# Does Institutional Ownership Affect Stock Return Volatility? Evidence from Pakistan

By

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# Certificate

This is to certify that Mr. Aryan Khan has incorporated all observations, suggestions and comments made by the external evaluators as well as the internal examiners and thesis supervisor. The title of his Thesis is: Does Institutional Ownership Affect Stock Return Volatility? Evidence from Pakistan

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## *DEDICATION*

This thesis is dedicated to my father, beloved mother, my brothers, my family members, my teachers and specially Muhammad waqas who have supported me in every stage of my thesis. I am thankful to my father, elder brother and all family members who have supported me in my studies.

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Aryan Khan

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## ABSTRACT

The aim of the study is to investigate the impact of institutional ownership on stock return volatility in Pakistan. The literature on institutional ownership and stock return volatility often ignores small emerging countries. However, this issue is more profound, due to the large size of institutional investors and small stock market size, in emerging equity market. The current study investigates the institutional ownership on firm level stock return volatility in Pakistan. Our sample covers non-financial firms listed in Pakistan stock exchange from 2005 to 2014. The empirical studies results indicate that the institutional ownership has significant effect on volatility. The results indicate that the institutional ownership stabilize stock return volatility. On the other hand, it shows that the role of the dividend-paying firm is very important for stabilizing the stock return volatility. Those firms which are paying more dividends have deserved more stabilizing effect as compared to the non-dividends paying firms.

***Keywords: Institutional investors, Volatility, ownership, dividend policy***

JEL Classification: G10, G20, G24, G32,

# CHAPTER 01

# INTRODUCTION

## 1.1 Background

In financial markets, the role of institutional investors is important because they are pooling their funds in different investments. Investors diversify their investment in different institutions for minimizing the cost of capital and to maximize profit. Institutional ownership is a group of investors which runs by different institutions (Zhang, 2010). Moreover, institutional ownership is a rising attribute of the financial market in Pakistan, where the role of institutional ownership is very important in the financial market. So the present review considers the effect of institutional possession on balancing out the stock return volatility.

Institutional ownership is the key part of firms because they pool their recourses in different institutions. Institutional investors include pension fund, trust institution, insurance firms and financial firms (Lang & McNichols, 1997). According to Boone and White (2015) in their empirical study proposed that higher institutional ownership firms have greater analysts. It is documented that the existence of institutional investors enhances the desired level of information.

The foreign institutional investors are considered better as compared to the domestic institutional investors for two reasons. Firstly, the foreign institutional investors have more information than domestic institutional investors because the foreign institutional investors have more resources to recruit intelligent analysts and skillful employees who have more expertise in valuation of stock. Secondly, the foreign institutional investors

have information advantages and they respond quickly to the allocated resources in the stock market (Park & Chung, 2007). Those firms which have insider ownership are more beneficial at the time of buying or selling the stocks. It is due to insider information that they can take decision of buying and selling stocks easily. Most institutional sophisticated by know the value of shares better as compared to the retail investors; they are intended to repurchase cheap shares in the open market because it increases the worth of institutional investor's holdings. On the other hand, more insider shareholders may create difficulty for firms at the time of stock bargaining price because they access insider information (Cesari, Espenlaub, Khurshed & Simkovic, 2009).

Volatility influences employees and management in many regards. Sometimes decreasing in volatility is a gain or lose for employees and management because lower volatility strengthens employee's job security and stabilize reduction in cash flows turnover. On the other hand employees and management deliver incentive in the shape of stock due to increasing in its worth. Dutt and Jenner (2013) found that (a) low volatility stock return spread parts of operating performance; (b) the operating performance of low volatility stocks is stronger in future; (c) the operating performance can easily forecasting the firm performance will have low volatility in future.

Kahl and Gorton (1999) documented that ownership structure role are divided into two blockholders: institutional investors and rich investors. And the stock markets are also distinguished into two categories: the small investor's markets and big markets. The institutional investors face agency problems because it is owned by professional investors where as rich investor does not faces such problem because they are trading with their own money, so they can monitor the performance of managers in better way.

Andersen and Bollerslev (1998) reported that the stock return volatility is increased by the naïve investors and the chances of default also increase. Furthermore, they documented that the volatility is formulated under the measurement of intraday and inter-daily basis to capture the impact of lack of information. Bley and Saad (2011) conducted a study that decreasing of volatility is due to the less information of investors and with the minimum portfolio channel concentrations of the asset, but increases due to the economic growth. Adrian and Rosenberg (2006) have studied that the institutional ownership minimizes in short run volatility because institutional ownership is crucial for enhancing the firm growth and financial worth. Rubin & Rubin (2007) examined the relationship of ownership level and concentration towards return volatility. The study suggested that return volatility is decreased by the increasing number of institutional investor while increase due to stock returns volatility by institutional concentration. The overall findings documented with reference to an institutional investor and institutional concentrations are robust and suggested that volatility is also determined by the institutional investor and ownership structure. Grullon, Lyandres and Zhdanov (2010) proposed that the cross section relationship between investor and stock volatility is strong for those firms which have higher institutional investors. The study suggested that the firm with a greater level of investors lead to less stock return volatility. According to the Xu, and Malkiel (2003) found the relationship of institutional proprietorship and individual stock return unpredictability and their relationship is emphatically of the firm instability and profit development.They used direct and indirect techniques to find the similarities and differences in idiosyncratic volatility. In direct and indirect approaches the level of volatility is similar persistence. But the growth rate of indirect approach

record higher volatility as compare to the direct approach. Vo (2015) documented that the relation of stock market volatility and foreign ownership is positive. Further, they argued that when foreign investment increase in local stock markets then their risk exposure higher as compare to international markets and at the end weak domestic market.

The dividend policy connection with institutional possession and stock return instability cannot be ignored in financial studies. As Rubin et al. (2009) documented that dividend policy act essential role in shaping the direction of the association of institutional ownership and stock return volatility. The correlation coefficient of institutional investors and stock volatility is depending on the firm dividend policy. So there is a positive correlation of the institutional ownership and volatility among dividend stocks.

The study is going to identify constant effect of institutional investors. Furthermore, to investigate the intersection of dividend paying firms. Numerous studies have been conducted regarding institutional ownership and stock return volatility. Pakistan market is an emerging country so it is important to study the impact of institutional ownership on stock return volatility. In addition, to capture the role of institutional investors on stock return volatility. The relationship and comparative analysis of dividends are paying and non-dividend paying firms. So the dividend paying firms are more volatile then non dividend paying firms. Pakistani markets have different ownership structure and slight trading mechanism, its dynamic are different from a developed countries. Furthermore, empirical studies are conducted in developed countries and evidence from emerging market specifically Pakistan is limited.

Attention should also be given to the size of corporate boards. Specifically, organizations ought to perceive the enlightening needs of executives as they settle on choices about CE. The outcomes demonstrate that medium-estimate sheets are best to promote CE. As the extent of the board develops past a specific number, the coordination of undertakings and the stream of data among executives end up plainly troublesome, a factor which backs off the board's basic leadership handle. This issue may heighten as the proportion of pariahs on the board increments (Zahra, S. A., Neubaum, D. O., & Huse, M. 2000).

The confirmation likewise proposes that some institutional financial specialists desert shares preceding constrained CEO turnover in light of the fact that these speculators are preferable educated over different speculators. We place that speculators with bigger property will probably be educated on the possibilities of the firm in light of the fact that they have a more noteworthy motivator to use assets to end up plainly educated. In this manner, if a few organizations offer in the pre-turnover period since they perceive that offers of firms in the constrained turnover test are poor speculations, we ought to watch foundations with bigger positions relinquishing offers to a more prominent degree than establishments with littler positions (Parrino, R., Sias, R. W., & Starks, L. T. 2003).

According to Choi and Richardson (2012) documented the important movement for volatility in equity is financial leverage. They investigate the relationships through many components like financial leverage, risk premium and idiosyncratic volatility. They found numerous and stronger result than previous literature. The study also shows that asset volatility is itself time-varies and leverage is dominant factor for asset volatility.

Babikir et.al (2012) found a strong level of unconditional volatility and variance structure in stock return. Volatility in stock return has a relevance to structural breaks in the South African equity market. This study also counts the effect of leverage in long time horizon evaluating stock return volatility in equity markets. As far as the study focuses that return volatility is very essential for portfolio formation and investment decision, the most important factor to evaluate the pricing of security is volatility. According to many researchers the important tool for risk measurement for all financial institution around the world is volatility.

