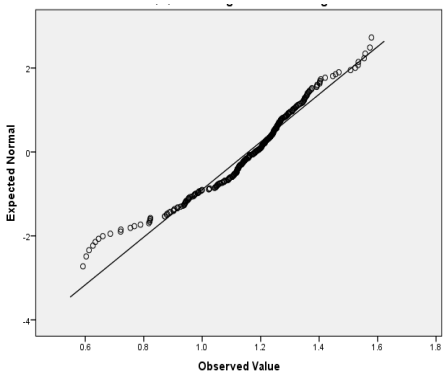


Figure 6.10 Normal Q-Q plot of Log F L



c) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test Auto correlation test results show that data has not been stationary

Figure 6.11 ACF Chart of Log FL

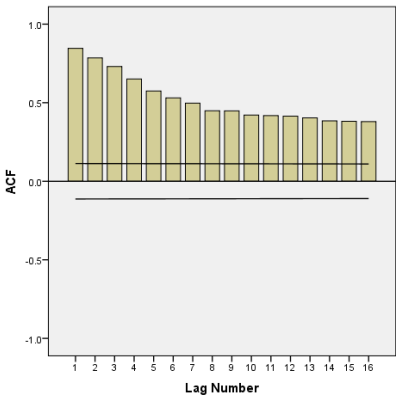
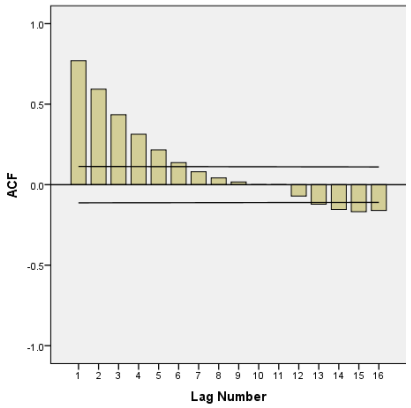


Figure 6.12 ACF Chart of Log DPS



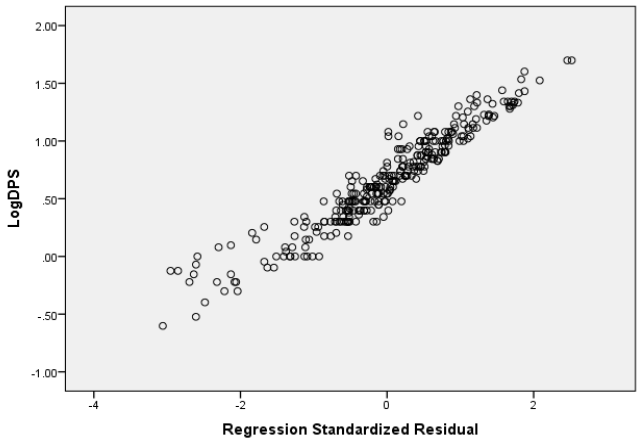
ii. Durbin –Watson Statistics

As per the model summary in table 6.6 , the Durbin-Watson value has been 0.479 which is very far off from the expected value of 2, for that to fulfil the assumption. So the data has been having auto- collinearity.

d) Assumption of Homoscedasticity

To check this assumption the scatter plot of residuals has been observed.

Figure 6.13 Scatter Plot of Regression Standardized Residuals of Log FL and Log DPS

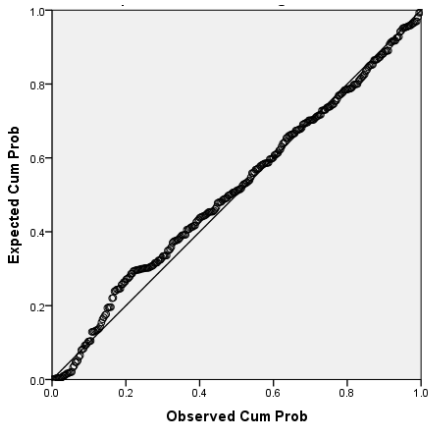


The scatter plot of residual has not been equally distributed and depicts a cluster, which suggest the presence of hetroscedasticity

e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. As per the observed P-P plot the residuals are near to but not exactly on the expected line. So the regression has been not a good fit.

Figure 6.14 Normal P-P Plot of Regression Standardized Residuals of Log FL and Log DPS



It has been analysed that in this case also all of assumption of linear regression model have not been satisfied, so regression line has been not a good fit. Now the efforts have been made to find the non linear regression between the variables.

6.2.3 Nonlinear Regression of DPS and Fl For Banks in India

As the linear regression model even after transformation with Log has been not a good fit to explain the impact of financial leverage on dividend of banks India, Non-linear regression model has been applied. The correlation between dividend paid and financial leverage has been negative, therefore decay model has been chosen. The model has been in the form as below:-

DPS= A-(B*(C*Financial Leverage))

When the same model has been run on the data related to all banks in India the results are as below:-

Table 6.9 Parameter Estimate for Non-Linear Regression of DPS and FL for Banks in India

Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
A	13.635	1.106	11.460	15.811
B	.888	7474131.207	-14706817.227	14706819.003
C	.473	3984187.960	-7839670.257	7839671.204

From the above tables it has been concluded that there has been a negative relationship between DPS and Financial Leverage of banks i.e. with the increase in leverage DPS decreases in case of banks in India.

A) Nonlinear Regression Model

The equation can be written as a model fit equation between two variables as-

DPS= 13.635 - (0.888*(0.473*Financial Leverage))

As the value of R^2 has been .114 , it means that 11.4 % of variations in DPS are explained by Financial Leverage for the banks.

6.3 IMPACT OF FINANCIAL LEVERAGE ON DIVIDEND OF NATIONALISED BANKS

On the line similar to those for all banks in India the impact has been found for nationalised banks separately. To find out the impact of financial leverage on DPS of nationalised banks hypothesis has been framed as follows:-

H11: There is no significant impact of financial leverage on equity dividend of nationalised banks.

To test the hypothesis linear regression has been used as a tool.

6.3.1 Linear Regression of DPS and Fl for Nationalised Banks

The linear regression has been run the data related to nationalised banks to find out the impact

Table 6.10 Regression of DPS and FL of Nationalised Banks

		DPS	Financial Leverage
Pearson Correlation	DPS	1.000	-.396
	Financial Leverage	-.396	1.000
Sig. (1-tailed)	DPS	.	.000
	Financial Leverage	.000	.

Table 6.11 Model Summary of Regression of DPS and FL of Nationalised Banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.396[b]	.157	.152	4.79607	.512

Table 6.12 Coefficients of DPS and FL of Nationalised Banks

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	13.218	1.338		9.880	.000
	Financial Leverage	-.403	.069	-.396	-5.794	.000

From the above tables it has been concluded that there has been a negative relationship between DPS and Financial Leverage of nationalised banks which has been significant as the p value has been less than 0.05. Financial Leverage has a negative impact on DPS i.e. with the increase in leverage, DPS decreases in case of nationalised banks in India. The regression coefficient has been -0.403 with a constant of 13.218.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

DPS = 13.218 – 0.403(Financial Leverage)

As the value of R^2 has been .157 , it means that only 15.7 % of variations in DPS are explained by Financial Leverage for the nationalised banks. Since the p value has been less than 0.05 the null hypothesis that there has been no significant impact of

financial leverage on equity dividend of nationalised banks, has been rejected and it has been found that there is significant impact of financial leverage on equity dividend of nationalised banks.

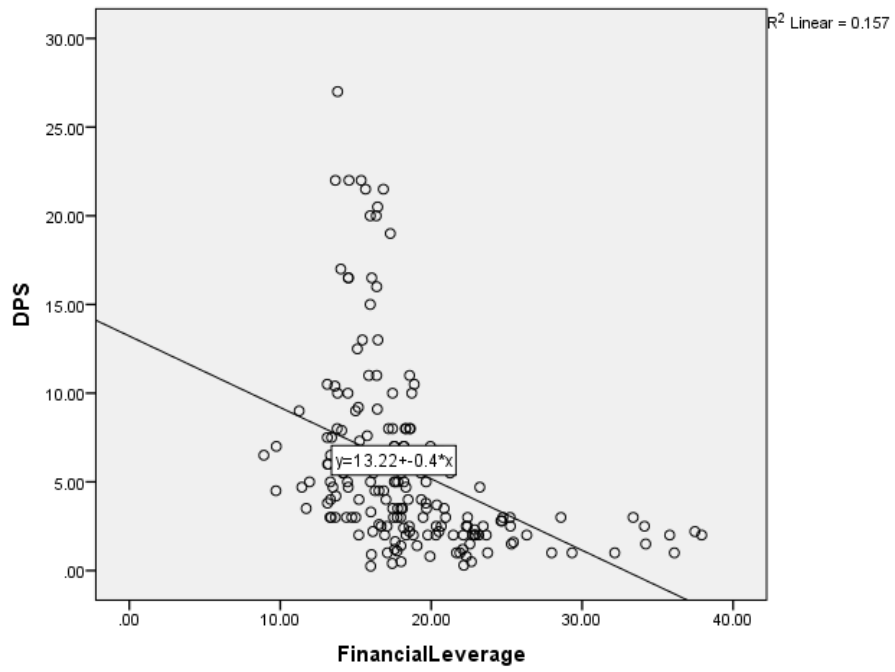
B) Validity of Regression Results for DPS and Fl of Nationalised Banks

Before we reach any conclusion regarding this model it is necessary to check the validity of regression results. To check validity of regression results few basic assumptions of classic linear regression model has been checked with -. tests of linearity, normality, stationarity, auto collinearity and homoscedasticity.

a) Assumption of Linearity

This has been checked with the help of Scatter diagram. The scatter diagram of the above said data has been represented in figure 6.15.

Figure 6.15 Scatter Plot of DPS and FL for Nationalised banks



.

As there have been number of outliers present and a cluster has been formed, it has been observed that the relationship has not been linear between financial leverage and DPS of nationalised banks.

b) **Assumption of Normality**-

Shapiro-Wilk test along with Q-Q plot has been used to test the normality of data.

i. **Shapiro**-Wilk **Test**- the results of the test are as below:-

Table 6.13 Test of Normality of DPS and FL of Nationalised Banks

	Kolmogorov-Smirnov[b]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
DPS	.172	182	.000	.795	182	.000
Financial Leverage	.144	182	.000	.881	182	.000

As we have been able to seethat level of Significance for Shapiro-Wilk test below 0.05, so the data don't hold the assumption of normality and regression results of the data which is not normal, are not valid.

ii. **Q-Q Plot** –On the observation of the data of DPS on Q-Q plots, it has been foundthat it is quite along the expected line but this has not been the case of Log Financial Leverage.

Figure 6.16 Q-Q plot of DPS of Nationalised Banks

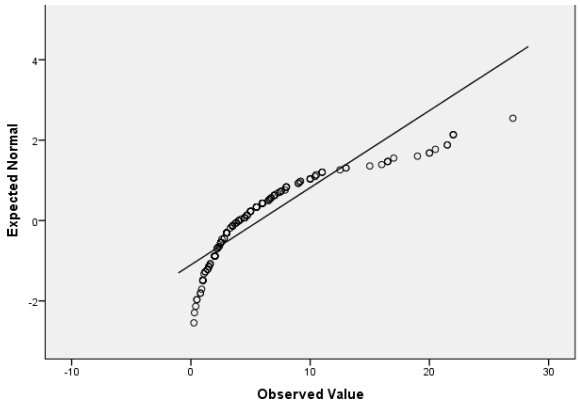
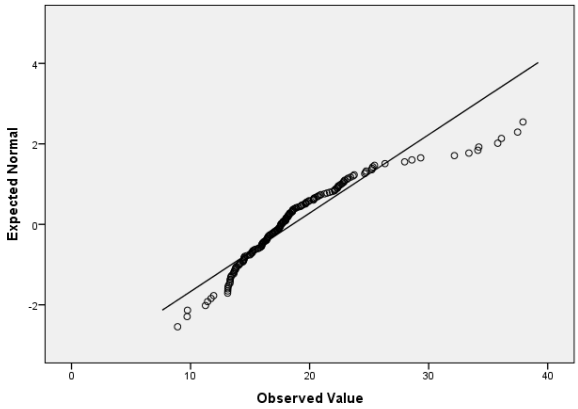


Figure 6.17 Q-Q plot of FL of Nationalised Banks



c) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. **Auto-correlation test** Auto correlation test results show that data has not been stationary

Figure 6.18 ACF Chart of FL of Nationalised

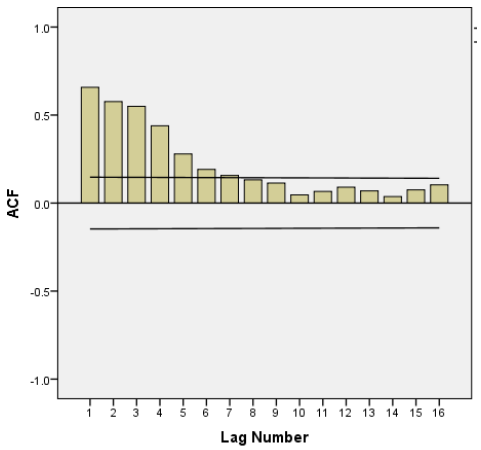
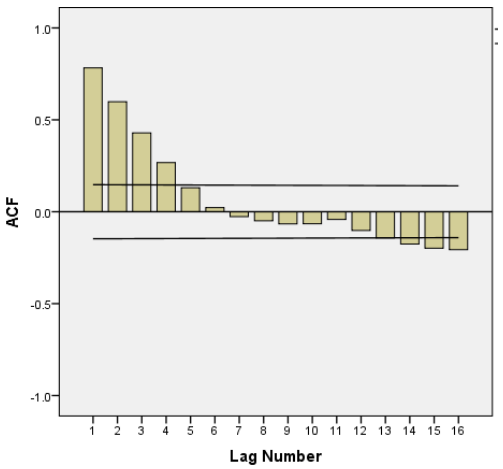


Figure 6.19 ACF Chart of DPS of Nationalised



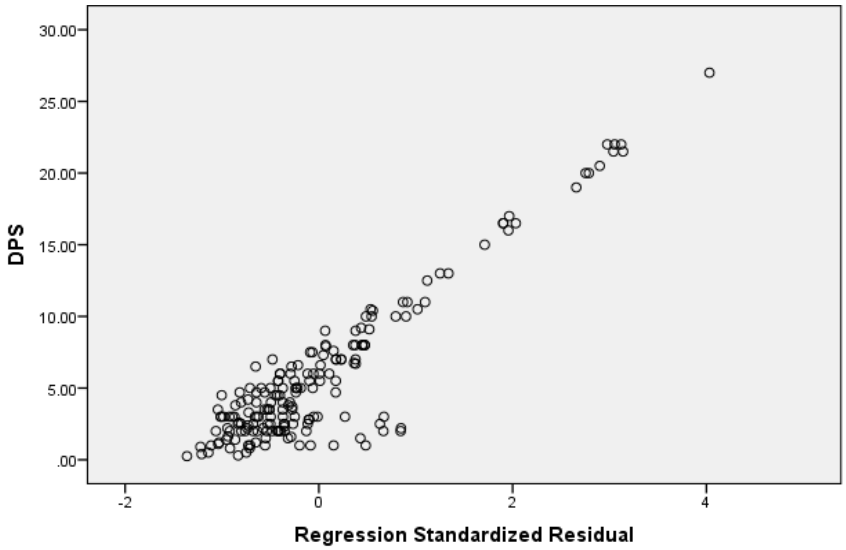
ii. Durbin –Watson Statistics

As per the model summary in table 6.11, the Durbin-Watson value has been 0.512 which very far off from the expected value of 2, for that to fulfil the assumption. So the data is having auto- collinearity.

d) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.20 Scatter Plot of Regression Standardized Residuals of FL and DPS of Nationalised Banks

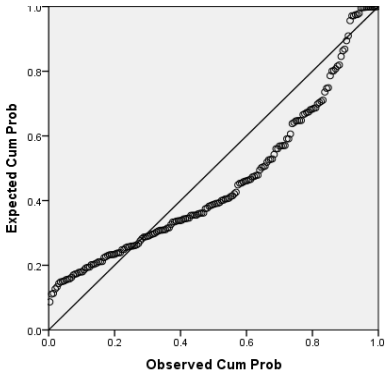


The scatter plot of residual has not been equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity

e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. As per the observed P-P plot the residuals have been near to but not exactly on the expected line. So the egression has been not a good fit.

Figure 6.21 Normal P-P Plot of Regression Standardized Residuals of FL and DPS of Nationalised Banks



It has been analysed that the majority of assumption of linear regression model have not been satisfied in the case of nationalised banks also, so some kind of transformation is needed to make the data normal and fit the regression line. This transformation has been done by taking Log values.

6.3.2 Linear Regression with Log of DPS and FL for Nationalised Banks

The transformation has been done with the help of taking Log of all the values. After transformation the model has been developed in the form of:-

Log DPS = a + b (Log Financial Leverage)

The regression has been run on the data related to nationalised banks and the details are as follows:-

Table 6.14 Linear Regression with Log of DPS and FL of Nationalised Banks in India

Correlations[a]			
		Log DPS	Log Financial Leverage
Pearson Correlation	Log DPS	1.000	-.488
	Log Financial Leverage	-.488	1.000
Sig. (1-tailed)	Log DPS	.	.000
	Log Financial Leverage	.000	.

Table 6.15 Model Summary of Linear Regression with Log of DPS and FL of Nationalised Banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.488	.238	.233	.33855	.808

Table 6.16 Coefficients of Linear Regression with Log of DPS and FL of Nationalised Banks

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.763	.290		9.539	.000
	Log Financial Leverage	-1.723	.230	-.488	-7.492	.000

From the above tables it has been concluded that there has been a negative relationship between Log DPS and Log Financial Leverage of nationalised banks which has been significant as the p value has been less than 0.05. Log Financial Leverage has a negative impact on Log DPS i.e. with the increase in leverage, DPS decreases in case of nationalised banks in India. The regression coefficient has been -1.723 with a constant of 2.763.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

Log DPS = 2.763 – 1.723(Log Financial Leverage)

As the value of R^2 has been 0.238 , it means that 23.8 % of variations in DPS are explained by Financial Leverage for the nationalised banks.

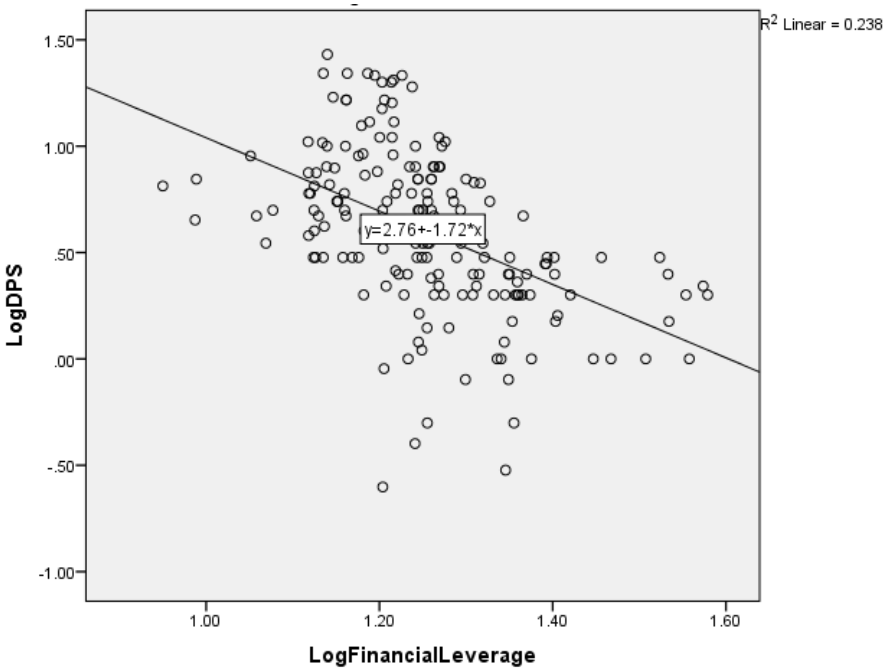
B) Validity of Regression Results with Log DPS and Log FL for Nationalised Banks

Before we reach any conclusion regarding this model it is necessary to check the validity of regression results. To check validity of regression results few basic assumptions of classic linear regression model have been checked with - tests of linearity, normality, stationarity, auto collinearity and homoscedasticity.

a) Assumption of Linearity

This has been checked with the help of Scatter diagram. The scatter diagram of the above said data has been represented in figure 6.22.

Figure 6.22 Scatter Plot of Log DPS and Log FL for Nationalised Banks



As there have been number of outliers present and a cluster has been formed, it has been observed that the relationship has been not linear between Log Financial Leverage and Log DPS of nationalised banks.

b) **Assumption of Normality**-

Shapiro-Wilk test along with Q-Q plot has been used to test the normality of data.

a) **Shapiro-Wilk Test**- the results of the test are as below:-

Table 6.17 Test of Normality of Log DPS and Log FL of NationalisedBanks

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Log DPS	.076	182	.012	.986	182	.070
Log Financial Leverage	.091	182	.001	.968	182	.000

As we have been able to see that level of Significance for Shapiro-Wilk test has been below 0.05 for Log financial leverage, so the data don't hold the assumption of normality and regression results of the data which has been not normal, are not valid.

b) **Q-Q Plot** – On the observation of the data on Q-Q plots, it has been found that it is not normal.

