University of Management and Technology Lahore UMT

"Cash Dividend Disbursement, Retained Earnings and their Impact on Stock Price Volatility- A case of Selected Non-Financial Firms of Pakistan

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Dedication

I would like to dedicate this learning to my Teachers (especially Professor Hafiz Muhammad Nawaz & Muhammadian Academy Students), Parents and Family. Because without their cooperation I would not have achieved all this in my life.

Declaration

I hereby declare that the work entitled “Cash Dividend Disbursement, Retained Earnings and their Impact on Stock Price Volatility- A case of Selected Non-Financial Firms of Pakistan” is my own work and no part of this thesis has been copied from any other source except where explicit acknowledgement is made in the text.

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Abstract

How corporate dividend policy and retained earning impacts on market stock price volatility is broadly researched topic beside this it remained a matter of discussion since over last five decades. This study is conducted to know the relationship of corporate dividend policy (cash dividends), retained earnings and their impact on stock price volatility. The past researches have shown mixed evidences of this relationship, and results are still not conclusive all around the world including Pakistan. Not much studies have been conducted in Pakistan which have contributed for conclusive remarks on this untapped area of research in the growing economy. To know this relationship several researches were conducted but the results remain inconclusive as whether the relationship existed or not. In this study there were used modern statistical and technological techniques and tools respectively for analyzing the data and extracting the results. A total of 75 companies data was initially collected where after scrutiny on different parameters mentioned in the study, only 50 companies from year 2008 to 2015 were left to be analyzed as the data was not wholly available for the remaining companies as per research requirement. Two separate models are run and results were determined that there exists positive association of Corporate Dividend Policy, Retained earnings with Stock price volatility.

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List of Abbreviations

S#	Abbreviations	
1	IRR	Internal Rate of Return
2	IPO	Initial Public Offerings
3	Pvol	Share Price Volatility
4	DY	Dividend Yield
5	DPR	Dividend Payout Ratio
6	LEV	Leverage
7	ASGr	Asset Growth
8	RETR	Retentio Ratio
9	EARVOL	Earnings Volatility
10	EPS	Earning Per Share
11	PAT	Profit After Tax
12	SPV	Stock Price Volatility
13	SIZ	Size
14	Retained Earnings	RE

Chapter 1. INTRODUCTION

1.1 Background

In the history of corporate finance a few topics remained ambiguous but important at the same time, a lot of researches have been done to know about the effect of corporate dividend disbursement policy on market stock price volatility (Nawaz, 2011). It is suggested to managers that they should pay dividends open heartedly because the stock returns are not enhanced by the retained earnings (Javed & Shah, 2015). It is a fact that corporate dividend disbursement policy do effect the movement of share prices on stocks market causing volatility in the market share prices of the firm, the more this influence exists the more it is important to the investor (Ajayi & Seyingbo, 2015). Dividend policy is one of the core corporate policy which determines how much is needed to be disbursed among shareholders and how much to be reserved with the company accounts for any forthcoming investment. It is basically a division of the earnings of the company which needs to be segregated in to two portions one which needs to be disbursed and the other which needs to be retained (Hashemijoo, Ardekani, & Younesi, 2012).

The advancement in the dividend policy goes hand in hand with the corporate development. It has been concluded that change in financial markets drives dividend policy. In the earlier stages, the dividend payments only focused on meeting the expectations of shareholders. Managers tried to pay consistent dividend due to the reason that any inconsistency may lead to have an adverse effects on the market share price of the firm's stock. It was also a belief that without financial reports, dividends are measured the only best gauge for firm's corporate performance in the stocks market. This debate started for over 50 years back and still ongoing (S.A.K, D, & Sewak.S, 2016).

Finance Managers usually face three main decisions to be made by them, the first decision they need to do is of Investment and capital budgeting, the second decision they need to do is dividend payout decision whereas the third and last important decision they need to do is Financing decision

i.e. how the firm's assets to be financed. Payout decision usually come across when the firm start generating profits. Once the firm has generated profits, should it distribute all its profits or should retain some out of it for future investment or should invest wholly back into the business? The answer is simple, the managers should focus on the wealth maximization of the shareholders but should also contemplate the influence of their decision on share prices of stock market (Ahmad & Naz, 2015; Bishop, Crapp, W, & Twite, 2000).

There remain several debates as whether to disburse dividend at 100% dividend payout ratio or to retain the earnings at 100% or there is a need to do a mix which will lead to optimal dividend decision which will in the end effect the firm's value and shareholders return on investment. Although over several decades the researchers are trying to dig out optimal dividend policy for firms but yet none of the theory is universally accepted but more importantly over the last decade several theories have emerged who explained the effects of dividend policy of a firm on the market values of their stocks (Hasan, Asaduzzaman, & Karim, 2013).

The worth of the corporations mainly relies on their earnings which ultimately results from its investing policies but this arguments is against the assumption of Walter and Gordon i.e. relevance of dividend theory which says that dividend announcement of a firm is mainly depending on the available opportunities for investing in future and the association which exists among the IRR-internal rate of return and its cost of capital (Ajayi & Seyingbo, 2015).

The volatility of the stocks in the stock market explain how much risk is associated with the stocks and how much investors are exposed to risk. It is in knowledge of management of companies that the investors pay keen attention towards their investment returns in form of dividend. This causes the volatility of stocks to remain as important to company's management as it is for investors (Hussainey, Mgbame, & Chijoke-Mgbame, 2010).

One researcher establishes three proposition which are as follows (Rozeff., 1982):-

1. The investment policy influences the dividend policy of the firm. If the dividend payout ratio is low than this would mean that the firm might be undergoing some expanded investments which will give them a heavy return. One of the reason of using the internal finance or earned cash is because the external finance cost is high.
2. The firms which are facing higher fixed charges pay low. This is to avoid the external finance.
3. In those firms where the management of the firm holds less equity of that firm, or the firm whose shares mostly belongs to shareholders other than the management of the company have high dividend payouts.

Market Stocks price is the value of single share of stock in the stocks market. The market share prices help the investors to decide whether or not they should invest in any specific stock. Shares are being distributed to the general public during different phases of the company's life time. Whenever a company issues its shares for the first time in its life it's named as initial public offering (IPO's) for that company. When the shares are floated for the first time by any company there would be no premium charged for that shares and they are sold on face value. After the initial public offering every time the firm will be selling its shares to general public this will be called as secondary public offering. During secondary public offering the market value of the share can vary as compared to its face value. The companies which are performing well can charge a premium above face value whereas the firms who are not performing well will be offering their shares on discounted price. The firms who are public listed, their stocks are merchandised on stock exchanges (Saleem et al., 2013a).

Every private investor has a motive of earning profit with an aim to grow at higher level of investments. But for a company that is listed at stock exchange, there are number of factors which

exist and affect the shareholders affect. Out of many factors there are various studies which suggest that the variables which mostly effect the stock prices are EPS (earning per share), share on equity, retention ratio, profit after tax(PAT) and dividend yield. Furthermore, out of all variables which are effecting the market stock prices, there is a significant effect of the dividend on the market stock prices of the firm (Majanga, 2015).

This study will investigate to find any relationship which may exists between a firm's dividend disbursement policy and market stock prices performance on Karachi Stock Exchange market. More over for the accomplishment of this purpose, this study is divided in to two main sections, the first section explains the studies/literatures already published followed by the methodology. Whereas in the last section we will discuss the results and findings came through different statistical techniques which lead us to conclusion section (Majanga, 2015).

When the investor have information about the dividend yield and dividend payout of any firm along with the financial ratios he will be in a better position to have an accurate decision regarding investment (Hooi, Albaity, & Ibrahimy, 2015a).There are some mixed results found whenever the research on corporate dividend policy is conducted anywhere in the world (Oyinlola & Ajeigbe, 2014). The corporate dividend policy is a topic which remained under discussion for over six decades and generally saying it is a measure the riskiness of a firm through its stock price volatility (Nawaz, 2011). The main purpose of this research would be to find the relationship of the stock price volatility with cash dividends over a certain period of time.

This Study will help the industrialists, investors, Government and other related authorities to know what exact relationship exists between the cash dividend disbursement, RE with the volatility in the stock price in context of Pakistani Stock Exchange market. We will see if this is the cash

dividends which are affecting the share prices in the market and thus affecting the firms value through change in the stock prices. This will help the investor in Pakistan that whether they consider the cash dividends for identifying the right firm and sector to invest in or to ignore this relationship. There are two main measurements for a corporate dividend policy, one of which is dividend yield and the other is dividend payout (Hashemijoo, Ardekani, et al., 2012)

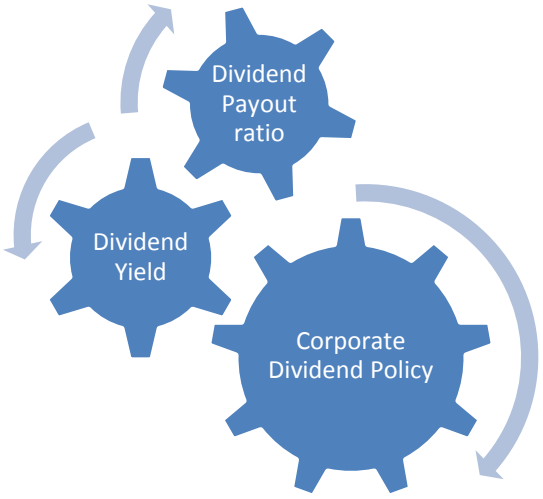


Figure 1-1- Corporate dividend policy

This is now a fact that the fluctuations caused in the paying the dividend have a major influence on the firms market stock prices (Figure 1). Whenever dividend payment is announced it causes an increase in the market stock prices of the firms whereas the announcement for decrease in the dividend disbursement causes a decrease in the market stock prices of the firms where as it is names as dividend announcement effect. The dividends which are distributed among the shareholders are part of the company's earning and are announced by company's management. The investor usually wait for the dividend to evaluate about the firm performance, their satisfaction to firms performance is associated with the dividend disbursement among the share holders, the more they get dividends the more they are satisfied towards the firm performance. The variation

in the dividend reflect the inside information of the firm about the probable future cash flows (Saleem et al., 2013a).

There was found a significantly positive relationship between the dividend announcement and the volatility in the stock price of the companies listed- banking sector of Bangladesh (Masum, 2014a). As the dividend policy is related to the earnings so it is related to the capital structure of the organization as well. When the earnings are retained than definitely they will be affecting the capital structure of the firm as well, if not distributed in the right proportion likewise in the earlier capital structure. The reason behind the close association of dividend policy and capital structure is because both will directly affect the shareholders wealth. The answers being sought by the managers today are not much different as compared to the required by the managers of the past (1950's). There were some questions which have been enlisted by Lintner (1956) which are as follows:

a. Which one would be a better option, keeping the dividend payment as it is or altering it?
b. Which would be a shareholder preference, either they want a fixed dividends each time or they would like to have dividends as per the earnings which may vary?
c. What sort of dividend policy should be adopted as whether to attract younger investor or older one?

This means that corporate dividend policy is not an issue for today only, it remained a matter of concern for over half a century. The research always tried to link the corporate dividend policy with the firm's value, but still the results are contradictions due to the reason that different markets in different countries have different policies being faced by the investors from authorities of influence, to resolve this issue as whether the announcement of dividend policy do affect the share

prices of the firm by doing so they will affect the value of the firm (Hashemijoo, Ardekani, et al., 2012).

There are two ways for determining the dividends, one is through fixed rate which is commonly called as preferred dividends or the other one is named as common dividends where there is a variable rate which is usually based on the company's latest earnings. As per companies ordinance 1984, the law impose a restriction over companies to pay dividend to the preferred stock holders. Dividends are normally paid in cash form, but company can issue share stock instead of cash dividend. Whenever there is a fluctuation in the dividend disbursement policy it leads to the change in market stock prices of the firm (Saleem et al., 2013a) .

One of the main factor which an investor focuses before investment is Dividend policy (Hooi et al., 2015a).Now it is a well-known fact that the corporate dividend policy is used as a tool for informed decisions by managers, investors, shareholders and financial consultants etc. (Oyinlola & Ajeigbe, 2014). It has been observed that those companies who pay heavy dividends have continuous flow of funds in to them. As the investor main desire is of Dividend and that's the reason they invest in high dividend paying companies. They think that in even adverse situation at least they should have dividend (Hussainey, Mgbame, & Chijoke-Mgbame, 2010).