## 1.2 Theoretical Background

The association of institutional ownership and stock return volatility can be better explained by agency theory. Early 1970 the agency theory initiated in the academic literature and investigates that the stock returns volatility sharing between insider and outsider (Wilson, 1968; Arrow, 1971). The agency theory follows the relationship between principle and agent. The definition of an agency relationship is a mediator (outsider) executes the insider decision, which engages in the delegation of authority. The outsider owned the business and makes an important decision for different business function on the behalf of insider and struggling for a common goal (Jensen et al., 1976). Gristein and Michaely (2005) reported in the early 1980s, that firms paid higher dividends to influenced the institutional investors and predict positive relationship. There is evidence that the institutions can boost payout, in shape of repurchases, total payout and dividend payout. However there is no substantiation that boosts up institutional ownership. The firms are adopted by an increase repurchasing or dividends, agency problems more face by firms. In fact, the firms pay a dividend for resolving the conflict between managers and shareholders. It's not necessary that the portion of the share which is held by the institution is relevant to payout policy. Institutions are controlled and monitor their management better than the individual. When the firms pay a dividend, it does not mean that the firms attracts institution or give signaling to market. In fact, institutional investors want to stabilize volatility and their holding for that purpose to increase dividends. But the institution wants to increase their holding to pay less dividends and avail repurchase opportunity. The theory summarized ownership structure in two different dimensions. The inside owners mean that shares owned by the

management and also take part in the running of the business. These investors are responsible for transactions, activities and performance are reported the outside owners. While the theory state that outside owners means that securities held by outside owners and do not take part in the routine activities of the firm. Empirical studies regarding agency theory design an appropriate structure for such control and to get the effectiveness and efficiency to retain the corporate control in safe hands (Dissanike, 1999). Similarly, Allen and Gale (2001) documented that inside shareholding takes part in the business of their interest and control through the corporate mechanism.

Insiders get both positive and negative private data, and they should choose whether to convey this data to outsider. Signaling theory focuses primarily on the premeditated communication of positive information in an effort to deliver positive organizational feature. Some scholars have observed actions that insiders communicate negative information about organizational feature. For instance, issuing new shares of a firm is usually considered a negative signal because executive may issue equity when they believe their company stock price is overvalued (Myers & Majluf, 1984).

## 1.3 Problem statement

This empirical investigation is conducted to capture the relationship between institutional ownership and returns volatility in an emerging economy. In a broad sense, the study is going to identify constant effect of institutional investors. Furthermore, to investigate the intersection of dividend paying firms. Several studies have been conducted regarding institutional ownership and stock return volatility. However those are limited and cannot be generalized to emerging economies because every country and their financial markets having own structure and reporting mechanism. Similarly, Pakistan market is an emerging country so it is important to study the impact of institutional ownership on stock return volatility. In addition, to capture the role of institutional investors on stock return volatility. Further, it needs to explain the role of ownership and volatility in stock exchange empirically in Pakistan. In addition to, relationship and comparative analysis of dividends are paying and non-dividend paying firms. Pakistani markets have different ownership structure and narrow trading system, its dynamics are different from a developed market. Moreover, empirical studies are conducted in developed countries and evidence from emerging market specifically Pakistan is limited.

## 1.4 Research Questions

The study has the following research questions:

i- What is the impact of institutional ownership on stock return volatility?

ii- Does dividend policy influence stock return volatility?

## 1.5 Research Objectives

i- To explore the institutional ownership impact on stock return volatility.

ii- To investigate dividend policy impact on stock return volatility.

## 1.6 Contribution of the study

The current study contributes by providing empirical evidence. Firstly, it is to highlight causes of institutional investors and its effects on volatility in the Pakistan context. In addition, analyze stock return volatility factors and the extensive role of institutional investors for return volatility. Moreover, by providing the analysis is for policy setting and contribution in the context of developing country economies. Secondly, the study provides comprehensive analysis for the Pakistani markets and to eliminate policy hurdles decision on permitting institutional investors to actively participate in stock markets. Thirdly, the study captures behavior from insider owners because greater volatility can increase perceived cost of financial distress.

## 1.7 Significance of the study

The study is encouraged by several motives. Firstly, to identify the answer of the central question that does institutional ownership influences the volatility? The study is going to research the institutional proprietorship impact on stock return instability. In addition, to found that the impact on stock market stability is due to the institutional investors but it is also in recession and stable period. The relation between institutional investors may because of volatility risk in the financial markets that is narrowed and tensed by the practitioner, policy making authorities and also the academicians. Secondly, it is

important to find empirical investigation in the context of Pakistan which is emerging economy, where value of security market is overwhelmed and influenced by financial institutional specialists. However, the emerging markets are still in the stage of development and less efficient with the limited size of individual investors. Moreover, there is need of much work to be done in order to recommend the enhancing the role of Pakistani stock markets to institutional investors. The desire study is to make the bridge by investigating that how institutional investors affect stock market volatility.

## 1.8 Scheme of the study

The structure of the dissertation is as follows; chapter one consist of an introduction and significant of the study. Chapter two concluded on theoretical arguments and literature review. Chapter three discusses the data description and methodology a measurement of the variable and statistical method. Chapter four, of the finding of empirical results and discussion, following chapter five, the results summarizing and the conclusion of the study, policy implication, and future suggestion.

# CHAPTER 02

# REVIEW OF LITERATURE AND HYPOTHESIS DEVELOPMENT

This section contains explain the relationship between independent and dependent variables and development of hypotheses.

Recent years in the global market turbulence have needed strong consideration from the reasearchers. They study about the factors affecting by the volatility. Numerous studies exist which provides the causes and effect of stock return volatility.

## 2.1 Relationship between Institutional Ownership and Stock return volatility

Bohl, Brzesczynski and Wilfling (2005) document in the literature that stock return volatility increases by institutional investors. But as far as their finding is concerned, that the investors pension fund reduced volatility in Poland. So the empirical results found that the hypothesis is favor of stabilizing rather than destabilizing effect in Poland investors.

In a broader scene, the hypothesis supported that the individual investors are less information as compare to the institutional investors. Due to the institutional investors are making faster the new information which makes the market more efficient. The institutional investors have opportunities for more information. The individual investors to stock return volatility a minimum decrease in the trade than the institutional investors. So the institutional investors brings more stabilized stock price.

The foreign investors give preference to invest in those firms which have high book value rather than market value in Vietnam. On other word foreign investors don not want to invest in higher stock price firm relative to book value. According to Batten and VO (2015) results founded in all regression that the coefficients for (BETA) positive and significant. Which means that foreign investors invest in that firm which has higher market risk. Because the foreign investors interested to invest in higher beta stocks because they want to earn high income from cross border.

Bohl et al. (2009) have studied that twenty to thirty years ago changes in the financial market and the rapid increase of institutional investors. They reported that the institutional investors engage in herding and have a positive trading strategy for the stock return volatility. The hypothesis support that the investor's pension fund decreases stock market volatility in Poland. So the empirical evidence is supporting in stabilize effect rather than destabilizing to the pension funds investors.

This paper aims to explore the volume-volatility relation on the Australian Stock Exchange. The date simple is from January 2006 to December 2010. The recent studies divided trading volume into individual and institutional level average trade size and volatility divided into continuous and jump components. As for the results found that the individual trader has more impact on volatility than the institutional traders (Shahzad, Duong, Kalev & Singh, 2014).

Chen, Du, Li and Ouyang (2013) documented that the impact of foreign institutional ownership increase stock return volatility. The simple period from 1998 to 2008 was taken. The time series and panel data was used for the analysis. The result shows that

foreign ownership increases stock return volatility when control firm size, leverage, turnover and ownership structure for controlling endogeniety problems. Similarly, foreign ownership enhances idiosyncratic-level stock return volatility which entails 1% increase in ownership structure lead to a decrease of 0.6575% in return volatility in Chinese firms.

Sias (1996) studied that most theories suggested a negative association between institutional investors and volatility. The researchers give the argument that institutional investors prefer those stocks which are less volatile. The other researchers documented that the positive relation between capitalization and institutional investors shield to a riskier stocks. The institutional investors avoid small stocks because firstly, small stocks tend to liquidity limitations; secondly, the small stock investment result is more than 5 % ownership; and thirdly managerial participation force by large institutional holding in small capitalization. Institutional investors and holding capitalization constant tend to a greater level of volatility. The results of the hypothesis are consistent. Firstly, greater volatile security attracts more institutional investors. Secondly, institutional holding increasing leads to increase volatility. The evidence finds out that an increase in institutional investors' leads to raising volatility. The result shows that increases in institutional holding interests tend to increase the volatility.

The research topic is the role of institutional investors in market volatility during the subprime mortgage crises. The data is taken from the Taiwan Economic journal database. Tseng and Lai (2014) studied the role of institutional investors in market volatility during the subprime mortgage crisis. The simple period is running of nine years from 2003 to 2011, so the total daily observations make 1991. They explained his studied in three

dimensions. Firstly, as for results found that the trading manner of institutional investors has a significant impact on volatility in the Taiwan. Secondly, an empirical result found that in the financial markets the role of institutional investors is stabilizing. Thirdly, the results found that net selling of institutional investors is due to the higher volatility in Taiwan during the subprime crises.

Lin et al. (2007) studied the institutional private ownership auctions and private information. The simple period is taken from 1995 to 2002, and there are total 89 IPO auctions of the Taiwan. The finding of this study investigates that the institutional investors are high bidding auctions as compare to the retail investors when the shares of IPO are valuable. So the results indicate that institutional investors are well informed about IPO. As the time of bidding the institutional investors are higher information advantage related to the retail investors, so ultimately the return volatility tend to decreases.

