THE NEXUS OF FIRM SPECIFIC VARIABLES AND STOCK RETURNS

(AN EMPIRICAL ANALYSIS OF NON-FINANCIAL FIRMS LISTED AT

PAKISTAN STOCK EXCHANGE)

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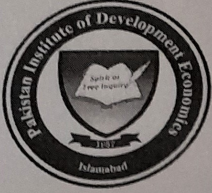**MPhil Economics and Finance**
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CERTIFICATE

This is to certify that this thesis entitled **"The Nexus of Firm Specific variables and stock returns (An empirical analysis of non-financial firms listed on Pakistan stock Exchange)"** submitted by **Ms. Saima Tehreem** is accepted in its present form by the Department of Business Studies, Pakistan Institute of Development Economics (PIDE) Islamabad as satisfying the requirements for partial fulfillment of the Degree of Master of Philosophy in Economics and Finance.

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ABSTRACT

This study explains the nexus of company's fundamentals and stock return of non-financial firms listed at Pakistan Stock Exchange.These fundementals include profitability, liquidity, growth, size, leverage, market multiple, dividend, foreign institutional ownership and quality of financial reporting of non-financial firms listed on Pakistan Stock Exchange (PSX).

The study sample consists of hundred non-financial companies listed on PSX for the period 2005 to 2016. Panel EGLS (Estimated Generalized Least Square) regression model is used to get the empirical findings. Liquidity, profitability, growth and size of the firm are found to be statistically significant and positively effecting the returns whereas market ratio appears to be negatively significant with the stock returns. Dividend, foreign institutional ownership and quality of financial reporting and leverage are found to be statistically insignificant with the returns. This study recommends managers of non-financial firms to focus more on those financial ratios that have a significant impact with stock return for more profits and growth.

Keywords:

Firm specific variables, equity returns, Pakistan Stock Exchange.

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CHAPTER#1

1. Introduction:

Gurley and Shaw (1955), Gold Smith (1969), McKinnon (1973) Levine(2003) and Beck(2006) report that financial markets have the vital role to play in the development of economic growth. Differences in quality and quantity of services provided by financial institutions make differences in economic growth rate between countries.The stock market is a financial market that is most important source for companies to raise their assets in which companies are allowed to publicize their business and obtain more capital in order to facilitate their growth process. Stock market facilitates between deficit fund unit (stock issuers) and surplus fund unit(investors). Firms become able to expand their business and productivity when funding needs are meet up through stock exchange and investors earn benefit through dividend and capital gain. Generally, any individual or firm who have excess cash and want highest rate of return from investment, decided to invest in shares. Normally return from the shares is higher than the return from the regular bank deposit. An investor starts financial evaluation of the available options before going to invest in a firm's stock. Long-term investors desire returns in the form of dividend income. Short -term investors generally earn income from trading securities. Movement of stock return and its direction matters to all type of investors.

The growing role of equity markets has always led the researchers to study the association between pricing mechanism and resources in the economy. Effective execution of the stock market pricing procedure is a controlling force behind the conversion of savings into profitable investments and

thereby facilitating optimal allocation of capital. As a result, the pricing mechanism reveals feasible investment opportunities and confirms an appropriate return on investment to potential investors. Thus, the pricing function in stock market is considered as important subject of research. Stock investment have become attractive with definite regulations and assessible to foreign and local investor. The motive lying behind the investment in stock is expectation of high rate of return. Investors who have additional resources always seek an opportunity to invest in an efficient stock market and a common factor that influence every investor's decision is stock return. Investing in a firm's stock is a risk-taking job. Investors always seek those economic and financial variables that have significant effect on stock returns.

Campbell (1987) stock return index comprises of two main group of effective factors.

- External factors include political and economic variables which are beyond the control of firm's management.
- Internal factors include those variables that are directly related to firm's operations and decisions.

There are many factors that influence the stock returns include monetary policy, foreign trade policy, macroeconomics variables, financial policy, internal factors and financial information. Financial information plays vital role in investment decisions made by investors. Financial reports provide financial health and performance through financial information in shape of financial ratios etc. Investors use these reports for comparison and evaluation of firms. Core objective of financial report is to deliver valuable information to external user for investment and credit decisions. Investors are interested in evaluating company performance in comparison with other companies over time through GAAP based accounting information provided in financial reports. Therefore, GAAP based accounting information would become prime concern for provider and users. Explicit

objective of standard-setting organizations like FASB (Financial Accounting Standards Board) in USA is to establish and improve relevance of generally accepted accounting information in the market place. This Information may be in the form of Return on Assets in relation to share price. If the information contains relevancy, investor should be able to observe a reaction in the market. Normally market reacts as a change in stock prices(return) or change in trading size as market incorporates new information. Altman (1968) studies quality of a set of financial ratios and proved that bankruptcy can be precisely predicted before the two years of failure by tracking the direction of a set of financial ratios. Masa'deh and Kuk(2009) and Al Harrasi et al., (2016) report that general financial ratios interpret the financial statement analysis and can be used as a technique to estimate the financial performance of firm. Investors need a model through which they can determine the effect of important variables on the expected returns therefore recognition of effective firm specific variables to stimulate investment is important.