Investors can have an effective investment decisions once they are having information regarding corporate dividend policies whose measures are dividend yield and dividend payout ratio (Hooi et al., 2015a).The discussion on corporate dividend policy gets started when a question arises, should the earnings be distributed or invested back in to the business? (Ilaboya & Aggreh, 2013a). The price change of stock or security over a period of time is called as volatility. The greater the volatility the greater the risks associated with the securities. When a stock is volatile, the stock will

not be predictable and investors like to invest in stock which have less risk associated with it (Hashemijoo, Ardekani, et al., 2012).

This research will help to find a association between the dividend and share price volatility as if there exists any relationship and if it does exists than whether its significant or not? There remain different concepts and approaches for dividend policy starting from its irrelevance by (Miller & Modigliani, 1961). Some remarkable theories also arises over a period of time starting from Pecking order theory, Agency cost theory etc. Out of all theories, signaling theory and bird in hand fallacy are the interesting one.

Past researches have shown that there are three contradictory theories about dividend payout policy of firms. The first theory claims that paying more dividend increases firms value (Dividend Policy: High Dividend policy enhances stock value-Bird in hand theory), the second theory claims that paying dividend decreases firms value (Dividend policy: Low dividend increases share value-Tax preference theory) whereas the third theory claims that dividend payout is irrelevant to firms value (Dividend irrelevance hypothesis) (Ahmad & Naz, 2015; Al-Malkawi, Rafferty, & Pillai, 2010).

A theory revealed that normally a matured and established firm pay dividend rather than retention of cash. The investment opportunities for mature firms are limited so retention of more cash can lead them to over investment. Whereas in case of firm's which are in the growing stage the retention of earnings is dominating over distribution. The empirical evidence of dividend policy of any firm defines its impact on stock prices (Ahmad & Naz, 2015).

1.2 Study Background

The riskiness of a firm is defined as the abrupt changes in the stock market which occurs because of the corporate dividend policy maintained by the managers, and this riskiness is equally important to managers as well as the investors (Nawaz, 2011).

The consistency of the crash in the stock markets remain a major concern for the financial analysts and the current as well as potential investors generally all around the world. Financial analysts relate the crash in the stock market as nonpayment of dividend which lead the investors to lose their interest in the stocks trading. As the firm's manager objective is to maximize the wealth of the shareholders and when the investor realizes that they are not getting the wealth maximization in their stocks they tend to divert their investments which give them immediate returns. Whereas on the other hand some of the researchers are of the view that dividend depicts no influence in determining the market price of the shares (Matthew, Enekwe, & Anyanwaokoro, 2014)

Extensive researches have been conducted all over the world for finding the relationship between the market stock prices and dividend payments. Recent studies have revealed that volatility in the stock occur due to dividend disbursement, volume of trade in shares and earnings etc. Now the question is which out of all these variables have the greatest affect on the market stock prices movements? This is the question which has lead to create some of the controversial theories by Miller, Walter and Gordon etc. which had ultimately lead us to two main group thoughts, one is the dividend relevance where as other is the dividend irrelevance (Matthew et al., 2014).

The discussion on the relationship of dividend and stock prices was initiated earlier by (Miller & Modigliani, 1961). Modigilani and Miller revealed that there is irrelevance of firms value to dividend policy whereas the volatility in stock is determined by earnings ability of the firm. Later on a model was developed which showed dividend as a signal of firm's management secluded

information round the firm's upcoming cash flows (Ahmad & Naz, 2015; Bhattacharya, 1979). A consistency was found with earlier researches that the stock price increases when the firm announces dividend increase and alternately the stock price of firm decreases when the dividend decreases or even decreases when the firm's management has decided to issue stock (Ahmad & Naz, 2015; Miller & Rock, 1985). There exists a significant positive association between dividend announcement and stock prices even when the control variable- SIZ of the firm is controlled (Ahmad & Naz, 2015; Nishat & Irfan, 2001).

For a company it remains an important decision to decide a suitable corporate dividend policy by that they would have a flexibility to invest in future projects which are in pipeline (Oyinlola & Ajeigbe, 2014).When we talk about the dividend policy it will mean the company policy of disbursement of dividend payment and the retained amount out of earnings for the future re investments in business. Some of the decisions which are answers to the core question of whether the earnings should be distributed or not, for the answer to this managers should consider that out of all dividend policies which dividend policy will be leading to the stockholders wealth maximization and they should not only consider for the future investment program of the firm, as by considering shareholder wealth they will be considering their effect of dividend policy on the market stock prices of the firm (Hashemijoo, Ardekani, et al., 2012).

Previously the dividend announcement was only concerned with the selection of retaining the amount for any future activity or disbursing it among the shareholders but now a days this decision is not that simple, a number of issues needs to be addressed for example how this decision will attract the future investor along with the intention to increase the firms value through increase in the share prices (Hashemijoo, Ardekani, et al., 2012).

Back in years there was a trend that the investors have moved their funds into the firms which paid higher dividends, back in the minds of the investors there was an approach that at least they will get a dividend in worst case scenario, investors are risk averse by their nature and the difference volatility in the stock prices mean to them as it's a measure that how much riskiness they are being exposed to. Volatility is the measure of variation in price of the stock over a period of time, the more the stocks are volatile the more they are un predictable for future (Hussainey, Mgbame, & Chijoke-Mgbame, 2010). Although there have been many studies on the relationship of cash dividends and share price volatility, but the results are still not concluded as a general rule. The discussion firstly started back in 1958 when Modigilani and Miller initiated the discussion saying that the stock price volatility is not related to dividend payout and only related to the firms ability to earn. This would be possible only in case where the firm managers share only the positive information about the financials which we cannot assure reported by (Bhattacharya, 1979) and (Miller & Rock, 1985)

It is to state here that dividend policy is not a matter of discussion for today only but remain a point of focus over a considerable period of time starting from Lintner (1956) and recent articles which include e.g. Kooli and L'He (2010).

It is interesting to know that there are some researches done which concluded that the firm value has no relationship with the corporate dividend policy of cash disbursement i.e. dividends (Miller & Modigliani, 1961).

1.3 Problem Statement

Investors in Pakistan usually consider the events happening all around Pakistan and international levels to determine in which firms they need to invest along with other factors. In the past the studies which contributed on the under discussion topic internationally were not able to conclude

that whether the dividend in form of cash and RE effects the market stock prices volatility or not. In Pakistan only a few studies in past have contributed towards this relationship which remain inconclusive. One of the study found a positive association between the payout ratio and share price unpredictability (Habib, Kiani, & Khan, 2012).

In Pakistan Stock Exchange Market we were unable to conclude whether there is any existence of association among corporate dividend policy (Cash dividend) and RE with stock price volatility. This is important to gauge as to amend our policies and thus attracting the investors as it is one of the tool that investors normally use to invest. After this study we will be able to identify this relationship which will resolve the problem for the investors and Government to invest in most appropriate way and amend policies respectively.

In this research the problem statement has below four parts, which are as below:-

1.3.1 The problem of defect

Presently in context of Pakistan researchers are unable to conclude as if there exists any relationship between stock price volatility with cash dividend and retained earnings.

1.3.2 Magnitude of the Problem

Due to this untapped area, many of the investors are unable to invest in the most appropriate way or in most effective and efficient way.

1.3.3 Location of the Problem

This problem exists in Pakistan Stock Exchange Limited.

1.3.4 Importance of the Problem

If we can know this relationship, the government of Pakistan can develop policies accordingly thus to promote investments in Pakistan. As most of the mature markets have significant relationships

between corporate dividend policy, retained earnings and stock price volatility. By identifying this relationship within Pakistan, we can amend our line of action accordingly.

1.4 Identification of the Research Gap

In Pakistan not much investigation has been done which has contributed to resolve the association which existed between corporate dividend policy, retained earnings and stock price volatility due to the reason that there were found mix evidences not only in Pakistan but all around the world wherever this research was conducted, this has led to the identification of research gap and an area which should not be left well addressed due to the reason that it is very important to investors as well as government and plays a pivotal part in the growth of economy of any growing country . This study will help to know the present status of relationship of corporate dividend policy, retained earnings with the share price volatility

The previous researches didn't cover the area to which we are exposed to, and as the trends of investment in Pakistan has been changed and Pakistan is one the growing economies. This topic has been covered by many of the researchers in developed countries where as not much work has been done by the researchers in the emerging economies around the world like Pakistan (Nazir, Abdullah, & Nawaz, 2011). Furthermore, Karachi Stock exchange is a high risk market where the investors want high return, there were only few studies covering the long term behavior of the stocks and a very little work has been done on dividend and stock prices (Sadiq, Ahmad, & Anjum, 2013)

1.5 Objectives of the Study

The prime objective of this study is basically to evaluate the impact of corporate dividend policy and retained earnings on market share price volatility of some of the particular companies from the Karachi Stock Exchange of Pakistan (Hasan et al., 2013).

Below are the sub objectives which are desired to be achieved through this study:

- To inspect the relationship which exists between corporate dividend policy and stock market price
- To inspect the association between retained earnings and stock market price
- To help investor and Government of Pakistan to invest in most appropriate way and to amend policy respectively to promote economic activity.
- To help companies to devise their corporate dividend policy to attract investors.

1.6 Significance of the Study

This study is designed to analyze the under discussion relation if existed or not, also this will help the Government of Pakistan to change its policy as to promote the market price volatility by decreasing the taxes on such transactions in the stock exchange to enhance the volume the volume of trading. As this relationship generally has been found positive in the developed countries which will mean that it could be measure of the economic development. This will also help the investors from all around the world to know that the market in Pakistan is stable and now they can invest in the Pakistani stock exchanges. This study will fill the gap which existed in Pakistani context and by that we may be able to conclude with the actual relationship which might exists between the variables. Investors would be in much better condition to do an optimum decision in their best interest and as a result it will boost the confidence of investors to invest in Pakistani Stock Exchange i.e. Karachi Stock Exchange. Furthermore, the decision makers of firms who are listed in Karachi Stock Exchange can optimize their decisions for attracting more and more investors towards their industry.

1.7 Organization of the Study

This study has been distributed in different parts, the segregation is stated below:-

a. Introduction and background of the study
b. Statement of Problem
c. Research Gap
d. Objectives of the Study
e. Literature Review
f. Theoretical Frame work
g. Research Methodology
h. Statistical Analysis and Results
i. Conclusion and implication
j. Future Research

Chapter 2. LITERATURE REVIEW

Commonly there are three dividend approaches which are being classified by the researchers. Firstly the dividend policy will be directly effecting the firm's value and thus increasing the firm value. Secondly the dividend policy affects the firm negatively. Third approach say that there exists no association among the dividend policy and the firm value. All these approaches are somehow studied in a certain period of time and get authenticated in different researches. All these arguments stand true in all the relevant researches (Manos, 2001). In detail this level of effect being made by cash dividends is higher on market stock prices than the effect of RE on the stock prices, where these results were unfailing with the earlier study conducted by (Gordon, 1959b).

2.1 Dividend

Dividend is a way how a company distributes its earnings to its shareholders. There are many ways for distributions of earnings e.g. in the form of bonus shares or cash. There are occasions when companies decides to pay some additional dividend other than the regular cash dividend, there are companies who pay dividend annually, semiannually or quarterly (Hooi et al., 2015a).

There are different theories associated with the dividend policy, these theories are produced over a certain period of time through different researchers, some of the prominent theories are as below:

2.1.1 Dividend Irrelevant theory

The effect of corporate dividend policy is not only essential for the corporate managers but also holds an important value for investors. In this theory there is no agency problems between shareholders and managers of the firm, also the stocks are fairly priced. Also, the shareholders/investors are least concerned for the dividend policy, as they can sell their part of equities portfolio if they need cash (Hooi et al., 2015a; Miller & Modigliani, 1961).

As dividend policy remains a controversial issue for over more than five decades and it still remained a controversial topic for many organizations. Some renowned scholars like Miller and

Modigliani concluded that under perfect marketplace conditions, dividend policy will be irrelevant and it would not be effecting the firm's value (Ajayi & Seyingbo, 2015).

2.1.2 Bird in Hand Theory

Capital gains remained uncertain as compared to the dividends, the investors have imperfect evidence related to the firm's profitability this lead them to get more attracted towards cash dividends as compared to the uncertainty of the capital gains on later stage, this theory is somehow advance (Bhattacharya, 1979; Hooi et al., 2015a).