El-Gazzar (1998) documented the pre-disclosure of information and institutional ownership. The sample period is quarterly and data from 1987 to 1990. The negative connection of the institutional speculators and stock return unpredictability is recorded. However the reactions of the market to earning release firms shares are more control by the institutional ownership, and the shares traded in the market are less volatile.

Jankensgard and Vilhelmsson (2015) studied the ownership determinants of stock return volatility. There are two database used for sampling: SIS Agar service and DataStream. The sample period is taken from 2000 to 2013. They are conducted research that the ownership structure is necessary for understanding cross-sectional conversion in stock

return volatility. The largest owner of under diversified owners is family or business sphere, which are connected to the lower volatility. Larger investors have more information about the firm which can take price signal benefits. But greater information cause to the increasing new share price with increasing volatility.

Wang (2007) studied that the effect of foreign proprietorship on stock unpredictability in Indonesia. The sample period is taken from 1996 to 2000. And make 1212 trading days in four years. The current paper studied that the foreign ownership stabilizes stock volatility for two reasons. Firstly, foreign investors increase the risk sharing, high return and increase the investment. So there is stabilizing affect on stock volatility. Secondly, the view of foreign ownership in emerging markets appears higher asymmetric information. So institutional investors are leads to stabilized stock volatility.

Brzeszczynski and Wilfling (2005) have studied the institutional investors and stock return volatility in U.S. The sample period was 1994 to 2003 and unit root test used for analysis. The contribution of individual investors to stock returns volatility is more stabilizing as compared to the institutional investors. But institutional investors capture unreasonable behavior of individual investor and stabilizing the stock price.

Chuang and Susmel (2011) documented that who is more overconfident traders? Individual versus institutional investors. The sample period is from 1995 to 2007. Individual investors perform more active than Institutional investors. Firstly, individual investors trade more active as compare to the institutional investors in bull markets. Secondly, the gains of individual investors are more in the high-volatility market related

to the institutional investors. Third, individual investors invest in risky securities more than the institutional investors.

According to (Metrick & Gompers, 1998) have studied that larger institutions doubles their market shares from 1980 to 1996, due to control of equity markets. The institutional investors can stabilize volatility when there is 50 % increase occurs in the price of larger firms than smaller firms.

The research study is volatility and institutional investor's holdings in a declining market. The sample period are divided into two phases from March to July 2000 and from August to November. According to Faugere and Shawky (2000) securities listed on Nasdiq where market decreases fast but institutional investors are less volatile. It is documented that the association between level of institutional investors and standard deviation of individual security daily returns. So the institutional investor's daily mean returns record higher and less stander deviation. The final conclusion find out that institutional investors are manage effectively as compare to the individual investors.

Lakonishok et al. (1992) found that size of higher institutional ownership firms are considerably greater than lower institutional ownership firms. Statistically for beta and variance propose that the firms with higher institutional ownership portfolio contain higher systematic risk and lower idiosyncratic volatility.

Li et al. (2011) studied the foreign ownership. They used 1409 firms of 30 developing countries in their sample from the time period of 2002 to 2006. And china's 204 firms included. They prove that there are some hurdle affected the movement of foreign investors. This paper expands Li et al. (2011) and Bae Chan and Ng (2004) by taking a

full sample during the largest developing country market of china listed firms from 1998 to 2008. The result shows that foreigner investors increases firm level volatility in china, Bae et al. (2004) found the result of Li et al. (2011) that institutional ownership are influenced by firm-level volatility stock return volatility and insignificant for Chinese markets (Chen et al., 2013).

According to (Merton, 1987) found that greater stock returns have lower volatility stocks and reflected that low volatility firms have the great participation of investors to manage firm resources to achieve the common objective.

## 2.2 Relationship between dividend policy and institutional on stock return volatility

The concept of dividend puzzles in finance that the firm pays dividends to the investors of their stock evaluation. Many researchers suggested that no matter if a firm pays dividend to the investors or not. The reasons behind is that, the investors have no effect the payment of dividends because he/she already owns the business. The method of getting dividends are different either take a dividend or reinvested. So the reason of dividend puzzle have been connected too many factors, like uncertainties, psychological/ behavioral economic issues, among other, asymmetric information and tax related matters (Roben, 2002).

Al- Gharaibeh et al. (2013) have studied that the effect of ownership structure on firm dividend policy. The sample period used from 2005 to 2010 and 35 listed companies on the Amman stock exchange. The literature argued that institutional ownership has positive and significant association with dividend payment and tend to decrease stock return volatility. They conclude that when an increase occurs in institutional ownership the firms tend to enhance dividend payment. Two models were used, partial adjustment model and full adjustment model to observe the connection between dividends policy and ownership structure. Managerial ownership and institutional ownership were regress against dividends. The variation in dividend of full adjusted model is excellent which explain 0.6157 than partial adjusted model which is 0.2065. The results find out that institutional ownership gives incentive to the shareholders for maximizing the firm value and stop that project which gives less return. On the other hand full adjusted model

significant and produce unexpected sign. The managerial ownership indicates unexpected sign which tell us that Jordan firms did not use dividend for agency problem.

Amihud and Li (2006) explained the declining information content of dividend announcements and the effect of institutional holdings. The sample period is running from 1980 to 1998. Sometimes institutional ownership “disappear dividend” because they want to turn down the information of dividend announcement. If firm gives dividend to the investors it make costly for the firm. The firms also want to convey less information of dividend because the institutional ownership did not want to increase the stockholding of the investors. The institutional investors are more sophisticated and quickly inform than individual. The institution already incorporated before the announcement of dividend in the stock price.

The confirmation likewise proposes that some institutional financial specialists desert shares preceding constrained CEO turnover in light of the fact that these speculators are preferable educated over different speculators. We place that speculators with bigger property will probably be educated on the possibilities of the firm in light of the fact that they have a more noteworthy motivator to use assets to end up plainly educated. In this manner, if a few organizations offer in the pre-turnover period since they perceive that offers of firms in the constrained turnover test are poor speculations, we ought to watch foundations with bigger positions relinquishing offers to a more prominent degree than establishments with littler positions (Parrino, R., Sias, R. W., & Starks, L. T. 2003).

Karpoff (1987) documented the positively association volatility with institutional ownership in profit paying stocks to prompt the institutional turnover, the turnover of institutions portfolio is more than the individual.

Vo (2016) using panel data econometrics techniques during the period 2006 to 2012, reported that ownership has a greater influence on stock return volatility. As for the results found that institutional ownership stabilizing stocks return volatility. Furthermore it seemed that the stabilizing affect higher in those firms which are paying dividend. But when the firms are paying more dividends their stabilizing affects move to greater.

According to Rubin and Smith (2009) documented the institutional ownership, volatility and dividends. The sample period is going from 1998 to 2003. They studied that the institutional proprietorship relationship with instability, is affected by the company dividend policy. The current study found that there is correlation coefficient between institutional ownership and stock volatility depending upon the firm's dividend policy: there is a positive correlation between the institutional ownership and volatility among dividend paying stocks. The results also found that the correlation institutional ownership with turnover is higher for dividend stocks.

Babikir et.al (2012) found a strong level of unconditional volatility and variance structure in stock return. Volatility in stock return has a relevance to structural breaks in the South African equity market. This study also counts the effect of leverage in long time horizon evaluating stock return volatility in equity markets. As far as the study focuses that return volatility is very essential for portfolio formation and investment decision, the most important factor to evaluate the pricing of security is volatility. According to many

researchers the important tool for risk measurement for all financial institution around the world is volatility.

Allen, Bernardo and Welch (2000) presented that the institutions are paying dividend for two reasons. Firstly, the institutions which are paid more dividends cannot sue by investors because the court considers that these firms are higher prudent investments firms. Secondly, the institutions are pay more dividends, gains tax benefit because there is no tax on dividend. Those institutions which pay higher dividends are attract more institutional investors due to the tax advantages.

Azzam (2010) documented the impact of institutional ownership and dividend policy and stock return and volatility. The sample period is 50 most traded firms out of 372 firms listed in Egyption stock exchange. The time period is from 2004 to 2007 total 200 observation in the four years data. The paper explained that there is positive effect in private institutional ownership on stock returns volatility. It is due to the private institution in Egypt turnover of their portfolios is more than retail investors. In three ways profitability, firm size and leverage, private institution can stabilize stocks return volatility. And the other side these three block holders increases payout ratio because the investors want to receive more dividend shares. It is investigated that their is a positive and significant effect dividend policy on volatility and institutional ownership and for non-dividend paying stocks the effect is opposite because institutional investors herding stock are more in non- dividend paying stocks.

Short, Zhang and Keasey (2002) studied about ownership structure and dividends policy in the dividend payout model. Different researchers Linture (1956); Waud (1966); and

Fama and Babiak (1968) used dividend models and find out positive association institutional ownership with dividend payout. But some evidence found which are supported negative association managerial ownership with dividend payout policy.