Bessembinder and Chan(1995) found that Asian stock markets were ineffective in terms of information between the period of 1975 and 1989.The fluctuations of several Asian stock market indices could be predicted by various technical exchange rules. Therefore, the use of fundamental variables in forecasting equity returns is greater in these markets than that of developed markets. According to Penman (1992), fundamental analysis is the method that is used to assess stock assets by applying accounting concepts to judge the value of an investment. Firm specific variables which are belonged to internal factors, financial ratios and financial information affect investor confidence in stock market that's why nexus of firm specific variables and stock return has a great significance to evaluate and forecast the profitability, equity growth, cash flows, dividends and subsequent decisions.

In this study, stock returns are used as dependent variable instead of stock prices. It may be more beneficial to investors who might be more interested in the direction and percentage change in stock prices rather than stock prices. The nexus of firm specific variables and stock return has a long tradition in finance. The primary aim of this study is to explain the role of company's fundamentals and financial performance in explaining the returns of the stock. In emerging markets, Pakistan Stock Exchange is one of the emerging stock markets. The Pakistan stock market is of particular interest for several reasons. Pakistan is an important emerging market of South Asia being at the crossroads of the Middle East, Central Asia, and emerging giants, India and China. Despite of the rapid growth and growing interests of international investors, Pakistan Stock Exchange has grabbed the attentions of few researchers. Investors, market players and financial agents are always looking for that investment strategies that possesses the potential to outperform the market, especially in emerging markets such as Pakistan. The Pakistan Stock Exchange has came up with success of 558 listed companies and with a market capitalization of 60 billion US dollars in October 2018 because of development in size, structure, turnover and investments. On daily basis, stock prices change rapidly. Compared to developed markets like USA, UK and Japan, there is a little evidence available to understand the behavior of stock returns on some firm specific variables in Pakistan. It is required to be able to apply this extensively recognised factorial approach to the Pakistani stock market. Therefore, the purpose of this study is to examine the association between stock returns and the firm specific variables in context of Pakistan. Furthermore, the study is limited to listed companies on Pakistan Stock Exchange.

Profitability, liquidity, growth, size, leverage, market multiple, dividend, foreign institutional ownership and quality of financial reporting are some important variables studied in literature. These variables cover almost all-important aspects of a firm that can affect stock return. Return on

assets, current ratio, sales growth, market capitalization, debt to equity ratio, P/E ratio, dividend yield, percentage shares held by foreign institutional investors and best corporate report award are used as proxies for Profitability, liquidity, growth, size, leverage, market multiple, dividend, foreign institutional ownership and quality of financial reporting respectively. This study explains the nexus of company's fundamentals and stock return of non-financial firms listed at Pakistan Stock Exchange.

1.1-Theoretical background:

There are two school of thoughts. One says fundamentals effect returns. Returns are depending on financial position and performance (Fundamental analysis). While other says market demand and supply determines returns (Technical analysis). There is always room for disagreement about these school of thoughts. Fama(1995) states that an efficient market is that where many rational sellers and buyers always try to predict securities' market prices to maximize their profits, compete actively by using freely available information to all investors. This competition results in a situation where actual market prices of securities truly reflect all information based on actual and expected events. It means actual prices in an efficient market is a good estimate of intrinsic values. There is always a room between actual price and intrinsic value of stock but actual price always walks randomly around its intrinsic value. . Intrinsic value change over time with the effect of new information. New information may contain any actual or expected variation in a factor which is probably to affect the firm's projections. The effects of new information on intrinsic value are immediately reflected in real prices. This instantaneous adjustment in efficient market implies that successive prices will be independent. The market in which subsequent price changes are mutually independent is called a random walk market. Random walk theory suggests that the future price path is not predictable. Random walk hypothesis is connected to efficient market theory. The

premise is that stockholders react immediately to informational advantages and eliminate the opportunity of outperforming in the market. Consequently, Prices always reflects all available information. This leads to hypothesis of random walk where the market is more efficient, sequences of price changes is observed more random. Malkiel(2003) finds that effective financial markets do not allow investors to earn excess return without accepting above average risk. Dupernex (2007) suggest that markets are predictable to a certain range. It does not mean that there are arbitrage opportunities, as these would soon be exploited and then disappear. In the real world with transaction costs, taxes etc. you have some predictability without there being profitable opportunities.