Figure 6.23 Q-Q plot of Log DPS of Nationalised Banks

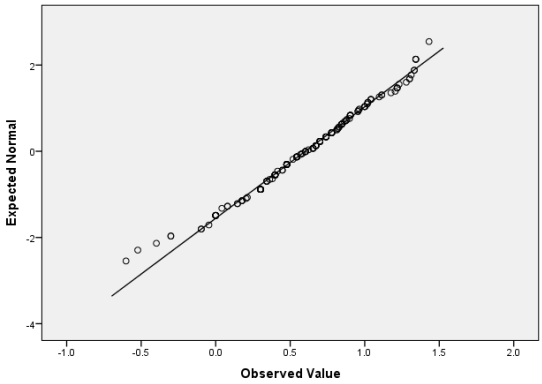
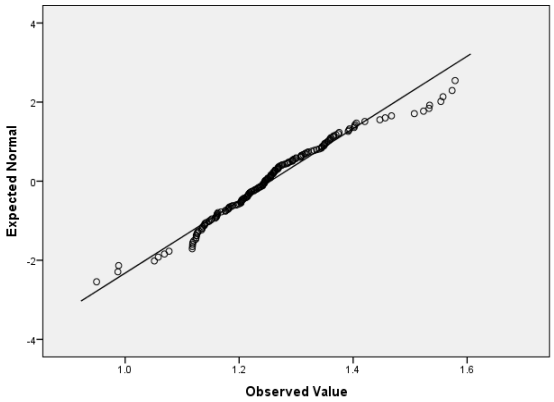


Figure6.24 Q-Q plot of Log FL of Nationalised Banks



c) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test Auto correlation test results show that data has been not stationary

Figure 6.25 ACF Chart of Log FL of Nationalised

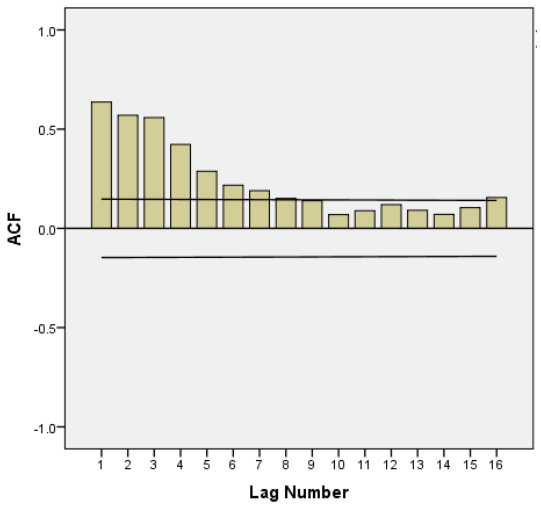
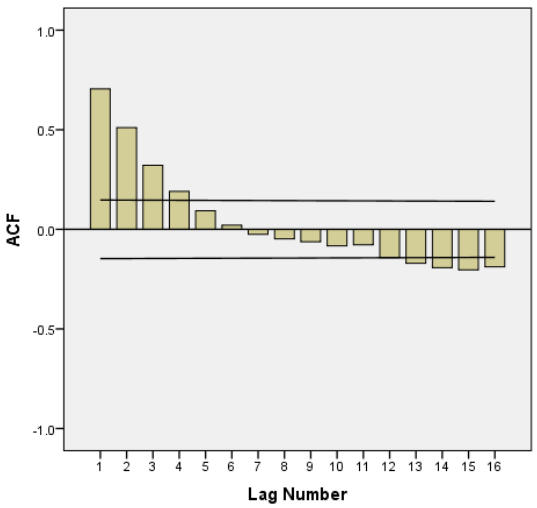


Figure 6.26 ACF Chart of Log DPS of Nationalised

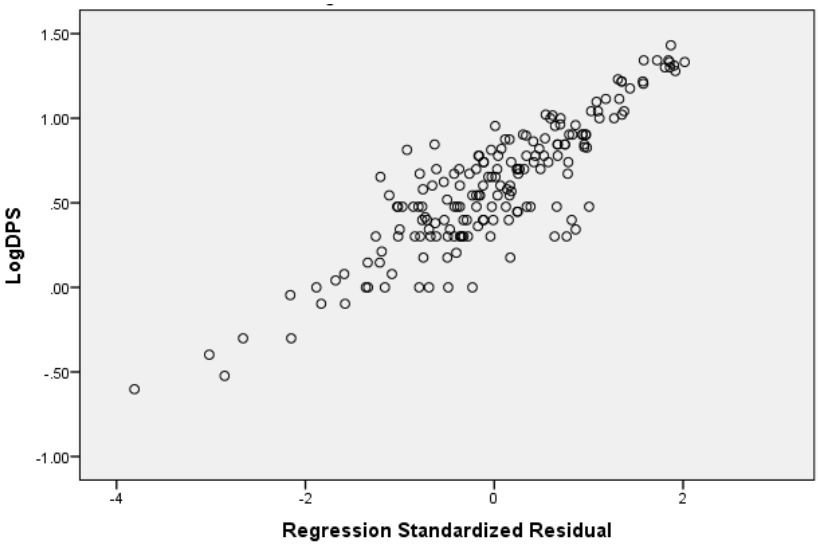


As per the model summary in table 6.15, the Durbin-Watson value has been 0.808 which very far off from the expected value of 2, for that to fulfil the assumption. So the data is having auto- collinearity.

d) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.27 Scatter Plot of Regression Standardized Residuals of Log FL and Log DPS of Nationalised Banks

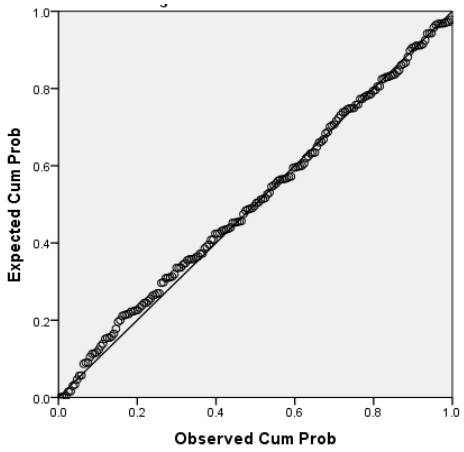


The scatter plot of residuals has been not equally distributed, which suggest the presence of hetroscedasticity.

e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals.

Figure 6.28 Normal P-P Plot of Regression Standardized Residuals of Log FL and Log DPS of Nationalised banks



As per the observed P-P plot the residuals have been very much lying on the expected line. So this assumption has been fulfilled.

It has been analysed that in this case also all of assumption of linear regression model have not been satisfied. Though the results have improved as compared to simple

regression but regression line cannot be taken as a good fit. Now the efforts have been made to find the non linear regression between the variables.

6.3.3 Nonlinear Regression of DPS and FL of Nationalised Banks

As the linear regression model even after transformation with Log has been not a good fit to explain the impact of financial leverage on dividend of nationalised banks, Non-linear regression model has been applied. The correlation between dividend paid and financial leverage has been negative, therefore decay model has been chosen.

The model has been in the form as below:-

DPS= A-(B*(C*Financial Leverage))

When the same model has been run on the data related to nationalised banks, the results are as below:-

Table 6.18 Parameter Estimate for Non-Linear Regression of DPS and FL for Nationalised Banks

Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
A	13.218	1.342	10.570	15.865
B	-.748	5632898.382	-11115429.734	11115428.237
C	-.538	4047563.080	-7987078.757	7987077.682

From the above tables it has been concluded that there has been a negative relationship between DPS and Financial Leverage nationalised of banks i.e. with the increase in leverage DPS decreases in case of nationalised banks.

A) Nonlinear Regression Model

The equation can be written as a model fit equation between two variables as-

DPS= 13.218 - (-0.748*(-0.538*Financial Leverage)) i.e.

DPS= 13.218 - (0.748*(0.538*Financial Leverage))

As the value of R^2 has been .157 , it means that 15.7 % of variations in DPS are explained by Financial Leverage for the nationalised banks.

6.4 IMPACT OF FINANCIAL LEVERAGE ON EQUITY DIVIDEND OF PRIVATE INDIAN BANKS

On the line similar to those for nationalised banks the impact has been found for private Indian banks separately. To find out the impact of financial leverage on DPS of banks in India hypothesis has been framed as follows:-

H12: There is no significant impact of financial leverage on equity dividend of private Indian banks.

To test the hypothesis regression has been used as a tool.

6.4.1 Linear Regression of DPS and FL for Private Indian Banks

The linear regression has been run the data related to private Indian banks to find out the impact.

Table 6.19 Regression of DPS and FL of Private Banks

		DPS	Financial Leverage
Pearson Correlation	DPS	1.000	-.164
	Financial Leverage	-.164	1.000
Sig. (1-tailed)	DPS	.	.031
	Financial Leverage	.031	.

Table 6.20 Model Summary of Regression of DPS and FL of Private Banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.164[b]	.027	.019	9.06857	.499

Table 6.21 Coefficients of DPS and FL of Private Banks

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	13.573	2.539		5.345	.000
	Financial Leverage	-.404	.215	-.164	-1.876	.063

From the above tables it has been concluded that there has been a significant negative relationship between DPS and Financial Leverage of private Indian banks. Financial Leverage has a negative impact on DPS i.e. with the increase in financial leverage, DPS decreases in case of private Indian banks. The regression coefficient has been -0.404 with a constant of 13.573.

A) Regression Model

With the help of coefficients the regression model can be written as

DPS = 13.573 - 0.404(Financial Leverage)

As the value of R^2 has been 0.027, it means that only 3% of Variations in DPS are explained by financial leverage for private Indian banks which has been very low. Since the p value has been less than 0.05 the null hypothesis that there has been no significant impact of financial leverage on equity dividend of private Indian banks,

has been rejected and it has been found that there is significant impact of financial leverage on equity dividend of private Indian banks.

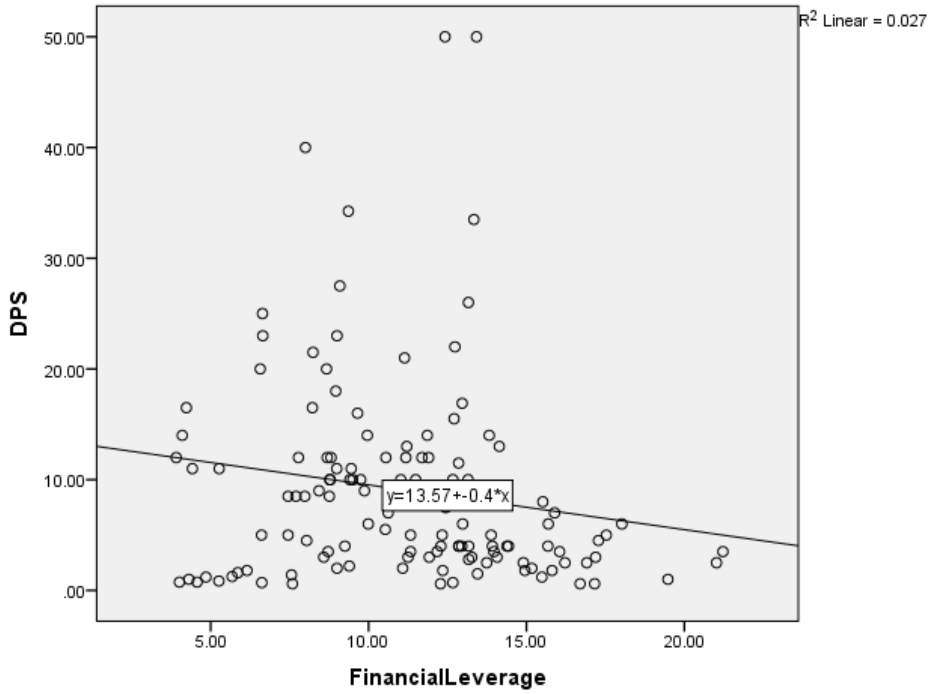
B) Validity of Regression Results for DPS and FL of Private Indian Banks

Before we reach any conclusion regarding this model it is necessary to check the validity of regression results. To check validity of regression results few basic assumptions of classic linear regression model have been checked with - tests of linearity, normality, stationarity, auto collinearity and homoscedasticity.

a) Assumption of Linearity

This has been checked with the help of Scatter diagram. The scatter diagram of the above said data has been represented in figure 6.29.

Figure 6.29 Scatter Plot of DPS and FL for Private banks



As there have been number of outliers present, it has been observed that the relationship is not linear between Financial Leverage and DPS of private Indian banks.

b) **Assumption of Normality**-

Shapiro-Wilk test along with Q-Q plot has been used to test the normality of data.

i. **Shapiro-**Wilk **Test**- the results of the test are as below:-

Table 6.22 Test of Normality of DPS and FL of Private Banks

	Kolmogorov-Smirnov[b]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
DPS	.178	129	.000	.779	129	.000
Financial Leverage	.065	129	.200*	.986	129	.202

As we have been able to see that level of Significance for Shapiro-Wilk test for DPS has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which has not been normal, are not valid.

ii. **Q-Q Plot** –On the observation of the data of FL on Q-Q plots, it has been found that it has been quite along the expected line but this is not the case of DPS.

Figure 6.30 Q-Q plot of DPS of Private Banks

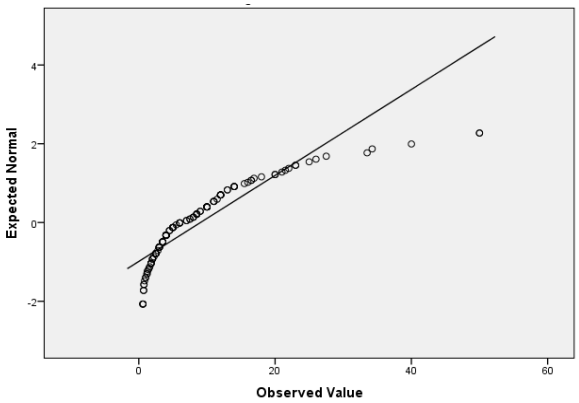
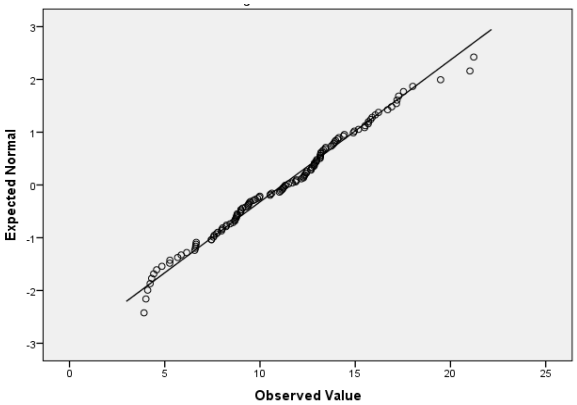


Figure 6.31Q-Q plot of FL of Private Banks



c) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test Auto correlation test results show that data has been not stationary

Figure 6.32 ACF Chart of FL of private

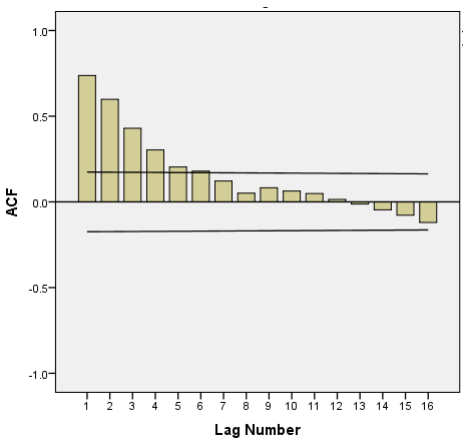
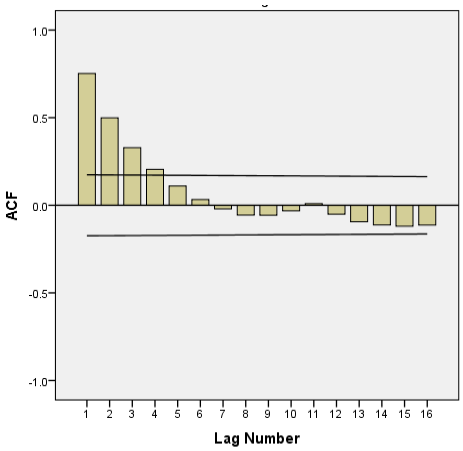


Figure 6.33 ACF Chart of DPS of Private



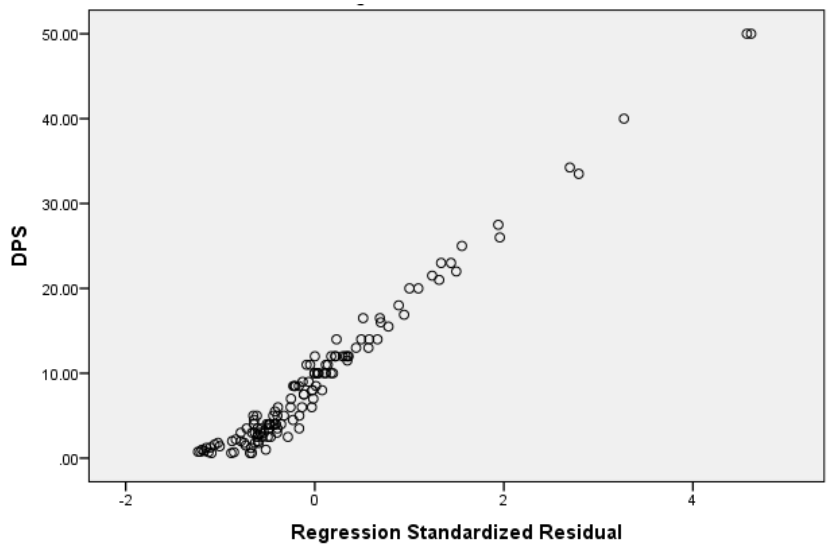
ii. Durbin –Watson Statistics

As per the model summary in table 6.20 of model summary, the Durbin-Watson value has been 0.499 which very far off from the expected value of 2, for that to fulfil the assumption. So the data is having auto collinearity.

d) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.34 Scatter Plot of Regression Standardized Residuals of FL and DPS of Private Banks

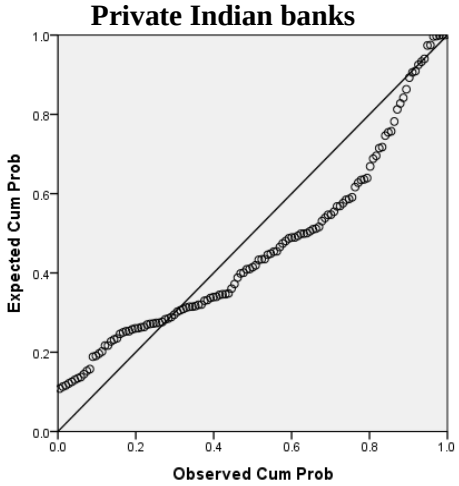


The scatter plot of residuals has not been equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity

e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. As per the observed P-P plot the residuals are near to but not exactly on the expected line. So the egression has been not a good fit.

Figure 6.35 Normal P-P Plot of Regression Standardized Residuals of FL and DPS of Private Indian banks



It has been analysed that the majority of assumption of linear regression model have not been satisfied in the case of private Indian banks also, so some kind of transformation is needed to make the data normal and fit the regression line. This transformation has been done by taking Log values.

6.4.2 Linear Regression with Log of DPS and FL for Private Indian Banks

The transformation has been done with the help of taking Log of all the values. After transformation the model has been developed in the form of:-

Log DPS = a + b (Log Financial Leverage)

The regression has been run on the data related to private Indian banks and the details are as follows:-

Table 6.23 Linear Regression with Log of DPS and FL of Private Banks in India

Correlations			
		Log DPS	Log Financial Leverage
Pearson Correlation	Log DPS	1.000	-.065
	Log Financial Leverage	-.065	1.000
Sig. (1-tailed)	Log DPS	.	.233
	Log Financial Leverage	.233	.

Table 6.24 Model Summary of Linear Regression with Log of DPS and FL of Private Banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.065	.004	-.004	.45480	.348

Table 6.25 Coefficients of Linear Regression with Log of DPS and FL of Private Banks

		Unstandardized Coefficients		Standardized Coefficients	t
		B	Std. Error	Beta	
	(Constant)	.935	.256		3.648
	Log Financial Leverage	-.181	.248	-.065	-.731

From the above tables it has been concluded that there has been a negative relationship between Log DPS and Log Financial Leverage of private Indian banks which has been not significant as the p value has been more than 0.05. Financial Leverage has a negative impact on DPS i.e. with the increase in leverage DPS decreases in case of private Indian banks in India. The regression coefficient has been -0.181 with a constant of 0.935.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

Log DPS = 0.935 – 0.181(Log Financial Leverage)

As the value of R^2 has been 0.004, it means that variations in DPS are not explained by Financial Leverage for the private Indian banks. But before we reach any conclusion regarding this model it is necessary to check the validity of regression results.

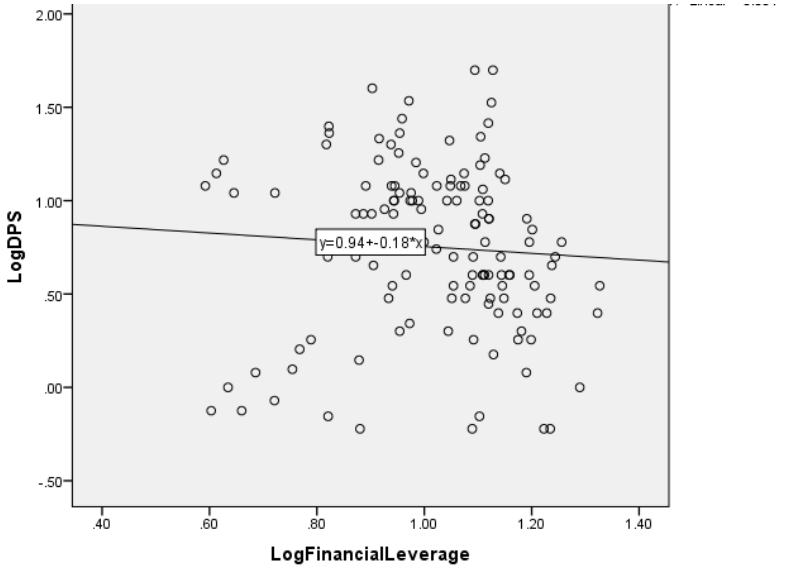
B) Validity of Regression Results with Log DPS and Log FL for Private Indian Banks

To check validity of regression results few basic assumptions of classic linear regression model have been checked with -. tests of linearity, normality, stationarity, auto collinearity and homoscedasticity.

a) Assumption of Linearity

This has been checked with the help of Scatter diagram. The scatter diagram of the above said data has been represented in figure 6.36.

Figure 6.36 Scatter Plot of Log DPS and Log FL for Private Banks



As there have been number of outliers present, it has been observed that the relationship has not been linear between Log Financial Leverage and Log DPS of private Indian banks.

b) **Assumption of Normality**-

Shapiro-Wilk test along with Q-Q plot has been used to test the normality of data.

i. **Shapiro-Wilk Test**- the results of the test are as below:-

Table 6.26 Test of Normality of Log DPS and Log FL of PrivateBanks

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Log DPS	.089	129	.014	.978	129	.031
Log Financial Leverage	.112	129	.000	.948	129	.000

As we have been able to see that level of Significance for Shapiro-Wilk test has been below 0.05 for Log financial leverage and Log DPS, so the data don't hold the assumption of normality and regression results of the data which has been not normal, are not valid.

ii. **Q-Q Plot** –

On the observation of the data on Q-Q plots, it has been found that it has been not normal.

Figure 6.37 Q-Q plot of Log DPS of Private Banks

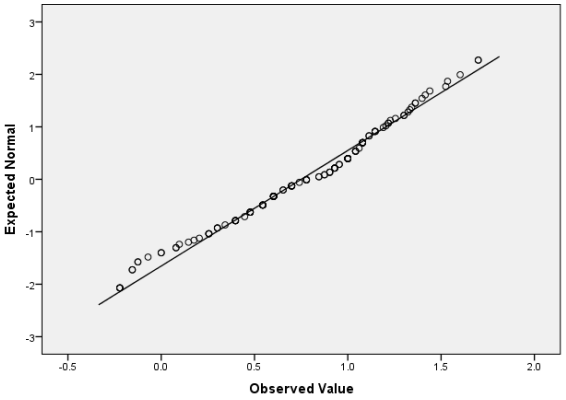
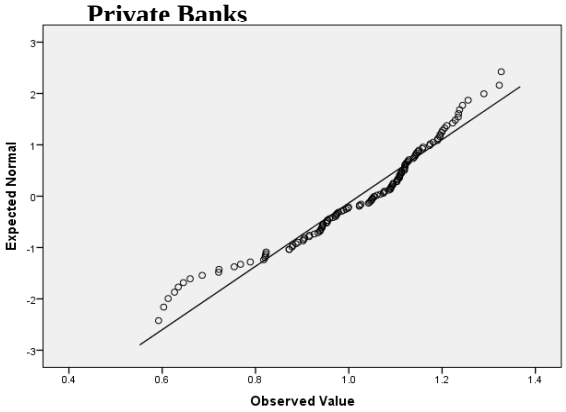


Figure6.38 Q-Q plot of Log FL of Private Banks



c) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test Auto correlation test results show that data has been not stationary

Figure 6.39 ACF Chart of Log FL of Private

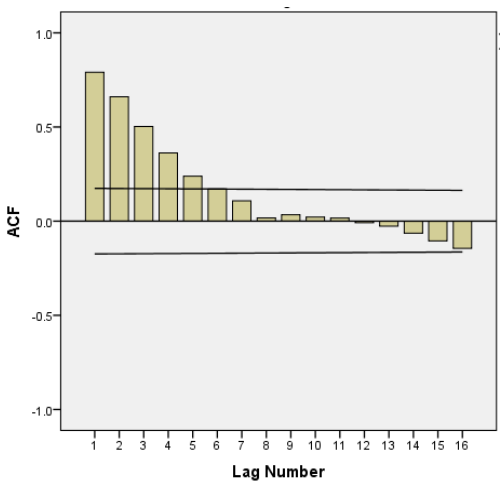
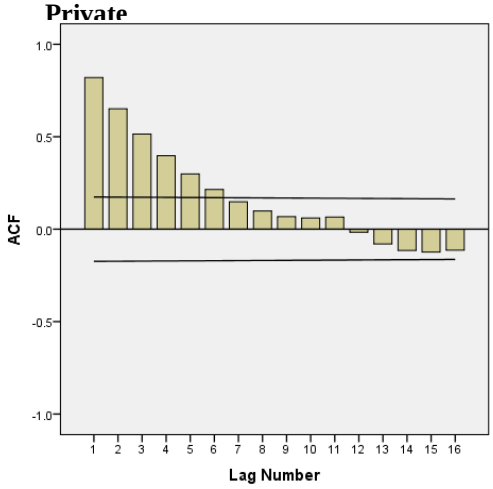


Figure 6.40 ACF Chart of Log DPS of Private



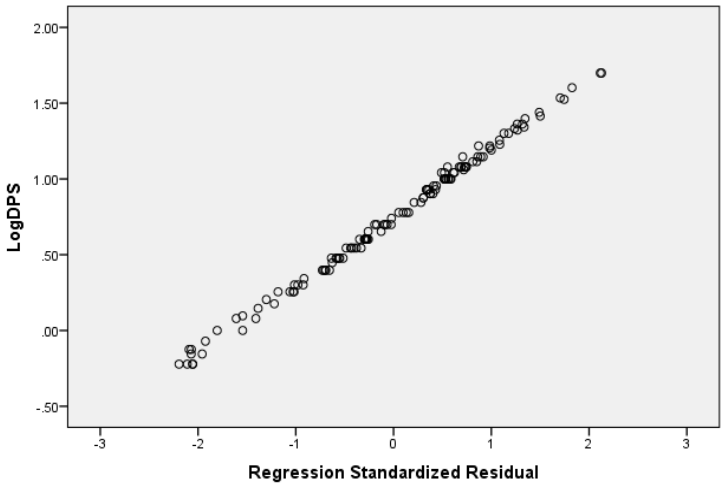
ii. Durbin –Watson Statistics

As per the model summary in table 6.24, the Durbin-Watson value has been 0.348 which very far off from the expected value of 2, for that to fulfil the assumption. So the data is having auto- collinearity.

d) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.41 Scatter Plot of Regression Standardized Residuals of Log FL and Log DPS of Private Banks

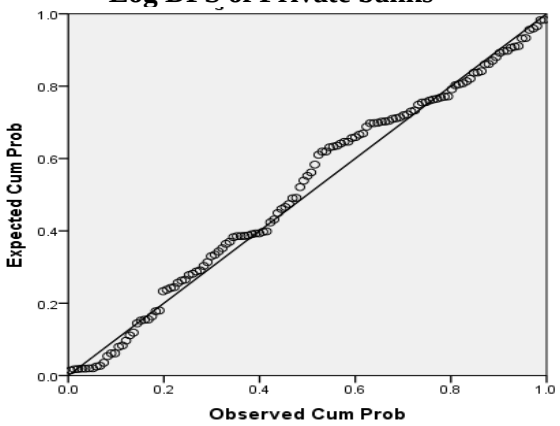


The scatter plot of residuals equally distributed, which suggest the presence of homoscadedticity.

e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals.