Warrad, Abed, Khriasat and Al-Sheikh (2012) have studied the relationship between dividend payout policy and institutional ownership for Jordanian firms According to Tobin's Q analyses , the study found no relationship among foreign ownership structure, dividend policy, private ownership and government ownership.The results show that there is significant positive relationship foreign ownership with dividend payout policy.

Rozeff (1982) had started in new method agency cost in to dividend context. Through agency theory of Jensen and Meckling (1976) they derived optimal dividend payout model. When in this model increased dividends, the lower agency cost and higher transaction cost recorded. They observed that dividends payout is negative when stock hold by insider holder. They also found that outsider shareholder have higher demand of dividend payout because their ownership is more expand.

Kouki and Guizani (2009) studied that the institutional ownership has significant negative relation with between dividend. And the relationship of dividends and institutional ownership are also significant negative.

Mehrani, Moradi and Eskanda (2011) documented that there is negative association between dividend payout and institutional investors. As for explanation the firm performance is good when the larger institutional distributed dividend. The impact of institutional possession is certain with dividend. So it indicated that the large institutional investors distributed more dividends for minimizing agency problems. The institutional

ownership and volatility have negative correlation due to the institutional greater risk aversion. Because the non-dividend paying stocks are more volatile as compare to the dividend-paying stock (West, 1988; Pastor & Veronesi, 2003). There is a inverse relation of stock return volatility and institutional ownership in non-dividend paying firms. The literature reported that non dividend firms stocks are higher volatile than dividend-paying firms. The reason is that non-dividend firms are vaguer in future. That's why non-dividend firms are greater volatile (West, 1988; Pastor & Pietro, 2003).

Elston, Hofler and Lee (2011) have studied dividend policy and institutional ownership in Germany. The annual data is used of Bonn Database from 1970 to 1986 for analysis purpose, in the previous literature elude many researchers pitfall. In Germany institutional environment, management have right to sustain a specific percentage of profit and less tax incentives, which minimize the agency costs regarding issue between mangers and shareholder interests.

Karathanassis and Chrysanthopoulou (2005) extended the study of Short et al (2002), they observed the relation of corporate dividend policy & ownership structure. Their analysis shows opposite relationship of ownership structure and corporate dividend policy. Bichara (2008) documented a study of institutional ownership and dividends through signaling and agency costs theory. The study found that the ability and information of firm, institutional investors have higher than retail investors. The decisions of institutional investors are more capable and respond positively to the dividend. Amihud et al. (2006) studied the relationship of dividend and institutional holding. If the ratio of institutional investors more in firms then the dividend announcement disputed increasingly. As for as to the result found that institutional

investors have more information than other investors. Rubin (2009) studied that the institutional ownership has more information than individual investors. There is evidence that greater institutional ownership have more information and less information error (e.g., Sais 1996). The firms which are paying dividends have less information than the non-dividend paying firms (Li and Zhao, 2008). The return volatility is the cause of increase in institutional ownership due to increasing in institutions. Evidence is supported by the positive association between volatility and turnover (Karpoff, 1987).

According to Choi and Richardson (2012) documented the important movement for volatility in equity is financial leverage. They investigate the relationships through many components like financial leverage, risk premium and idiosyncratic volatility. They found numerous and stronger result than previous literature. The study also shows that asset volatility is itself time-varies and leverage is dominant factor for asset volatility.

## Research Hypothesis

**Ho:** There is no relationship between institutional ownership and stock returns volatility.

**H1:** There is a negative significant relationship between institutional ownership and stock returns volatility.

**Ho:** Dividend policy is no statistically significant correlated with stock return volatility.

**H2:** Dividend policy is negatively and statistically significant correlated with stock return volatility.

# CHAPTER 03
# RESEARCH METHODOLOGY

This section contains data description and methodology of the study which covers the sample frame work, population, data, measurement of the dependent and independent variables and list of variables and statistical model.

## 3.1 Data Description

The study aims to investigate that the institutional ownership increase stock returns volatility for non financial firms which are listed at the Pakistan stock exchange. The data has been used sector- wise on the basis of market capitalization. The sample period has been taken of ten years from 2005 to 2014. The sample of the study includes 79 non financial firms listed of the Pakistan stock exchange. The companies were taken on the basis of market capitalization. Data sources were used Pakistan stock exchange website, annual reports data from companies' sites and financial statement analysis reports from state bank of Pakistan websites.

## 3.2 Model Specification

$$Voli,t = \alpha + \beta_1 * INSTi,t + \beta_{2*} FSi,t + \beta_3 * LEVi.t + \beta_4 * MTBi.t + \beta_5 * TURNOVERi.t + \varepsilon_{i,t} \text{ ------(1)}$$

Where,

**Voli,t** is the stock return volatility of firm i at time t

**α** is the constant

**INSTi,t** is the institutional ownership of firm i at time t

**FSi,t** is the firm size of firm i at time t

**LEVi,t** is the leverage of firm i at time t

**MTBi,t** is the market to book ratio of firm i at time t

**TURNOVERi,t** is the turnover of firm i at time t

**β1 to β7** is coefficient

$\varepsilon_{i,t}$ is the error term

## BASE LINE MODEL

$$Vol_{i,t} = \alpha_{i,t} + \beta_{i,t} X_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$Vol_{i,t} = \alpha_{i,t} + \beta_{i,t} Vol_{i,t}\text{-}1 + \beta_{i,t} X_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$Vol1_{i,t} = \alpha_{i,t} + \beta_{i,t} Vol1_{i,t}\text{-}1 + \beta_{i,t} INST_{i,t} + \beta_{i,t} FSI_{i,t} + \beta_{i,t} LEV_{i,t} + \beta_{i,t} MBR_{i,t} + \beta_{i,t} TURNOVER_{i,t} + \varepsilon_{i,t} \quad (3)$$

$$Vol2_{i,t} = \alpha_{i,t} + \beta_{i,t} Vol2_{i,t\text{-}1} + \beta_{i,t} INST_{i,t} + \beta_{i,t} SIZE_{i,t} + \beta_{i,t} LEV_{i,t} + \beta_{i,t} MBR_{i,t} + \beta_{i,t} TURNOVER_{i,t} + \varepsilon_{i,t} \quad (4)$$

### 3.2.1 Panel Data Regression Model

The panel data analysis incorporated fixed effect model, common effect model and random effect model. The current study conducted panel data analysis. This study is used two statistical tests for identifying most suitable model. First technique is used for comparing fixed effect model and common effect model. While redundant fixed effect is used for choosing suitable model. If the value of chi-square is significant then use fixed effect model. But if the p-value is insignificant then use common effect model. Second technique is used for comparing random effect model and fixed effect model and for selection the model Housman test is used. In current study redundant fixed effect is significant. So our current study is used fixed effect model.

## 3.3 Measurement of Variables

### 3.3.1 Stock return volatility

Stock returns volatility is measured as( RETURNi,t is the daily return of stock i in day k of year t), MEANi,t is the yearly normal of all day by day stock returns of firm i in year t, n is the quantity of exchanging days in year t (Vo, 2016).

$$VOL1_{i,t} = \frac{1}{n} \sum_{1}^{n} \ln (return_{i,k}{}^{2})$$

$$VOL2_{i,t} = \sqrt{\frac{1}{n-1} \sum_{1}^{n} (return_{i,k} - MEAN_{i,t})^{2}}$$

### 3.3.2 Institutional ownership

Institutional ownership is the percentage of ownership, which is possessed by institutional investors. (Shleifer et al., 1986; Allen et., 2001) documented that the investors of large institutional are more enthusiastic and capable to manage corporate management as compared to smaller investors. Following (Short et al., 2002; Karathanassis et al., 2005) is defined that institutional ownership as the total percentage of share by domestic and foreign institutional investors – mutual funds and trusts owning investment 5 % or more than equity during 2005 to 2010.

**Relationship Models**

### 3.3.3 Dividend Policy (DIVEC)

$$Voli,t = \alpha + \beta_1 * INSTi,t + \beta_{2*} INSTi,t_* DIVECi,t + \beta_3 * DIVECi.t + \beta_{4*} FSi,t + \beta_5 * LEVi.t + \beta_6 * MTBi.t + \beta_7 * TURNOVERi.t + \varepsilon_{i,t} \quad \text{----------(2)}$$

The proxy of dividend policy is used as DIVECi,t of the firm, for a dummy variable taking the scope of 1 if the firm pays dividend and if not pay divdend then 0. While the collaboration term INSTi,t * DIVECi,t permit to separate the impact of institutional possession on stock returns instability of the divdend paying firms and non-divdend paying firms (Vo, 2016).