Stock return predictability literature is based on nexus of firm variables and stock return. There is voluminous early literature on using past returns to predict price changes for testing market efficiency. Subsequently, the empirical evidence extends to other company-specific variables. (e.g., Fama. and Schwert, 1977; Campbell, 1987; Fama and French, 1988; Campbell and Shiller, 1988; Kothari and Shanken, 1997).

Zeren and Konuk(2013) finds that many market exchange processes have been implemented. The people responsible for these processes are not trained or experienced financial professionals. This situation also raised the question of the assumption of market efficiency with new results that detect the presence of anomalies and extreme volatility in the market. According to the theory of behavioral finance, rational theories will not be enough to explain the behavior of investors and it will be necessary to take into account the psychological and sociological factors that can affect the behavior of individuals.. On the basis of vast psychological results/findings about the non-rational aspects of the human being, the theories of behavioral finance consider these anomalies as a consequence of the irrationality of the investor.

Tan, Habibullah and Khong (2010) implement the non-linear unit root test for the Pakistan stock market. Study concludes that Pakistan stock market is efficient not always but in certain periods. This discussions require a review of the markets and the determination of the effect of the specific variables of the company on the prices / returns of the shares. Basically, investor's interest is based on return but return itself is not a stable measure for valuation of stock that's way sometimes stock is overpriced and sometimes it is underpriced. But when a large no of stock for multiple years in panel data framework is taken, effects are averaged out and general behavior of a stock return can be study through this portfolio-based analysis.

1.2-Research Gap:

Equity prices reflect firm-level and market -level information. Roll (1988) provides that prices of stocks depends on the relative amounts of firm-level and market-level information capitalized. The equity market is a platform where investors and portfolio managers face the problem of accurately predicting the equity prices so as to earn desired returns. The task of predicting the equity prices is not simple. Share price movement is not independent in nature and both intrinsic as well as extrinsic factors influence over stock price movements. The evidence provided by the literature is mixed as these factors varies from country to country and period to period.. The conflicting results are observed in following studies. The impact of dividend yield on equity return is different in Black and Scholes (1974) from Lewellen (2004) as Black and Scholes(1974) concludes that there is no significant relationship among dividend yield and equity returns whereas Lewellen(2004) reports that dividend yield predicts market returns. Aga, Mogaddam and Samadiyan (2013) reports current ratio has positive and significant relationship between liquidity and returns whereas Khotimah and Murtaqi (2015) observes that stock returns are negatively influenced by current ratio. Bennett, Sias, and Starks (2003) finds positive relationship between the aggregate changes

in institutional ownership and returns whereas Azzam(2010) suggests that there is no effect of institutional ownership on equity returns. Veronesi (2000) shows surprising results that more accurate information increases the equity premium whereas Li(2005) derives important theoretical result that noisy information have risk premium. These previous empirical researches have had mixed results, which seem to contradict the results of each others. These are not very conclusive. However, behavior of Pakistani firms with reference to the fundamentals is unclear. This requires to revisit the link between firm specific factors specially the role of quality of financial reporting in explaining returns which is generally a less explored area in Pakistani equity market.

1.3-Research Questions:

This study has the following research questions:

- What is impact of profitability on stock returns?

- What is impact of liquidity on stock returns?

- What is impact of sales growth on stock returns?

- What is impact of firm size on stock returns?

- What is impact of leverage on stock returns?

- What is impact of market multiple on stock returns?

- What is impact of dividend on stock returns?

- What is impact of foreign institutional ownership on stock returns?

- What is impact of quality of financial reporting on stock returns?

1.4-Research objective:

The core objectives of this study is

- to provide insights about role of firm specific variables in explaining stock returns of non-financial firms listed on Pakistan Stock Exchange.

- to provide insights about role of quality of financial reporting on stock returns of non-financial firms listed on Pakistan Stock Exchange.

1.5-Significance of the study:

To understand stock returns over a time is important because returns reflect the social mood of economy. Pakistan is an emerging market. Emerging market has many differences from developed market. These are high risk and high return market. Higher than average return can be obtained from rapid growth if it became successful.

This study attempts to broaden understanding and to extend the knowledge about the nexus of firm-specific variables and equity returns of the non-financial firms listed on Pakistan Stock Exchange. This study authenticates some of the findings of the previous studies and adds value to the existing results. Generally, this study clear various aspects of association of financial ratios with stock returns. More specifically this study attempts to find out the nexus of financial variables such as profitability, liquidity, market ratio, firm growth, firm size, leverage, dividend yield, ownership, quality of financial reporting of the firm with stock returns. Quality of financial reporting is a new variable in context of stock return that is introduced in this study to investigate the relationship between confidence on financial reports and stock return. Fundamentals are studied in various context like determinants of performance, determinants of leverage, determinants of dividend but generally returns are ignored. Fundamental are less studied directly as determinant of returns.