Figure 6.42 Normal P-P Plot of Regression Standardized Residuals of Log FL and Log DPS of Private banks



As per the observed P-P plot the residuals have been very much near to the expected line but not exactly on it.. So this assumption is not fulfilled.

It has been analysed that in this case also all of assumption of linear regression model have not been satisfied. Though the results have improved as compared to simple regression but regression line cannot be taken as a good fit. Now the efforts have been made to find the non linear regression between the variables.

6.4.3 Nonlinear Regression of DPS and FL of Private Indian Banks

As the linear regression model even after transformation with Log has been not a good fit to explain the impact of financial leverage on dividend of private Indian banks, Non-linear regression model has been applied. The correlation between dividend paid and financial leverage has been negative, therefore decay model has been chosen. The model has been in the form as below:-

DPS= A-(B*(C*Financial Leverage))

When the same model has been run on the data related to private Indian banks the results are as below:-

Table 6.27 Parameter Estimate for Non-Linear Regression of DPS and FL for Private Banks

Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
A	13.573	2.549	8.528	18.618
B	-.506	9070461.159	-17950176.487	17950175.474
C	-.799	14258716.429	-28217581.434	28217579.837

From the above tables it has been concluded that there has been a negative relationship between DPS and Financial Leverage of Private Indian banks i.e. with the increase in leverage DPS decreases in case of private Indian banks.

A) Nonlinear Regression Model

The equation can be written as a model fit equation between two variables as-

DPS= 13.573 - (-0.506*(-0.799*Financial Leverage)) i.e.

DPS= 13.573 - (0.506*(0.799*Financial Leverage))

As the value of R^2 has been 0.027, it means that 3 % of variations in DPS are explained by Financial Leverage for the private Indian banks.

6.5 IMPACT OF EARNINGS ON DIVIDEND OF BANKS

To find out the impact of Earnings on DPS the regression has been used as a tool. To find out the impact of EPS on DPS of banks in India hypothesis has been framed as follows:-

H13: There is no significant impact of earnings on equity dividend of banks.

Taking DPS as a dependent variable and Earnings as independent variable, firstly the regression has been run been on data of all banks together and then for nationalised and private Indian banks separately.

6.5.1 Linear Regression of DPS and EPS for Banks in India

The results of linear regression are tabulated in table 6.28.

Table 6.28 Correlation of DPS and EPS of Banks in India

Correlations			
		DPS	EPS
Pearson Correlation	DPS	1.000	.947
	EPS	.947	1.000
Sig. (1-tailed)	DPS	.	.000
	EPS	.000	.

Table 6.29 Model Summary of Regression of DPS and EPS of Banks in India

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.947[a]	.897	.897	2.34387	1.097

Table 6.30 Coefficients of Regression of DPS and EPS of Banks in India

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.286	.187		1.528	.128
	EPS	.182	.004	.947	51.858	.000

From the above tables it has been concluded that there has been a positive relationship between DPS and EPS of banks which has been significant as the p value has been less than 0.05. EPS has a positive impact on DPS i.e. with the increase in EPS, DPS increases in case of banks in India. The regression coefficient has been 0.182 with a constant of 0.286.

6.5.1.1 Regression Model

The equation can be written as a model fit equation between two variables as-

DPS = 0.286 + 0.182(EPS)

As the value of R^2 has been 0.897 which is very high, it means that 89.7 % of variations in DPS are explained by EPS alone for the banks in India. Since the p value has been less than 0.05 the null hypothesis that there is no significant impact of earnings on equity dividend of banks, has been rejected and it is found that there is significant impact of earnings on equity dividend of banks.

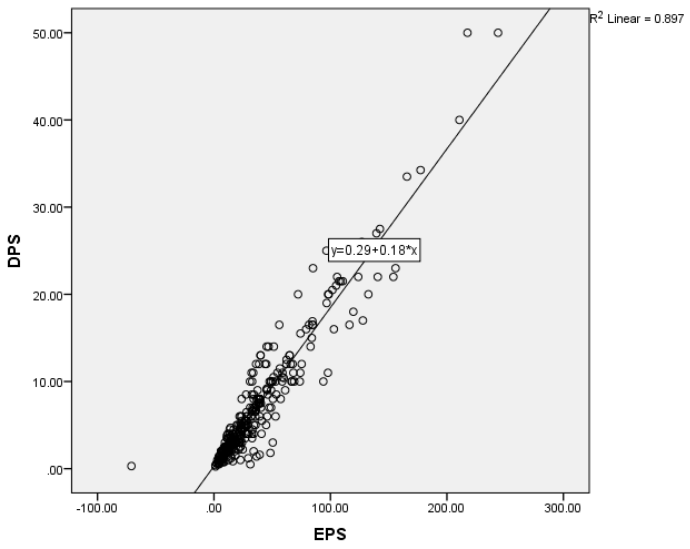
B) Validity of Regression Results

Before we reach any conclusion regarding this model it is necessary to check the validity of regression results. To check validity - tests of linearity, normality, stationarity, auto collinearity and homoscedasticity have been applied.

a) Assumption of Linearity

The scatter diagram has been used to check the linearity of relationship in data.

Figure 6.43 Scatter Plot of DPS and EPS for Banks in India



As there has been a cluster formation, it has been observed that the relationship has been not linear between Earnings and DPS.

b) Assumption of Normality

Researcher has used Shapiro-Wilk test along with Q-Q plot to test the normality of data.

i. **Shapiro-Wilk Test**- The results of the test are as per table:-

Table 6.31 Test of Normality of DPS and EPS of Banks in India

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
DPS	.175	311	.000	.752	311	.000
EPS	.188	311	.000	.781	311	.000

As we have been able to see that level of Significance for Shapiro-Wilk test has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which has been not normal, are not valid.

Q-Q Plot – On the observation of the data of DPS and Earnings on Q-Q plots, it has been found that it is not normally distributed.

ii. **Figure 6.44 Normal Q-Q plot of DPS**

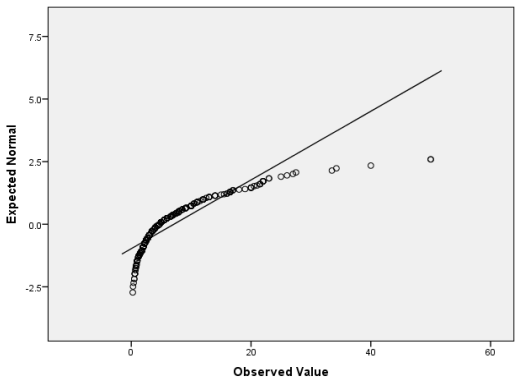
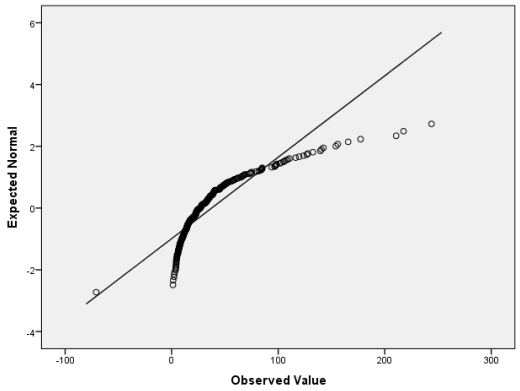


Figure 6.45 Normal Q-Q plot of EPS



auto c

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test

Figure 6.46 ACF Chart of EPS

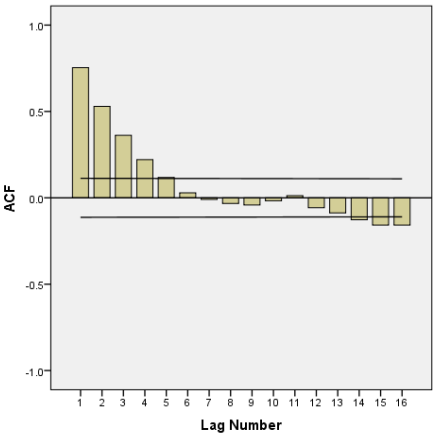
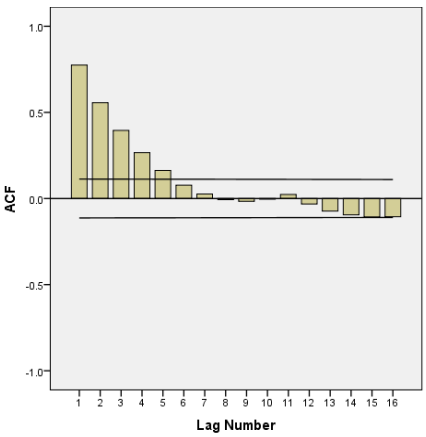


Figure 6.47 ACF Chart of DPS



The results of Auto correlation test show that data has not been stationary.

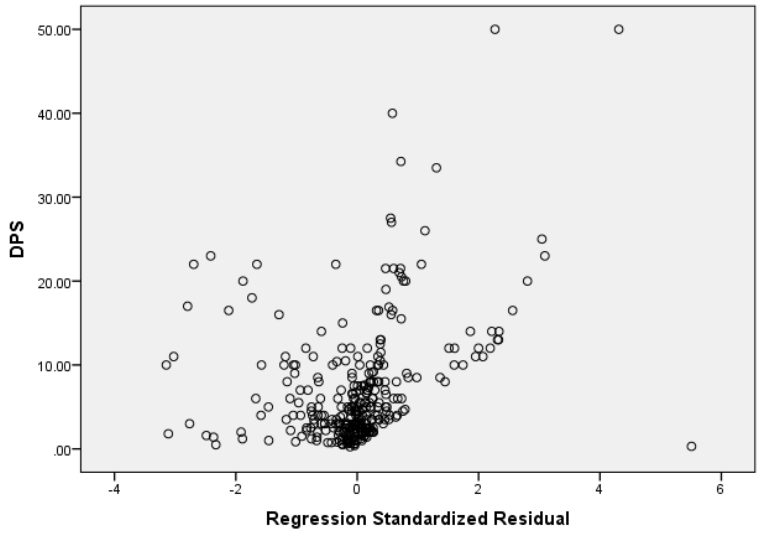
ii. Durbin –Watson Statistics

As per the model summary in table 6.29, the Durbin-Watson value 1.097 which very far off from the expected value of 2, for that to fulfil the assumption. So the data is having auto- collinearity.

d) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.48 Scatter Plot of Regression Standardized Residuals of EPS and DPS

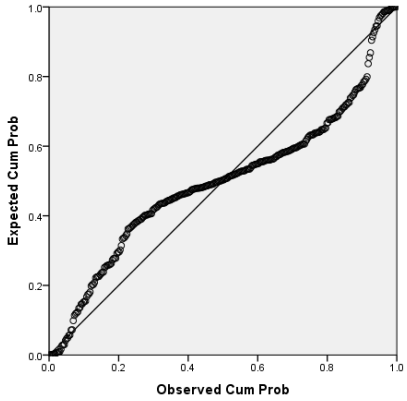


The scatter plot of residuals has been not equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity

e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. In the observed P-P plot the residuals have been far from the expected line. So the regression has been not a good fit.

Figure 6.49 Normal P-P Plot of Regression Standardized Residuals of EPS and DPS



It has been analysed that the majority of assumption of linear regression model have not been satisfied in the above case, so some kind of transformation is needed to make the data normal and fit the regression line. This transformation has been done by taking Log values.

6.5.2 Linear Regression with Log of DPS and EPS for Banks in India

The transformation has been done with the help of taking Log of all the values. After transformation the model has been developed in the form of:-

Log DPS = a + b (Log EPS)

The linear regression has been run on data with Log and results are summarised in the form of tables.

Table 6.32 Linear Regression with Log of DPS and EPS of Banks in India

Correlations			
		Log DPS	Log EPS
Pearson Correlation	Log DPS	1.000	.914
	Log EPS	.914	1.000
Sig. (1-tailed)	Log DPS	.	.000
	Log EPS	.000	.

Table 6.33 Model Summary of Linear Regression with Log of DPS and EPS of Banks in India

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.914[a]	.836	.835	.16930	1.040

Table 6.34 Coefficients of Linear Regression with Log of DPS and EPS of Banks in India

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.633	.034		-18.502	.000
	Log EPS	.929	.023	.914	39.574	.000

From the above tables it has been concluded that there has been a positive relationship between Log DPS and Log EPS of banks which has been significant as the p value has been less than 0.05. EPS has a positive impact on DPS i.e. with the increase in EPS, DPS increases in case of banks in India. The regression coefficient has been 0.929 with a constant of -0.633.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

Log DPS = -0.633 + 0.929(Log EPS)

As the value of R^2 has been 0.836 which is very high, it means that 83.6% of variations in Log DPS are explained by Log EPS alone for the banks in India.

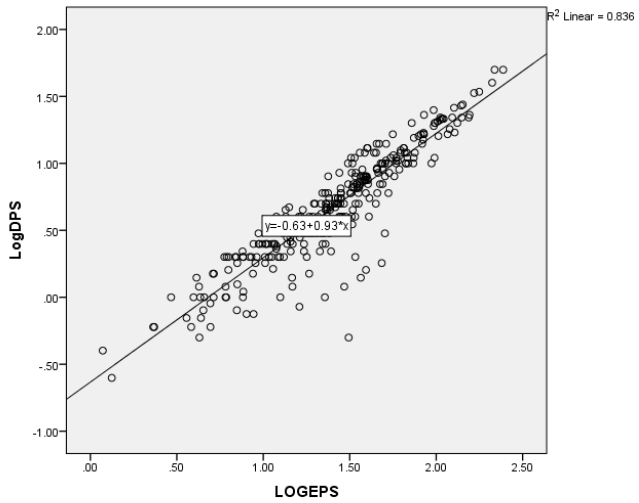
B) Validity of Regression Results with Log

Before we reach any conclusion regarding this model it is necessary to check the validity of regression results. To check validity of regression results few basic assumptions of classic linear regression model have been checked with -. tests of linearity, normality, stationarity, auto collinearity and homoscedasticity.

a) Assumption of Linearity

This has been checked with the help of Scatter diagram. The scatter diagram of the above said data has been represented in figure 6.50.

Figure 6.50 Scatter Plot of Log DPS and Log EPS for banks in India



As there are not much number of outliers present, it has been observed that the relationship seems to be linear between Earnings and DPS.

b) **Assumption of Normality**-

Shapiro-Wilk test along with Q-Q plot has been used to test the normality of data.

a) **Shapiro-Wilk Test**- the results of the test are as below:-

Table 6.35 Test of Normality of Log DPS and Log EPS of Banks in India

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Log DPS	.042	310	.200*	.995	310	.330
Log EPS	.043	310	.200*	.994	310	.306

As we have been able to seethat level of Significance for Shapiro-Wilk test is not below 0.05, so the data hold the assumption of normality.

b) **Q-Q Plot** –.

On the observation of the data of Log DPS and Log EPS on Q-Q plots, it has been found that it has been quite along the expected line.

Figure 6.51 Normal Q-Q plot of Log DPS

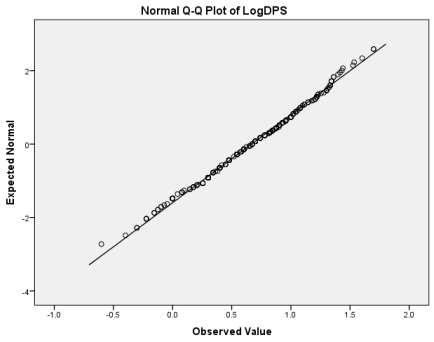
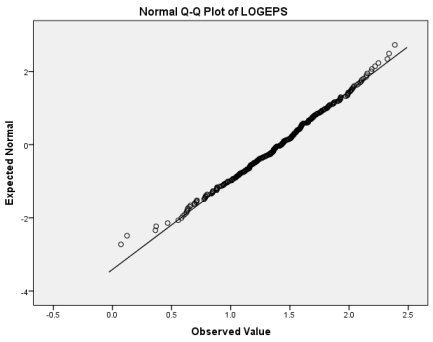


Figure 6.52 Normal Q-Q plot of Log EPS



c) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test Auto correlation test results show that data has not been stationary

Figure 6.53 ACF Chart of Log EPS

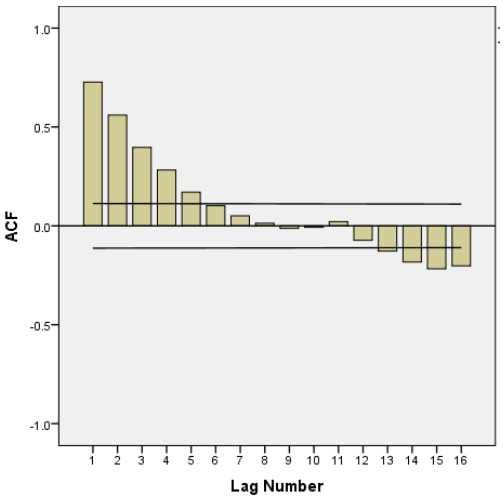
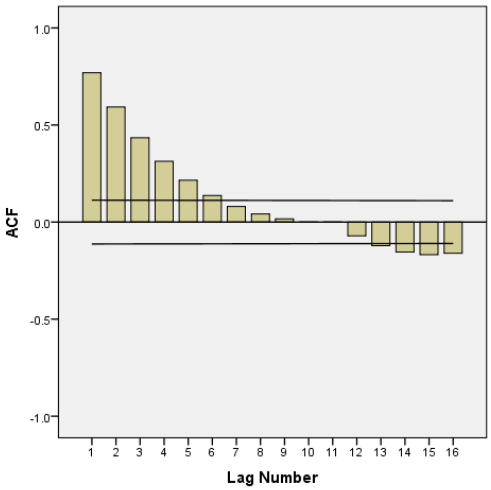


Figure 6.54 ACF Chart of Log DPS



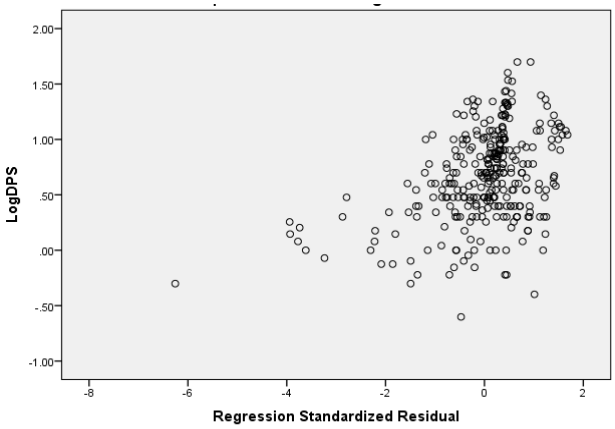
ii. Durbin –Watson Statistics

As per the model summary in table 6.33, the Durbin-Watson value has been 1.040 which very far off from the expected value of 2, for that to fulfil the assumption. So the data is having auto- collinearity.

d) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.55 Scatter Plot of Regression Standardized Residuals of Log EPS and Log DPS

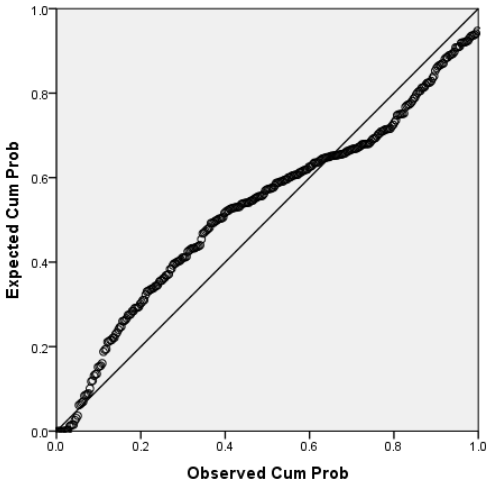


The scatter plot of residual has not been equally distributed and depicts a cluster, which suggest the presence of hetroscedasticity

e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. As per the observed P-P plot the residuals are near to but not exactly on the expected line. So the regression has been not a good fit.

Figure 6.56 Normal P-P Plot of Regression Standardized Residuals of Log EPS and Log DPS



It has been analysed that in this case also all of assumption of linear regression model have not been satisfied, so regression line has been not a good fit. Now the efforts have been made to find the non linear regression between the variables.

6.5.3 Nonlinear Regression of DPS and EPS for Banks in India

As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings on dividend of banks India, Non-linear regression model has been applied. The correlation between dividend paid and Earnings has been positive, therefore growth model has been chosen. The model has been in the form as below:-

DPS= A+(B*(C*EPS))

When the same model has been run on the data related to all banks in India the results are as below:-

Table 6.36 Parameter Estimate for Non-Linear Regression of DPS and EPS for Banks in India

Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
A	.286	.188	-.083	.655
B	.464	1101630.980	-2167674.414	2167675.343
C	.392	929455.462	-1828885.407	1828886.191

From the above tables it has been concluded that there has been a positive relationship between DPS and EPS of banks i.e. with the increase in leverage DPS decreases in case of banks in India.

A) Nonlinear Regression Model

The equation can be written as a model fit equation between two variables as-

DPS = 0.286 + (0.464* (0.392*EPS))

As the value of R^2 has been .0.897, it means that 89.7 % of variations in DPS are explained by EPS for the banks.