### 3.3.4 Dividend Payout Ratio (DPR)

$$Voli,t = \alpha + \beta_1 * INSTi,t + \beta_{2*} INSTi,t_* DPRi,t + \beta_3 * DPRi.t + \beta_{4*} FSi,t + \beta_5 * LEVi.t + \beta_6 * MTBi.t + \beta_7 * TURNOVERi.t + \varepsilon_{i,t} \quad \text{----------(3)}$$

Dividend payout ratio is measured as dividend per share of firm i at time t dividend by earning per share of firm i at time t. While the interaction term INSTit,t * DPRi,t permits to examine dividend payout at different level are effected by institutional ownership on stock return volatility (Vo, 2016).

## 3.4 Control Variables

### 3.4.1 Firm size (FSI)

When the size of the company is larger, then the return volatility of the company will be lower (Bae et al., 2004; Li et al., 2011). The firms which have more assets, their dividend payout ratios will be higher (Smith & Watts, 1992). The efficiency of dividends minimize for those firms which are larger, because larger firms have more information than smaller firms. So we can use size easily for a simple control variable (Gadhoum, 2000). The firm size is measured through natural logarithm of stock market value at the end of each fiscal year.

### 3.4.2 Leverage (LEV)

The financial leverage has crucial function for examining manager and minimizing the agency cost regarding disagreement of managers and shareholders (Jensen & Meckling, 1976; Jensen, 1986; Stulz, 1990). There have been investigated that the debt using minimizes the requirement of dividend due to the agency conflict between managers and shareholders. Hence, the predictions of free cash flow in agency theory are negative relationship between dividend and debt (Jensen, 1986). The proxy of Leverage is total debt at the end of the year divided by total asset of the firm.

### 3.4.3 Turnover

The turnover is the most essential aspects which affect stock return volatility. When there is greater turnover ratio, ultimately return volatility will be greater (Li et al., 2011). It is investigated that the rate of turnover on international investment is greater as compared

with the turnover rate in the domestic country investors, and the foreign security market (Tesar & Werner, 1995). So the results suggested that for foreign investor liquidity is an important element. The intermediary of turnover is "the entire number of offers exchange a year by the normal number of offers remarkable in a firm".

### 3.4.4 Market to book ratio

The current study measure market to book ratio is:

$$MTB = \frac{\text{Firm stock price}}{\text{Book value per share at the end of year}}$$

# CHAPTER 04

# EMPIRICAL RESULTS AND DISCUSSION

## 4.1 Descriptive Statistics

Table 4.1 exhibits the descriptive statistics of the data from 2005 to 2014. The mean range of institutional ownership in the study data is 36.04 % in Pakistan firms, and the maximum value record which is 39.25 %. Therefore, the results indicate that the institutional investors conquer in Pakistan stock market.

The average of volatility 1 is record 0.0219; their minimum value is 0.0339 and the maximum is 0.0453. The mean value of second volatility is record 0.2811, their maximum value is record 0.0654 and minimum value is 0.0495 which is critical changeability in the stock return unpredictability in Pakistan stock trade.

**Table 4.1 Descriptive Statistics of variables**

| | VOL1 | VOL2 | INST | SIZE | LEV | MBR | TURNOVER | DIVDEC | DPR |
|---|---|---|---|---|---|---|---|---|---|
| Mean | 0.0011 | 0.0311 | 0.3604 | 21.2524 | 0.4891 | 1.1572 | 0.0728 | 0.5899 | 0.0349 |
| Std. Dev. | 0.0006 | 0.0091 | 1.0000 | 2.0148 | 0.5203 | 0.7896 | 0.0263 | 0.4922 | 0.0383 |
| Maximum | 0.0020 | 0.0439 | 0.3925 | 25.0341 | 2.0000 | 2.3066 | 0.1121 | 1.0000 | 0.0937 |
| Minimum | 0.0004 | 0.0158 | -17.8469 | 17.7729 | 0.0345 | 0.0512 | 0.0440 | 0.0000 | 0.0000 |
| Skew. | 0.4793 | 0.0592 | -12.5521 | -0.0374 | 0.0677 | 0.2590 | 0.3892 | -0.3654 | 0.5500 |
| Kurt. | 1.7863 | 1.8192 | 187.9145 | 2.2253 | 1.9779 | 1.6414 | 1.6185 | 1.1336 | 1.6109 |
| Obs. | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790 |

## 4.2 CORRELATION ANALYSIS

Table 4.2 runs the regression to check the problem of multicollinearity among variables. There is no such problem found as per the correlation matrix among explained and explanatory variables. The analysis indicated that the volatility stock price is negative correlate to the institutional ownership. The first correlation coefficient result appears, which is supported our hypothesis that institutional ownership stabilized the stock return volatility in developing country market such as Pakistani market. So the result of stock price volatility is positive correlated with leverage and turnover while negative correlated with size and market to book ratio.

**Table 4.2 Correlation coefficients amongst variables**

| | **VOL1** | **VOL2** | **INST** | **SIZE** | **LEV** | **MBR** | **TURNOVER** |
|---|---|---|---|---|---|---|---|
| VOL1 | 1.0000 | | | | | | |
| VOL2 | 0.9514 | 1.0000 | | | | | |
| INST | -0.2353 | -0.1391 | 1.0000 | | | | |
| SIZE | -0.1789 | -0.0658 | 0.0106 | 1.0000 | | | |
| LEV | 0.2738 | 0.0731 | -0.1063 | 0.1565 | 1.0000 | | |
| MBR | -0.4812 | -0.3845 | 0.1107 | 0.0659 | 0.0297 | 1.0000 | |
| TURNOVER | 0.1481 | 0.1265 | -0.0759 | 0.1605 | 0.0883 | -0.1461 | 1.0000 |

## 4.3 Selection between Common Effect Model and Fixed Effect Model:

Redundant fixed effect test were used for the selection purpose that either common effect model or fixed effect model. The selection criteria are p-vale of the likelihood test used fixed effect model if insignificant than common effect test.

**Redundant Fixed Effects Tests**

Equation: Untitled

Test cross-section fixed effects

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 5.373710 | -78706.000000 | 0.000000 |
| Cross-section Chi-square | 368.184120 | 78.000000 | 0.000000 |

Ho = Common effect model is appropriate model.

H1 = Fixed effect model is appropriate model.

If the cross section Chi square value is significant then select fixed effect if insignificant then common effect. In the above result the cross section Chi square value is significant. It's mean that use fixed effect rather than common effect.

**Hausman Specification Test**

Hausman (1978) proposed a test to facilitate the choice of an appropriate technique between the competing approaches random effect and fixed effect.

Ho = Random effect model is appropriate model.

H1 = Fixed effect model is appropriate model.

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 28.854360 | 5.000000 | 0.000000 |

In Hausman test the p-value of cross section random is significant, it shows that final decision held on fixed effect rather than random effect.

**Lag Term results**

Redundant Fixed Effects Tests

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 5.361124 | -78627.000000 | 0.000000 |
| Cross-section Chi-square | 363.311091 | 78.000000 | 0.000000 |

If the cross section Chi square value is significant then select fixed effect if insignificant then common effect. The leg result indicates that cross section Chi square value is significant. So the results suggest that use fixed effect rather than common effect.

**Hausman test**

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 45.809679 | 5.000000 | 0.000000 |

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.000869 | 0.000240 | 3.620494 | 0.000300 |
| INST(-1) | -0.000031 | 0.000019 | -1.607910 | 0.108400 |
| SIZE(-1) | -0.000003 | 0.000011 | -0.240717 | 0.809900 |
| LEV(-1) | 0.000086 | 0.000044 | 1.981164 | 0.048000 |
| MBR(-1) | 0.000040 | 0.000037 | 1.063232 | 0.288100 |

The lag term results also indicate that the final decision on fixed effect because the Cross-section random is significant.

Table 4.4 shows result of panel data regression analysis where VOL1 is use for the volatility. An institutional ownership variable regression coefficient is negative and significant for all regressions which are correlated with volatility. The result recommends that institutional investors are making less volatile to the stocks, when they increment their holding in residential firms. The outcomes likewise exhibit some data in regards to company's instability of Pakistani market. The coefficient of firm size is negative associated in all relapse which recommends that stock cost of higher firm are low unsafe. Furthermore the coefficient of firm financial leverage variable is positive. This indicates that when firms are financed with more leverage, the price of stock will be more volatile. The volatility variables are also connected with market to book and turnover. The market to book variable coefficient is negative. This indicates that when market value of stock is greater than the stock return volatility will be lower. Furthermore the coefficient of turnover is positive which implies that those stocks will be less volatile which are less liquid.