2.1.3 Agency Cost

It happens that management often overinvest on different projects to enhance the firms size, as this firm size determines their compensation, there arises a conflict of interest among management and shareholders (Al-Malkawi et al., 2010; Hooi et al., 2015a)

2.1.4 Signaling Theory

Some investors take dividend announcement as a signal that the firm is planning some strong upcoming prospects and these payouts in form of dividend act as an indicator of this message (Al-Malkawi et al., 2010; Hooi et al., 2015a).

Dividend policy is one of the effective way to hint the market value of the financial firms in Pakistani emerging market, where earnings and price volatility have positive relationship (Nawaz, 2011). There is a negative association between the share price volatility and size of a firm, moreover the stock price volatility is most effected by the DY and size (Hashemijoo, Ardekani, et al., 2012).

A Study have shown a negative association between the market stock price volatility and dividend payout while on the other hand the relationship of market stock price volatility is slightly positive and strong with dividend yield (Al-shawawreh, 2014). The return on equity i.e. ROE and earning

per share i.e. EPS had a encouraging relationship with the stock prices where as profit after tax i.e. PAT had a negative relationship with the stock market prices when we talk about the Bangladeshi Stock market and more specifically the listed commercial banks of Bangladesh (Masum, 2014a).

It is suggested that the announcement of dividend by banks affects the market prices of shares while the RE causes less volatility affects in banks of Nigeria. Although it is further suggested that banks should retain all the earning and make use of these funds, whereas the investors should focus on the capital gains as a return of their investment rather than dividend collection (Ajayi & Seyingbo, 2015).

The firm's managers needs to decide that which dividend policy they need to opt. i.e. how much they need to distribute among the shareholders. The distribution of profits needs to be seen from two different aspects. On one side this distribution of profit in form of dividend will lead to affect the investment which the firm's management will face, on the other side the stock holders are waiting for the cash dividend disbursement. So, the managers of the firm should maintain a balance between availing investment opportunities and dividend payout. (Irandoost, Hassanzadeh, & Salteh, 2013; Mehrani & Talaneh, 1998)

The debate remains for many past years to know the relationship which may existed between market share price volatility with dividend policy of a firm. Some of the factors which influence the dividend policy are long term debt, ASGr and size are used as control variables (Hooi et al., 2015a).There are mix evidences about this relationship if exists or not. Many of the scholars are of the view that there is do exists a relationship between the corporate dividend policy and market share price volatility while others say no. As of the signaling theory the dividend is a sort of sign

to the stockholders that the company is working so effectively that they are distributing the earnings among the shareholders (Hashemijoo, Ardekani, et al., 2012).

The level of volatility of the shares is measure of the risk the investor is exposed to. Investors have a keen eye on the dividends and the volatility too, even companies know that. This all makes share price volatility important issue (Hussainey, Mgbame, & Chijoke-Mgbame, 2010)

Dividend policy is equally important and considered by investors, firm's management and the policy makers. Investors are not only concerning for the return on stocks but are also evaluating at the same time the firm's future growth through dividend policy. The critical decision for the announcement of dividend and the time of that announcement needs to be decided by the firm's managers. The new opportunities to be availed by management are judged by their capacity to pay dividends. If the dividend payout ratio would be high than a very little would be left to invest for future projects. Dividend is not only a profit for investors but also a signal to the market for the firm's performance. That's the reason, the policy makers for any organization has a critical responsibility to decide a suitable dividend policy of the firm (Ahmad & Naz, 2015).

It is observed that in accordance to the literature there exists a negative relationship between the market price volatility with dividend yield and size where as contrary to the literature there exists a negative relationship with the leverage and growth (K. A. Profilet & Bacon, 2013). There is another side of the picture i.e. retained earnings; Harkavy (1953) when investigated the relationship between the retained earnings and the stock prices, the results were quite surprising which shows that the firms which have higher retained earnings have high stock prices as well. When we move further Litzenberger and Ramaswamy (1979) they investigated the relationship between stock prices, dividend yield and taxes. The results have shown that there is a significant

and highly positive relationship between dividend yield and stock prices, the results were same as of (Hancock, 1977).

Dividend payout and dividend yield were having significantly negative relationship with share price volatility (Hooi et al., 2015a). There were some mixed finding of the research work in which dividend yield showed a significantly positive relationship where as the dividend payout ratio showed a significantly negative relationship with share price volatility (Ilaboya & Aggreh, 2013a).

It was concluded that the stock prices and dividend yield have positive relationship (Litzenberger & Ramaswamy, 1982a). The Jordanian firms were analyzed to know the relationship of cash dividends, stock prices and retained earnings. The results have shown a positive relationship between the stock prices and cash dividends, retained earnings (Naamon, 1989). In detail the level of effect of cash dividend is higher on stock prices than the effect of retained earnings on the stock prices, these results were consistent with the earlier study conducted by (Gordon, 1959a), (Friend & Puckett, 1964).

A research was conducted to know the relationship along with the comparison of effect of retained earnings and cash dividends on stock prices of the firm. The results have shown that the cash dividends effect the stock prices more as compared to the retained earnings (Nishat, 1992). The results were consistent with some of the earlier studies to Naamon (1989) and MacDonald and Power (1995) because the cash dividends and the retained earnings both are effecting the stock prices whereas the results are also consistent with Gordon (1959a), Friend and Puckett (1964) and Naamon (1989) as the effect level of cash dividends on the stock prices is higher.

Dividend policy and Dividend yield- the elements of the corporate dividend policy were found to be significantly negatively related with the share price volatility (Hooi et al., 2015a).The increase

in dividends causes a positive change in the stock prices, it was therefore concluded that the stock prices variation is largely based on the future variation in dividends (Dhillon & Johnson, 1994). The results of this study are consistent with an earlier study of (Kothari & Shanken, 1992).

The assumption is raised by the researchers that the continuous dividend payment prepare managers to work more effectively and to run the organization more effectively as they have to cover the cost of capital associated with organization in form of dividends (Rozeff., 1982).

When taking a sample size of fifty six of one of the large firms from the stock exchange of London for a considerable amount of period (1968-1996) to see the relationship in long run it was concluded that the results have shown that the relationship of stock prices and cash dividends is significantly positive (Marsh & Power, 1999). The results were consistent to Hancock (1977); Litzenberger and Ramaswamy (1979) ; Blume (1980) and Litzenberger and Ramaswamy (1982b) while inconsistent with Gordon (1959a) ; Ben-Zion and Shalit (1975) and Keim (1985).

Pradhan (2003) conducted a research to know the relationship of dividends and retained earnings with stock prices in context of Nepal. The results were consistent with Gordon (1959a), Friend and Puckett (1964); Naamon (1989) and Nishat (1992) while contradicts with Harkavy (1953).

The determinants of the stock market price of any firm are the dividends and the retained earnings (Azhagaiah & Sabari, 2008). The earlier studies were consistent to it like of Friend and Puckett (1964); Naamon (1989); Nishat (1992) and (Pradhan, 2003) while contradicts (Harkavy, 1953).

There was another aspect of the effect on stock prices i.e. when cash dividends are announced. The results when interpreted have shown that the impact was positive. And these results were consistent with Pettit (1972), Hancock (1977).

A research conducted on Dhaka Stock Exchange was conducted from 2000 to 2006 where a sample of 96 firms was picked by Khan (2009) The results of this study have also shown that the cash dividends and retained earnings both affect the stock prices positively. It is important to note that the effect of cash dividends is more appropriate and significant as compared to the effect of retained earnings on stock prices. These results were also consistent with Gordon (1959a), Friend and Puckett (1964) and Naamon (1989) while in contradiction with Harkavy (1953).

The study confirms that there are some factors other than dividend payout which are responsible for the movement of market stock price of the firm's (Matthew et al., 2014)

It was suggested that share price of the firm is being determined by dividend and retained earnings. Moreover, the dividend payout theory is more stronger in case of mature firms as compared with the retained earnings while in the case of the firms which are at the growing stage the retained earnings hypothesis dominated over the divided hypothesis reason being they have more investment opportunities. It has been observed that more cash is retained by the growing firms as compared to distribution of dividend. For growing firms bird in hand theory is not applicable as they are in the growth stage. Where as the firms which are already grown up and mature, they have surplus cash available with them to distribute as dividend after retaining some of the portion of income. But the bird in hand theory is truly applicable for mature firms where dividend hypothesis is dominating over retained earnings (Ahmad & Naz, 2015).

Below are the details of the Authors and variables used by them along with the results in form of conclusions of the studies conducted which shows mix evidences.

Table 2-1 Relationship of different Variables

Relationship of different variables with Market Stock prices		
Author	Variable	Conclusion
Masum (2014a)	Dividend Yield, Retention Ratio, Earnings Per share, Return on Equity, Profit after tax	There was found a significant negative relationship of Dividend yield, Retention ratio and Profit after tax with Stock Prices. Whereas there was found a positive relationship of Profit after tax with Stock market prices.
Nawaz (2011)	Dividend Yield, Dividend payout ratio, Earnings Volatility, Assets Growth, Total Debt, Size	There was found a negative relationship of Dividend Yield and Dividend payout ratio with market stock price volatility. Whereas there was found appositive relationship of earnings volatility with stock market prices.
Hashemijoo, Ardekani, et al. (2012)	Dividend Yield, Dividend payout ratio, Earnings Volatility	There was found a negative relationship of Dividend yield and Dividend payout ratio with Market stock price volatility
(Al-shawawreh (2014))	Dividend Yield, Dividend Payout ratio, Size, Stock Repurchase	There was found a negative relationship of Dividend payout and Market stock prices of the firm. Whereas a weak positive relationship was found between dividend yield and Market stock price volatility. Moreover, the size was found with weak positive relationship. Stock repurchase has insignificant relationship.
Oyinlola and Ajeigbe (2014)	Dividend per share, Retained earnings per share	There was found a positive relationship between the dividend per share and Market stock price. There was also found a strong relationship between the retained earnings and Stock market price of the shares.
K. A. Profilet and Bacon (2013)	Dividend Yield, Payout ratio, Size, Leverage, Growth	There was found a negative relationship of Dividend yield, Payout ratio and size with Stock market price volatility. Whereas there was found a positive relationship of Leverage and growth with Stock market price volatility.
Ilaboya and Aggreh (2013a)	Dividend Yield, Dividend Payout ratio, Debt of the firm, Firm Size, Earnings Volatility, Assets Growth	There was found a positive relationship of Dividend Yield, Debt of the firm with market stock price volatility. Whereas there was found a negative relationship of Firm size, Earnings Volatility with market stock price volatility.
WasfiAlTroudi and Maysa'aMilhem (2013)	Dividend Per share, Retained Earnings Per share, Earning per share, Leverage	There was a positive relationship of cash dividends, Earnings per share, Financial Leverage, Retained earning with market stock prices.
Hooi et al. (2015a)	Dividend Yield, Dividend Payout ratio, Size,	There was found a negative relationship of Dividend yield and Dividend payout ratio with market stock price volatility. There was found a positive

	Earnings Volatility, Debt, Growth,	relationship of earnings volatility and long term debt with market stock price volatility.
Ramadan (2013)	Dividend Yield, Dividend payout ratio, Size and Growth	The market share price volatility has negative relationship with Dividend yield and Dividend payout ratio.
Majanga (2015)	Dividend per share, Retention ratio, Earnings per share, Return on Equity, Profit after tax.	There was found a positive relationship between dividend and market stock price.
Ajayi and Seyingbo (2015)	Dividend payout ratio, Retained earnings, Earnings per share, Firm Size, Earnings Volatility	Dividend causes more volatility in the market stock price where as the retained earnings causes less volatility in the market stock prices. Moreover the size and earnings per share also causes volatility in the market share prices.
Hasan et al. (2013)	Dividend per share, Retained earnings per share,	There exists a positive relationship of Dividend per share, Retained Earnings per share with Market Stock prices.
Ahmad and Naz (2015)	Dividend Per share, Retained Earning Per Share, Price Earning Multiple	Dividends and retained earnings both have impact on market stock price volatility. The mature firms are more inclined towards dividend hypothesis whereas those firms which are at the growing stage retain the earnings for future investments.
S.A.K et al. (2016)	Dividend Per Share, Dividend Payout, Earning Per Share, Net Income, Retained earnings, Cash and Cash Equivalents, Debt to Equity Ratio	Best measure of Dividend policy is Dividend per share. Moreover the cash and cash equivalents along with Debt to equity does not contribute for determining dividend policy of the firm.
Irandoost et al. (2013)	Earnings per share, Dividend Per share, Dividend Policy(DPS/EPS), Firm Size, Firm Growth, Financial Leverage	Dividend policy has a significant and direct effect on Stock price volatility
Saleem et al. (2013a)	Dividend payout ratio, Dividend Yield, Price earning Ratio, Earning Per share, Dividend Cover,	There is found a positive relationship between dividend announcement and share price volatility.
Sadiq, Ahmad, and Anjum (2013)	Dividend payout ratio, Dividend Yield,	There exists a negative but not statistically significant relationship between share price volatility and

	Earnings Volatility, Firm Size, Growth in Assets, Earnings per Share	Dividend yield. Also there exists a statistically insignificant relationship between firm's size and stock price volatility. On the other hand there exists a positive and statistically significant between growth of firm and stock price volatility. For earning per share there exists a negative relationship with stock price volatility. Whereas no relationship exists between earnings volatility and stock price volatility.
Hussainey, Mgbame, and Chijoke-Mgbame (2010)	Dividend Yield, Dividend payout, Size, Earnings volatility, Long term Debt, Growth in Assets	There exists a negative relationship of dividend payout, dividend yield and Size with stock price volatility. Whereas the debt has a positive relationship with stock price volatility.
Habib et al. (2012)	Dividend Yield, Dividend Payout, Size, Earnings Volatility, Long Term Debt, Growth	There was found a positive relationship between payout ratio and stock price volatility whereas the debt and size of the firm are negatively related to stock price volatility.