6.6 IMPACT OF EARNINGS ON DIVIDEND OF NATIONALISED BANKS

On the line similar to those for all banks in India the impact has been found for nationalised banks separately. To find out the impact of EPS on DPS of nationalised banks hypothesis has been framed as follows:-

H14: There is no significant impact of earnings on equity dividend of nationalised banks.

Regression has been run on the related data.

6.6.1 Linear Regression of DPS and EPS for Nationalised Banks

The linear regression has been run the data related to nationalised banks to find out the impact**.**

Table 6.37 Regression of DPS and EPS of Nationalised Banks

		DPS	EPS
Pearson Correlation	DPS	1.000	.940
	EPS	.940	1.000
Sig. (1-tailed)	DPS	.	.000
	EPS	.000	.

Table 6.38 Model Summary of Regression of DPS and EPS of Nationalised Banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.940[b]	.884	.883	1.78015	1.592

Table 6.39 Coefficients of DPS and EPS of Nationalised Banks

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.747	.189		3.954	.000
	EPS	.158	.004	.940	37.016	.000

From the above tables it has been concluded that there is a positive relationship between DPS and EPS of nationalised banks which is significant as the p value has been less than 0.05. EPS has a positive impact on DPS i.e. with the increase in EPS, DPS increases in case of nationalised banks in India. The regression coefficient has been0.158 with a constant of 0.747.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

DPS = 0.747 + 0.158(EPS)

As the value of R^2 is 0.884 which is very high, it means that 88.4 % of variations in DPS are explained by EPS alone for the nationalised banks. Since the p is less than 0.05 the null hypothesis that there is no significant impact of earnings on equity dividend of nationalised banks, has been rejected and it has been found that there is significant impact of earnings on equity dividend of nationalised banks.

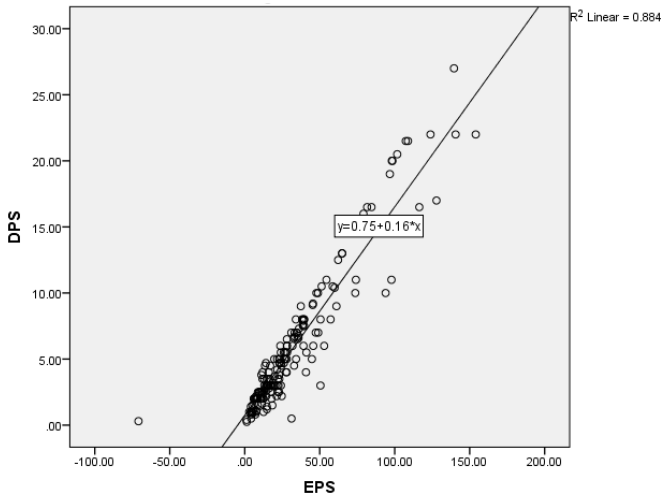
B) Validity of Regression Results for DPS and EPS of Nationalised Banks

Before we reach any conclusion regarding this model it is necessary to check the validity of regression results. To check validity of regression results few basic assumptions of classic linear regression model has been checkedwith - tests of linearity, normality, stationarity, auto collinearity and homoscedasticity.

a) Assumption of Linearity

This has been checked with the help of Scatter diagram. The scatter diagram of the above said data has been representedin figure 6.57.

Figure 6.57 Scatter Plot of DPS and EPS for Nationalised banks



As there have been number of outliers present and a cluster is formed, it has been observed that the relationship is not linear between Earnings and DPS of nationalised banks.

b) **Assumption of Normality-**

Shapiro-Wilk test along with Q-Q plot has been used to test the normality of data.

i. **Shapiro-**Wilk **Test**- the results of the test are as below:-

Table 6.40 Test of Normality of DPS and EPS of Nationalised Banks

	Kolmogorov-Smirnov[b]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
DPS	.176	182	.000	.815	182	.000
EPS	.172	182	.000	.795	182	.000

As we have been able to seethat level of Significance for Shapiro-Wilk test is below 0.05, so the data don't hold the assumption of normality and regression results of the data which is not normal, are not valid.

ii. **Q-Q Plot** –On the observation of the data of DPS on Q-Q plots, it has been foundthat it is quite along the expected line but this is not the case of Log EPS.

Figure 6.58 Q-Q plot of DPS of Nationalised Banks

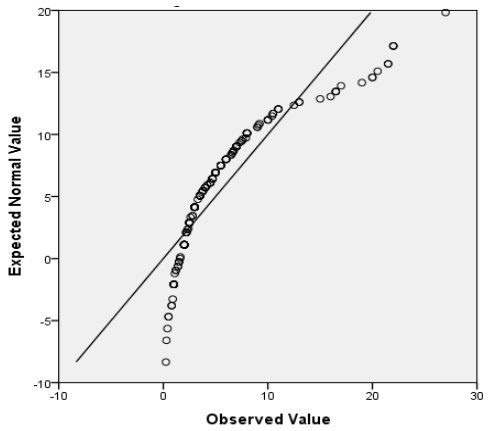
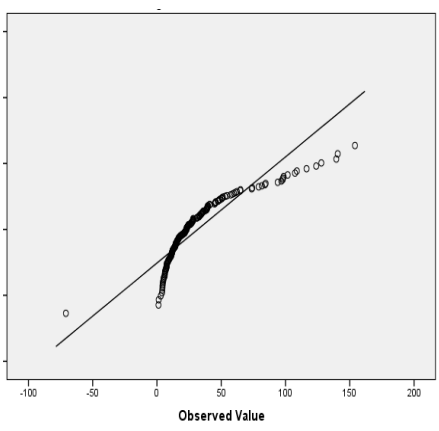


Figure 6.59Q-Q plot of EPS of Nationalised Banks



c) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test Auto correlation test results show that data has not been stationary

Figure 6.60 ACF Chart of EPS of nationalised

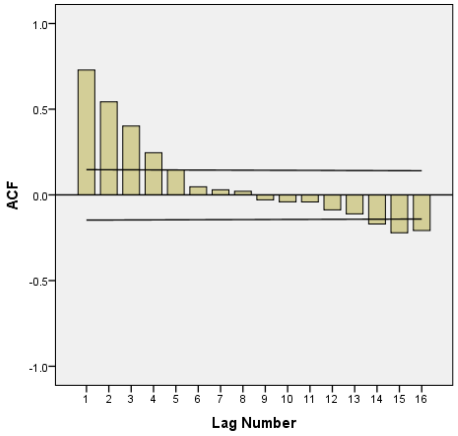
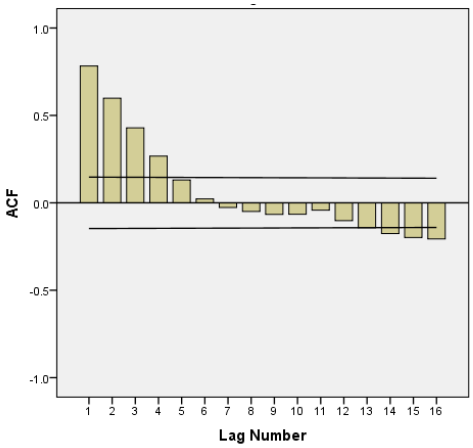


Figure 6.61 ACF Chart of DPS of Nationalised



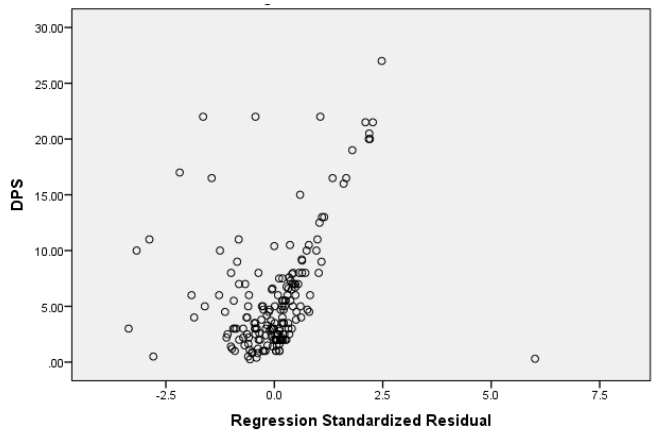
ii. Durbin –Watson Statistics

As per the model summary in table 6.38, the Durbin-Watson value has been1.592 which is near to the expected value of 2, for that to fulfil the assumption. So the data is having not auto- collinearity.

d) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed. The scatter plot of residual has not been equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity

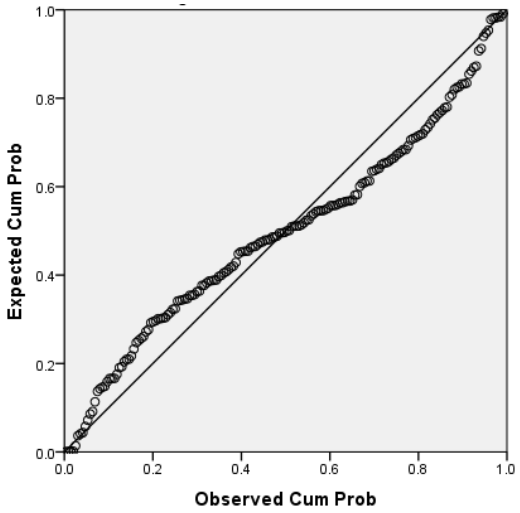
Figure 6.62 Scatter Plot of Regression Standardized Residuals of EPS and DPS of Nationalised Banks.



e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. As per the observed P-P plot the residuals are near to but not exactly on the expected line. So the regression has not been a good fit.

Figure 6.63 Normal P-P Plot of Regression Standardized Residuals of EPS and DPS of Nationalised Banks



It has been analysed that the majority of assumption of linear regression model have not been satisfied in the case of nationalised banks also, so some kind of transformation is needed to make the data normal and fit the regression line. This transformation has been done by taking Log values.

6.6.2 Linear Regression with Log of DPS and EPS for Nationalised Banks

The transformation has been done with the help of taking Log of all the values. After transformation the model has been developed in the form of:-

Log DPS = a + b (Log EPS)

The regression has been run on the data related to nationalised banks and the details are as follows:-

Table 6.41 Linear Regression with Log of DPS and EPS of Nationalised Banks in India

Correlations			
		Log DPS	Log EPS
Pearson Correlation	Log DPS	1.000	.921
	Log EPS	.921	1.000
Sig. (1-tailed)	Log DPS	.	.000
	Log EPS	.000	.

Table 6.42 Model Summary of Linear Regression with Log of DPS and EPS of Nationalised Banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.921[b]	.848	.847	.14786	1.516

Table 6.43 Coefficients of Linear Regression with Log of DPS and EPS of Nationalised Banks

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	-.571	.039		-14.707	.000
	Log EPS	.879	.028	.921	31.635	.000

From the above tables it has been concluded that there has been a positive relationship between Log DPS and Log EPS of nationalised banks which has been significant as the p value has been less than 0.05. EPS has a positive impact on DPS i.e. with the increase in EPS, DPS increases in case of nationalised banks. The regression coefficient has been 0.879 with a constant of -0.571.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

Log DPS = -0.571 + 0.879(Log EPS)

As the value of R^2 is 0.848 which is very high, it means that 84.8% of variations in Log DPS are explained by Log EPS alone for the nationalised banks. But before we reach any conclusion regarding this model it is necessary to check the validity of regression results.

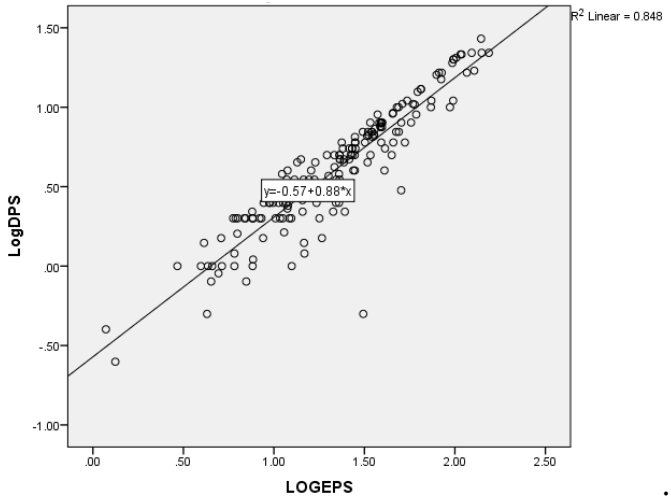
B) Validity of Regression Results with Log DPS and Log EPS for Nationalised Banks

To check validity of regression results the tests of linearity, normality, stationarity, auto collinearity and homoscedasticity have been applied.

a) Assumption of Linearity

This has been checked with the help of Scatter diagram. The scatter diagram of the above said data has been represented in figure 6.64.

Figure 6.64 Scatter Plot of Log DPS and Log EPS for Nationalised Banks



As there have been number of outliers present and a cluster is formed, it has been observed that the relationship is not linear between Log EPS and Log DPS of nationalised banks.

b) **Assumption of Normality**-

Shapiro-Wilk test along with Q-Q plot has been used to test the normality of data.

a) **Shapiro-Wilk Test-** the results of the test are as below:-

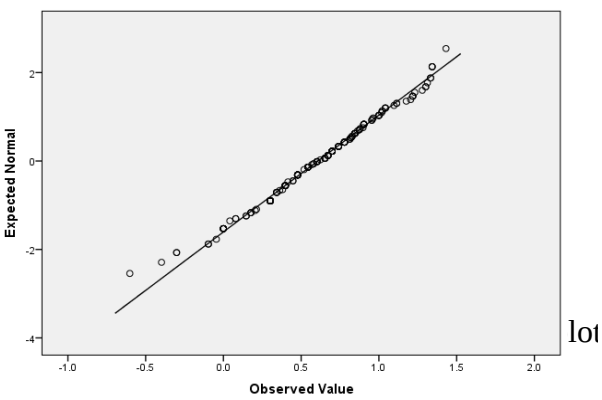
Table 6.44 Test of Normality of Log DPS and Log EPS of NationalisedBanks

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Log DPS	.071	181	.026	.989	181	.153
Log EPS	.039	181	.200*	.991	181	.277

As we have been able to see that level of Significance for Shapiro-Wilk test for both the variables has been above 0.05, so the data hold the assumption of normality.

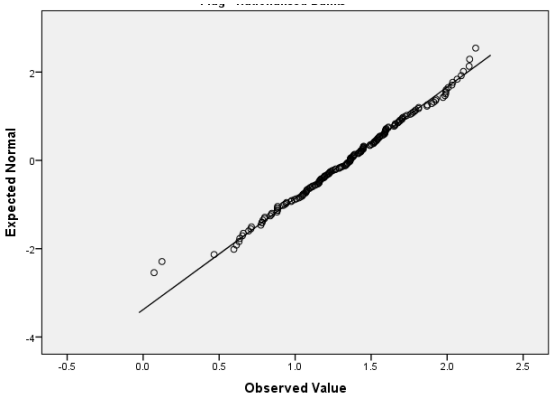
b) **Q-Q Plot** –.

Figure 6.65 Q-Q plot of Log DPS of Nationalised



lot

Figure6.66 Q-Q plot of Log EPS of Nationalised



c) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. **Auto-correlation test** Auto correlation test results show that data has not been stationary.

Figure 6.67 ACF Chart of Log EPS of Nationalised

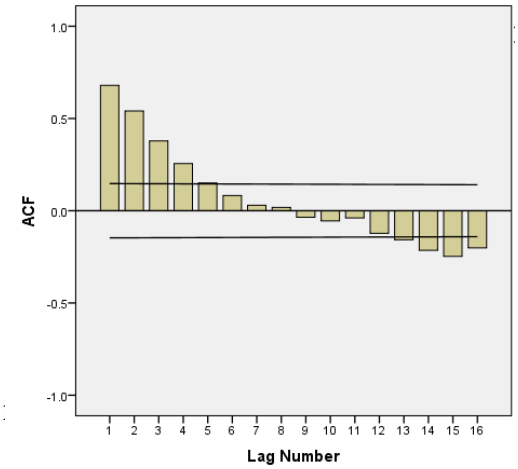
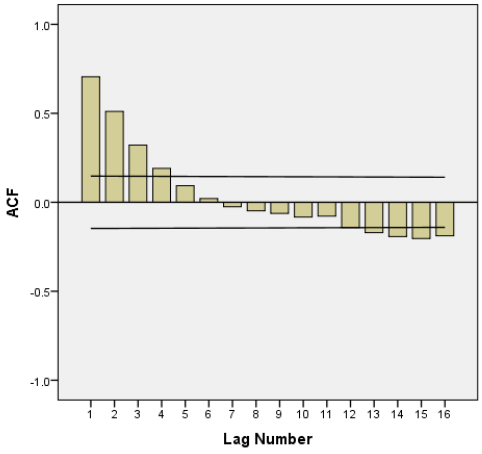


Figure 6.68 ACF Chart of Log DPS of Nationalised

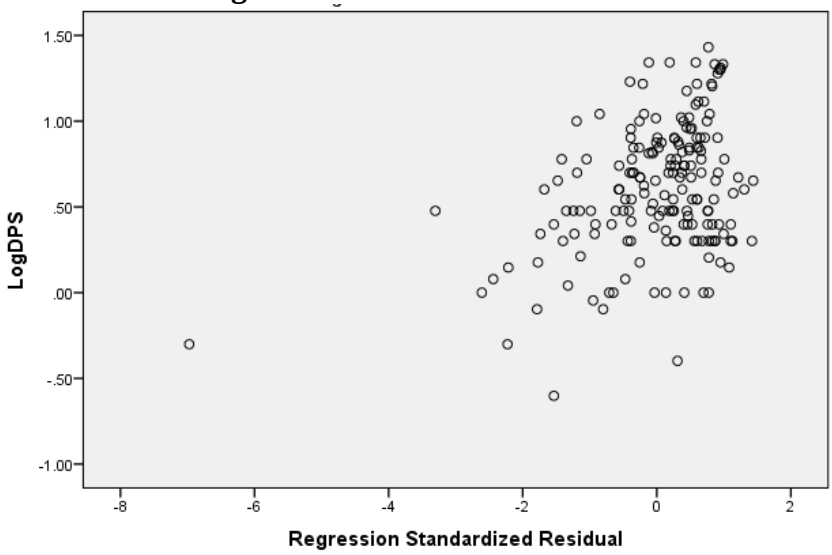


As per the model summary in table 6.42, the Durbin-Watson value has been1.516 which is within the range of 1.5 to 2.5 to fulfil the assumption. So the data has not been found having auto- collinearity.

d) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.69 Scatter Plot of Regression Standardized Residuals of Log EPS and Log DPS of Nationalised Banks

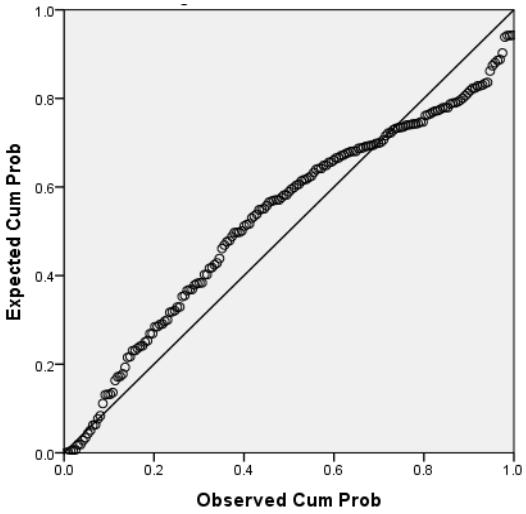


The scatter plot of residual has not been equally distributed, which suggest the presence of hetroscedasticity

e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals.

Figure 6.70 Normal P-P Plot of Regression Standardized Residuals of Log EPS and Log DPS of Nationalised banks



As per the observed P-P plot the residuals are very much lying on the expected line. So this assumption has been fulfilled.

It has been analysed that in this case also all of assumption of linear regression model have not been satisfied. Though the results have improved as compared to simple regression but regression line cannot be taken as a good fit. Now the efforts have been made to find the non linear regression between the variables.

6.6.3 Nonlinear Regression of DPS and EPS of Nationalised Banks

As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings on dividend of nationalised banks, Non-linear regression model has been applied. The correlation between dividend paid and earnings per share is positive; therefore growth model has been chosen. The model has been in the form as below:-

DPS= A + (B* (C*EPS))

When the same model has been run on the data related to Nationalised banks in India the results are as below:-

Table 6.45 Parameter Estimate for Non-Linear Regression of DPS and EPS for Nationalised Banks

Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
A	.747	.190	.372	1.121
B	.419	1307409.960	-2579918.760	2579919.597
C	.377	1174308.806	-2317269.572	2317270.325

From the above table it has been concluded that there has been a positive relationship between DPS and EPS of Nationalised banks i.e. with the increase in leverage DPS decreases in case of nationalised banks.

A) Nonlinear Regression Model

The equation can be written as a model fit equation between two variables as-

DPS = 0.747+ (0.419* (0.377*EPS))

As the value of R^2 has been 0.884, it means that 88.4 % of variations in DPS have been explained by EPS for the nationalised banks.

6.7 IMPACT OF EARNINGS ON EQUITY DIVIDEND OF PRIVATE INDIAN BANKS

On the line similar to those for nationalised banks the impact has been found for private Indian banks separately. To find out the impact of EPS on DPS of banks in India hypothesis has been framed as follows:-

H15: There is no significant impact of earnings on equity dividend of private Indian banks.

Regression has been used as a tool to find the impact.

6.7.1 Linear Regression of DPS and EPS for Private Indian Banks

The linear regression has been run on the data related to private Indian banks to find out the impact.

Table 6.46 Regression of DPS and EPS of Private Banks

		DPS	EPS
Pearson Correlation	DPS	1.000	.955
	EPS	.955	1.000
Sig. (1-tailed)	DPS	.	.000
	EPS	.000	.

Table 6.47 Model Summary of Regression of DPS and EPS of Private Banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.955[b]	.913	.912	2.71624	.764

Table 6.48 Coefficients of DPS and EPS of Private Banks

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.106	.343		.308	.758
	EPS	.195	.005	.955	36.440	.000

From the above tables it has been concluded that there has been a positive relationship between DPS and EPS of private Indian banks which is significant as the p value has been less than 0.05. EPS has a positive impact on DPS i.e. with the increase in EPS, DPS increases in case of private Indian banks in India. The regression coefficient has been0.195 with a constant of 0.106.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

DPS = 0.106 + 0.195(EPS)

As the value of R^2 has been 0.913 which is very high, it means that 91.3 % of variations in DPS are explained by EPS alone for the private Indian banks in India. Since the p value has been less than 0.05 the null hypothesis that there has been no significant impact of earnings on equity dividend of private Indian banks, has been rejected and it has been found that there has been significant impact of earnings on equity dividend of private Indian banks. But before we reach any conclusion regarding this model it is necessary to check the validity of regression results.

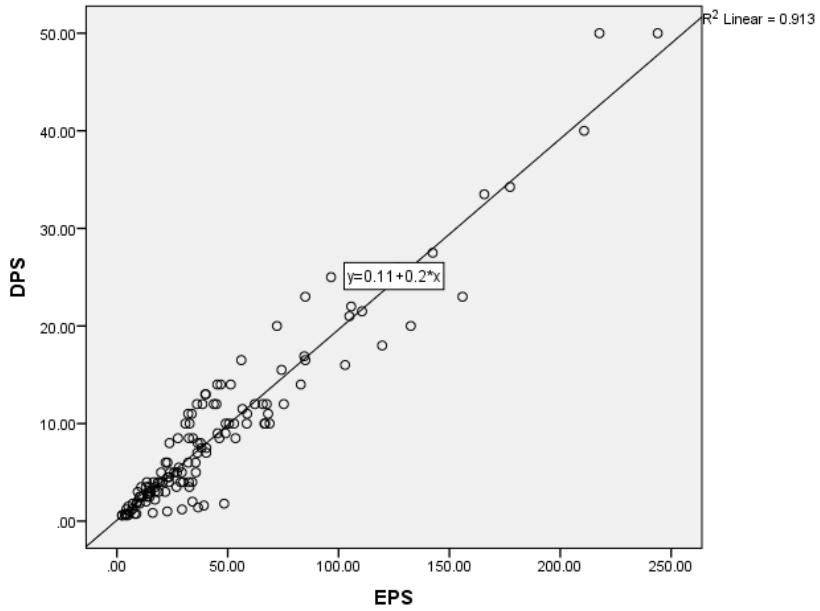
6.7.1.2 Validity of Regression Results for DPS and EPS of Private Indian Banks

To check validity of regression results few basic assumptions of classic linear regression model have been checked with - test of linearity, normality, stationarity, auto collinearity and homoscedasticity.

a) Assumption of Linearity

This has been checked with the help of Scatter diagram. The scatter diagram of the above said data has been represented in figure 6.71.