**Table 4.4 Regression Results where the dependent variable is VOL1**

| | Least Square | | | Fixed EFFECT | | |
|---|---|---|---|---|---|---|
| **Variables** | **Coeff.** | **Std. Error** | **P-Value** | **Coeff.** | **Std. Error** | **P-Value** |
| C | 0.001480 | 0.000203 | 0.000000 | 0.001425 | 0.000175 | 0.00000 |
| INST | -0.000059 | 0.000019 | 0.002200 | -0.000049 | 0.000018 | 0.00980 |
| SIZE | -0.000014 | 0.000009 | 0.150200 | -0.000022 | 0.000008 | 0.00700 |
| LEV | 0.000072 | 0.000037 | 0.054800 | 0.000068 | 0.000030 | 0.02630 |
| MBR | -0.000271 | 0.000024 | 0.000000 | -0.000040 | 0.000028 | 0.16050 |
| TURNOVER | 0.001989 | 0.000744 | 0.007700 | 0.001382 | 0.000682 | 0.04330 |
| R-Square | 0.178308 | | | 0.664924 | | |
| Adjusted $R^2$ | 0.173068 | | | 0.625531 | | |
| F-Statistics | 34.025740 | | | 16.879340 | | |
| Prob. (F-Statistics) | 0.000000 | | | 0.000000 | | |

Table 4.5 shows the regression results, when the dependent variable is volatility two (VOL2). The results find out through VOL2 again, the effect of institutional possession on stock return instability is same as table 4.5. It is seem that the coefficient of institutional ownership is significant and negative for all regressions.

**Table 4.5 Regression Results (dependent variable is VOL2)**

| | Least Square | | | Fixed Effect | | |
|---|---|---|---|---|---|---|
| **Variables** | **Coeff.** | **Std. Error** | **P-Value** | **Coeff.** | **Std. Error** | **P-Value** |
| C | 0.03895 | 0.00315 | 0.00000 | 0.03800 | 0.0029 | 0.0000 |
| INST | -0.00076 | 0.00029 | 0.01060 | -0.00054 | 0.0002 | 0.0423 |
| SIZE | -0.00029 | 0.00015 | 0.05360 | -0.00037 | 0.0001 | 0.0048 |
| LEV | 0.00137 | 0.00057 | 0.01800 | 0.00132 | 0.0004 | 0.0073 |
| MBR | -0.00416 | 0.00038 | 0.00000 | -0.00070 | 0.0004 | 0.1274 |
| TURNOVER | 0.02436 | 0.01157 | 0.03560 | 0.00807 | 0.0119 | 0.5011 |
| R-Square | 0.17023 | | | 0.67629 | | |

| | | |
|---|---|---|
| Adjusted $R^2$ | 0.16494 | 0.63824 |
| F-Statistics | 32.1690 | 17.77120 |
| Prob. (F-Statistics) | 0.00000 | 0.00000 |

It is investigated that regardless of whether the relationship between institutional possession and stock return unpredictability is relied on profit, for this reason utilize connection term between institutional proprietorship and profit arrangement variable which is relapse in table 4.6. The estimated regression result shows in table 4.6 where the outcomes for the cooperation between institutional possession and profit choice of firm. The result shows in table 4.6 that coefficient for the connection terms are noteworthy and negative. The results verify that the stabilizing effects of institutional investors are more for those firms which are paying dividends.

**Table 4.6 Regression Results**

| | **VOL1** | | | | **VOL2** | | | |
|---|---|---|---|---|---|---|---|---|
| | **Least Square** | | **FIXED EFFECTS** | | **Least Square** | | **FIXED EFFECTS** | |
| **Variables** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** |
| C | 0.001713 | 0.000000 | 0.001549 | 0.000000 | 0.042486 | 0.000000 | 0.040549 | 0.000000 |
| INST | -0.000041 | 0.027800 | -0.000046 | 0.000600 | -0.000490 | 0.092100 | -0.000505 | 0.013300 |
| INST*DIVDEC | -0.000284 | 0.111900 | -0.000248 | 0.073300 | -0.004527 | 0.104100 | -0.003400 | 0.014800 |
| DIVDEC | -0.000141 | 0.330100 | -0.000010 | 0.932200 | -0.001940 | 0.390000 | -0.000593 | 0.756100 |
| SIZE | -0.000016 | 0.073800 | -0.000022 | 0.009700 | -0.000329 | 0.021900 | -0.000413 | 0.000700 |
| MBR | -0.000198 | 0.000000 | -0.000033 | 0.647700 | -0.003056 | 0.000000 | -0.000623 | 0.568700 |
| LEV | 0.000052 | 0.140800 | 0.000074 | 0.040500 | 0.001077 | 0.051800 | 0.001535 | 0.039100 |
| TURNOVER | 0.001587 | 0.025000 | 0.001373 | 0.098000 | 0.018313 | 0.097300 | 0.006474 | 0.646000 |
| R-Square | 0.263633 | | 0.682118 | | 0.251744 | | 0.696660 | |
| Adjusted $R^2$ | 0.257042 | | 0.643737 | | 0.245047 | | 0.660035 | |
| F-Statistics | 39.995810 | | 17.772420 | | 37.585360 | | 19.021530 | |
| Prob. (F-Statistics) | 0.000000 | | 0.000000 | | 0.000000 | | 0.000000 | |

It is documented that regardless of whether the effect of institutional financial specialists and sock return instability on profit payout record. In table 4.7 the results indicate the coefficient for interaction terms is negative and significant. So it is discovering that institutional possession on stock return unpredictability is generally negative which recommend that the firm payout proportion is higher.

As a whole find out that the effect of institutional financial specialists on stock return unpredictability in Pakistan securities exchange is rely on that whether firms are paying profit or not paying profit. Generally, investigation result show that the institutional possession are more noteworthy balancing out impacts on stock return instability in that organizations which are paying profit. Further, stock return volatility more stabilized when the firm is paying more dividends.

**Table 4.7 Regression Results**

| | **VOL1** | | | | **VOL2** | | | |
|---|---|---|---|---|---|---|---|---|
| | **LS** | | **FIXED EFFECTS** | | **LS** | | **FIXED EFFECTS** | |
| **Variables** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** |
| C | 0.001655 | 0.000000 | 0.001529 | 0.000000 | 0.041551 | 0.000000 | 0.040222 | 0.000000 |
| INST | -0.000037 | 0.044000 | -0.000043 | 0.000400 | -0.000445 | 0.122100 | -0.000461 | 0.017500 |
| INST*PAYOUT | -0.000314 | 0.000000 | -0.000296 | 0.000000 | -0.004298 | 0.000300 | -0.005044 | 0.000000 |
| DPR | -0.002541 | 0.001400 | -0.000051 | 0.939900 | -0.045379 | 0.000300 | 0.005215 | 0.527900 |
| SIZE | -0.000017 | 0.058300 | -0.000022 | 0.011500 | -0.000346 | 0.015600 | -0.000408 | 0.001100 |
| MBR | -0.000156 | 0.000000 | -0.000031 | 0.669300 | -0.002301 | 0.000000 | -0.000627 | 0.575800 |
| LEV | 0.000056 | 0.116200 | 0.000074 | 0.039800 | 0.001155 | 0.036700 | 0.001515 | 0.036800 |
| TURNOVER | 0.001854 | 0.009100 | 0.001481 | 0.067200 | 0.022831 | 0.038800 | 0.007170 | 0.605400 |
| R-Square | 0.263726 | | 0.686287 | | 0.255898 | | 0.698547 | |
| Adjusted $R^2$ | 0.257136 | | 0.648410 | | 0.249237 | | 0.662150 | |
| F-Statistics | 40.015020 | | 18.118730 | | 38.418790 | | 19.192460 | |
| Prob.F (Statstics) | 0.000000 | | 0.000000 | | 0.000000 | | 0.000000 | |

## Results with Lag term

Table 4.3.1 shows result of panel data regression analysis where VOL1 is use for the volatility. An institutional ownership variable regression coefficient is negative and insignificant for all regressions which are not correlated with volatility. The result recommends that institutional investors are making more volatile to the stocks, when they boost their holding in household firms. So the outcomes additionally clarify some data with respect to association's instability of Pakistani market. There is positive correlation of firm size is in all regression which proposes that stock price of the lower firm are less risky. Furthermore, the coefficient of firm financial leverage variable is positive. The financial leverage indicated that when firms require more leverage by financing, in that time the price of the stock is to be more volatile. The volatility variables are also connected with the market to book and turnover. The market to book variable coefficient is negative. This indicates that when the market value of the stock is greater than the stock return volatility will be lower. Furthermore, the coefficient of turnover is positive which implies that those stocks will be less volatile which are less liquid.

**Table 4.3.1 Regression Results where the dependent variable is VOL1**

| | Least Square | | | Fixed EFFECT | | |
|---|---|---|---|---|---|---|
| **Variables** | **Coeff.** | **Std. Error** | **P-Value** | **Coeff.** | **Std. Error** | **P-Value** |
| C | 0.001205 | 0.000217 | 0.000000 | 0.000869 | 0.000240 | 0.000300 |
| INST(-1) | -0.000044 | 0.000020 | 0.024600 | -0.000031 | 0.000019 | 0.180400 |
| SIZE(-1) | -0.000007 | 0.000010 | 0.494000 | -0.000003 | 0.000011 | 0.099900 |
| LEV(-1) | 0.000126 | 0.000039 | 0.001500 | 0.000086 | 0.000044 | 0.048000 |
| MBR(-1) | -0.000248 | 0.000027 | 0.000000 | 0.000040 | 0.000037 | 0.288100 |
| TURNOR(-1) | 0.002360 | 0.000790 | 0.002900 | 0.001752 | 0.000966 | 0.070100 |
| R-Square | 0.159170 | | | 0.4955830 | | |
| Adjusted $R^2$ | 0.153206 | | | 0.4288100 | | |
| F-Statistics | 26.69141 | | | 7.421913 | | |
| Prob. (F-Stcs) | 0.000000 | | | 0.000000 | | |

Table 4.4.1 shows the regression results, when the dependent variable is volatility two (VOL2). The results find out through VOL2 again, the effect of institutional possession on stock return unpredictability is same as table 4.3.1. It is seem that the coefficient of institutional ownership is insignificant and negative for all regressions.