Alroaia et al., (2012) reports that investors use various market indicators to maximize return and minimize risk.. This study help investors and businesses to recognize those indicators that could effect their investments and the value of shares. Specifically, it clearly identifies the direction of impact of firm specific variables in Pakistani market as the empirical literature provides mixed

evidences across the globe.Every country has unique attributes so before generalization of globel results it is imperative that same may be revisited or explored. Further, role of quality of financial reporting and dissemination of information through Best Corporate Report Award and its impact on equity return is unexplored area which is important in market efficiency context.This study provides evidence on this domain.

1.6- Plan of the study:

The chapter I covers the introduction and it provides theoretical background,problem statement,research questions,research objective,significance of the study. Chapter II reports comprehensive literature review. Chapter III explains the data and econometric model used in the study. Chapter IV reports the results with data analysis and finally Chapter V concludes the study and offer recommendations direction for future research.

CHAPTER#2`

2: Literature Review

. Skousen et al., (2007) states that there are many reasons for which an individual or an entity may invest in equity stock like investment for a return, purchase of stock for influence/control, periodic cash needs, or for safety cushion. The reason that is focused in this study is investment in stock for return.

Forty-eight years ago, Fama (1970) observes as market is efficient so stock returns are unpredictable. Later on, many researchers study the relationship between financial variables and returns to examine predictability. Consequently, understanding of relationship between firm specific variables and returns become more debatable and interesting.

Return on assets, Current ratio, sales growth, market capitalization, debt to equity ratio, P to E ratio, dividend yield, percentage shares held by foreign institutional investors and best corporate report award are used as proxies for Profitability, liquidity, growth, size, leverage, market multiple, dividend, foreign institutional ownership and quality of financial reporting respectively. These proxies are independent variables and annual stock return is dependent variable. Each variable is discussed with the association of stock returns in previous literature as follows.

2.1- Return on Asset and stock return

Lindo(2008) states that ROA is used to determine the relationship between earned profit and investment in assets that is used to earn that profit. ROA may be used as reference line for measuring required portion of profit from new investment. This ratio determines the return rate what is needed to maintain current performance. It can be used as hurdle rate for approval of new investment. Ball and Brown (1968) conclude that valuable information contained in the company's annual income and linked to share prices. Beaver (1998) reports that stock returns have significant

relation with the sign of annual income. Prices of shares are very flexible for the incorporation of new quarterly earnings information. Gallinger(2000) also conducts a comprehensive analysis of the return on asset. He develops a model from various variables in this study. This model helps to analyze firm's asset management and the opportunity to redistribute the assets in future.

Har and Ghafar (2015) investigate the effect of accounting profit on returns in the case of the plantation sector in Malaysia. The study examines the impact of return on assets (ROA), return on equity (ROE) and return on capital employed (ROCE) on the performance of the stock market of twenty-five plantation firms continuously registered in the main Board of Directors. of Bursa Malaysia. Data are analyzed from two different periods, the period before the recession (2004-2006) and the recession period (2007-2008). Stock returns are considered as dependent variable and ROA, ROCE and ROE are considered as independent variables. The results propose that ROE has highest power to predict stock returns in both periods (prior and during recession). ROA and ROCE explain returns in pre-recession period (2004-2006) and have positive relationship with stock returns during pre-recession period. This study also explains that the Malaysian plantation industry is flexible and not badly affected in recession period.

Anwaar (2016) explores the impact of firms' performance on stock return of companies listed at FTSE of UK. The study sample consists of top 30 firms of FTSE-100 index of London stock exchange. Panel data is collected from 2005 to 2014 to analyze the relationship of ROA, ROE, ROCE with stock market returns through panel data analysis. Results show that EPS has significant negative relationship while net profit margin, return on asset has significant positive relation with stock returns. Allozi and Obeidat (2016) use various financial indicators of profitability and leverage measure to inspect the connection among these measures and stock returns. The study use data of sixty-five manufacturing companies registered in Amman stock exchange for 2001 to

2011 period. Net Profit margin (NPM), Return on Assets (ROA), Gross Profit Margin (GPM), Earnings per Share (EPS) and Return on Equity (ROE) are used as independent variables to examine the profitability impact on stock return and Interest Coverage Ratio (CR), Debt to Equity Ratio (DER) and Debt Ratio (DR) are taken as independent variables to observe the relationship between leverage and stock returns. Correlation analysis and multiple regression are used for statistical analysis. This study concludes that financial indicators of profitability other than NPM have significant influence on returns and financial indicators of leverage have insignificant impact on returns.