Figure 6.71 Scatter Plot of DPS and EPS for Private Banks



As there have been number of outliers present, it has been observed that the relationship has not been linear between Earnings and DPS of private Indian banks.

b) **Assumption of Normality**-

Shapiro-Wilk test along with Q-Q plot has been used to test the normality of data.

i. **Shapiro**-Wilk **Test**- the results of the test are as below:-

Table 6.49 Test of Normality of DPS and EPS of Private Banks

	Kolmogorov-Smirnov[b]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
DPS	.192	129	.000	.770	129	.000
EPS	.178	129	.000	.779	129	.000

As we have been able to see that level of Significance for Shapiro-Wilk test for DPS and EPS has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which has been not normal, are not valid.

ii. **Q-Q Plot** –On the observation of the data of EPS on Q-Q plots, it has been found that it has been quite along the expected line but this has been not in the case of DPS.

Figure 6.72 Q-Q plot of DPS of Private Banks

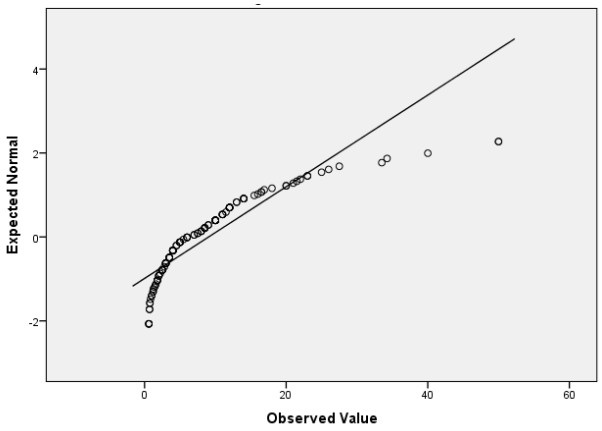
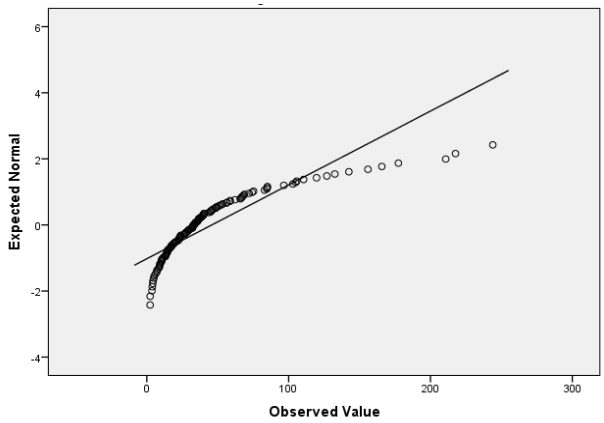


Figure 6.73Q-Q plot of EPS of Private Banks



c) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test Auto correlation test results show that data has not been stationary

Figure 6.74 ACF Chart of EPS of Private

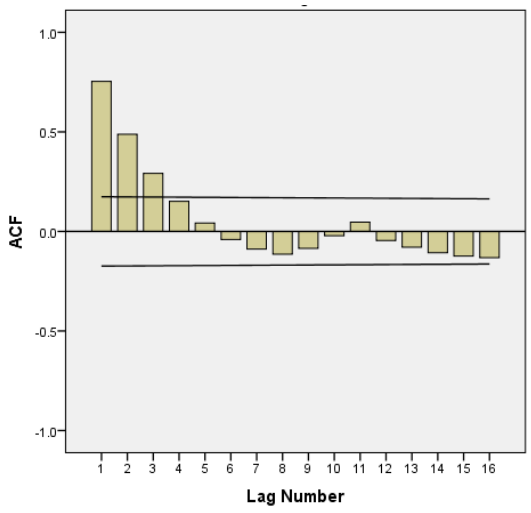
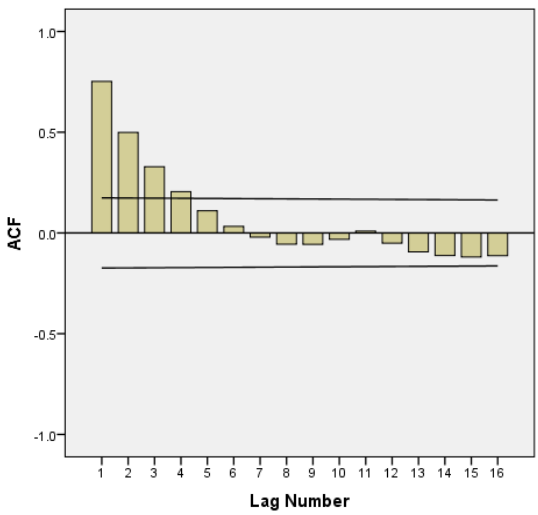


Figure 6.75 ACF Chart of DPS of Private



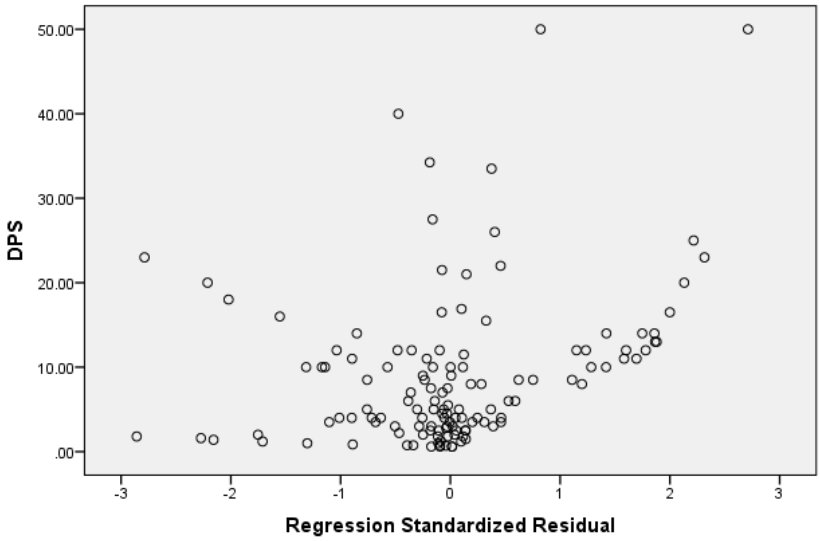
ii. Durbin –Watson Statistics

As per the model summary in table 6.47, the Durbin-Watson value has been 0.764 which very far off from the expected value of 2, for that to fulfil the assumption. So the data has been having auto- collinearity.

d) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.76 Scatter Plot of Regression Standardized Residuals of EPS and DPS of Private Banks

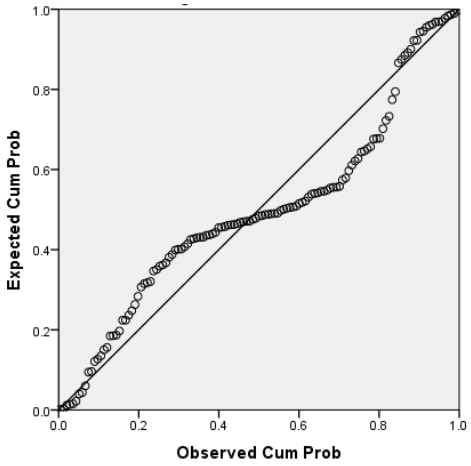


The scatter plot of residual has not been equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity.

e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. As per the observed P-P plot the residuals have been near to but not exactly on the expected line. So the regression has not been a good fit.

Figure 6.77 Normal P-P Plot of Regression Standardized Residuals of EPS and DPS of Private Indian banks



It has been analysed that the majority of assumption of linear regression model have not been satisfied in the case of private Indian banks also, so some kind of transformation is needed to make the data normal and fit the regression line. This transformation has been done by taking Log values.

6.7.2 Linear Regression with Log of DPS and EPS for Private Indian Banks

The transformation has been done with the help of taking Log of all the values. After transformation the model has been developed in the form of:-

Log DPS = a + b (Log EPS)

The regression has been run on the data related to private Indian banks and the details are as follows:-

Table 6.50 Linear Regression with Log of DPS and EPS of Private Banks in India

Correlations			
		Log DPS	Log EPS
Pearson Correlation	Log DPS	1.000	.905
	Log EPS	.905	1.000
Sig. (1-tailed)	Log DPS	.	.000
	Log EPS	.000	.

Table 6.51 Model Summary of Linear Regression with Log of DPS and EPS of Private Banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.905[b]	.820	.818	.19352	.645

Table 6.52 Coefficients of Linear Regression with Log of DPS and EPS of Private Banks

		Unstandardized Coefficients		Standardized Coefficients	t
		B	Std. Error	Beta	
	(Constant)	-.712	.063		-11.268
	Log EPS	.987	.041	.905	24.029

From the above tables it has been concluded that there has been a positive relationship between Log DPS and Log EPS of private Indian banks which has been significant as the p value has been less than 0.05. EPS has a positive impact on DPS i.e. with the increase in EPS, DPS increases in case of private Indian banks. The regression coefficient has been0.987 with a constant of -0.712.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

Log DPS = -0.712 + 0.987(Log EPS)

As the value of R^2 has been 0.848 which is very high, it means that 84.8% of variations in Log DPS are explained by Log EPS alone for the private Indian banks. But before we reach any conclusion regarding this model it is necessary to check the validity of regression results.

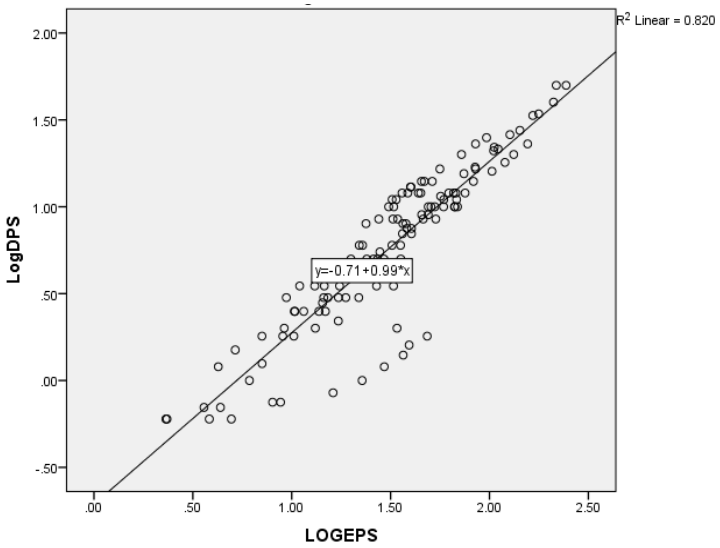
B) Validity of Regression Results with Log DPS and Log EPS for Private Indian Banks

To check validity of regression results few basic assumptions of classic linear regression model have been checked with -tests of linearity, normality, stationarity, auto collinearity and homoscedasticity.

a) Assumption of Linearity

This has been checked with the help of Scatter diagram. The scatter diagram of the above said data has been represented in figure 6.78.

Figure 6.78 Scatter Plot of Log DPS and Log EPS for Private Banks



As there have been number of outliers present, it has been observed that the relationship has not been linear between Log EPS and Log DPS of private Indian banks.

b) **Assumption of Normality**-

Shapiro-Wilk test along with Q-Q plot has been used to test the normality of data.

i. **Shapiro-Wilk Test**- the results of the test are as below:-

Table 6.53 Test of Normality of Log DPS and Log EPS of PrivateBanks

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Log DPS	.067	129	.200*	.987	129	.268
Log EPS	.089	129	.014	.978	129	.031

As we have been able to see that level of Significance for Shapiro-Wilk test has been below 0.05 for Log EPS and Log DPS, so the data don't hold the assumption of normality and regression results of the data which has been not normal, are not valid.

ii. **Q-Q Plot** – On the observation of the data on Q-Q plots, it has been found that it has not been normal.

Figure 6.79 Q-Q plot of Log DPS of Private Banks

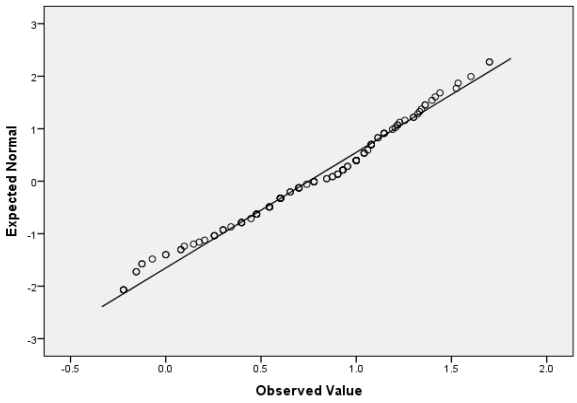
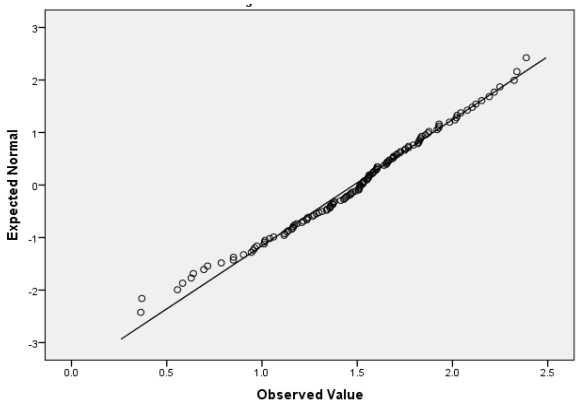


Figure6.80 Q-Q plot of Log EPS of Private Banks



c) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. **Auto-correlation test** Auto correlation test results show that data has not been stationary

Figure 6.81 ACF Chart of Log EPS of Private

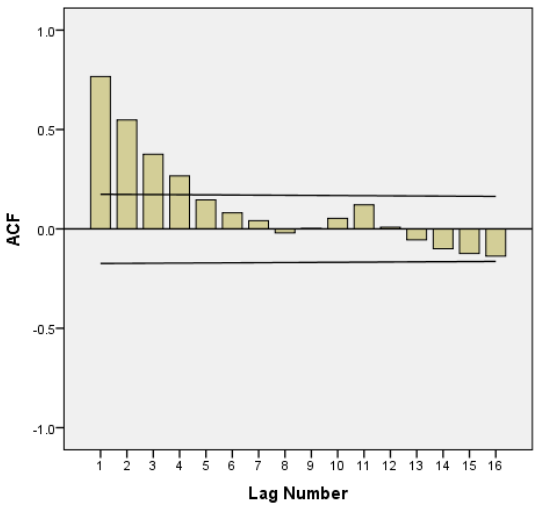
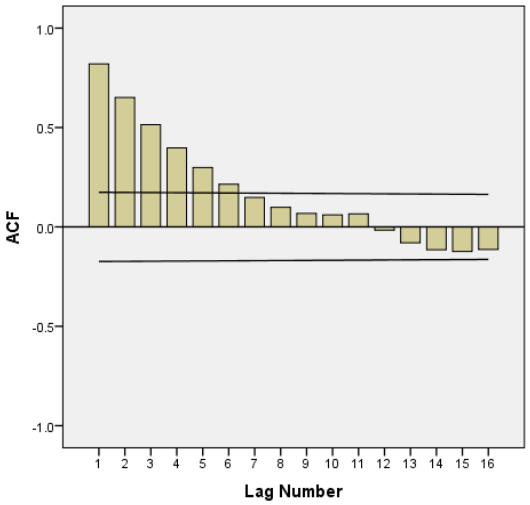


Figure 6.82 ACF Chart of Log DPS of Private



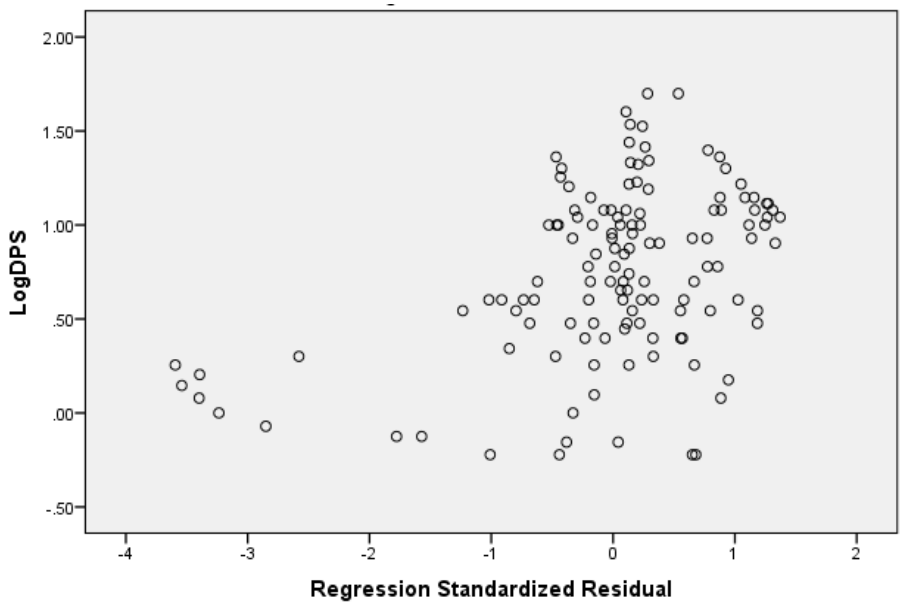
ii. Durbin –Watson Statistics

As per the model summary in table 6.51, the Durbin-Watson value has been 0.645 which very far off from the expected value of 2, for that to fulfil the assumption. So the data is having auto- collinearity.

d) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.83 Scatter Plot of Regression Standardized Residuals of Log EPS and Log DPS of Private Banks

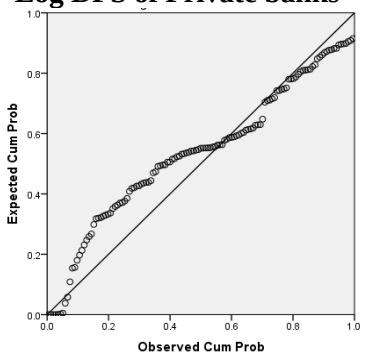


The scatter plot of residuals equally distributed, which suggest the presence of homoscadedticity.

e) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals.

Figure 6.84 Normal P-P Plot of Regression Standardized Residuals of Log EPS and Log DPS of Private banks



As per the observed P-P plot the residuals are very much near to the expected line but not exactly on it. So this assumption has not been fulfilled.

It has been analysed that in this case also all of assumption of linear regression model have not been satisfied. Though the results have improved as compared to simple regression but regression line cannot be taken as a good fit. Now the efforts have been made to find the non linear regression between the variables.

6.7.3 Nonlinear Regression of DPS and EPS of Private Indian Banks

As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings on dividend of private Indian banks, Non-linear regression model has been applied. The correlation between dividend paid and earnings per share has been positive; therefore growth model has been chosen. The model has been in the form as below:-

DPS = A + (B* (C*EPS))

When the same model has been run on the data related to private Indian banks in India the results are as below:-

Table 6.54 Parameter Estimate for Non-Linear Regression of DPS and EPS for Private Banks

Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
A	.106	.348	-.584	.795
B	.633	1926618.690	-3812721.116	3812722.381
C	.309	940079.854	-1860390.086	1860390.704

From the above table it has been concluded that there has been a positive relationship between DPS and EPS of private Indian banks i.e. with the increase in leverage DPS decreases in case of private Indian banks

6.7.3.1 Nonlinear Regression Model

The equation can be written as a model fit equation between two variables as-

DPS=0 .106 + (0.633* (0.309*EPS))

As the value of R^2 has been 0.913, it means that 91.3 % of variations in DPS are explained by EPS for the private Indian banks.

6.8 IMPACT OF FINANCIAL LEVERAGE AND EARNINGS ON DIVIDEND OF BANKS

After finding the impact of financial leverage and earnings on dividend, efforts have been made to find the combined impact of the two independent variables on the dependent one. To find out the impact of financial leverage and earnings on DPS the regression has been used as a tool. Taking DPS as a dependent variable and financial leverage & earnings as independent variables, firstly the regression has been run been on data of all banks together and then for nationalised and private Indian banks separately.

6.8.1 Linear Regression of FL and EPS on DPS for Banks in India

Multiple linear regression is linear approach to modelling the relationship between a dependant variable and more than one independent variables. The same has been used to analyse the impact of financial leverage and earnings on dividend of banks.

Table 6.55 Correlation of DPS, FL and EPS of Banks in India

		DPS	EPS	Financial Leverage
Pearson Correlation	DPS	1.000	.947	-.338
	EPS	.947	1.000	-.320
	Financial Leverage	-.338	-.320	1.000
Sig. (1-tailed)	DPS	.	.000	.000
	EPS	.000	.	.000
	Financial Leverage	.000	.000	.

Table 6.56 Model Summary of Regression of EPS, FL and DPS of Banks in India

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.948[a]	.898	.898	2.33251	1.106

Table 6.57 Coefficients of Regression of EPS, FL and DPS of Banks in India

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	1.116	.454		2.457	.015
	EPS	.180	.004	.935	48.720	.000
	Financial Leverage	-.048	.024	-.038	-2.004	.046

From the above tables it has been concluded that there has been a positive relationship between DPS and EPS of banks which has been significant as the p value has been less than 0.05. There has been negative relationship between FL and DPS of banks in India. The regression coefficient has been 0.180 for EPS and -0.048 for FL with a constant of 1.116.

A) Regression Model

The equation can be written as a model fit equation between the variables as-

DPS = 1.116 + 0.180(EPS) - 0.048(FL)

As the value of R^2 has been 0.898 which is very high, it means that 89.8 % of variations in DPS are explained by EPS and FL for banks in India. But before we reach any conclusion regarding this model it is necessary to check the validity of regression results.

B) Validity of Regression Results

To check validity the tests of normality, stationarity, auto collinearity, homoscedasticity and multicolinearity have been applied.

a) Assumption of Normality

Researcher has used Shapiro-Wilk test along with Q-Q plot to test the normality of data.

i. **Shapiro-Wilk Test**- The results of the test are as below:-

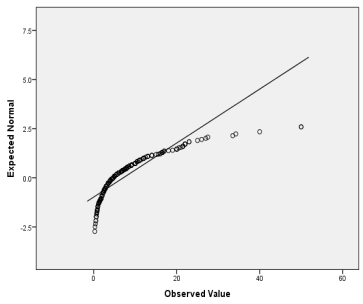
Table 6.58 Test of Normality of DPS, FL and EPS of Banks in India

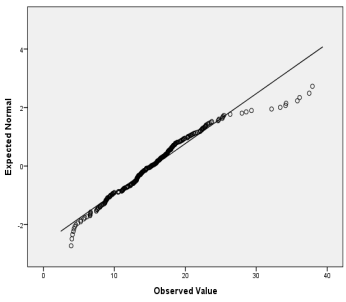
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	D f	Sig.	Statistic	D f	Sig.
EPS	.188	311	.000	.781	311	.000
DPS	.175	311	.000	.752	311	.000
Financial Leverage	.082	311	.000	.953	311	.000

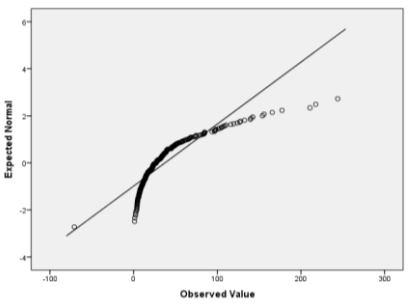
As we have been able to see that level of Significance for Shapiro-Wilk test has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which is not normal, are not valid.

ii. **Q-Q Plot** – On the observation of the data on Q-Q plots, it has been foundthat it is not normally distributed.