**Table 4.4.1 Regression Results (dependent variable is VOL2)**

| | Least Square | | | Fixed Effect | | |
|---|---|---|---|---|---|---|
| **Variables** | **Coeff.** | **Std. Error** | **P-Value** | **Coeff.** | **Std.Error** | **P-Value** |
| C | 0.033236 | 0.003392 | 0.000000 | 0.027272 | 0.003793 | 0.00000 |
| INST(-1) | -0.00073 | 0.000307 | 0.017900 | -0.00497 | 0.000300 | 0.098100 |
| SIZE(-1) | -0.00078 | 0.000162 | 0.628500 | 0.000020 | 0.000178 | 0.029300 |
| LEV(-1) | 0.001876 | 0.000616 | 0.002400 | 0.001314 | 0.000688 | 0.056600 |
| MBR(-1) | -0.00385 | 0.000415 | 0.000000 | 0.000576 | 0.000591 | 0.330200 |
| TRNOR(-1) | 0.023651 | 0.012354 | 0.056000 | 0.015267 | 0.015263 | 0.317600 |
| R-squared | 0.148058 | | | 0.477234 | | |
| Adjusted $R^2$ | 0.142016 | | | 0.408032 | | |
| F-Statistics | 24.65924 | | | 6.896265 | | |
| Prob. (F-Sc) | 0.000000 | | | 0.000000 | | |

For the first difference, the regressions run again through robustness test. In regressions the dependent variable is vary stock price volatility. Difference in explanatory variable, control variables and independent variables are includes.

Table 4.5 results show that the institutional speculators have brought down stock value instability due to the negative and significant coefficient of volatility.

**Table 4.5 Regression Results in differenced form**

| | VOL1 | | VOL2 | |
|---|---|---|---|---|
| **Variables** | **coeff.** | **p-value** | **coeff.** | **p-value** |
| C | -0.00001 | 0.989000 | -0.000011 | 0.000000 |
| INST(-1) | -0.00017 | 0.0068000 | -0.000118 | 0.083170 |
| SIZE(-1) | -0.00011 | 0.248100 | -0.000292 | 0.085200 |
| LEV(-1) | 0.00043 | 0.161200 | 0.000969 | 0.065000 |
| MBR(-1) | -0.00094 | 0.000000 | -0.001683 | 0.000000 |
| TURNOVER(-1) | -0.00448 | 0.653500 | -0.012225 | 0.407700 |
| R-squared | 0.046041 | | 0.050643 | |
| Adjusted $R^2$ | 0.087446 | | 0.061125 | |
| F-statistic | 17.765876 | | 14.453107 | |
| Prob(F-statistic) | 0.000000 | | 0.000000 | |

It is investigated that the association of institutional possession and stock return unpredictability is relied on dividend, for this purpose use interaction term linking institutional ownership and dividend policy variable which is regress in table 4.6.1. The estimated regression result shows in table 4.6.1 where the results for the relationship between institutional ownership and profit choice of firm. The outcome appears in table 4.6.1 that coefficient for the association terms are unimportant and negative. The results

verify that the stabilizing effects of institutional investors are less for those firms which are paying dividends and more for non dividend paying firms.

**Table 4.6.1 Regression Results**

| | VOL1 | | | | VOL2 | | | |
|---|---|---|---|---|---|---|---|---|
| | Least Square | | FIXED EFFECTS | | Least Square | | FIXED EFFECTS | |
| **Variables** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** |
| C | 0.001390 | 0.000000 | 0.000948 | 0.000100 | 0.037415 | 0.000000 | 0.029941 | 0.000000 |
| INST(-1) | -0.000033 | 0.082800 | -0.000045 | 0.114000 | -0.000367 | 0.210400 | -0.000521 | 0.125000 |
| INST*DIVDEC | -0.000248 | 0.003800 | 0.000007 | 0.891700 | -0.003769 | 0.004700 | 0.000495 | 0.936500 |
| DIVDEC(-1) | -0.000376 | 0.000000 | -0.000143 | 0.005700 | -0.006250 | 0.000000 | -0.003212 | 0.000100 |
| SIZE(-1) | -0.000005 | 0.580800 | -0.000002 | 0.823900 | -0.000112 | 0.460100 | -0.000024 | 0.892600 |
| LEV(-1) | 0.000082 | 0.028000 | 0.000086 | 0.046900 | 0.001462 | 0.011500 | 0.001534 | 0.025200 |
| MBR(-1) | -0.000171 | 0.000000 | 0.000035 | 0.352500 | -0.002562 | 0.000000 | 0.000584 | 0.319600 |
| TURNOVER(-1) | 0.001930 | 0.009300 | 0.001826 | 0.057800 | 0.014856 | 0.198100 | 0.014006 | 0.354600 |
| R-Square | 0.267965 | | 0.504335 | | 0.265789 | | 0.490499 | |
| Adjusted $R^2$ | 0.260676 | | 0.436924 | | 0.258478 | | 0.421207 | |
| F-Statistics | 36.76237 | | 7.481546 | | 36.35579 | | 19.021530 | |
| Prob. (F-Statistics) | 0.000000 | | 0.000000 | | 0.000000 | | 0.000000 | |

It is documented that the impact of institutional investors and sock return volatility on dividend payout record. In table 4.7.1 the results indicated that the coefficient for interaction terms is insignificant negative record. So it is find out that institutional

ownership effect on stock return volatility is mostly negative but insignificant which suggest that the firm payout ratio is lower.

As a whole find out that the impact of institutional monetary experts on stock return insecurity in the Pakistani securities exchange is relied on that whether firms are paying dividend or not paying dividend. Mostly, analysis present that the institutional possession have more prominent balancing out consequences for stock return instability in that organizations which are paying profit. Further, stock return volatility more stabilized when the firm is paying more dividends. But when take lag term results are not relates with this study.

**Table 4.7.1 Regression Results**

| | **VOL1** | | | | **VOL2** | | | |
|---|---|---|---|---|---|---|---|---|
| | **LS** | | **FIXED EFFECTS** | | **LS** | | **FIXED EFFECTS** | |
| **Variables** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** | **Coeff.** | **P-Value** |
| C | 0.001286 | 0.000000 | 0.000970 | 0.000100 | 0.034562 | 0.000000 | 0.028861 | 0.000000 |
| INST(-1) | -0.000035 | 0.050700 | -0.000043 | 0.117500 | -0.000425 | 0.145800 | -0.000496 | 0.106300 |
| INST*DPR | -0.003428 | 0.014700 | -0.000525 | 0.484600 | -0.054804 | 0.012200 | -0.007465 | 0.568500 |
| DPR(-1) | -0.005202 | 0.000000 | -0.002438 | 0.002400 | -0.085387 | 0.000000 | -0.039923 | 0.001700 |
| SIZE(-1) | -0.000010 | 0.330500 | -0.000004 | 0.702300 | -0.000120 | 0.430600 | -0.000004 | 0.982900 |
| LEV(-1) | 0.000111 | 0.002800 | 0.000093 | 0.032700 | 0.001675 | 0.003900 | 0.001420 | 0.038500 |
| MBR(-1) | -0.000093 | 0.001700 | 0.000046 | 0.214500 | -0.001340 | 0.003700 | 0.000696 | 0.239200 |
| TURNOVER(-1) | 0.002428 | 0.001100 | 0.001819 | 0.058200 | 0.025132 | 0.029800 | 0.016687 | 0.272100 |
| R-Square | 0.261730 | | 0.505921 | | 0.258414 | | 0.486149 | |

| | | | | |
|---|---|---|---|---|
| Adjusted $R^2$ | 0.254378 | 0.438726 | 0.251029 | 0.416266 |
| F-Statistics | 35.60367 | 7.529162 | 34.99541 | 6.956550 |
| Prob.F (Statstics) | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

# CHAPTER 05

# CONCLUSION AND RECOMMENDATION

There has been huge experience of institutional investors in the collection and interpretation of information on firm's performance. The agency theory suggested that ownership structure and optimal capital structure can stabilize agency cost. The preferred study considers the impact of institutional ownership on stabilizing the stock return volatility. There is economic interpretation that fluctuation in the flow of information between low and high volatility, and high or less persistency volatility is due to the external events such as technological change and information changing. In current study the data sample is used from 2005 to 2014, non-financial firms listed in the Pakistan stocks exchange.