Over a period of time different studies contributed over the dividend policy by a number of scholars. It has been found that there is a significant correlation exists between stock price volatility and dividend yield (Asghar, Shah, Hamid, & Suleman, 2011). It is evident that dividend policy has a positive relationship with stock prices (Murhadi, 2008). Those firms who are paying dividend give their investor a benefit of having a more liquid able stocks as compared to the firms who don't pay dividends, so the liquidity of stock is positively related to the firm to be a dividend payer (Igan, Paula, & Pinheiro, 2010).

The firms who are larger in size and having low growth opportunities have a potential to pay dividends to the shareholders, although a significant decline over the years have been observed in payout rations of the firms (Fatemi & Bildik, 2012).

A research has been conducted in Nigeria which has revealed a positive relationship between the firms performance and dividend payouts (Uwuigbe, Jafaru, & Ajayi, 2012). It is further concluded that firms improved firms performance is depicted by dividend yield (Henne, Ostrowski, &

Reichling, 2007). Out of all theories which came over for dividend policies, the bird in hand theory got the highest level of acceptance (Naser, Nuseibeh, & Rashed, 2013). Since 1978 mids, In America the analysis have shown that the share prices have declined in the stock market on announcements of dividends payouts (Amihud & Li, 2002). Somehow when empirical analysis has been conducted there was found a negative relationship between the measures of the dividend policy that are dividend yield and dividend payout with share price volatility (Hashemijoo, Mahdavi-Ardekani, & Younesi, 2012). There was found a significantly positive relationship between the EPS, RE, Cash dividends with stock prices which is consistent with the previous studies (Asem & Tian, 2010).

Chapter 3. THEORETICAL FRAME WORK

In this section of the study, the literature has been reexamined which has lead to development of hypothesis. This frame work has focused this study to find the solution of the research problem.

3.1 Hypothesis Development

It is now a fact that dividend policy basically decides that how much firm is going to retain with her and how much the firm is going to distribute. Likewise, it is the discretion of the directors that they need to decide as how much they want to retain and how much they need to distribute among the shareholders based upon their shareholdings (I.M., 2011).

The pricing of the stocks on the stock exchange market is based on the principle of demand and supply, when the demand for the stocks is increased the price may increase and when the demand for the stocks is decreased the stock prices may decrease. When the stocks are hold by the existing stock holders expecting a future return the stock prices will increase for both the existing and potential stockholders because the investors are mostly concerned with the return they will be getting from the stocks they had in the form of dividends (Barfield, 1995).

Many factors do affect the stock prices, a study conducted on the firms of Bahrain stock market it was revealed that a number of factors are affecting the stock price movements some of which includes ROE, price earnings, dividend yield, per share dividend distributed and firm's size. Out of all these factors which were identified affecting the stock prices, dividend is considered as one of the prominent factor. This study concluded that out of all factors dividend cannot be ruled out as a determinant of stock prices in Bahrain Stock market (Sharif, Purohit, & Pillai, 2015).

On another analysis on the NSE, it was concluded that the stock price movements occur due to the reaction of the investors on the dividend announcements by the firms and the investors sentiments are significantly related to the stock price movements. Therefore the holders of the stocks are the

most influencer of the stock prices in the stock exchange market (Julius, Andrew, Joel, & Lucy, 2011). A similar sort of study was conducted on the stock exchange of Germany where it was found that an increased dividend announcement the stock holders get excited and this causes the movement in the stock prices (Andres, Betzer, Bongard, Haesner, & Thiessen, 2011).

The matter to know the effect of dividend announcement policy on the stock price volatility is under discussion for many years Gordon (1959a) and Baskin (1989). It was found that investors are of the view that the future income as a capital gain is ambiguous, therefore the investors are more interested to get dividends rather than capital gains. So the results have shown that investors do appreciate dividends (Al-Malkawi, 2007). Another research was conducted to know the relationship of dividend policy and volatility of stock prices by taking the firms for analysis from Pakistani Karachi stock exchange market, the results found that there exists a close relationship between dividend policy and stock price volatility, furthermore the results shows that dividend yield is having a positive where as dividend payout ratio is having a negative relationship with the stock price volatility (Habib et al., 2012)

A study was also conducted in Malaysia whose results have shown us that the stock price volatility is having negative relationship with two proxies of dividend policy whereas the dividend yield and size of the firm significantly affecting the stock price volatility (Hashemijoo, Mahdavi-Ardekani, et al., 2012). In addition to that a study was conducted in Nigeria to know the relationship or impact of dividend policy of a firm on stock price volatility. There was found a negative relationship between dividend yield and price volatility of stocks (Okafor & Mgbame, 2011).

A research was conducted to differentiate between effects of retained earnings and dividends on market prices of stock. The results have shown that dividends have greater effect on the stock

prices as compared to the retained earnings (Friend & Puckett, 1964). Further a research was conducted to know that what relationship does exists between stock prices, taxes and dividend yield, the result of this study have shown us that there is a highly significant and positive relationship between stock prices and dividend yield (Litzenberger & Ramaswamy, 1979). A similar research was conducted to know the relationship of cash dividends and earnings that are nor distributed that is retained earnings and the results have shown that market stock prices do are affected by the cash dividends and retained earnings and this result was consistent with the previous studies (Nishat, 1992) (Naamon, 1989).

An investigation was done to know the effect of change in dividends on the market stock prices of which the results have shown that whenever a large amount of dividend is announced the response or the movement of the stock prices is positive (Dhillon & Johnson, 1994). A relationship among the retained earnings, market stock prices and dividend was found (MacDonald & Power, 1995).

Another research was conducted in Nepal in which the results have informed that market stock prices were determined by the cash dividend disbursements and retained earnings (Azhagaiah & Sabari, 2008). The impact of cash dividends announcements on market stock prices was evaluated and the results have shown a positive relationship (Chen, Liu, & Huang, 2009).

3.1.1 Hypothesis 1

There is a significant positive relationship between the stock market share price volatility and Corporate Dividend policy (cash disbursement)

3.1.2 Hypothesis 2

There is a significant positive relationship between the stock market share price volatility and Retained Earnings

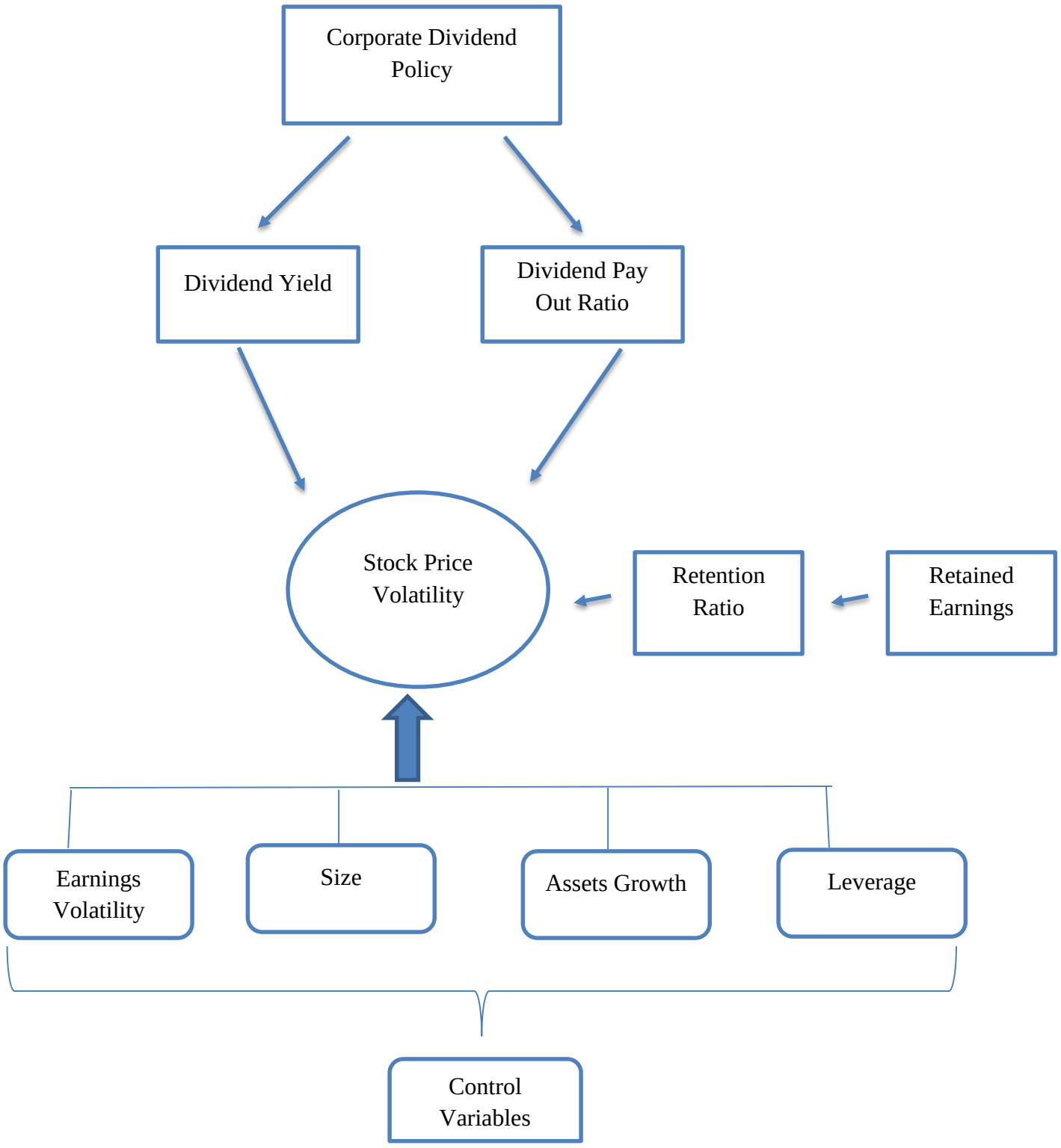
3.2 Conceptual Frame work

A very few studies have been conducted to find the relationship of Market Stock price volatility with Corporate dividend policy and retained earnings in context of Pakistan, KSE (Karachi Stock Exchange) is considered as a high risk with a high return market where a few research has been done to know the relationship between dividend and stock prices. A positive relationship was found between market stock price volatility with SIZ and ASGr of the firm where a negative relationship with dividend yield (Sadiq, Ahmad, & Anjum, 2013). DY and DPR are considered as the proxies for the corporate dividend policy with results showing that dividend policy has a great impact on setting the share prices of companies listed in Karachi Stock Exchange (emerging markets like Pakistan) (Nazir et al., 2011).

The risk of the stocks is associated with the change in prices of the stock means volatility, the greater the volatility the greater the risk associated with particular stock. When the stock price of any firm is volatile it is more problematic to forecast the next stock price of that firm. So, this remain a topic of discussion over many years that whether there existed any relationship between dividend policy and share price volatility (K. A. Profilet, Bacon, Frank W., 2013).