Musallam(2018) in their study explores the relationship between financial ratios and market stock returns. They measured ROA by net income divided by average total assets in company i year t. The results of weighted least square (WLS) indicate that that return on assets have insignificant relationship with market stock returns in Qatar market for the period of 2009 to 2015.

On the basis of above discussion, it is hypothesized that profitability has positive significant effect on equity returns

2. 2- Current Ratio and stock return

Sang (2002) states that liquidity ratios tell the ability of a firm to gain cash from non-cash assets in order to meet current commitments. These ratios refer to short term period, equal or less than one year. Miralles-Quir´os et al., (2017) examine the role of liquidity in asset pricing in the Portuguese market. The sample is composed of 233 different stocks, which were traded during period of time between 1988 and 2013. The authors propose liquidity as a desirable characteristic of stocks and as a source of systematic risk. They use the proportion of zero returns which is an appropriated measure of liquidity in tiny markets. The overall results of the study show that individual illiquidity affects Portuguese stock returns and they show that the most traded stocks

(hence the most liquid stocks) exhibit larger returns implicating that current ratio has significant and positive relationship with returns of the companies.

Aga, Mogaddam and Samadiyan (2013) study the connexion between liquidity and stock returns of firms registered in Tehran Stock Exchange. Real and annual data of 118 firms in different industries is examined for the period 2006-2011. Immediate and current ratio is analyzed by using t-student test to identify the relationship between liquidity and stock return. Company's size and systematic risk are control variables in this study. This research concludes that current ratio has significant and positive relationship with returns of the companies.

Bagherzadeh, Safania and Roohi (2013) define the association between current ratio and share prices of the 317 firms from 2009 to 2012 that appear in NSE, India, using the cross-sectional correlation method. This research reports current ratio and stock prices have significant relationship. Khotimah asnd Murtaqi (2015) perform the fundamental analysis of Indonesian stock return gained by investors. The study investigates the effects of fundamental factors affecting stock return. Current ratio, total asset turnover and book to market ratio are analyzed by using multiple regression method. Indonesian companies listed in food and beverage sector is analyzed for the period 2003-2012. Extracted results report that stock returns are positively influenced by book to market and total asset turnover ratio. However negatively influenced by current ratio is observed. Liquidated assets do not contribute in earnings, so it is hypothesized that liquidity has significant negative impact on equity returns.

2.3- Sales growth and stock return:

Lau, Lee and McInish (2002) conduct a research to examine the relationship among the stock returns and six economic variables in emerging markets; the six economic variables are beta, firms' size, book-to-market, Earning/Price, Cash Flow/Price, and sales growth. The research sample

comprises 82 non-financial firms listed on the Singapore Stock Exchange and 163 non-financial firms listed on Kuala Lumpur Stock Exchange from 1988 to 1996. Sales growth is calculated from the weighted average sales growth over the last 3 years, with the last year weighing 3, the penultimate year weighing 2 and the third year of weight 1. Size is the logarithm of the market value of equity at the end of June of the year t. Data are analyzed by univariate analysis and cross-sectional regression. The study reveals a negative relationship between size and returns for both countries. The study documents a significant relationship between returns and sales growth for Singapore. These relationships are significant only for months other than January.

When sales growth increases, cash flows are expected to increase.it means stock prices will increase so It is hypothesized that sales growth has significant positive impact on stock returns.

2.4-Firm Size and stock return:

The empirical work of Reinganum (1981) and Banz (1981) has shown that the size data of the company can be used to create a portfolio that generates abnormal returns up to 40% per year. The study provides that returns are high on small equity stocks and returns are low on large equity stocks.given their estimates β. Lakonishok and Shapiro (1986) explore the historical association among stock returns and many variables which include total variance, beta and size for at least 8 years between Jan 1954 to Dec 1981.This study concludes that traditional risk measure (beta) and alternative measures of risk (residual standard deviation or variance) cannot describe the cross-sectional variations in stock market returns, however only the size appears to be important. Even significance of size variable is also diminished when January returns are eliminated. Fama and French (1992) study the expected cross-section return and report that two book equity to market equity and market equity (size) capture cross-sectional variation in average stock returns of all non-financial firms cross intersection of NYSE, AMEX and NASDAQ.

However, size and B/M ratio are found significant in the presence of beta and are seem to soak up the leverage and E/P effect in predicting the cross sectional average stock returns.