The institutional ownership results correlated with stock return volatility. The outcomes recommend that financial specialists make less unpredictable the stocks when they increase their holding in local firms. Similarly, control variables such as firm size, leverage, market to book ratio and turnover are used in panel analysis for the controlling of volatility. But when regress variable with lag term there results are no effect.

The current study explores the impact of institutional ownership on stock return volatility. The studies find out that institutional proprietorship help to balance out stock return volatility. The outcome demonstrates that the role of dividend paying firm is very essential for stabilizing the stock return volatility. Those firms which are paying more dividends will deserve more stabilizing effect as compare to the non-dividends paying firms.

**Policy implication**

The study has contributed policy implication in three dimensions. Firstly, the empirical results provide participation and role of institutional ownership impact on stock return volatility. Secondly, institutional ownership should be considered by the regulatory authority and policy maker in order to get benefits and support toward stock return volatility. Thirdly, by the finding shows that government should implement strategy for invited institutional owners to invest in the stock market of local firms.

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## APPENDICES

### Annexure I

The details of companies taken from each sector of Pakistan are given below:

| Industries | Number of Companies |
|---|---|
| Oil and Gas | 2 |
| Chemicals | 6 |
| Automobile Assemblers | 8 |
| Food Producers | 6 |
| Textile spinning | 8 |
| Textile Composite | 12 |
| Automobile and parts | 3 |
| Pharmaceuticals | 3 |
| Cable | 1 |
| Textile Weaving | 2 |
| Sugar Mills | 4 |

| | |
|---|---|
| Cement | 9 |
| Fertilizer | 3 |
| Glass | 1 |
| Power Generation | 4 |
| Refinery | 4 |
| Tobacco | 2 |
| Transport | 1 |

| | |
|---|---|
| AL- Abbas Sugar Mills Limited | Glaxosmithkline (Pak) Limited |
| Abbot Laboatories Pakistan Limited | Ghandhara Nissan Limited |
| Attock Cement Pakistan Limited | Gharibwal cement Limited |
| Azgard Nine Limited | Honda Atlas Cars (Pakistan) Limited |
| Atlas Battery Limited | HinoPak Motors Limited |
| Atlas Honda Limited | Hub Power Company Limited |
| Attock Refinery Limited | I.C.I Pakistan Limited |
| Biafo Industries Limited | Ittehad Chemmical Limited |
| Blessed Textile Limited | Indus Motor Company Limited |
| Best way Cement Limited | Japan Power Generation Limited |
| Bringing you clear option Petroleum (BYCO) | Kohinoor Mills Limited |
| Century Paper Limited | Karachi electric supply corporation ltd |
| Crescent Fibres Limited | Kohat Cement Limited |
| Cherat Cement Company Limited | Kohinoor Energy Limited |
| Crescent Sugar Mills & Distillery Limited | Kohinoor Sugar Mills Limited |
| Dawood Hercules Corporation Limited | Kohat Textile Mills Limited |
| Dawood Lawrancepur Limited | Kohinoor Textile Limited |

Dewan Auto Engineering Limited

Engro Corporation Limited

Exide Pakistan Limited

Faisal Spinning Mills Limited

Fauji Cement Company Limited

Fauji Fert Bin Limited

Fauji Fertilizer Company Limited

Gul Ahmed Textile Mills Limited

Ghani Glass Limited

Laferage Pakistan Limited

Lucky Cement Limited

Mehmood Textile Mills Limited

Mirpurkhas Sugar Mills Limited

Maple Leaf Cement Factory Limited

Nadeem textile mills limited

Nishat Mills Limited

National Refinery Limited

Pakistan Cables Limited

Nimir Industries Chemicals Limited

Oil & Gas Development Company Limited

Pakistan Tobacco Company Limited

Pakistan International Airlines Corporation Limited

Pioneer Cement Limited

Packages Limited

Pakistan Oilfields Ltd.

Premium Textile Mills Engineering Limited

Pakistan Telecommunication Company Limited

Pakistan Refinery Limited

Quality Textile Mills Limited

Quetta Textile Mills Limited

Rafhan Maize products Limited

Saif Textile Mills Limited

Salfi Textile Mills Limited

Sazgar Engineering Works Limited

Southern Electric Company Limited

Shell Pakistan Limited

Siemens Pakistan Engineering Company Limited

Sitara Chemical Industries Limited

Tata textile Mills Limited

Unilever Foods Limited

Wah-Nobel Chemicals Limited

World Call Telecommunication Limited

Wyeth Pak Limited

Zephyr Textile Limited

Zulfeqar industries Limited

## Annexure II

### Common Effect Model

Dependent Variable: VOL1
Method: Panel Least Squares
Date: 07/15/17 Time: 12:09
Sample (adjusted): 2006 2014
Periods included: 9
Cross-sections included: 79
Total panel (balanced) observations: 711

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.000869 | 0.00024 | 3.620494 | 0.000300 |
| INST(-1) | -0.000031 | 1.90E-05 | -1.60791 | 0.108400 |
| SIZE(-1) | -0.000003 | 1.13E-05 | -0.24072 | 0.809900 |
| LEV(-1) | 0.000086 | 4.35E-05 | 1.981164 | 0.048000 |
| MBR(-1) | 0.000040 | 3.74E-05 | 1.063232 | 0.288100 |
| TURNOVR(-1) | 0.001752 | 0.000966 | 1.814283 | 0.070100 |

| | |
|---|---|
| R-squared | 0.495583 |
| Adjusted R-squared | 0.428810 |
| S.E. of regression | 0.000445 |
| Sum squared resid | 0.000124 |
| Log likelihood | 4522.576000 |
| F-statistic | 7.421913 |

| | |
|---|---|
| Prob(F-statistic) | 0.000000 |

The institutional ownership result with leg term regression is positive on stock return volatility. The results indicate that institutional ownership increase stock return volatility, which is not, supported the current study hypothesis.

**Random Effect Model**

Dependent Variable: VOL1
Method: Panel EGLS (Cross-section random effects)
Date: 07/15/17 Time: 12:14
Sample (adjusted): 2006 2014
Periods included: 9
Cross-sections included: 79
Total panel (balanced) observations: 711

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.001025 | 0.000222 | 4.614711 | 0.000000 |
| INST(-1) | -0.000039 | 0.000018 | -2.149756 | 0.031900 |
| SIZE(-1) | -0.000004 | 0.000010 | -0.421668 | 0.673400 |
| LEV(-1) | 0.000110 | 0.000040 | 2.753037 | 0.006100 |
| MBR(-1) | -0.000096 | 0.000031 | -3.089507 | 0.002100 |
| TURNOVER(-1) | 0.001892 | 0.000854 | 2.215807 | 0.027000 |

| | |
|---|---|
| R-squared | 0.039317 |
| Adjusted R-squared | 0.032504 |
| S.E. of regression | 0.000458 |
| F-statistic | 5.77061 |
| Prob(F-statistic) | 0.000031 |

## Sample Regression

### Common effect

Dependent Variable: VOL1
Method: Panel Least Squares
Date: 07/15/17 Time: 12:45
Sample: 2005 2014
Periods included: 10
Cross-sections included: 79
Total panel (balanced) observations: 790

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.001301 | 0.000225 | 5.784723 | 0.000000 |
| INST | -0.000049 | 0.000019 | -2.635781 | 0.008600 |
| SIZE | -0.000012 | 0.000011 | -1.168558 | 0.243000 |
| LEV | 0.000022 | 0.000041 | 0.529488 | 0.596600 |
| MBR | -0.000055 | 0.000035 | -1.585539 | 0.113300 |
| TURNOVER | 0.001195 | 0.000917 | 1.303923 | 0.192700 |

| | |
|---|---|
| R-squared | 0.484411 |
| Adjusted R-squared | 0.423796 |
| S.E. of regression | 0.000445 |
| Sum squared resid | 0.000140 |
| Log likelihood | 5020.683000 |
| F-statistic | 7.991660 |
| Prob(F-statistic) | 0.000000 |

**Fixed Effect Model**

Dependent Variable: VOL1
Method: Panel EGLS (Cross-section random effects)
Date: 07/15/17 Time: 12:49
Sample: 2005 2014
Periods included: 10
Cross-sections included: 79
Total panel (balanced) observations: 790

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.001387 | 0.000211 | 6.580355 | 0.000000 |
| INST | -0.000055 | 0.000018 | -3.065164 | 0.002300 |
| SIZE | -0.000013 | 0.000010 | -1.311912 | 0.189900 |
| LEV | 0.000044 | 0.000038 | 1.136471 | 0.256100 |
| MBR | -0.000150 | 0.000030 | -5.082318 | 0.000000 |
| TURNOVER | 0.001402 | 0.000821 | 1.707726 | 0.088100 |

| | |
|---|---|
| R-squared | 0.054554 |
| Adjusted R-squared | 0.048524 |
| F-statistic | 9.047672 |
| Prob(F-statistic) | 0.000000 |