Corporate Dividend Policy and its impact on Stock Price

Figure 3-1- Theoratical Model



In the above Figure-2, DY and DPR are introduced as proxies for this corporate dividend policy which are concluded on the basis of past researches. Whereas, retention ratio is introduced as proxy for retained earnings. Size, Earnings Volatility, Assets Growth and Leverage are introduced as control variables. The measurements of the above mentioned variables will be discussed in detail later on in this study.

Chapter 4. METHODOLOGY

In my study non-financial sectors of Pakistan for a period of 8 years (2008 to 2015) for 50 companies have been collected whereas in earlier studies it is normally of five years. The impact of dividend policy is analyzed through panel data methodology where it has helped us to assume that our data is heterogeneous as having more information in it and more efficient for the desired purpose of research (Masum, 2014a). The data was collected from Karachi Stock exchange website as well as companies own website. We have used SPSS, Eviews and Microsoft Office for the purpose of analyzing the data where we have run Regression Model after randomly collecting the data. Proxy of dividend yield and dividend payout ratio has been used to measure corporate dividend policy. The data normality is duly checked whose results will be discussed in the later section of Results. The research strategy is proposed to Quantitative analysis.

4.1 Research Design

In this study quantitative data has been used to discover the relationship of Market Stock Price Volatility with Corporate dividend policy and retained earnings. This part comprises of information regarding how the data is collected, model development, testing the model with the modern tools and techniques including SPSS, EViews and Microsoft Office.

4.2 Diagnostic Tests

Before the start of conduction of regression analysis we have conducted a diagnostic test i.e. OLS assumptions which are named as Multicollinarity, Auto correlation, Normality (Ilaboya & Aggreh, 2013a).

4.3 Sample and Data Collection

Quantitative method and explanatory research design has been used on secondary data extracted from Karachi Stock exchange, to know the relationship between the stock price volatility, retained earnings and the corporate dividend policy of a firm. Deductive approach has enables us to start from problem statement and conclude to the solution of problem.

Below is the selection criteria:-

a. Firms registered in Karachi Stock Exchange Market:

   The firms selected are from Karachi Stock Exchange market

b. Non-Financial Firms

   The firms selected were Non-Financial firms, none of the firm selected is belongs to Financial category of business.

c. Continuous Enlistment

   The firm is continuously enlisted in the Karachi stock exchange market from a tenure of 2008 to 2015.

d. Disclosures of Financial statements

   Disclosure of financial statement during a tenure of 2008 to 2015 is a must to be a part of final sample.

Below table indicates the finally sampled firms and the categories they belong to:

Table 4-1 Categories of Companies selected

Category	Number of Firms in total inclusive of firms whose data was missing of any year under this study	Number of Firms of whose data actually used
Automobile	15	10
Chemicals	16	7
Energy	8	8
Fertilizers	6	4
Pharmaceuticals	9	6
Textile	21	15
Total	75	50

In first stage a data of 75 companies was collected where after scrutiny and considering the fact that we require 8 year data of each company therefore we excluded 25 firms from this research being data not available for all the years i.e. 2008-2015.

4.3.1 Data Analysis

SPSS, Eviews and Microsoft excel have been used for analyzing and processing the results. All the applicable tests have been performed for data analysis (Hasan et al., 2013).

4.3.2 Sample

A sample size of 50 listed companies has been taken from different sectors to generalize the results. The sectors includes Automobile, Chemicals, Energy, Fertilizers, Pharmaceuticals, Textile Composite and Textile Spinning.

Furthermore only those companies have been selected whose data is easily available, newly registered and delisted firms had not been selected for the analysis (Nawaz, 2011).

4.4 Data Collection

Data has been collected for year 2008-2015 (8 years data). The data has been collected from the Karachi Stock Exchange and the websites of different companies. Whereas secondary data as a part of financial statements of the firms is used to extract the necessary information (Oyinlola & Ajeigbe, 2014).

4.5 Analytical procedure / Method of Analysis

Eviews, Microsoft Excel and SPSS has been used to analyze the data critically. Similar tools have been used in earlier studies as well.

4.6 Definition of Variables

In the light of literature review, in my study stock price volatility is dependent variable whereas Dividend Yield, dividend payout ratio and retained earnings are independent variable and leverage, asset growth, size and earnings volatility are introduced as control variables (Nazir et al., 2011),

Below are the definitions of the above mentioned variables.

4.6.1 Share Price Volatility

The stock price volatility is considered as the dependent variable which is dependent on the other factors for its performance. Stock price volatility basically measures the responsiveness in form of change of prices of stocks and this change in price shows the risk associated with that particular

stock. It has been calculated for the stocks by calculating the difference of highest and the least stock prices during the year and than dividing by their average and in the end taking square of it (Nazir et al., 2011), (K. A. Profilet, Bacon, Frank W., 2013), (Ajayi & Seyingbo, 2015), (Sadiq, Ahmad, Anjum, et al., 2013), (Hussainey, Mgbame, & Chijoke-Mgbame, 2010), (Habib et al., 2012)

4.6.2 Dividend Yield

Dividend yield is defined as the dividend distributed by the company in the form of cash to the stock holders in relation to the average market stock prices of the firm (Masum, 2014a), (Nawaz, 2011), (K. A. Profilet, Bacon, Frank W., 2013), (Ajayi & Seyingbo, 2015), (Saleem et al., 2013b), (Sadiq, Ahmad, Anjum, et al., 2013), (Hussainey, Mgbame, & Chijoke-Mgbame, 2010) (Habib et al., 2012). It can be elaborated with the help of below equation which is simply showing the return share holders are getting out of their investment (Al-shawawreh, 2014):-

Equation 4-1-Dividend Yield

$$DY_{it} = div_{it}/MP_{it}$$

Here DY_{it} represents dividend yield for cross sectional firm i^{th} during the time period t. Whereas div_{it} is representing the dividend per share for i^{th} firm during time period t. On the other hand MP_{it} is representing the market price per share for i^{th} firm during time period t.

4.6.3 Dividend Payout Ratio

Payout ratio will be calculated by dividing the total cash dividend by the total earning of every stock (Nazir et al., 2011), (K. A. Profilet, Bacon, Frank W., 2013), (Ajayi & Seyingbo, 2015), (Saleem et al., 2013b), (Sadiq, Ahmad, Anjum, et al., 2013), (Hussainey, Mgbame, & Chijoke-

Mgbame, 2010), (Habib et al., 2012). We need to calculate the payout ratio of each company individually reason being the cumulative effect can cause extreme values in individual years thus lowering the net income. It is basically the amount from earnings which is distributed among the share holders in the form of dividends (Al-shawawreh, 2014) and (Al-shawawreh, 2014). It can be elaborated with the help of below equation:-

Equation 4-2-Dividend Payout ratio

$$DP_{it} = Div_{it}/EPS_{it}$$

In this equation DP_{it} is representing the dividend payout ratio for the i^{th} cross sectional firm during the time period t. On the other hand of the equation div_{it} is representing the dividend per share of a firm for i^{th} cross sectional firm during the time period t.

4.6.4 Retention Ratio

Retention ratio as a proxy of retained earnings has been used where it is calculated by deducting total dividends from total earnings and than dividing the resultant value with the Earnings (Masum, 2014a) (Majanga, 2015).

4.6.5 Leverage

It is ratio of the long term debts (those debts which are due after one year only) to the total assets of the firm, it can also affect the stock price volatility (Nawaz, 2011), (K. A. Profilet, Bacon, Frank W., 2013), (Irandoost et al., 2013) , (Hussainey, Mgbame, & Chijoke-Mgbame, 2010), (Habib et al., 2012)

4.6.6 Asset Growth

Asset Growth is also introduced as a control variable. It is being calculated by taking the difference of closing and opening values of assets of the year and the resultant value is than divided by the

last year's total assets (Nazir et al., 2011), (K. A. Profilet, Bacon, Frank W., 2013), (Irandoost et al., 2013), (Sadiq, Ahmad, Anjum, et al., 2013), (Hussainey, Mgbame, & Chijoke-Mgbame, 2010), (Habib et al., 2012)

4.6.7 Size

Companies which are bigger in size are more diversified with respect to their risk whereas the firms which are smaller in size are more exposed to the risk because of the volatility and less liquidity of their stock, the size calculated as the natural logarithm of average market value of the common stock, size is a calculated by multiplying the number of shares in the market with number of shares issued and than taking base 10 logarithm (Nawaz, 2011), (Ajayi & Seyingbo, 2015), (Irandoost et al., 2013), (Hussainey, Mgbame, & Chijoke-Mgbame, 2010), (Habib et al., 2012) and (Al-shawawreh, 2014).

4.6.8 Earnings Volatility

Earnings volatility is introduced for a special purpose of limiting the effect of any change in the earnings on stock price volatility. Earnings Volatility is represented by "Evol" and it is being calculated in the study by taking the moving standard deviation of net earnings of the companies. Earnings Volatility is a control variable in the study (Nazir et al., 2011), (Ajayi & Seyingbo, 2015), (Hussainey, Mgbame, & Chijoke-Mgbame, 2010), (Habib et al., 2012).

4.7 Models

4.7.1 Model-1

The model we used is similar to the earlier researches where the dependent variable is share price volatility (Pvol) and dividend yield (DY) and Dividend payout ratio (DPR) is independent variables (Nawaz, 2011) and (Al-shawawreh, 2014). Dividend Yield (DY) and Dividend Payout ratio (DPR) are proxies of corporate dividend policy whereas Size, Leverage, Assets Growth and Earnings Volatility are introduced as controlled variables (Hashemijoo, Mahdavi-Ardekani, et al.,

2012), (K. A. Profilet, Bacon, Frank W., 2013), (Ilaboya & Aggreh, 2013b) (Masum, 2014b), (Hooi, Albaity, & Ibrahimy, 2015b) and (Ajayi & Seyingbo, 2015).

Equation 4-3-Model One

$$Pvol = \propto + \beta_1 DY_{it} + \beta_2 DPR_{it} + \beta_3 Size_{it} + \beta_4 Lev_{it} + \beta_5 Asset\ Growth_{it} + \beta_6 Evol_{it} + \epsilon$$

4.7.2 Model-2

In the second model, some of the additional variables are added as control variables (Al-shawawreh, 2014), (K. A. Profilet & Bacon, 2013) and (Ilaboya & Aggreh, 2013a). In the second model in this research retained earnings relationship with stock price volatility is analyzed where Retention ratio is introduced as proxy of retained earnings whereas Size, Leverage, Assets Growth and Earnings Volatility are introduced as control variables (Ajayi & Seyingbo, 2015), (Soondur. S.A.K, 2016),

Equation 4-4-Model Two

$$Pvol = \propto + \beta_1 RETRAT + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Asset\ Growth_{it} + \beta_5 Evol_{it} + \epsilon$$

Chapter 5. RESULTS AND DISCUSSION

5.1 Data Normality

In this study, the data normality test was performed to analyze the data if it is normal and the results shows that the data was completely normal.

Table 5-1- Normality Test

Statistics									
		SPV	DY	DPR	LEV	ASGr	SIZ	RETRAT	EARVOL
N	Valid	400	400	400	400	400	400	400	400
	Missing	5	5	5	5	5	5	5	5
Skewness		.371	1.380	.565	-.158	.142	-.223	-1.499	-1.446
Std. Error of Skewness		.122	.122	.122	.122	.122	.122	.122	.122
Kurtosis		-1.040	1.034	-.292	-.675	.004	-.562	1.776	1.023
Std. Error of Kurtosis		.243	.243	.243	.243	.243	.243	.243	.243

As per above results, all the skewness values are under +1.96 and -1.96 which shows that data is normally distributed. Furthermore, Kurtosis values are in between +2 and -2 which is also an indication of data normality.

5.1.1 Multicollinearity

To avoid the issues of multicollinearity, the data was duly checked and verified, there was found no issue of multicollinearity and the results were found satisfactory.

5.1.1.1 First Model Multi Collinarity

Table 5-2-First Model Multicollinearity

Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	DY	0.697	1.435
	DPR	0.718	1.393
	LEV	0.86	1.163
	ASGr	0.965	1.036
	SIZ	0.782	1.279
	EARVOL	0.96	1.041
a. Dependent Variable: SPV			
Variables Entered/Removed[a]			
Model	Variables Entered	Variables Removed	Method
1	EARVOL, DPR, LEV, ASGr, SIZ, DY[b]	.	Enter
a. Dependent Variable: SPV			
b. All requested variables entered.			