Figure 6.85 Normal Q-Q plot of DPS **Figure 6.86 Normal Q-Q plot of FL** **Figure 6.87 Normal Q-Q plot of EPS**







b) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test

Figure 6.88 ACF Chart of FL

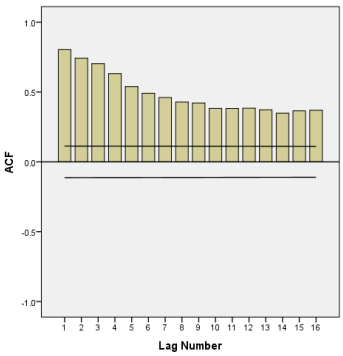


Figure 6.89 ACF Chart of DPS

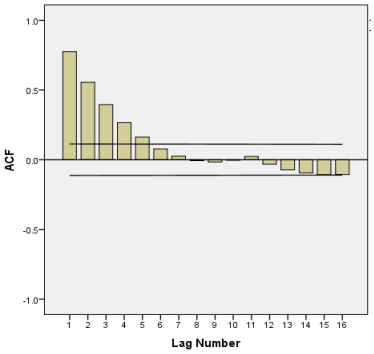
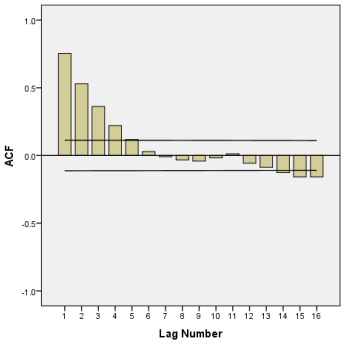


Figure 6.90 ACF Chart of EPS



The results of Auto correlation test show that data has not been stationary.

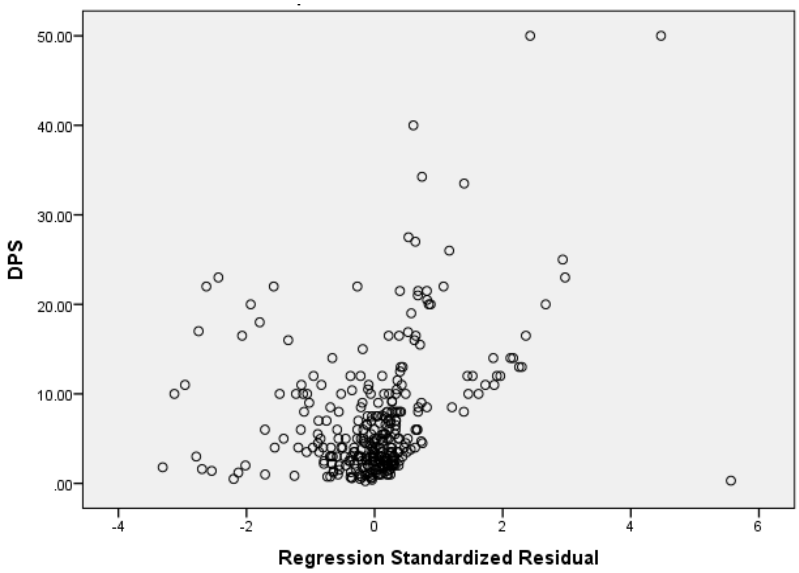
ii. Durbin –Watson Statistics

As per the model summary in table 6.56, the Durbin-Watson value has been1.106 which very far off from the expected value of 2, for that to fulfil the assumption. So the data is having auto- collinearity.

c) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.91 Scatter Plot of Regression Standardized Residuals

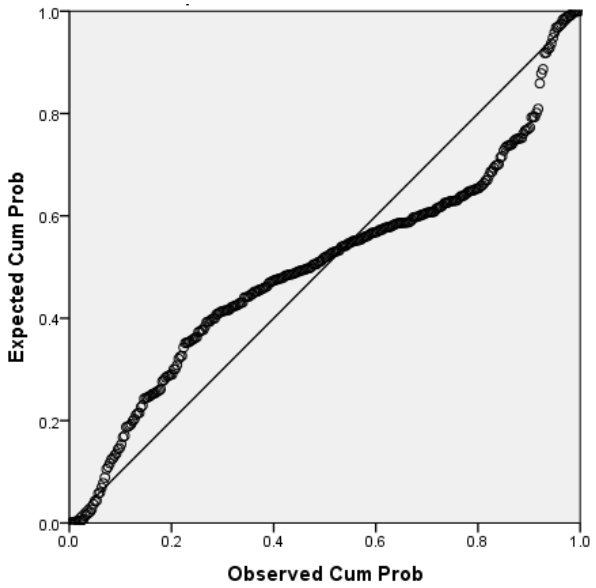


The scatter plot of residual has not been equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity

d) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. In the observed P-P plot the residuals have been far from the expected line. So the regression has not been a good fit.

Figure 6.92 Normal P-P Plot of Regression Standardized Residuals



e) **Assumption of Multi colinearity:-** Multi collinearity has been checked with the help of tolerance and VIF score.

Table 6.59 Collinearity Statistics of FL and EPS of Banks in India

		Collinearity Statistics	
		Tolerance	VIF
	(Constant)		
	EPS	.897	1.114
	Financial Leverage	.897	1.114

As VIF score has been more than 1 there has been no multi collinearity.

It has been analysed that the majority of assumption of linear regression model have not been satisfied in the above case, so some kind of transformation is needed to make the data normal and fit the regression line. This transformation has been done by taking Log values.

6.8.2 Linear Regression with Log of FL and EPS on DPS for Banks in India

The transformation has been done with the help of taking Log of all the values. After transformation the model has been developed in the form of:-

Log DPS = a + b (Log EPS) +c(Log FL)

The regression has been run on the data related to all banks and the details are as follows:-

Table 6.60 Correlation of Log DPS, Log FL and Log EPS of Banks in India

		Log DPS	Log EPS	Log FL
Pearson Correlation	Log DPS	1.000	.914	-.297
	Log EPS	.914	1.000	-.335
	Log FL	-.297	-.335	1.000
Sig. (1-tailed)	Log DPS	.	.000	.000
	Log EPS	.000	.	.000
	Log FL	.000	.000	.

Table 6.61 Model Summary of Regression of Log EPS, Log FL and Log DPS of Banks in India

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.914[a]	.836	.835	.16952	1.048

Table 6.62 Coefficients of Regression of Log EPS, Log FL and Log DPS of Banks in India

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.668	.086		-7.757	.000
LOG EPS	.933	.025	.918	37.378	.000
Log Financial Leverage	.025	.058	.011	.435	.664

From the above tables it has been concluded that there has been a positive relationship of Log DPS with Log EPS and Log FL of banks which has been significant as the p value has been less than 0.05. The regression coefficient has been0.933 for Log EPS and 0.025 for Log Financial Leverage with a constant of -0.668.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

Log DPS = -0.668 + 0.933(Log EPS) +0.025 (Log FL)

As the value of R^2 has been 0.836 which is very high, it means that 83.6% of variations in Log DPS are explained by Log EPS and Log FL for the banks in India. But before we reach any conclusion regarding this model it is necessary to check the validity of regression results.

B) Validity of Regression Results

To check validity the tests of normality, stationarity, auto collinearity, homoscedasticity and multicollinearity have been applied.

a) Assumption of Normality

Researcher has used Shapiro-Wilk test along with Q-Q plot to test the normality of data.

i. Shapiro-Wilk Test- The results of the test are as below:-

Table 6.63 Test of Normality of Log DPS, Log FL and Log EPS of Banks in India

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Log DPS	.042	310	.200*	.995	310	.330
Log Financial Leverage	.105	310	.000	.959	310	.000
Log EPS	.043	310	.200*	.994	310	.306

As we have been able to see that level of Significance for Shapiro-Wilk test for Log Financial Leverage has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which is not normal, are not valid.

ii. **Q-Q Plot** –On the observation of the data on Q-Q plots, it has been found that it is not normally distributed.

Figure 6.93 Q-Q plot of Log DPS

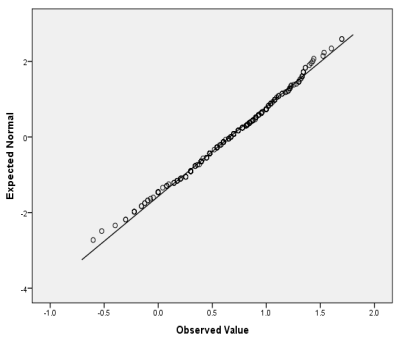


Figure 6.94 Q-Q plot of Log FL

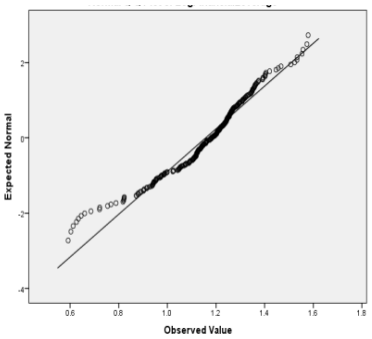
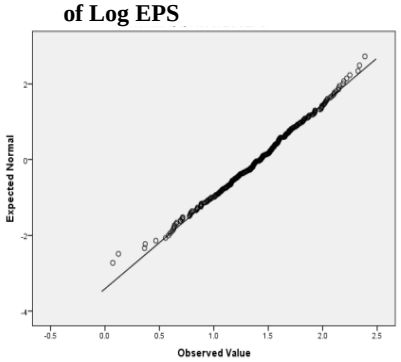


Figure 6.95 Q-Q plot of Log EPS



b) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test

Figure 6.96 ACF Chart of Log FL

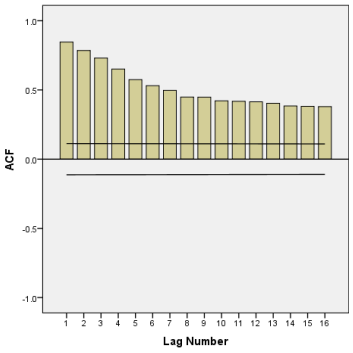


Figure 6.97 ACF Chart of Log DPS

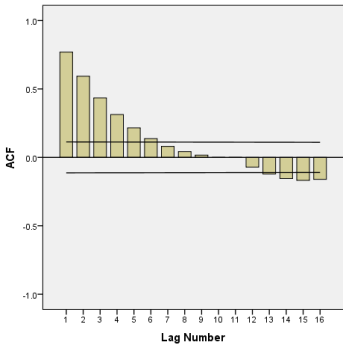
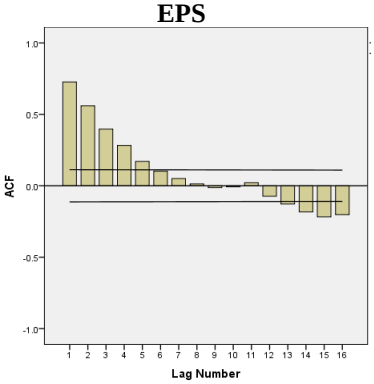


Figure 6.98 ACF Chart of Log EPS



The results of Auto correlation test show that data has not been stationary.

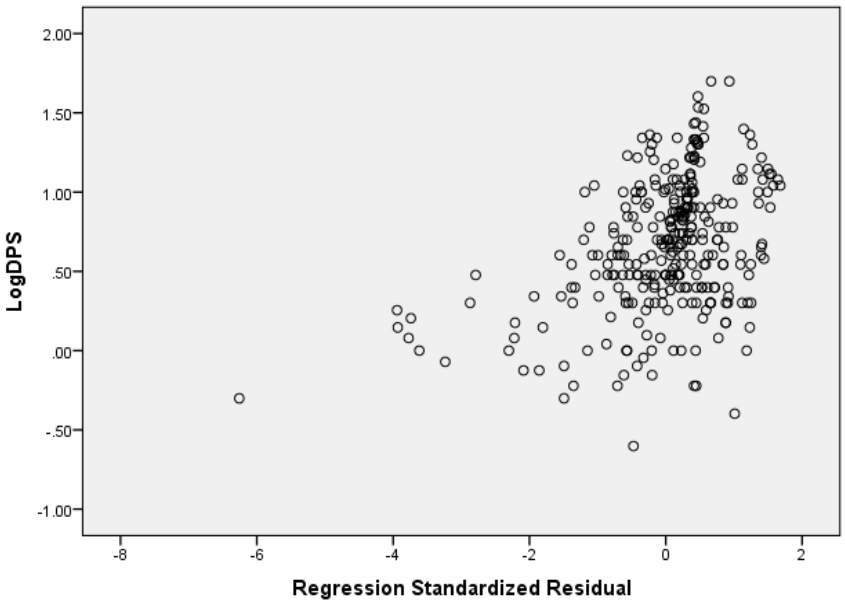
ii. Durbin –Watson Statistics

As per the model summary in table 6.61, the Durbin-Watson value has been1.048 which has been very far off from the expected value of 2, for that to fulfil the assumption. So the data has been found having auto- collinearity.

c) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.99 Scatter Plot of Regression Standardized Residuals

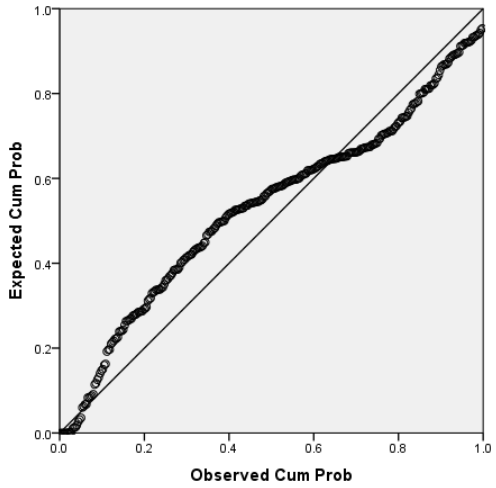


The scatter plot of residual has not been equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity.

d) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. In the observed P-P plot the residuals have been far from the expected line. So the regression has not been a good fit.

Figure 6.100 Normal P-P Plot of Regression Standardized Residuals



e) **Assumption of Multi collinearity:-** Multi collinearity has been checked with the help of tolerance and VIF score.

Table 6.64 Coefficients of Regression of Log EPS, Log FL and Log DPS of Banks in India

	Collinearity Statistics	
	Tolerance	VIF
Log EPS	.887	1.127
Log Financial Leverage	.887	1.127

As VIF score has been more than 1 there has been no multi collinearity.

It has been analysed that the majority of assumption of linear regression model have not been satisfied in the above case, so some kind of transformation is needed to make the data normal and fit the regression line.

6.8.3 Nonlinear Regression of EPS, FL and DPS for Banks in India

As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings and FL on dividend of banks in India, Non-linear regression model has been applied. The correlation between dividend paid and earnings per share has been positive, while the correlation between Dividend paid and FL has been negative therefore model has been chosen as below:-

DPS= A+(B* (C*EPS)) –(E*(D*FL))

When the same model has been run on the data related to all banks in India the results are as below:-

Table 6.65 Parameter Estimate for Non-Linear Regression of EPS, FL and for Banks in India

Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
A	1.116	.456	.219	2.014
B	.433	886811.121	-1745019.258	1745020.124
C	.415	849146.002	-1670903.860	1670904.689
D	-.295	4227291.370	-8318239.097	8318238.508
E	-.162	2328624.267	-4582142.966	4582142.641

From the above table it has been concluded that there has been a positive relationship between DPS and EPS of banks and negative relationship between FL and DPS of banks.

A) Nonlinear Regression Model

The equation can be written as a model fit equation between the variables as-

DPS= 1.116+ (0.433* (0.415*EPS)) – (-0.295*(-0.162*FL))

DPS= 1.116+ (0.433* (0.415*EPS)) – (0.295*(0.162*FL))

As the value of R^2 has been 0.898, it means that 89.8 % of variations in DPS are explained by EPS and EPS for the banks.

6.9 IMPACT OF FINANCIAL LEVERAGE AND EARNINGS ON DIVIDEND OF NATIONALISED BANKS

Taking DPS as a dependent variable and financial leverage and earnings as independent variables, the regression has been run on data for nationalised in this part of analysis.

6.9.1 Linear Regression of FL and EPS on DPS for Nationalised Banks

Multiple linear regression has been used to analyse the impact of financial leverage and earnings on dividend of banks. The results are tabulated in tables below.

Table 6.66 Correlation of DPS, FL and EPS of Nationalised Banks

		DPS	EPS	Financial Leverage
Pearson Correlation	DPS	1.000	.940	-.396
	EPS	.940	1.000	-.364
	Financial Leverage	-.396	-.364	1.000
Sig. (1-tailed)	DPS	.	.000	.000
	EPS	.000	.	.000
	Financial Leverage	.000	.000	.

Table 6.67 Model Summary of Regression of EPS, FL and DPS of Nationalised banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.942[b]	.887	.886	1.75876	1.586

Table 6.68 Coefficients of Regression of EPS, FL and DPS of Nationalised banks

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.048	.590		3.471	.001
EPS	.154	.005	.917	34.052	.000
Financial Leverage	-.064	.027	-.063	-2.325	.021

From the above tables it has been concluded that there has been a positive relationship between DPS and EPS of nationalised banks which has been significant as the p value has been less than 0.05, while there has been negative relationship between FL and DPS of nationalised banks in. The regression coefficient has been0.154 for EPS and -0.064 for FL with a constant of 2.048.

A) Regression Model

The equation can be written as a model fit equation between the variables as-

DPS = 2.048 + 0.154(EPS) - 0.064(FL)

As the value of R^2 has been 0.887 which is very high, it means that 87.8 % of variations in DPS are explained by EPS and FL for nationalised banks in India.

B) Validity of Regression Results

Before we reach any conclusion regarding this model it has been necessary to check the validity of regression results. To check validity -tests of normality, stationarity, auto collinearity, homoscedasticity and multicollinearity have been applied.

a) Assumption of Normality

Researcher has used Shapiro-Wilk test along with Q-Q plot to test the normality of data.

i. **Shapiro-Wilk Test**- The results of the test are as below:-

Table 6.69 Test of Normality of DPS, FL and EPS of Nationalised banks

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
EPS	.172	182	.000	.795	182	.000
DPS	.176	182	.000	.815	182	.000
Financial Leverage	.144	182	.000	.881	182	.000

As we have been able to see that level of Significance for Shapiro-Wilk test has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which is not normal, are not valid.

ii. **Q-Q Plot** – On the observation of the data on Q-Q plots, it has been found that it is not normally distributed

Figure 6.101 Q-Q plot of DPS

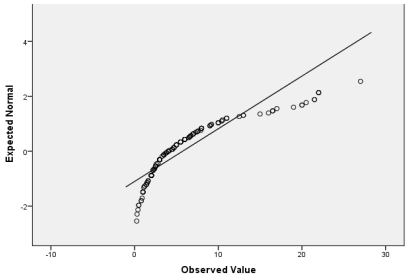


Figure 6.102 Q-Q plot of FL

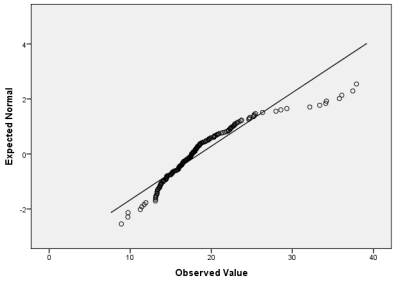
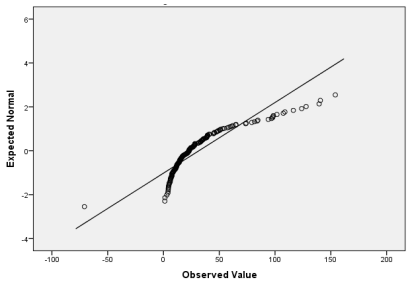


Figure 6.103 Q-Q plot of EPS



b) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test

Figure 6.104 ACF Chart of FL

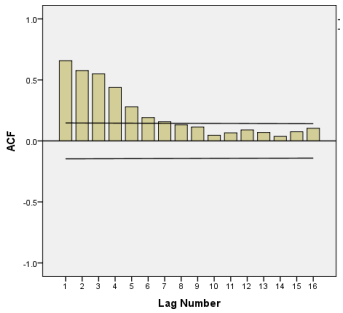


Figure 6.105 ACF Chart of DPS

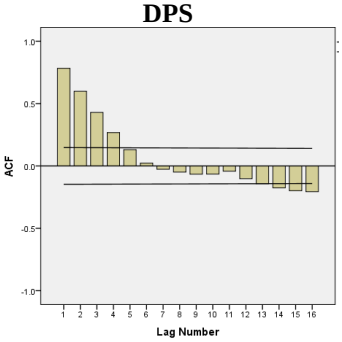
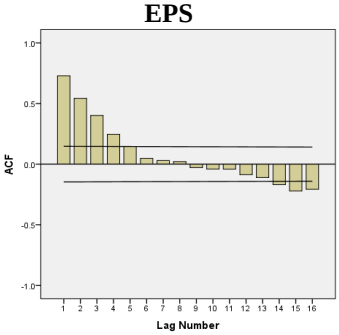


Figure 6.106 ACF Chart of EPS



The results of Auto correlation test show that data has not been stationary.

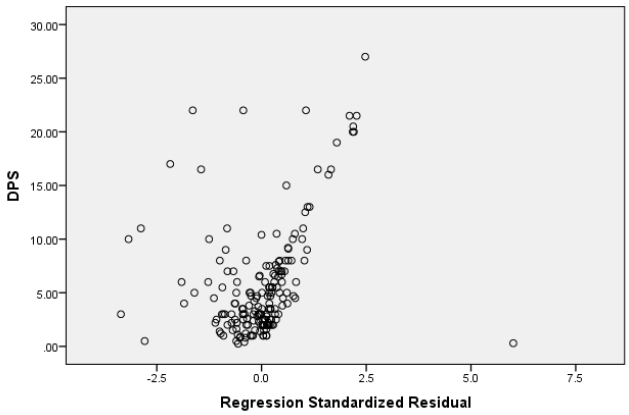
ii. Durbin –Watson Statistics

As per the model summary in table 6.67, the Durbin-Watson value has been1.586 which has been in the range of 1.5 to 2.5. So the data is not having auto collinearity.

c) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.107 Scatter Plot of Regression Standardized Residuals

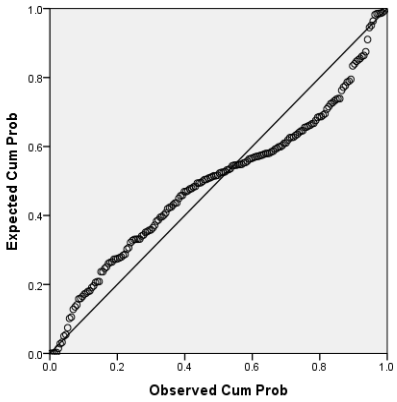


The scatter plot of residual has not been equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity.

d) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. In the observed P-P plot the residuals have been far from the expected line. So the regression has not been a good fit.

Figure 6.108 Normal P-P Plot of Regression Standardized Residuals



e) **Assumption of Multi collinearity:-** Multi collinearity has been checked with the help of tolerance and VIF score.

Table 6.70 Collinearity Statistics of FL and EPS of Nationalised banks

	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
EPS	.868	1.153
FinancialLeverage	.868	1.153

As VIF score has been more than 1 there has been no multi collinearity.

It has been analysed that the majority of assumption of linear regression model have not been satisfied in the above case, so some kind of transformation is needed to make the data normal and fit the regression line. This transformation has been done by taking Log values.