Barber and Lyon (1997) investigate the association among B/M ratio, size and the returns of stocks. The results reveal that small businesses have high returns while large businesses have low returns. Chou, Chou and Wang (2004) investigate the explanatory power of book to market ratio and size for the cross-sectional variation in returns from July 1963 through Dec 2001. Data selection technique is same to Fama and French (1992). Size is the natural log of market value as on June 30 of each year. Result over the full sample period (1963-2001) indicated, there is a negative significant association between size and returns and positive significant relationship between B/M value and returns of stock. Size and book to market ratio loses predictive ability for the period 1982 to 2001 and 1990 to 2001 respectively. However, size effect remains significant in January, and book to market ratio effect prevails as significant in all months except January even after the 1980s. Agirman and Yilmaz (2018) in their study investigate whether financial ratios can predict stock returns for the period between from 2004 to 2014 in the Borsa Istanbul (BIST). For this purpose, four financial raitos have been used that include price to book ratio (P/B), price to earning ratio (P/E), dividend per share (DPS) and firm sizes. This study applies panel data analysis which is an important predictive regression tools for predicting stock returns. The firm size was estimated by measuring size of firm i at time t. The results disclose that from financial ratios, firm size has a higher predictive power than dividend per share and price to book ratio respectively.

On the basis of above discussion, it is hypothesized that firm size has significant negative impact on equity returns.

2.5- Debt to Equity ratio and stock return:

Barbee, Mukherji and Raines (1996) investigate the relative explanatory power of sales/price,

debt/equity, book/market value and firm size. The study covers the non financial companies registered on New York Stock Exchange (NYSE) through 1979-1991. Methodology is same as defined in Fama and French's1992 study and monthly stock returns are regressed on monthly financial variables data of prior year. Sample contains only those firms that ends their fiscal year on the month of December. This study shows that the sale/price ratio and debt/equity ratio have greater explanatory power than book to market ratio and firm size for stock returns. These upshots support Bhandari (1988)'s results that the debt to equity ratio has a positive significant relationship with stock returns.s

On the basis of above discussion, it is hypothesized that debt to equity ratio has positive and significant impact on stock returns.

2.6-Price to Earnings ratio and stock return:

Graham and Dodd (1934) introduce first time stock evaluation grounded on price to earnings ratio. Molodovsky (1953) concludes that market makers, investors and researchers depend to a large extent on market indicators, such as price / earnings ratio to analyze market performance.

Basu (1983) studies the empirical nexus between market value, earnings yield and stock returns of New York Stock Exchange firms. The sample is selected for years (1963-1979) based on following conditions. 1) Firms must have been listed on the NYSE on Jan 1 and at least traded in that year for 1st month. 2) Applicable monthly data of rate of return, accounting earnings and market value on the start of the period is available. Thirteen hundred firms satisfy these conditions for minimum one year. On average, nine hundred firms qualify for presence in each of the seventeen years examined. Initially, securities are divided into groups based on their market value and earnings to price ratios. Two set of portfolios are formed through these groups. One set consisted of similar earnings to price ratio but different market value positions named as earnings yield portfolios and

the other set with similar market values but different earnings to price ratios named as market value portfolios. The relationship of risk and return of those portfolios are compared to each other and multivariate setting is used to test their risk adjusted return to determine the statistical significance of E/P ratio and size effect. Results conclude that inverse relationship of P/E ratio with risk adjusted return is existed even after controlling the firm size effect.

Levy and Lerman (1985) incorporate transaction costs with P/E ratio and analyze the various P/E portfolios by different stochastic dominance rules to check whether a particular P/E strategy could be recommended to portfolio managers as beating the market. Portfolio returns are adjusted for transaction costs and then repeated stochastic dominance analysis of P/E portfolio returns net of transaction costs. The study sample consists of 424 companies with fiscal years

ending in December. The study finds that the low P/E stock has higher return only in the absence of transaction costs or where transaction costs are minimal.

Goodman and Peavy (1983, 1986) updated the Basu work to account for systematic risk calculation biases introduced occasional transactions and found that the weak P / E effect continues. Other studies have shown that the weak price to earnings effect can be an indicator of the size effect (Banz and Breen (1986) and Goodman and Peavy (1986)) and (Jaffe, Keim and Westerfield, 1989) show that the Price to earnings effect can arise mainly in the month of January.

El-Fakhani (1994) examines weak price/earnings effects and size on Canadian equities and noted that small Canadian companies obtain surplus returns adjusted for risk compared to larger companies. However, no evidence was found regarding the weak price/earnings effects, except in the last quarter that has ending in December.