Collinearity Diagnostics[a]										
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions						
				(Constant)	DY	DPR	LEV	ASGr	SIZ	EARVOL
1	1	5.081	1	0	0.01	0.01	0	0.01	0	0
	2	0.848	2.447	0	0.04	0.01	0	0.84	0	0
	3	0.574	2.975	0	0.49	0.01	0.03	0.11	0	0.01
	4	0.22	4.808	0	0.03	0.02	0.39	0	0.2	0.02
	5	0.172	5.427	0	0.41	0.91	0.05	0.03	0.01	0.01
	6	0.077	8.132	0	0.01	0	0.17	0.01	0.54	0.58
	7	0.028	13.492	0.99	0.01	0.04	0.35	0	0.25	0.38
a. Dependent Variable: SPV										

The collinearity diagnostic was run through SPSS for the first model where it has been observed that all the VIF values are under 10 as can be seen in the collinearity statistics. The condition index are showing values under 15 which is another sign of normality that there is no possibility of even possible problem of collinearity. Most of the Eigen values are away from zero which is another indication of normality of data. All our variables don't have any problem of collinarity which assures that results will be reliable.

5.1.1.2 Second Model multicollinearity

Similar test likewise in the first model was run for the second model and the results were found satisfactory where no issue of multicollinearity was found.

Table 5-3 Second Model Multicollinearity

Variables Entered/Removed[a]			
Model	Variables Entered	Variables Removed	Method
1	EARVOL, ASGr, RETRAT, LEV, SIZ[b]	.	Enter
a. Dependent Variable: SPV			
b. All requested variables entered.			
Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	RETRAT	0.888	1.127
	LEV	0.861	1.161
	ASGr	0.972	1.029
	SIZ	0.754	1.327
	EARVOL	0.961	1.041
a. Dependent Variable: SPV			

Collinearity Diagnostics[a]									
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	RETRAT	LEV	ASGr	SIZ	EARVOL
1	1	4.616	1	0	0.01	0.01	0.01	0	0
	2	0.8	2.402	0	0	0	0.97	0	0
	3	0.296	3.947	0	0.37	0.05	0	0.14	0.01
	4	0.189	4.944	0	0.38	0.55	0	0.03	0
	5	0.074	7.88	0	0.06	0.08	0.01	0.44	0.71
	6	0.024	13.781	1	0.18	0.32	0.01	0.39	0.27
a. Dependent Variable: SPV									

The collinearity diagnostic was run through SPSS for the first model where it has been observed that all the VIF values are under 10 as can be seen in the collinearity statistics like retention ratio with value of 1.127, even they have crossed a value of 2. The condition index are showing values under 15 which is another sign of normality that there is no possibility of even possible problem of collinearity. Most of the Eigen values are away from zero which is another indication of normality of data. My data for both the models is normal and ready to use for statistical analysis for analyzing the data to know this important relationship between the dividend policy, retained earnings and market stock price volatility.

5.1.2 Pearsons Correlation

The test of pearsons correlation was run and results were found satisfactory.

Table 5-4- Pearasons Correlation

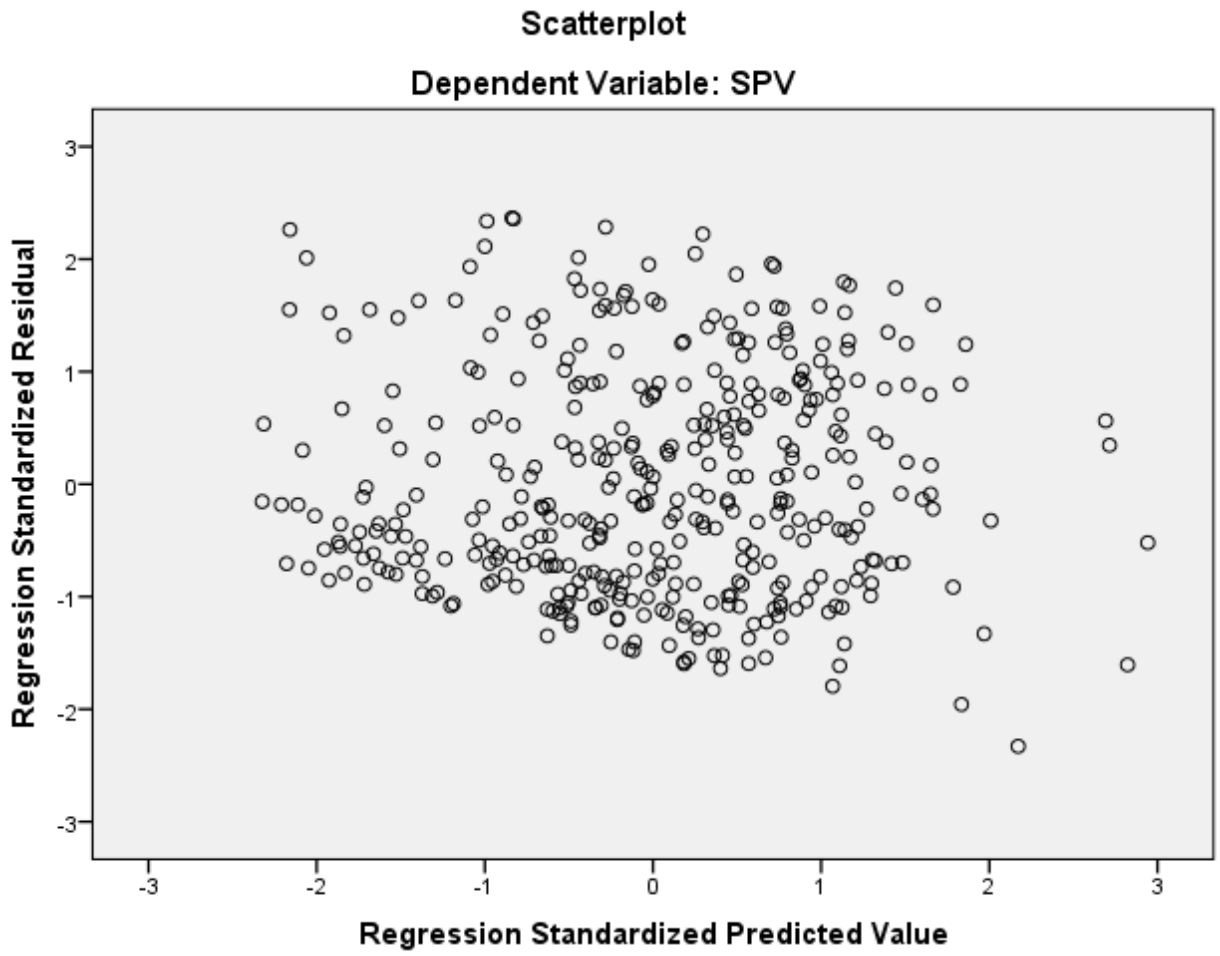
Correlations									
		SPV	DY	DPR	LEV	ASGr	SIZ	RETRAT	EARVOL
SPV	Pearson Correlation	1	-.232**	-.209**	-0.063	0.017	-.184**	.190**	.145**
	Sig. (2-tailed)		0	0	0.207	0.741	0	0	0.004
	N	400	400	400	400	400	400	400	400
DY	Pearson Correlation	-.232**	1	.520**	-0.081	-0.006	.256**	-.680**	0.042
	Sig. (2-tailed)	0		0	0.105	0.905	0	0	0.399
	N	400	400	400	400	400	400	400	400
DPR	Pearson Correlation	-.209**	.520**	1	-0.031	0.09	.157**	-.731**	0.005
	Sig. (2-tailed)	0	0		0.535	0.074	0.002	0	0.924
	N	400	400	400	400	400	400	400	400
LEV	Pearson Correlation	-0.063	-0.081	-0.031	1	-0.082	-.355**	.127*	-0.08
	Sig. (2-tailed)	0.207	0.105	0.535		0.101	0	0.011	0.112
	N	400	400	400	400	400	400	400	400
ASGr	Pearson Correlation	0.017	-0.006	0.09	-0.082	1	-0.085	-0.049	-0.02
	Sig. (2-tailed)	0.741	0.905	0.074	0.101		0.091	0.332	0.695
	N	400	400	400	400	400	400	400	400
SIZ	Pearson Correlation	-.184**	.256**	.157**	-.355**	-0.085	1	-.326**	.197**

	Sig. (2-tailed)	0	0	0.002	0	0.091		0	0
	N	400	400	400	400	400	400	400	400
RETRAT	Pearson Correlation	.190**	-.680**	-.731**	.127*	-0.049	-.326**	1	-0.044
	Sig. (2-tailed)	0	0	0	0.011	0.332	0		0.379
	N	400	400	400	400	400	400	400	400
EARVOL	Pearson Correlation	.145**	0.042	0.005	-0.08	-0.02	.197**	-0.044	1
	Sig. (2-tailed)	0.004	0.399	0.924	0.112	0.695	0	0.379	
	N	400	400	400	400	400	400	400	400
****. Correlation is significant at the 0.01 level (2-tailed).**									
***. Correlation is significant at the 0.05 level (2-tailed).**									

The above results of Pearsons correlation indicate that DY and DPR are negatively significant and RETRAT is positively significant with Stock price volatility. A very weak relationship was found ASGr-Asset Growth which means that it would not be significant which will be verified by our regression model as if there exists this relationship or not, whereas all other control variables have significant positive or negative relationships which shows that model is reliable and can be used for further statistical analysis.

5.1.3 First Model Heteroscedasticity

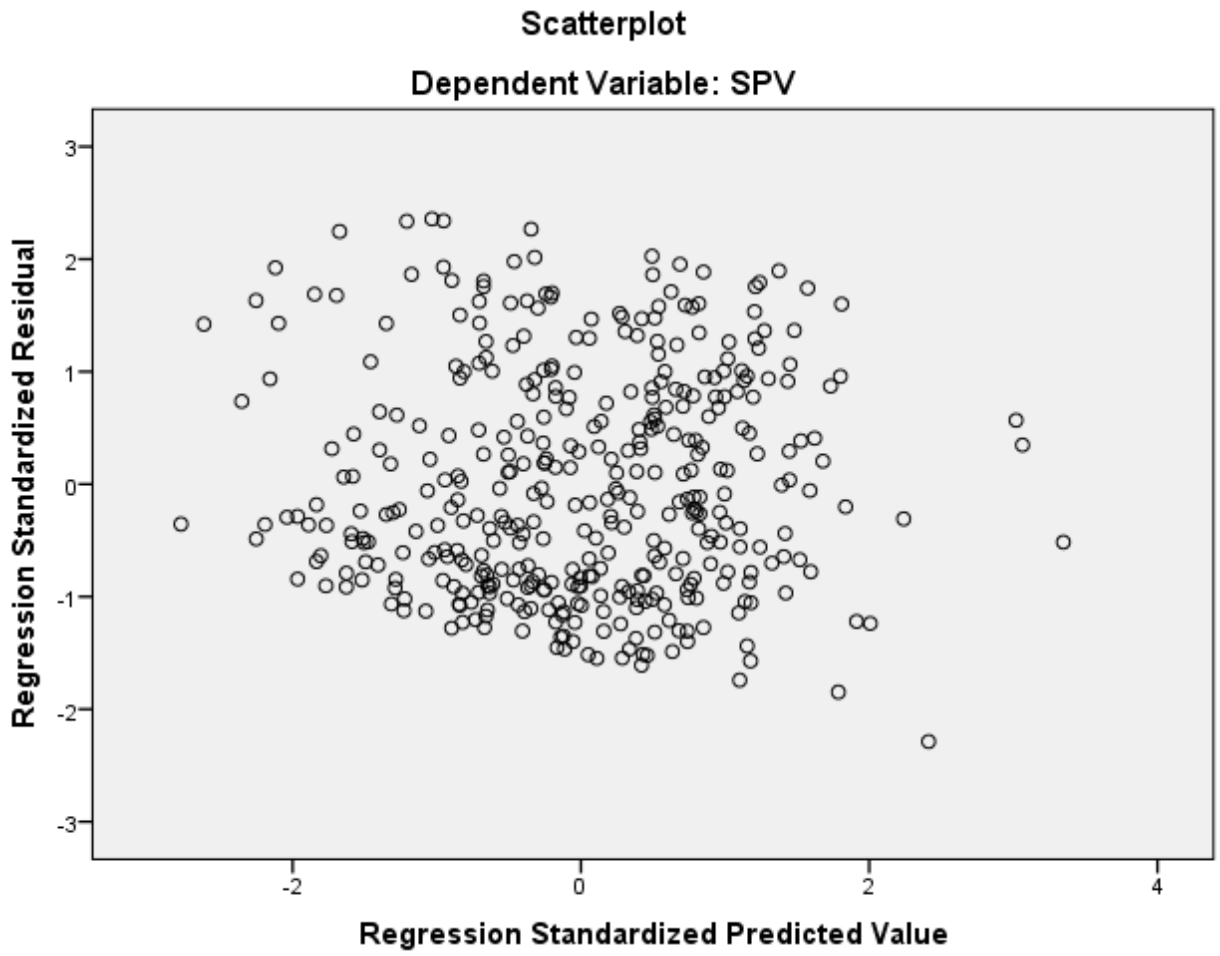
Figure 5-1- First Model Heteroscedasticity



In the first model there was found no problem of heteroscedasticity and this shows that the model is fit for regression. The variability of a variable is equally across the range of second variables which predicts it

5.1.4 Second Model Heteroscedasticity

Figure 5-2- Second Model Heteroscedasticity



In the second model there was found no problem of heteroscedasticity and this shows that the model is fit for regression. The variability of a variable is equally across the range of second variables which predicts it.