6.9.2 Linear Regression with Log of FL and EPS on DPS for Nationalised Banks

The transformation has been done with the help of taking Log of all the values. After transformation the model has been developed in the form of:-

Log DPS = a + b (Log EPS) +c(Log FL)

The regression has been run on the data related to nationalised banks and the details are as follows:-

Table 6.71 Correlation of Log DPS, Log FL and Log EPS of Nationalised banks

		Log DPS	Log EPS	Log FL
Pearson Correlation	Log DPS	1.000	.921	-.487
	Log EPS	.921	1.000	-.422
	Log FL	-.487	-.422	1.000
Sig. (1-tailed)	Log DPS	.	.000	.000
	Log EPS	.000	.	.000
	Log FL	.000	.000	.

Table 6.72 Model Summary of Regression of Log EPS, Log FL and Log DPS of Nationalised banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.927[b]	.860	.858	.14246	1.474

Table 6.73 Coefficients of Regression of Log EPS, Log FL and Log DPS of Nationalised banks

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.010	.155		.064	.949
LOG EPS	.831	.030	.871	28.145	.000
Log Financial Leverage	-.412	.107	-.119	-3.853	.000

From the above tables it has been concluded that there has been a positive relationship between Log DPS and Log EPS and negative between Log DPS and Log FL of nationalised banks which has been significant as the p value has been less than 0.05.

The regression coefficient has been 0.831 for Log EPS and -0.412 for Log Financial Leverage with a constant of 0.10.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

Log DPS = 0.10+ 0.831(Log EPS) - 0.010 (Log FL)

As the value of R^2 has been 0.860 which is very high, it means that 86% of variations in Log DPS are explained by Log EPS and Log FL for the banks in India. But before we reach any conclusion regarding this model it is necessary to check the validity of regression results.

B) Validity of Regression Results

To check validity -tests of normality, stationarity, auto collinearity, homoscedasticity and multicolinearity have been applied.

a) Assumption of Normality

Researcher has used Shapiro-Wilk test along with Q-Q plot to test the normality of data.

i. **Shapiro-Wilk Test**- The results of the test are as below:-

Table 6.74 Test of Normality of Log DPS, Log FL and Log EPS of Nationalised banks

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Log DPS	.071	181	.026	.989	181	.153
Log EPS	.039	181	.200*	.991	181	.277
Log Financial Leverage	.093	181	.001	.967	181	.000

As we have been able to see that level of Significance for Shapiro-Wilk test for Log Financial Leverage has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which is not normal, are not valid.

ii. **Q-Q Plot** – On the observation of the data on Q-Q plots, it has been found that it is not normally distributed.

Figure 6.109 Q-Q plot of Log DPS

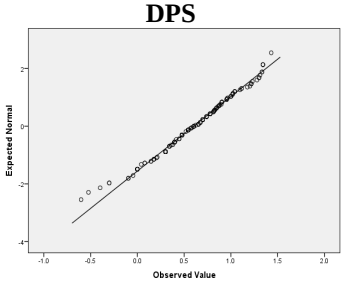


Figure 6.110 l Q-Q plot of Log FL

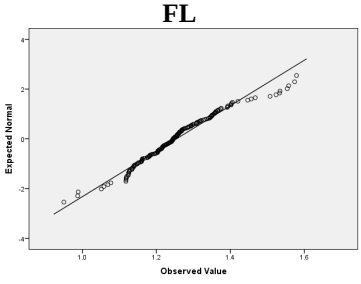
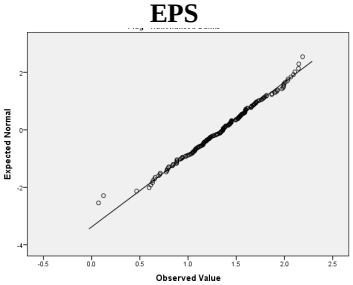


Figure 6.111 Q-Q plot of Log EPS



b) Assumption of Stationarity and auto correlation Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test

Figure 6.112 ACF Chart of Log FL

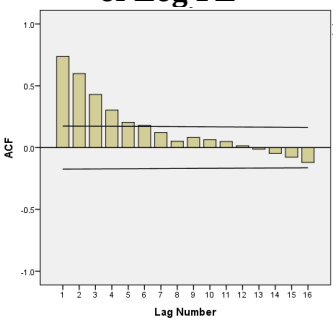


Figure 6.113 ACF Chart of Log DPS

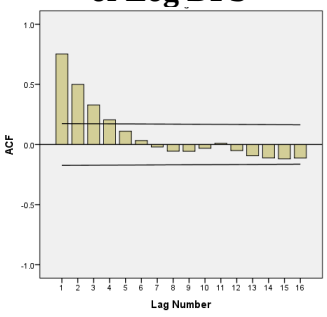
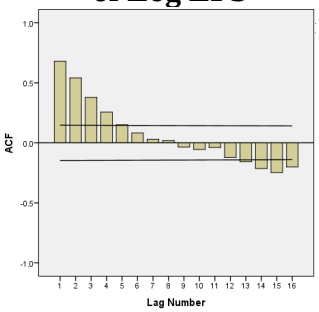


Figure 6.114 ACF Chart of Log EPS



The results of Auto correlation test show that data has not been stationary.

ii. Durbin –Watson Statistics

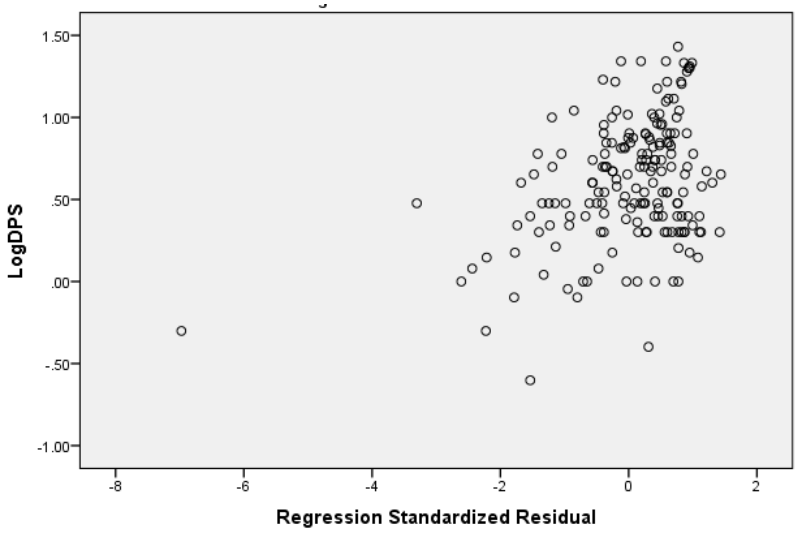
As per the model summary in table 6.72, the Durbin-Watson value has been1.474 which has been very far off from the expected value of 2, for that to fulfil the assumption. So the data is having auto-collinearity.

c) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

The scatter plot of residual has not been equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity.

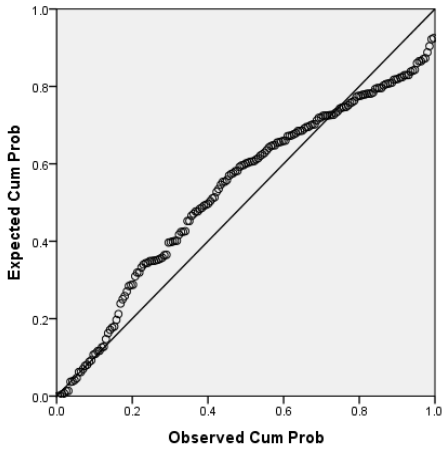
Figure 6.115 Scatter Plot of Regression Standardized Residuals



d) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. In the observed P-P plot the residuals have been far from the expected line. So the regression has not been a good fit.

Figure 6.116 Normal P-P Plot of Regression Standardized Residuals



e) **Assumption of Multi collinearity:-** Multi collinearity has been checked with the help of tolerance and VIF score.

Table 6.75 Coefficients of Regression of Log EPS, Log FL and Log DPS of Nationalised banks

	Collinearity Statistics	
	Tolerance	VIF
Log EPS	.822	1.217
Log Financial Leverage	.822	1.217

As VIF score has been more than 1 there has been no multi collinearity.

It has been analysed that the majority of assumption of linear regression model have not been satisfied in the above case, so some kind of transformation is needed to make the data normal and fit the regression line.

6.9.3 Nonlinear Regression of EPS, FL and DPS for Nationalised Banks

As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings and FL on dividend of nationalised banks, Non-linear regression model has been applied. The correlation between dividend paid and earnings per Share has been positive, while the correlation between Dividend paid and FL has been negative therefore model has been chosen as below:-

DPS= A+(B* (C*EPS)) –(E*(D*FL))

When the same model has been run on the data related to all nationalised banks the results are as below:-

Table 6.76 Parameter Estimate for Non-Linear Regression of EPS, FL and for Nationalised banks

Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
A	2.048	.599	.866	3.231
B	.433	1043972.612	-2060234.836	2060235.702
C	.356	858351.593	-1693919.777	1693920.489
D	-.277	1608478.475	-3174263.708	3174263.154
E	-.229	1328339.548	-2621421.477	2621421.018

From the above table it has been concluded that there has been a positive relationship between DPS and EPS of nationalised banks and negative relationship between FL and DPS of nationalised banks.

A) Nonlinear Regression Model

The equation can be written as a model fit equation between the variables as-

DPS= 2.048+ (0.433* (0.356*EPS)) – (-0.277*(-0.229*FL))

DPS= 2.048+ (0.433* (0.356*EPS)) – (0.277*(0.229*FL))

As the value of R^2 has been 0.887, it means that 88.7 % of variations in DPS are explained by EPS and FL for the nationalised banks.

6.10 IMPACT OF FINANCIAL LEVERAGE AND EARNINGS ON DIVIDEND OF PRIVATE INDIAN BANKS

Taking DPS as a dependent variable and financial leverage and earnings as independent variables, the regression has been run been on data for nationalised banks in this part of analysis.

6.10.1 Linear Regression of FL and EPS on DPS for Private Indian Banks

Multiple linear regression has been used to analyse the impact of financial leverage and earnings on dividend of private Indian banks. The results are tabulated in tables below.

Table 6.77 Correlation of DPS, FL and EPS of Private banks

		DPS	EPS	Financial Leverage
Pearson Correlation	DPS	1.000	.955	-.164
	EPS	.955	1.000	-.175
	FinancialLeverage	-.164	-.175	1.000
Sig. (1-tailed)	DPS	.	.000	.031
	EPS	.000	.	.023
	FinancialLeverage	.031	.023	.

Table 6.78 Model Summary of Regression of EPS, FL and DPS of Private banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.955[b]	.913	.911	2.72682	.763

Table 6.79 Coefficients of Regression of EPS, FL and DPS of Private banks

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.004	.853		.005	.996
EPS	.196	.005	.956	35.758	.000
Financial Leverage	.009	.066	.003	.130	.897

From the above tables it has been concluded that there has been a positive relationship between DPS and EPS of private Indian banks which has been significant as the p value has been less than 0.05, while there has been also a positive relationship between FL and DPS of private Indian banks. The regression coefficient has been0.196 for EPS and 0.009 for FL with a constant of 0.004.

A) Regression Model

The equation can be written as a model fit equation between the variables as-

DPS = 0.004 + 0.196(EPS) + 0.009(FL)

As the value of R^2 has been 0.913 which is very high, it means that 91.3 % of variations in DPS are explained by EPS and FL for banks in India. But before we reach any conclusion regarding this model it is necessary to check the validity of regression results.

B) Validity of Regression Results

To check validity -tests of normality, stationarity, auto collinearity, homoscedasticity and multi collinearity have been applied.

a) Assumption of Normality

Researcher has used Shapiro-Wilk test along with Q-Q plot to test the normality of data.

i. **Shapiro-Wilk Test**- The results of the test are as per the table:-

Table 6.80 Test of Normality of DPS, FL and EPS of Private banks

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
DPS	.178	129	.000	.779	129	.000
EPS	.192	129	.000	.770	129	.000
Financial Leverage	.065	129	.200*	.986	129	.202

As we have been able to seethat level of Significance for Shapiro-Wilk test has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which is not normal, are not valid.

ii. **Q-Q Plot** –On the observation of the data on Q-Q plots, it has been found that it is not normally distributed.

Figure 6.117 Q-Q plot of DPS

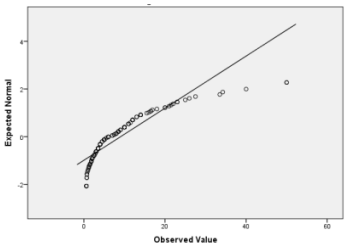


Figure 6.118 Q-Q plot of FL

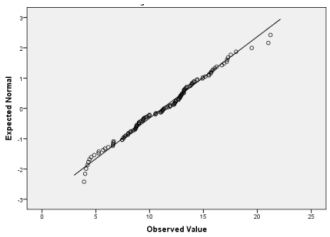
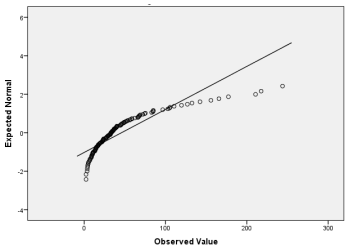


Figure 6.119 Q-Q plot of EPS



b) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test

Figure 6.120 ACF Chart of FL

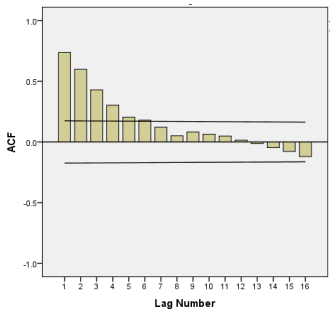


Figure 6.121 ACF Chart of DPS

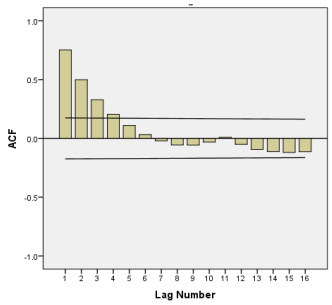
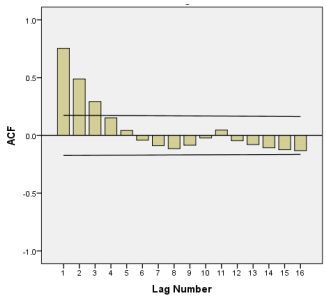


Figure 6.122 ACF Chart of EPS



The results of Auto correlation test show that data has not been stationary.

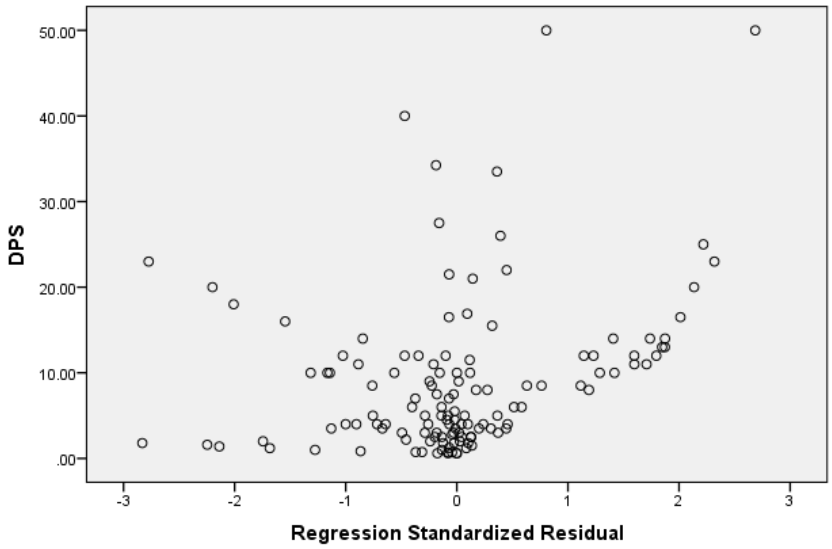
ii. Durbin –Watson Statistics

As per the model summary in table 6.88, the Durbin-Watson value has been0.763 which has been far off from the expected range of 1.5 to 2.5. So the data is having auto-collinearity.

c) **Assumption of Homoscedasticity**

To check this assumption the scatter plot of residuals has been observed.

Figure 6.123 Scatter Plot of Regression Standardized Residuals

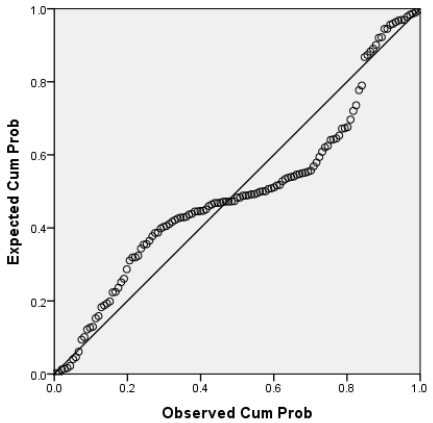


The scatter plot of residual has not been equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity.

d) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. In the observed P-P plot the residuals have been far from the expected line. So the regression has not been a good fit.

Figure 6.123 Normal P-P Plot of Regression Standardized Residuals



e) Assumption of Multi collinearity:- Multi collinearity has been checked with the help of tolerance and VIF score.

Table 6.81 Collinearity Statistics of FL and EPS of Private banks

	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
EPS	.969	1.032
Financial Leverage	.969	1.032

As VIF score has been more than 1 there has been no multi collinearity.

It has been analysed that the majority of assumption of linear regression model have not been satisfied in the above case, so some kind of transformation is needed to make the data normal and fit the regression line. This transformation has been done by taking Log values.

6.10.2 Linear Regression with Log of FL and EPS on DPS for Private Indian Banks

The transformation has been done with the help of taking Log of all the values. After transformation the model has been developed in the form of:-

Log DPS= a + b (Log EPS) +c(Log FL)

The regression has been run on the data related to private Indian banks and the details are as follows:-

Table 6.82 Correlation of Log DPS, Log FL and Log EPS of Private banks

		Log DPS	Log EPS	Log FL
Pearson Correlation	Log DPS	1.000	.905	-.065
	Log EPS	.905	1.000	-.200
	Log FL	-.065	-.200	1.000
Sig. (1-tailed)	Log DPS	.	.000	.233
	Log EPS	.000	.	.011
	Log FL	.233	.011	.

Table 6.83 Model Summary of Regression of Log EPS, Log FL and Log DPS of Private banks

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.913[b]	.834	.831	.18648	.701

Table 6.84 Coefficients of Regression of Log EPS, Log FL and Log DPS of Private banks

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.099	.133		-8.279	.000
LOG EPS	1.014	.040	.930	25.087	.000
Log Financial Leverage	.341	.104	.122	3.281	.001

From the above tables it has been concluded that there has been a positive relationship of Log DPS with Log EPS and Log FL of private Indian banks which has been significant as the p value has been less than 0.05. The regression coefficient has been1.014 for Log EPS and 0.341 for Log Financial Leverage with a constant of -1.099.

A) Regression Model

The equation can be written as a model fit equation between two variables as-

Log DPS = -1.099 + 1.014(Log EPS) +0.341 (Log FL)

As the value of R^2 has been 0.834 which is very high , it means that 83.4% of variations in Log DPS are explained by Log EPS and Log FL for the private Indian banks.

B) Validity of Regression Results

To check validity -tests of normality, stationarity, auto collinearity, homoscedasticity and multicollinearity have been applied.

a) Assumption of Normality

Researcher has used Shapiro-Wilk test along with Q-Q plot to test the normality of data.

i. Shapiro-Wilk Test- The results of the test are as below:-

Table 6.85 Test of Normality of Log DPS, Log FL and Log EPS of Private banks

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Log DPS	.089	129	.014	.978	129	.031
Log EPS	.067	129	.200*	.987	129	.268
Log Financial Leverage	.112	129	.000	.948	129	.000

As we have been able to see that level of Significance for Shapiro-Wilk test for Log Financial Leverage and Log DPS has been below 0.05, so the data don't hold the assumption of normality and regression results of the data which is not normal, are not valid.

ii. **Q-Q Plot** – On the observation of the data on Q-Q plots, it has been foundthat it is not normally distributed.

Figure 6.125 Q-Q plot of Log DPS

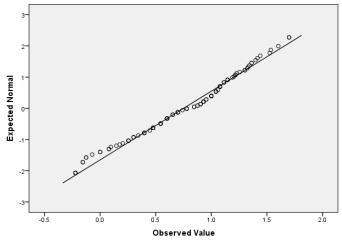


Figure 6.126 Q-Q plot of Log FL

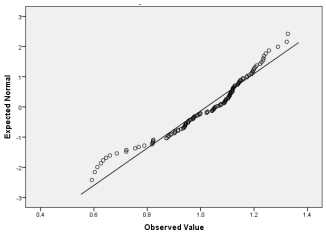
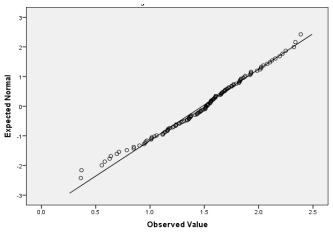


Figure 6.127 Q-Q plot of Log EPS



b) Assumption of Stationarity and auto correlation

Stationarity has been checked using auto correlation test in SPSS and Durbin-Watson statistics.

i. Auto-correlation test

Figure 6.128 ACF Chart of Log FL

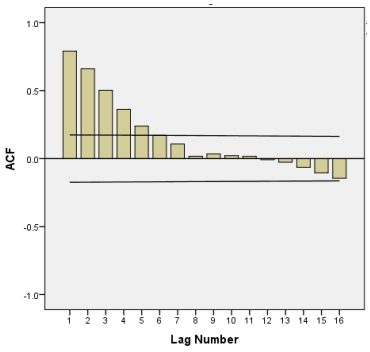


Figure 6.129 ACF Chart of Log DPS

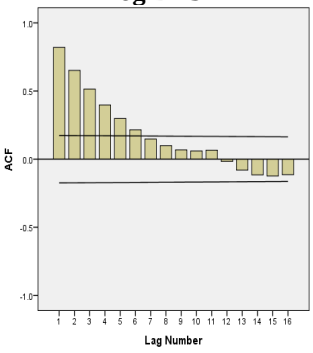
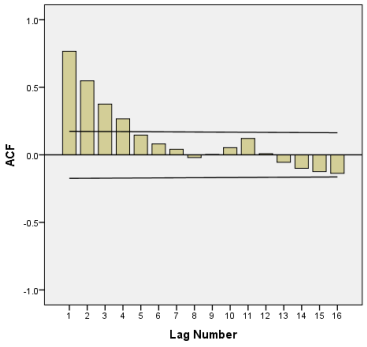


Figure 6.130 ACF Chart of Log EPS



The results of Auto correlation test show that data has not been stationary.