Fairfield (1994) find that the price to earnings ratio is the function of expected future profitability changes and it should be positively co-related with the growth in earnings.Tripathi (2008)

examines the nexus among equity returns and company fundamentals (price earnings ratio, book equity to market equity ratio, debt to equity ratio, market capitalization) in Indian stock market by using monthly share prices of four hundred and fifty-five companies from 6/1997 to 6/2007. Methodology used by Fama and French (2002) and Chan, Hamao and Lakonishok (1991) is used to test the association among company fundamental variables and equity returns. A statistically significant negative relationship is found for company size and price to earnings ratio with returns whereas, a positive relationship is found for debt/equity and book equity/market equity with equity returns.

In both developed and emerging markets, the use of market multiples is essential for forecasters and potential investors as they are easy to calculate and understand by using real data to give actual results. In developed markets, significant relationship has been observed between market multiples and stock returns (Basu, 1975, 1977, 1983, Reinganum, 1981, Rosenberg et al., 1985, Fama and French, 1992, 1988; Chan and Chen, 1991 and Barbee et al., 2008). On contrary, in case of emerging markets, little evidence is available on the relationship among market multiples and equity returns (Rahimi 1995, Roll 1995, Sun 2012 and Fun and Basana 2012).

In the context of Pakistan, Ateeq et al., (2010) studies fifty companies by employing penal regression to discover the relationship between cost of equity and price to earnings ratio. Afza and Tahir (2012) studies the chemical sector to determine the cost-benefit determinants of 25 listed for the period 2005 to 2009 on Pakistan Stock Exchange (PSX) by employing Ordinary Least Square Regression model. Irfan (2009) analyze thirty companies of textile sector for the period of 2001 to 2006 and found that price / earnings ratio, price / book value ratio and equity performance have no relationship among themselves.

Agirman and Yilmaz (2018) investigate whether financial ratios can predict stock returns for the

period between from 2004 to 2014 in the Borsa Istanbul stock exchange (BIST) by applying panel data analysis. The P/E ratio was estimated by measuring price to earning Ratio of firm i at time t. The results disclose that the there is no significant relationship between price to earning ratio and for stock returns listed on BIST.

On the basis of above discussion, it is hypothesized that price to earnings ratio has significant negative impact on equity returns

2.7- Dividend yield and stock return:

The best way for testing the impact on share prices of dividend policy is to examine the relationship between stock returns and dividend yield. Most of the time, it is argued that the company can change the value of the shares by changing the payout ratio. The investor prefers a dollar of dividend to a dollar of capital gain (Bird's hand theory). Graham and Dodd (1951) have the reputation of being the best supporters of this vision. The assumption of irrelevance of the dividend of Miller and Modigliani (1961) can be stated as follows. Company dividend policy is irrelevant to the values of shares in a perfect market with no taxes and bankruptcy cost if dividend policy does not affect the investment decision. "Uncertainty effect" points out that investors are unaware of the directional and magnitudinal effect of dividend yield either before or after taxes on stock returns, so they may don't consider dividend yield in investment decisions. Firms are unaware of the magnitudinal and directional effect of dividend yield on stock returns, so they may decide not to consider it when making financial policy decisions.

 Mixed results in developed countries are found on predictability power of dividend yield. Welch and Goyal (2008) describe that predictive ability of dividend yield had been observed only in 1973 and 1974 prior to the 1990s. Those studies that find no effect of dividend yield in stock returns predictability document that bias in empirical tests, volatile parameters and persistent dividend

yields lead to lack of predictability power of dividend yield.

There is a low correlation between the returns of developed and emerging markets due to the differential industrial composition existing in emerging markets (Bekaert and Harvey, 1995). Emerging market companies operate in different institutional environments in terms of regulatory control of inflation and interest rates etc. These characteristics can lead to different evidences of capital returns depending on the firm specific variables of emerging markets in relation to developed markets.

Black and Scholes (1974) investigate the nexus among equity returns and dividend yield to test the effects on stock prices of dividend policy. The study uses monthly data of all stock listed on the NYSE for the period 1/1926 to 3/1996. The study constructs 25 portfolios and employs CAPM to test dividend yield effects on returns and concludes that there is no significant relationship among dividend yield and equity returns.

Lewllen (2004) studies the predictability of returns with financial ratios. This study provides a new test of whether financial ratios can predict the aggregate returns of stocks. The most attention is paid to the ratio of dividend yield and short-term tests. The monthly returns are regressed on lagged values of dividend yield ratio. The study period ranges from 1946 to 2000. The results show that dividend yield predicts market returns during the period from 1946 to 2000, as well as in subsamples. Khai and Rehman(2018) in their study examine the relationship between financial indicators which are Earning per Share growth (EPS), Return on Equity growth (ROE) and Dividend per Share growth (DPS) against stock returns of finance companies. The stock returns data are collected for the period of 2011 to 2016 for thirty one finance companies and it has been analyzed by Pearson Correlation method. The finding of the research indicates that there are five finance companies show a significant relationship between EPS growth, ROE growth, and DPS

growth and stock returns, As a conclusion, even though only minority of public listed finance companies shows a significant relationship between financial indicators and stock returns.