5.1.5 Unit Root Test/Stationarity Test

ASGR

Table 5-5- Stationarity Test for ASGR

Null Hypothesis: ASGR has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=16)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-21.7496	0.0000
Test critical values:	1% level	-3.44653	
	5% level	-2.86857	
	10% level	-2.57058	

***MacKinnon (1996) one-sided p-values.**

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(ASGR)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ASGR(-1)	-1.08745	0.049999	-21.7496	0
C	-0.07146	0.008411	-8.49601	0
R-squared	0.543702	Mean dependent var		0.000116
Adjusted R-squared	0.542552	S.D. dependent var		0.228609
S.E. of regression	0.154619	Akaike info criterion		-0.8907
Sum squared resid	9.491125	Schwarz criterion		-0.87071
Log likelihood	179.6951	Hannan-Quinn criter.		-0.88278
F-statistic	473.0447	Durbin-Watson stat		1.985147
Prob(F-statistic)	0			

The probability value is less than 5% so Null Hypothesis is rejected where it is stated that Asset Growth has Unit Root.

DPR

Table 5-6- Stationarity Test for DPR

Null Hypothesis: DPR has a unit root			
Exogenous: Constant			
Lag Length: 1 (Automatic - based on SIC, maxlag=16)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.94733	0.0000
Test critical values:	1% level	-3.44657	
	5% level	-2.86858	
	10% level	-2.57059	
***MacKinnon (1996) one-sided p-values.**			

Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(DPR)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DPR(-1)	-0.41006	0.051597	-7.94733	0
D(DPR(-1))	-0.28231	0.048065	-5.87361	0
C	0.129121	0.018754	6.885128	0
R-squared	0.341816	Mean dependent var		-0.00106
Adjusted R-squared	0.338483	S.D. dependent var		0.21993
S.E. of regression	0.178878	Akaike info criterion		-0.59672
Sum squared resid	12.63888	Schwarz criterion		-0.56667
Log likelihood	121.7477	Hannan-Quinn criter.		-0.58482
F-statistic	102.568	Durbin-Watson stat		2.053564
Prob(F-statistic)	0			

The probability value is less than 5% so Null Hypothesis is rejected where it is stated that Dividend payout ratio has Unit Root.

DY

Table 5-7- Stationarity Test for DY

Null Hypothesis: DY has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=16)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.39887	0.0000
Test critical values:	1% level	-3.44653	
	5% level	-2.86857	
	10% level	-2.57058	
***MacKinnon (1996) one-sided p-values.**			

Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(DY)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DY(-1)	-0.30247	0.036013	-8.39887	0
C	0.011442	0.002252	5.07964	0
R-squared	0.150877	Mean dependent var		-8.11E-05
Adjusted R-squared	0.148738	S.D. dependent var		0.038676
S.E. of regression	0.035684	Akaike info criterion		-3.82323
Sum squared resid	0.505521	Schwarz criterion		-3.80323

Log likelihood	764.7335	Hannan-Quinn criter.		-3.81531
F-statistic	70.54098	Durbin-Watson stat		2.147825
Prob(F-statistic)	0			

The probability value is less than 5% so Null Hypothesis is rejected where it is stated that Dividend Yield has Unit Root.

EARVOL

Table 5-8- Stationarity Test for EARVOL

Null Hypothesis: EARVOL has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=16)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.74752	0.0000
Test critical values:	1% level	-3.44653	
	5% level	-2.86857	
	10% level	-2.57058	
***MacKinnon (1996) one-sided p-values.**			

Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(EARVOL)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
EARVOL(-1)	-0.32319	0.036947	-8.74752	0
C	0.030391	0.003632	8.368155	0
R-squared	0.161597	Mean dependent var		-2.45E-06
Adjusted R-squared	0.159485	S.D. dependent var		0.02303
S.E. of regression	0.021113	Akaike info criterion		-4.87282

Sum squared resid	0.176973	Schwarz criterion	-4.85282
Log likelihood	974.1269	Hannan-Quinn criter.	-4.8649
F-statistic	76.51911	Durbin-Watson stat	2.051176
Prob(F-statistic)	0		

The probability value is less than 5% so Null Hypothesis is rejected where it is stated that Earnings Volatility has Unit Root.

LEV

Table 5-9- Stationarity Test for LEV

Null Hypothesis: LEV has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=16)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.90965	0.0000
Test critical values:	1% level	-3.44653	
	5% level	-2.86857	
	10% level	-2.57058	
***MacKinnon (1996) one-sided p-values.**			

Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(LEV)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEV(-1)	-0.39634	0.039995	-9.90965	0
C	0.202819	0.022695	8.936573	0
R-squared	0.198305	Mean dependent var		8.11E-05
Adjusted R-squared	0.196286	S.D. dependent var		0.218905
S.E. of regression	0.196248	Akaike info criterion		-0.41387

Sum squared resid	15.2898	Schwarz criterion		-0.39388
Log likelihood	84.56778	Hannan-Quinn criter.		-0.40596
F-statistic	98.20108	Durbin-Watson stat		2.170686
Prob(F-statistic)	0			

The probability value is less than 5% so Null Hypothesis is rejected where it is stated that Leverage has Unit Root.

RETRAT

Table 5-10- Stationarity Test for RETRAT

Null Hypothesis: RETRAT has a unit root			
Exogenous: Constant			
Lag Length: 1 (Automatic - based on SIC, maxlag=16)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.69039	0.0000
Test critical values:	1% level	-3.44657	
	5% level	-2.86858	
	10% level	-2.57059	
***MacKinnon (1996) one-sided p-values.**			

Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(RETRAT)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RETRAT(-1)	-0.4246	0.048859	-8.69039	0
D(RETRAT(-1))	-0.16607	0.049022	-3.38776	0.0008
C	0.30455	0.038795	7.850197	0
R-squared	0.278135	Mean dependent var		0.003564
Adjusted R-squared	0.27448	S.D. dependent var		0.415558

S.E. of regression	0.353961	Akaike info criterion	0.768251
Sum squared resid	49.48902	Schwarz criterion	0.7983
Log likelihood	-149.882	Hannan-Quinn criter.	0.780153
F-statistic	76.09687	Durbin-Watson stat	2.00463
Prob(F-statistic)	0		

The probability value is less than 5% so Null Hypothesis is rejected where it is stated that retention ratio has Unit Root.

Siz

Table 5-11- Stationarity Test for Siz

Null Hypothesis: SIZ has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=16)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.27756	0.0000
Test critical values:	1% level	-3.44653	
	5% level	-2.86857	
	10% level	-2.57058	
***MacKinnon (1996) one-sided p-values.**			

Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(SIZ)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
SIZ(-1)	-0.18262	0.02909	-6.27756	0
C	0.29787	0.051151	5.823406	0
R-squared	0.0903	Mean dependent var		0.001156
Adjusted R-squared	0.088009	S.D. dependent var		0.408979
S.E. of regression	0.390568	Akaike info criterion		0.96257

Sum squared resid	60.55966	Schwarz criterion		0.982564
Log likelihood	-190.033	Hannan-Quinn criter.		0.970489
F-statistic	39.40781	Durbin-Watson stat		1.860809
Prob(F-statistic)	0			

The probability value is less than 5% so Null Hypothesis is rejected where it is stated that Size has Unit Root.

SPV

Table 5-12- Stationarity Test for SPV

Null Hypothesis: SPV has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=16)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-17.1187	0.0000
Test critical values:	1% level	-3.44653	
	5% level	-2.86857	
	10% level	-2.57058	
***MacKinnon (1996) one-sided p-values.**			

Augmented Dickey-Fuller Test Equation				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPV(-1)	-0.84776	0.049523	-17.1187	0
C	0.351808	0.024355	14.44483	0
R-squared	0.42468	Mean dependent var		-0.00088
Adjusted R-squared	0.423231	S.D. dependent var		0.341638
S.E. of regression	0.259458	Akaike info criterion		0.144557
Sum squared resid	26.72546	Schwarz criterion		0.164552
Log likelihood	-26.8392	Hannan-Quinn criter.		0.152476

F-statistic	293.0504	Durbin-Watson stat		1.982766
Prob(F-statistic)	0			

The probability value is less than 5% so Null Hypothesis is rejected where it is stated that Stock price volatility has Unit Root.

5.1.6 Hausman Specification Test Fist Model:

The first model was run over Hausman Test to know if Fixed Effect model will be used or Random Effect model.

1st Model:-

Equation 5-1-First Model Hausman Test

$$Pvol = \propto + \beta_1 DY_{it} + \beta_2 DPR_{it} + \beta_3 Size_{it} + \beta_4 Lev_{it} + \beta_5 Asset\ Growth_{it} + \beta_6 Evol_{it} + \epsilon$$

As our data is panel data, we have performed Hausman Test to differentiate between the Fixe effects model and Random effects model, as which one should be used for the regression analysis. If p-value will be greater than 0.05 than we will reject the null hypothesis i.e. Random effect model will be rejected, and if p-value will be less than 0.05 than Null hypothesis will be accepted.

Null Hypothesis: Random-Effects Model is applicable

Alternative Hypothesis: Fixed-Effects Model is applicable

Conclusively as discussed earlier if the P-value is less than 5% we will reject Null Hypothesis and Alternative Hypothesis will be used means Fixed-Effects model will be used and vice versa.

Table 5-13-First Model Hausman Test

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test period random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	33.4975	6	0
**** WARNING: estimated period random effects variance is zero.**			
Period random effects test comparisons:			
Variable	Fixed	Random	Var(Diff.)	Prob.
DPR	-0.1237	-0.1362	8.6E-05	0.179
DY	-0.7954	-0.7345	0.00375	0.3197
ASGR	-0.0312	-0.0018	0.00021	0.0444
EARVOL	1.58769	1.67684	0.00074	0.001
LEV	-0.1509	-0.1503	8E-06	0.8004
SIZ	-0.0766	-0.0848	2.9E-05	0.1291

Period random effects test equation:				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.53609	0.06231	8.60342	0
DPR	-0.1237	0.06879	-1.7983	0.0729
DY	-0.7954	0.29461	-2.6998	0.0072
ASGR	-0.0312	0.07985	-0.3904	0.6965
EARVOL	1.58769	0.42676	3.7203	0.0002
LEV	-0.1509	0.05247	-2.8771	0.0042
SIZ	-0.0766	0.02074	-3.6956	0.0003
Effects Specification				
Period fixed (dummy variables)				
R-squared	0.20006	Mean dependent var		0.41589

Adjusted R-squared	0.17312	S.D. dependent var	0.2623
S.E. of regression	0.23852	Akaike info criterion	0.00563
Sum squared resid	21.9598	Schwarz criterion	0.14533
Log likelihood	12.8749	Hannan-Quinn criter.	0.06095
F-statistic	7.42582	Durbin-Watson stat	1.83842
Prob(F-statistic)	0		

In the above table of Hausman Test statistical analysis as the P-value is less than 5% so, null hypothesis has been rejected and Fixed effect model will be used for the purpose of analysis.