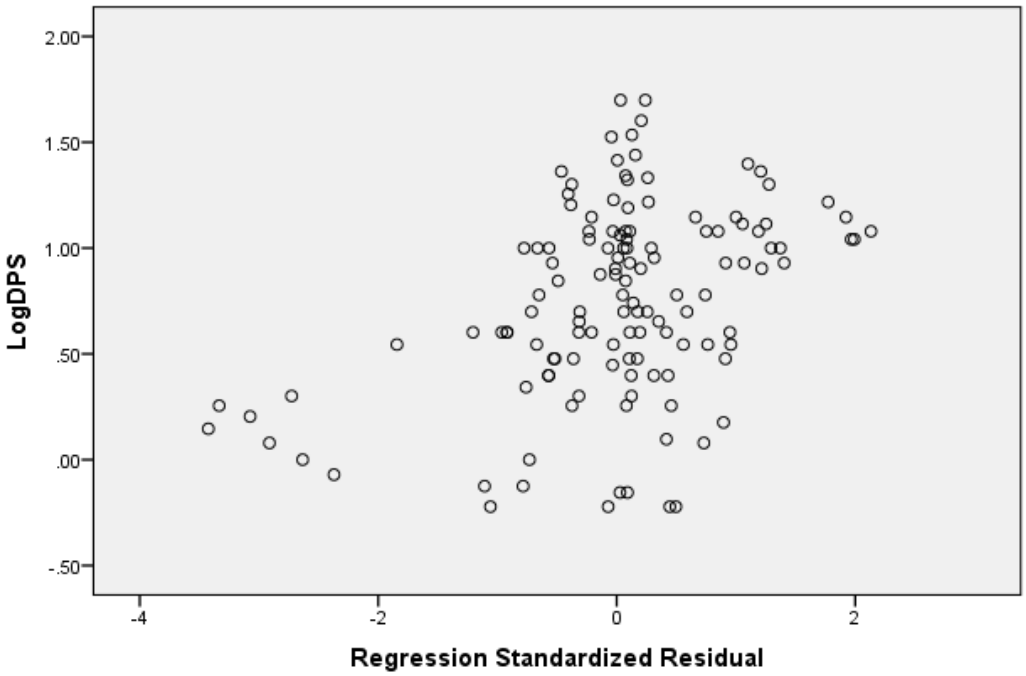
ii. Durbin –Watson Statistics

As per the model summary in table 6.83, the Durbin-Watson value has been0.701 which has been very far off from the expected value of 2, for that to fulfil the assumption. So the data has been having auto- collinearity.

c) Assumption of Homoscedasticity

To check this assumption the scatter plot of residuals has been observed.

Figure 6.131 Scatter Plot of Regression Standardized Residuals

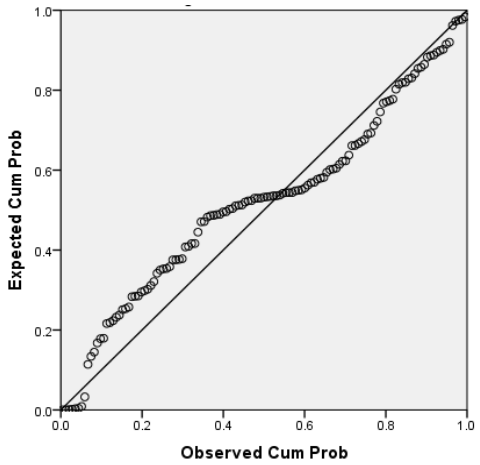


The scatter plot of residual has not been equally distributed and depicts a cluster, which suggests the presence of hetroscedasticity

d) **Assumption of Correct Regression**

This assumption has been checked with the help of P-P plot of observed and expected residuals. In the observed P-P plot the residuals have been far from the expected line. So the regression has not been a good fit.

Figure 6.132 Normal P-P Plot of Regression Standardized Residuals



e) **Assumption of Multi collinearity:-** Multi collinearity has been checked with the help of tolerance and VIF score.

Table 6.86 Coefficients of Regression of Log EPS, Log FL and Log DPS of Private banks

	Collinearity Statistics	
	Tolerance	VIF
Log EPS	.960	1.042
Log Financial Leverage	.960	1.042

As VIF score has been more than 1 there has been no multi collinearity.

It has been analysed that the majority of assumption of linear regression model have not been satisfied in the above case, so some kind of transformation is needed to make the data normal and fit the regression line.

6.10.3 Nonlinear Regression of EPS, Fl and DPS for Private Indian Banks

As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings and FL on dividend of private Indian banks, non-linear regression model has been applied. The correlation between dividend paid and earnings per share has been positive, while the correlation between dividend paid and financial leverage has been negative therefore model has been chosen as below:-

DPS= A+ (B* (C*EPS)) –(E*(D*FL))

When the same model has been run on the data related to private Indian banks the results are as below:-

Table 6.87 Parameter Estimate for Non-Linear Regression of EPS, FL and for Private banks

Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
A	.004	.862	-1.702	1.711
B	.340	1195874.031	-2366969.351	2366970.031
C	.576	2027091.666	-4012181.654	4012182.805
D	.078	245060.505	-485043.307	485043.463
E	-.109	343365.214	-679616.050	679615.831

From the above table it has been concluded that there has been a positive relationship between DPS and EPS of banks and negative relationship between FL and DPS of private Indian banks.

A) Nonlinear Regression Model

The equation can be written as a model fit equation between the variables as-

DPS= .004+ (0.340* (0.576*EPS)) – (0.078*(-0.109*FL))

DPS= .004+ (0.340* (0.576*EPS)) + (0.078*(0.109*FL))

As the value of R^2 has been 0.913, it means that 91.3 % of variations in DPS are explained by EPS and Financial Leverage for the private Indian banks.

6.11 CONCLUSION

On the basis of linear regression it has been found that financial Leverage has significant negative impact on DPS in case of banks taken all together or separately as nationalised banks or private banks. Linear regression models even after transformation have not been a good fit. It has been observed that there has been a significant positive relationship between DPS and EPS of banks. Linear models have not been found to be fit even in this case. The results of multiple linear regression model shows that there has been significant impact of both EPS and FL on DPS. Non-linear models have also been applied.

CHAPTER VII
FINDINGS AND CONTRIBUTION

7.1 INTRODUCTION

This chapter discusses the findings and suggestions of the research. The findings are discussed corresponding to the research objectives. The implications are presented for the banks, investor and the industry. Implications explain the relationship of dividend and financial leverage. The contribution of the study for the industry and academia has been explained. Towards the end of the chapter, the limitations of the study and scope for further research are mentioned.

7.2 RESEARCH FINDINGS

A) Dividend of Banks in India

First of all the dividend paid by banks have been analysed. It has been found that banks paid varied DPS during the period which ranged between 0 and 55. Nationalised and private Indian banks both have paid dividends actively except for the last two years where only few nationalised banks have paid dividends and very less dividends have been paid by private Indian bank. Average dividend paid has been highest for the year 2012-13. In the group of nationalised bank, Punjab national Bank has paid the highest average dividend and in the group of private bank, HDFC bank has paid the highest dividend. United Bank of India has paid lowest average dividend among nationalised banks and Dhanlaxmi Bank has paid lowest dividend in the group of private banks.

A comparison has been made between DPS of nationalised banks and private Indian banks. It has been found that there has been a significant difference the dividend paid by nationalised banks and private Indian banks in India. Dividend paid by nationalised banks has been lower than the dividend paid by private Indian banks. On comparing the average payout ratio, it has been observed that, the dividend payout ratio of nationalised banks has not been significantly different from that of private Indian banks.

B) Financial Leverage of Banks in India

After dividend, the values for financial leverage of banks have been analysed. The financial leverage has also varied a lot during this period and ranged between 3 and

38. UCO bank in nationalised group and Dhanlaxmi bank in private banks group have recorded the highest average financial leverage. The lowest average financial leverage has been recorded by Oriental bank of Commerce in nationalised group and Kotak Mahindra in private Indian banks. A comparison has been made between financial leverage of nationalised banks and private Indian banks. It has been found that there has been significant difference in the financial leverage of nationalised banks and private Indian banks. The average financial leverage of nationalised banks has been higher than that of private Indian banks.

C) Earnings of Banks in India

The earnings per share of banks have been analysed. Huge variations have been observed between the maximum and minimum value for EPS of banks. Punjab National Bank has earned highest EPS in the nationalised group and HDFC bank has earned highest EPS in the private Indian banks group. It has been observed that the banks which have earned highest EPS, have paid the highest DPS. United bank of India in the nationalised group and Dhanlaxmi and DCB in the private bank group have earned lowest EPS during the period. As far as the yearly average is concerned it has remained highest for the year 2011-12 for nationalised banks and 2014-15 for the private Indian banks group. A comparison has been made between earnings of nationalised banks and private Indian banks. It has been found that there has been significant difference in the EPS of nationalised banks and private Indian banks. Average EPS of private banks has been higher than the average EPS of nationalised banks.

D) Relationship between Financial Leverage and Dividends of Banks

To know the relationship between financial leverage and dividend of banks in India, the Pearson's correlation test has been run. Statistically moderate negative correlation has been found between FL and DPS of banks in India. When the same test has been run for nationalised and private Indian banks separately, the results have not been different for both of the groups. However, the magnitude of correlation has been comparatively low in case of private Indian banks.

E) Relationship between Earnings and Dividends of Banks in India

Then the relationship between earnings and dividend of banks has been analysed. Similarly, Pearson's correlation has been run on the data related to EPS and DPS of banks. It has been found that statistically high positive correlation exist between Earnings and Dividend of banks. The same relationship exists in case of nationalised and private Indian banks.

F) Impact of Financial Leverage on Dividend of Banks in India

Linear regression has been run on DPS and FL for banks in India. The results show that there has been a significant negative relationship between DPS and Financial Leverage. Financial Leverage has a negative impact on DPS in case of banks in India. The regression coefficient has been-0.420 with a constant of 13.635. The R^2 has been found as 0.114, it means that only 11.4 % of variations in DPS are explained by Financial Leverage for all the banks taken together. Since the p value has been less than 0.05, it indicates that, there has been significant impact of financial leverage on DPS of banks. The validity and robustness of regression results has been checked with the help of tests of linearity, normality, stationarity, auto collinearity and homoscedasticity. The results show that the majority of assumptions of linear regression model have not been satisfied. So, linear regression model has not been a good fit, in this case. The transformation is required to make the data normal and fit the regression line. This transformation has been done by taking Log values. The results show that there has been a negative relationship between Log DPS and Log Financial Leverage of banks which has been significant as the p value has been less than 0.05. The regression coefficient has been-0.724 with a constant of 1.501. But the value of R^2 has been 0.091, which means that only 9% of variations in DPS are explained by Financial Leverage for the banks. It has been analysed that in this case also all of assumption of linear regression model have not been satisfied; hence regression line with Log has been also not a good fit. So, Non-linear regression model has been applied. As the correlation between dividend paid and financial leverage has been negative, therefore decay model has been chosen. As the value of R^2 has been 0.114, it means that only 11.4 % of variations in DPS are explained by financial leverage for the banks even in case of non-linear model.

G) Impact of Financial Leverage on Dividend of Nationalised Banks

The linear regression has been run the data related to nationalised banks to find out impact of financial leverage on dividend of nationalised banks. It has been found that there has been a negative relationship between DPS and Financial Leverage of nationalised banks which has been significant as the p value has been less than 0.05. It shows that there has been significant impact of financial leverage on DPS in case of nationalised banks. The regression coefficient has been-0.403 with a constant of 13.218. As the value of R^2 has been 0.157, it means that only 15.7 % of variations in DPS are explained by Financial Leverage for the nationalised banks. The validity of regression results has been checked with the help of various tests. It has been found that the majority of assumptions of linear regression model have not been satisfied in the case of nationalised banks also. So, the transformation has been done by taking Log values. Even for Log FL and Log DPS negative relationship has been found which has been statistically significant. The regression coefficient has been-1.723 with a constant of 2.763. As the value of R^2 has been 0.238, which means that 23.8% of variations in DPS are explained by Financial Leverage for the nationalised banks, which has been an improvement over the simple regression model. The normality of DPS, P-P plot of residuals and scatter diagram have improved, but in this case also all of assumption of linear regression model have not been satisfied. Now the efforts have been made to find the non linear regression between the variables. The results of non-linear decay model show that the value of R^2 has been 0.157, which means that 15.7 % of variations in DPS are explained by Financial Leverage for the nationalised banks.

H) Impact of Financial Leverage on Equity Dividend of Private Indian Banks

On the line similar to those for nationalised banks the impact has been found for private Indian banks separately. The linear regression has been run on the data related to private Indian banks to find out the impact of FL on DPS. It has been observed that there has been a significant negative relationship between DPS and Financial Leverage of private Indian banks. The regression coefficient has been-0.404 with a constant of 13.573. As the value of R^2 has been 0.027, which means that only 3% of variations in DPS are explained by financial leverage for private Indian banks which has been very low. Here, $p < 0.05$, it indicates that, there has been significant impact of FL on DPS in case of private banks. The tests of validity show that the majority of

assumptions of linear regression model have not been satisfied in the case of private Indian banks also. After the transformation it has been observed that there has been a negative relationship between Log DPS and Log Financial Leverage of private banks which has been not significant as the p value has been more than 0.05. The regression coefficient has been-0.181 with a constant of 0.935. As the value of R^2 has been 0.004, which shows that variations in DPS cannot be explained by Financial Leverage for the private banks. Since the assumptions of linear regression model have not been satisfied, regression line cannot be considered as a good fit. As the linear regression model even after transformation with Log has not been a good fit to explain the impact of financial leverage on dividend of private banks, Non-linear regression model has been applied. As the value of R^2 has been 0.027, it means that 3 % of variations in DPS are explained by Financial Leverage for the private Indian banks.

I) Impact of Earnings on Dividend of Banks

Considering DPS as a dependent variable and Earnings as independent variable, the regression has been run been on data of all banks. From the results of linear regression, it has been observed that there has been a positive relationship between DPS and EPS of banks which has been significant as the p value has been less than 0.05. The regression coefficient has been0.182 with a constant of 0.286. As the value of R^2 has been 0.897 which has been very high, it means that 89.7 % of variations in DPS are explained by EPS for the banks in India. Since the $p < 0.05$, it indicates that, there has been a significant impact of EPS on DPS of banks. The tests of validity show that the majority of assumptions of linear regression model have not been satisfied in the case of earnings also. The results after transformation show that there has been a positive relationship between Log DPS and Log EPS of banks which has been significant as the p value has been less than 0.05. The regression coefficient has been0.929 with a constant of -0.633. As the value of R^2 has been 0.836 which has been very high, it means that 83.6% of variations in Log DPS are explained by Log EPS for the banks in India. As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings on dividend of banks India, growth model of non-linear regression has been applied. As the value of R^2 has been 0.897, it means that 89.7 % of variations in DPS are explained by EPS for the banks.

J) Impact of Earnings on Dividend of Nationalised Banks

On the line similar to those for all banks in India the impact has been found for nationalised banks separately. The linear regression has been run the data related to nationalised banks to find out the impact**.** It has been observed that there has been a positive relationship between DPS and EPS of nationalised banks also which has been significant as the p value has been less than 0.05. EPS has a positive impact on DPS in case of nationalised banks in India. The regression coefficient has been0.158 with a constant of 0.747. As the value of R^2 has been 0.884 which is very high, it means that 88.4 % of variations in DPS are explained by EPS for the banks in India. Since $p <$ 0.05, it indicates that, EPS has significant impact on DPS of nationalised banks. It has been analysed that the majority of assumption of linear regression model have not been satisfied in the case of nationalised banks also. The results of transformation show that there has been a positive relationship between Log DPS and Log EPS of nationalised banks which has been significant as the p value has been less than 0.05. The regression coefficient has been0.879 with a constant of -0.571. As the value of R^2 has been 0.848 which is very high, it means that 84.8% of variations in Log DPS are explained by Log EPS for the nationalised banks. As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings on dividend of nationalised banks, growth model of non-linear regression has been applied. As the value of R^2 has been 0.884, it means that 88.4 % of variations in DPS are explained by EPS for the nationalised banks.

K) Impact of Earnings on Equity Dividend of Private Indian Banks

On the line similar to those for nationalised banks the impact has been found for private Indian banks separately. The linear regression has been run the data related to private Indian banks. It has been observed that there has been a positive relationship between DPS and EPS of private banks also which has been significant as the p value has been less than 0.05, which means that there has been significant impact of EPS on DPS of private Indian banks. The regression coefficient has been0.195 with a constant of 0.106. As the value of R^2 has been 0.913 which is very high, it means that 91.3 % of variations in DPS are explained by EPS for the private Indian banks. It has been analysed that the majority of assumption of linear regression model have not been satisfied in the case of private Indian banks also. The results of transformation show that there has been a positive relationship between Log DPS and Log EPS of

private banks which has been significant as the p value has been less than 0.05. The regression coefficient has been0.987 with a constant of -0.712. As the value of R^2 has been 0.848 which is very high, it means that 84.8% of variations in Log DPS are explained by Log EPS for private banks. As all of assumptions of linear regression model have not been satisfied, growth model of non-linear regression has been applied. As the value of R^2 has been 0.913, which means that 91.3 % of variations in DPS are explained by EPS for the Private Indian banks.

L) Impact of Financial Leverage and Earnings on Dividend of Banks

After finding the impact of financial leverage and earnings on dividend, efforts have been made to find the combined impact of financial leverage and earnings on DPS with the help of multiple linear regression. It has been observed that there has been a positive relationship between DPS and EPS of banks which has been significant as the p value has been less than 0.05, while there has been negative relationship between FL and DPS of banks in India. The regression coefficient has been0.180 for EPS and -0.048 for FL with a constant of 1.116. As the value of R^2 has been 0.898 which is very high, it means that 89.8 % of variations in DPS are explained by EPS and FL for banks in India. Here, $p < 0.05$, it indicates that, both EPS and FL have significant impact on DPS. It has been analysed that the majority of assumption of linear regression model have not been satisfied in this case. The results of transformation show that there has been a positive relationship of Log DPS with Log EPS and Log FL of banks which has been significant as the p value has been less than 0.05. The regression coefficient has been0.933 for Log EPS and 0.025 for Log Financial Leverage with a constant of -0.668. As the value of R^2 has been 0.836 which is very high, it means that 83.6% of variations in Log DPS are explained by Log EPS and Log FL for the banks in India. As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings and FL on dividend of banks India, Non-linear regression model has been applied. As the value of R^2 has been 0.898, it means that 89.8 % of variations in DPS are explained by EPS and EPS for the banks.

M) Impact of Financial Leverage and Earnings on Dividend of Nationalised Banks

Considering DPS as a dependent variable while financial leverage & earnings as independent variables, the regression has been run been on data for nationalised banks. It has been observed that there has been a positive relationship between DPS and EPS of nationalised banks which has been significant as the p value has been less than 0.05, while there has been negative relationship between FL and DPS of nationalised banks. The regression coefficient has been0.154 for EPS and -0.064 for FL with a constant of 2.048. As the value of R^2 has been 0.887 which is very high, it means that 87.8 % of variations in DPS are explained by EPS and FL for nationalised banks in India. Here, $p < 0.05$, it shows that EPS and FL have significant impact on DPS in this case. As the majority of assumption of linear regression model have not been satisfied in the case of nationalised banks. The results of regression after transformation show that there has been a positive relationship between Log DPS and Log EPS and negative between Log DPS and Log FL of nationalised banks which has been significant as the p value has been less than 0.05. The regression coefficient has been0.831 for Log EPS and -0.412 for Log Financial Leverage with a constant of 0.10. The value of R^2 has been 0.860 which is very high; it means that 86% of variations in Log DPS are explained by Log EPS and Log FL for nationalised banks. As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings and FL on dividend of nationalised banks India, non-linear regression model has been applied. The value of R^2 has been 0.887, which means that 88.7 % of variations in DPS are explained by EPS and FL for the nationalised banks.

N) Impact of Financial Leverage and Earnings on Dividend of Private Indian Banks

The combined impact of financial leverage and earnings on DPS of private Indian banks, have been found with the help of multiple linear regression. It has been observed that there has been a positive relationship between DPS and EPS of private banks which has been significant as the p value has been less than 0.05, while there has been also a positive relationship between FL and DPS of private Indian banks in India. The regression coefficient has been0.196 for EPS and 0.009 for EPS with a constant of 0.004. The value of R^2 has been 0.913 which is very high; it means that

91.3 % of variations in DPS are explained by EPS and FL for banks in India. Here, $p < 0.05$, it shows that EPS and FL have significant impact on DPS of private banks. It has been analysed that the majority of assumption of linear regression model have not been satisfied in this case. The results after transformation show that there has been a positive relationship of Log DPS with Log EPS and Log FL of private banks which has been significant as the p value has been less than 0.05. The regression coefficient has been1.014 for Log EPS and 0.341 for Log Financial Leverage with a constant of -1.099. As the value of R^2 has been 0.834 which is very high, it means that 83.4% of variations in Log DPS are explained by Log EPS and Log FL for private banks. As the linear regression model even after transformation with Log has not been a good fit to explain the impact of Earnings and FL on dividend of banks India, Non-linear regression model has been applied. The value of R^2 has been 0.913; it means that 91.3 % of variations in DPS are explained by EPS and Financial Leverage for the private Indian banks.

7.3 LIMITATIONS OF THE STUDY

No research work is free from limitations. The following limitations have been observed in the present study:

1) The study has been limited to scheduled commercial banks in India. The other types of banks like those which are not scheduled or co-operative banks or development banks or foreign banks have not been considered.
2) The banks listed on Bombay stock Exchange of India on 31st March, 2012, have been considered. So the banks which were not listed remained outside the scope of the study.
3) The data related to different years has been treated equally in the analysis, without assigning any weightage to the data of any particular year. So the non-inclusion of control variable can be considered as limitation of the study.
4) The study has been based on data related to a period of 13 years i. e. from 2004 to 2017, which can be considered as another limitation.
5) In the year 2016 and 2017, most of the selected banks have not paid any dividend. Therefore while applying regression the data for these two years has not been considered.

7.4 CONTRIBUTION OF THE STUDY

The study has given results, which can help banking industry, financial institutions, investors, professionals, researchers and academicians in different ways.

The research has analysed the values for dividend, earnings and financial leverage of banks in India. The study will help the various stakeholders to understand the trends in Earnings, Leverage and Dividend of banks. The results show that financial leverage of nationalized banks has been much higher as compared to that of private Indian banks, whereas the DPS and EPS of Private Indian banks have remained higher than that of nationalized banks. With these results the study will help the industry to understand that the earnings, leverage and dividend of nationalized banks are different from that of private Indian banks. On the basis of EPS performance private Indian banks have been much better to nationalized banks.

The study will help to understand the relationship between Earnings, Leverage and Dividend of banks. The results show that there exist a positive relationship between EPS and DPS of Banks while a negative relationship has been found between Financial Leverage and Dividend. Linear regression models have been developed depicting the significant impact of FL and EPS on DPS for banks. Linear regression models after transformation with Log have also been developed depicting the significant impact of FL and EPS on DPS for banks. The results of the study can be used by the financial experts to devise the strategies while taking the decisions related to financial leverage in the capital structure. However the models cannot be used to predict DPS on the basis of FL and EPS. This study will also provide a strong foundation for further research in this area.

7.5 SCOPE FOR FURTHER RESEARCH

Research is a never ending process. Every research leaves the scope for further research. Linear regression models have been developed as a part of study. Regression models after transformation with Log have also been developed depicting the significant impact of FL and EPS on DPS for banks. However the models have not been a good fit. So the research can be undertaken while considering other transformations or other suitable models which can be used to predict DPS. In banking sectors the research can be done including other private banks or other types of banks like foreign banks, development banks etc. The study has considered the effect of only two factors i.e. EPS and FL on dividend. The researchers can look

forward to other factors affecting dividend. The study has been limited to banking sector in India; similar studies can be done in other sectors or industries of the country and even in other countries. A comparison can be made across industries or across countries.

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List of Published Papers Out of Thesis

S. No	Title of the paper	Name of the Journal where published	ISSN No.	Volume and Issue	Year	Pages
1	The Impact of Financial Leverage and Earnings on Dividend Policy: A Study of Banking Sector in India	Asian Journal of Management India	0976-495X	Vol.8 No.3	2017	379-383
2	Determinants of Dividend in Indian Banking Sector- A Review	Research journal of Commerce and Behavioural Science, Singapore	2251-1547	Vol. 06 No. 11	2017	18-25
3.	Trends in Dividend Payout: A Study of Public Sector Banks in India	International Journal of Economics and Social Sciences. (IJRESS) India	2249-7382	Vol. 07 No. 8	2017	231-240
4	Dividend Behaviour of Banks in India	ZENITH International Journal of Business Economics and Management Research India	2231-5780	Vol. 07 No. 11	2017	26-34
5	Dividend and Financial Leverage – A Comparison of Nationalised and Private Banks in India	Researchers World - Journal of Arts, Science & Commerce ERM Publications	2231-4172	Vol. 08 No. 4(3)	2017	23-28