Table 5-14- First Model Fixed Effect Model

Dependent Variable: SPV				
Method: Panel Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DPR	-0.123709	0.068792	-1.798324	0.0729
DY	-0.795412	0.294614	-2.699844	0.0072
ASGR	-0.031175	0.079852	-0.390406	0.6965
EARVOL	1.587689	0.426764	3.720301	0.0002
LEV	-0.150947	0.052465	-2.877117	0.0042
SIZ	-0.076647	0.02074	-3.695556	0.0003
C	0.536087	0.062311	8.603415	0
Effects Specification				
Period fixed (dummy variables)				
R-squared	0.200059	Mean dependent var		0.415894
Adjusted R-squared	0.173118	S.D. dependent var		0.2623
S.E. of regression	0.238518	Akaike info criterion		0.005625

Sum squared resid	21.95978	Schwarz criterion	0.145327
Log likelihood	12.87493	Hannan-Quinn criter.	0.060949
F-statistic	7.425823	Durbin-Watson stat	1.838419
Prob(F-statistic)	0		

Both of our main independent variables have shown significant results i.e. DPR 7.29% whereas DY is 0.07% at 10% level of significance. All the control variables except ASGR are also significantly positive. These results mostly are consistent with the literature and latest studies.

It means that our first Hypothesis that if there exists any relationship between corporate dividend policy and stock price volatility has been accepted as there do exists a significant positive relationship between corporate dividend policy and stock price volatility. These results were consistent with WasfiAlTroudi (2013) and Masum (2014a)

5.1.7 Hausman Specification Test-Second Model

Model 2

Equation 5-2- Second Model Hausman Test

$$Pvol = \propto + \beta_1 RETRAT + \beta_2 Size_{it} + \beta_3 Lev_{it} + \beta_4 Asset\ Growth_{it} + \beta_5 Evol_{it} + \epsilon$$

In this model relationship of Retention ratio as proxy of Retained earnings with Stock price Volatility is checked where as Size, Leverage, Asset Growth and Earnings Volatility are control variable.

First of all Hausman Test is performed by which we will come to know that whether Fixed Effect model needs to be run or Random Effect model needs to be run.

As our data is panel data, we have performed Hausman Test to differentiate between the Fixe effects model and Random effects model, as which one should be used for the regression analysis. If p-value will be greater than 0.05 than we will reject the null hypothesis i.e. Random effect model will be rejected, and if p-value will be less than 0.05 than Null hypothesis will be accepted.

Null Hypothesis: Random-Effects Model is applicable

Alternative Hypothesis: Fixed-Effects Model is applicable

Conclusively as discussed earlier if the P-value is greater than 5% we will accept Null Hypothesis and Random Effect Model will be used.

Below are the results of Hausman Test

5.1.8 Second Model Hausman Test

Table 5-15-Second Model Hausman Test

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test period random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random		10.2422	5	0.0687
Period random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
RETRAT	0.09886	0.09531	9E-06	0.2326
ASGR	-0.0325	-0.0233	7.9E-05	0.3013
EARVOL	1.60179	1.63205	0.00027	0.0658
LEV	-0.1581	-0.1579	3E-06	0.9169
SIZ	-0.0801	-0.0831	0.00001	0.3316
Period random effects test equation:				

Dependent Variable: SPV				
Method: Panel Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.40454	0.06863	5.89453	0
RETRAT	0.09886	0.03095	3.19392	0.0015
ASGR	-0.0325	0.08055	-0.4033	0.687
EARVOL	1.60179	0.43193	3.70846	0.0002
LEV	-0.1581	0.05307	-2.9791	0.0031
SIZ	-0.0801	0.02128	-3.7652	0.0002
Effects Specification				
Period fixed (dummy variables)				
R-squared	0.17823	Mean dependent var		0.41589
Adjusted R-squared	0.15275	S.D. dependent var		0.2623
S.E. of regression	0.24144	Akaike info criterion		0.02755
Sum squared resid	22.5591	Schwarz criterion		0.15727
Log likelihood	7.49019	Hannan-Quinn criter.		0.07892
F-statistic	6.99452	Durbin-Watson stat		1.80885
Prob(F-statistic)	0			

a. Dependent Variable: SPV

As per results of Hausman Test with respect to our second model, the value of probability is 6.8%

which is more than 5%. So, Null hypothesis will be rejected

2nd Model Random Effect Model

Table 5-16- Second Model Random Effect Model

Dependent Variable: SPV				
Method: Panel EGLS (Period random effects)				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RETRAT	0.09531	0.03081	3.09357	0.0021
ASGR	-0.0233	0.08006	-0.291	0.7712
EARVOL	1.63205	0.43162	3.78126	0.0002
LEV	-0.1579	0.05304	-2.9773	0.0031
SIZ	-0.0831	0.02105	-3.9482	0.0001
C	0.4096	0.07029	5.82708	0
Effects Specification				
			S.D.	Rho
Period random			0.04637	0.0356
Idiosyncratic random			0.24144	0.9644
	Weighted Statistics			
R-squared	0.10571	Mean dependent var		0.2466
Adjusted R-squared	0.09436	S.D. dependent var		0.25539
S.E. of regression	0.24304	Sum squared resid		23.2727
F-statistic	9.31414	Durbin-Watson stat		1.82727
Prob(F-statistic)	0			
Unweighted Statistics				
R-squared	0.10447	Mean dependent var		0.41589
Sum squared resid	24.5839	Durbin-Watson stat		1.86401

The above results shows that there is significantly positive relationship exists between SPV and

RETRAT whereas all control variables are also positively significant relationship with SPV except ASGr. This would mean that there exists a significantly positive relationship between retained earnings and stock price volatility which has lead us to accept our second Hypothesis as if there exists any relationship between Stock price volatility and retained earning. The results were consistent with Masum (2014a) and (Oyinlola and Ajeigbe (2014)).

After all the statistical analysis, it is evident that there exists a significantly positive relationship of Retained earnings and Corporate dividend policy with Stock price volatility. And both my hypothesis have been accepted as the results have shown a significantly positive relationship.

As far as my sub objectives are concerned, the first and second sub objective has already been achieved where we have found significantly positive relationship. Furthermore, my fourth objective has been discussed in detail and it has helped us to conclude our results whereas the third objective of this study as to help the investors to invest in most appropriate way by knowing this relationship has also been achieved which are also discussed in the conclusion section.

1. To inspect the relationship which exists between corporate dividend policy and stock market price
2. To inspect the relationship between retained earnings and stock market price
3. To help investor and Government of Pakistan to invest in most appropriate way and to amend policy respectively to promote economic activity.
4. To help companies to devise their corporate dividend policy to attract investors.

Chapter 6. CONCLUSION AND IMPLICATAION

6.1 Conclusion

This is evident from the results that there was found significantly positive relationship between corporate dividend policy, retained earnings and stock price volatility which means that both of my hypothesis i.e Does there exists any relationship of Corporate dividend policy, retained earnings with stock price volatility have been accepted. Any change in corporate dividend policy or retained earnings impact stock price volatility and investors are keen to observe these changes. This supports signaling theory which means that announcement of dividend is an indication that the firm possesses positive future prospects. The results are consistent with the earlier studies although this study have tried to fill the gap which existed due to no study conducted in that period of time which this study has covered along with increased number of firms. The corporate dividend policy has significant impact which causes share price volatility and in return economic activity is generated. The firms who are giving dividends have volatile share prices and thus they are attracting investors, so other firms can amend their corporate dividend policy for attracting investors whereas Government can introduce policies of tax rebates and thus can increase the volume of tax collection as economic activity will be generated when more and more investors will invest in the firms. Beside this some financing can also be made available for the investors which they can use on easy terms and conditions for investment purposes.

6.2 Contribution of the Study

This study will help investors to better understand the factors which may affect stock price volatility and by this they would be able to invest more appropriately. The Government can carry on to improve the policies to attract more investors from all around the world. As this study is supporting signaling theory which can help government along with investors to understand the financial performance of the firm.

The investors now can better invest in the stock exchange as this study will help them to analyze and invest based upon the relationship which existed between corporate dividend policy, retained earnings and stock price volatility, as these are the factors which are affecting the stock prices to change. Government of Pakistan can amend her policies as to promote investment in Stock exchange which will in turn generate revenue and economic growth as well.

Chapter 7. LIMITATION AND FUTURE DIRECTION

7.1 Limitation

This research was conducted on best available resources and using the most recent statistical tools but still there are some limitations to my research which if worked on can lead us to more diversified and generalized results. As our research is limited to only few sectors so the future research can be conducted to analyze other sectors (both financial and non-financial as well).

The data which we have collected is of limited industries due to the constraint of time we were unable to have included all the companies listed on the Karachi stock exchange. One of the other reason of having not included some of the sectors which although do have a prominent position in economy of Pakistan as well as related to this study is because the data availability is limited. Financial statements are found from websites of different companies and some other data banks related to financial statements or annual reports but that too are not complete, means the time duration 2008-2015 which we have opted is of 8 years and companies normally don't retain their financial statements for more than 5 years online. In this respect, companies could be contacted directly and should be requested to provide such information of annual report financial statements of the past years which normally they had not provided on their website. In this research we remain stick to the industry of Automobile Assembler, Textile Spinning and Composite, Pharmaceuticals and Chemicals.

Another limitation we found is of availability of information of annual reports but partial means a full year annual report is in some cases not available and its availability is only confined to any of the year quarter missing due to which problem of missing values can arise, for that we suggest that a thorough search is required for collecting the financial statements of the companies under

analysis and the data can be extracted from the year wise analysis which is available within the financial statement of former year.

For a more diversified study other industries can be included in the research. Due to some time constraints we have not taken any other stock exchanges of countries other than Pakistan for a comparative to be made to know the impact of dividend disbursement (cash only) and the retention amount on stock price volatility. So for more generalizing the results, country wise analysis can also be done, as we didn't found any research in which country wise research on the under discussion topic has been done prior to our research.

7.2 Future Direction

Government of Pakistan can introduce customize policies for different sectors in which subsidy could be provided to the industries which are not distributing the cash dividend due to the reason that they are on loss year to year basis. As by subsidizing the industry, more activity in term of sale purchase of stocks could be seen which in return can benefit government for tax collection. As the industry which is already in crisis can not generate any progressive activity on stock exchange in terms of stock price volatility.

Although we have taken the most suitable control variables for our research based on the past research articles but still future researchers can increase the number of control variables for more generalized results.

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Chapter 9. ANNEXURES

Annexure 1- List of companies

S#	Company	Sector
1	Al Ghazi Tractors	Automobile
2	Atlas Honda Limited	Automobile
3	Dewan Faroque Motors Limited	Automobile
4	Ghand Nissan	Automobile
5	Ghandara Industries	Automobile
6	Ghani Automobiles	Automobile
7	Hino Pak Motors	Automobile
8	Indus Motors	Automobile
9	Millat Tractors Limited	Automobile
10	Pak Suzuki	Automobile
11	Agri Tech	Chemicals
12	Berger	Chemicals
13	Ghani Glass	Chemicals
14	ICI Pakistan	Chemicals
15	Ittehad Chemicals	Chemicals
16	Nimir	Chemicals
17	Sitara Chemicals	Chemicals
18	Hubpower	Energy
19	Japan Power	Energy
20	K Electric	Energy
21	Kohinoor Energy	Energy
22	kot Addu	Energy
23	Nishat Chn. Power	Energy
24	Nishat Power	Energy
25	Sitara Energy	Energy
26	Arif Habib Corp	Fertilizers
27	Dawood Hercules	Fertilizers
28	Engro Corp.	Fertilizers
29	Fauji Fert.	Fertilizers
30	Abbott	Pharma
31	GSK	Pharma
32	Highnoon	Pharma
33	Otsuka	Pharma
34	Sanofi	Pharma
35	Wyeth	Pharma
36	Ahmed Hassan	Textile Composite
37	Artistic Denim	Textile Composite

38	Azgard Nine	Textile Composite
39	Bhanero	Textile Composite
40	Blessed	Textile Composite
41	Crescent	Textile Composite
42	Dawood Law	Textile Composite
43	Ghazi Fabrics	Textile Composite
44	Gul Ahmed	Textile Composite
45	Jubilee	Textile Composite
46	Bilal Fibers	Textile Spinning
47	Din Textiles	Textile Spinning
48	Island textiles	Textile Spinning
49	Salfi Textiles	Textile Spinning
50	Tata Textiles	Textile Spinning