Musallam(2018) uses a sample of companies listed on Qatar stock exchange to examine the predictability of earnings per share, earnings yield ratio, and dividend yield ratio, market to book value ratio, return on assets, return on equity, price to earnings ratio, dividends earnings ratio, and net profit margin ratio with stock returns. They measured dividend yield ratio by Dividend per Share divided by Market rate per share in Company i year t. The results of Weighted Least Square (WLS) provide evidence that dividend yield ratio is a good predictive for market stock return over the period of 2009 to 2015 while other ratios to have limited predictive power.

Numerous studies document the predictive power of dividend yield in both cross sectional (Litzenberger and Ramaswamy, 1979) and time series data (Shiller, 1984; Rozeff, 1984; Campbell and Shiller, 1988 and Fama and French 1988a, 1989).

The dividend signaling theory suggests that when a company announces an increase in its dividend, this is a positive indication of the future performance of its shares. Based on the above discussion, it is assumed that the dividend yield has a significant positive impact on stock returns.

2.8- Foreign Institutional ownership and stock returns:

Institutional investors are major players and integral part of today's financial market not only in developed market but also in the emerging markets.it can be guessed from the fact that more than 67% of total shares of listed firms in 2010 are held by institutions in United States and similarly institutions hold more than 50% of shares of listed companies in Landon Stock Exchange in UK (Blume and keim, 2012). Institutional shareholders have become more powerful due to increasing ownership in equity and are playing very effective monitoring role and hence improving firm performance. In the developing countries like Pakistan institutional investors are not actively

participating in corporate decision making due to large shareholding by family business and groups. Institutional investors are not deeply entrenched in the corporate sector in Pakistan and the main reason is the lack of an adequate environment and the lack of interest of institutional owners in the country's corporate governance. Company's ordinance 1984 and the Code of Corporate Governance 2002 hold numerous provisions regarding the active participation of shareholders in the management of the investee companies (Shabbir, 2012).

Therefore, the role of institutional investors is enhancing in Pakistani equity market in recent years. Institutional investors have started to monitor management affair, disclosure of voting policy, appointment of non-executive directors, external auditors and other affairs of the firms. Therefore, Institutional ownership has more confidence of investors.

While examining the relationship between institutional ownership and stock market returns, several recent studies have found positive correlations between the aggregate changes in institutional ownership and the returns measured in the same quarter or year (Nofsinger and Sias, 1999; Wermers, 1999; Bennett, Sias and Starks, 2003). The strong positive correlation between quarterly changes in institutional ownership and returns in the same quarter is consistent with three assumptions: (1) the information available for institutions to allow them to arrange their transactions (i.e. institutional ownership is correlated positively with subsequent intra quarter stock returns), (2) institutional investors tend to be short-term traders (i.e. intra quarter institutional positive feedback trading) and (3) buying and selling options of institutions as a whole have a simultaneous effect on stock returns.

Azzam (2010) examines the impact of institutional ownership and dividend policy on the returns and volatility of stocks. The panel data of the 50 most actively traded companies in the Egyptian stock market for the period 2004 to 2007 are analyzed through different regression specifications.

Selection bias has been avoided by selecting sample comprised of large, medium and small firms with 200 observations. Return and risk are considered dependent variables and independent variables are the percentage of shares that held by executives, public holding companies, public companies, private holding companies, individuals, public banks, private banks, insurance companies and workers' associations. Return on equity, return on assets, natural logarithm of total assets (proxy of size), Total debt / Book value of net assets, Total debt / book value of total assets, market to book ratio (proxy for growth option) and the dummy variable for each industry and year of the sample are used as control variables. Results suggest that there is no effect of institutional ownership on stock return while have positive effect on volatility.

Based on the above discussion, institutional ownership is hypothesized to have a significant positive impact on capital returns.

Baik, Kang and Kim (2010) examine the informational role of institutional investors in the stock market. The employed data set covers the period 1995-2007 and expands it to include all types of institutions, such as mutual funds, investment advisors, banks and insurance companies. Descriptive statistics of local and non-local institutional ownership, cross sectional regressions of non-local (fractional local) institutional ownership on characteristics of the company and a regression of future returns at the level and changes in local and non-local institutional ownership were used to analyze the data.

The results suggest that the level and change of local institutional ownership can predict future capital returns, especially for companies with high information asymmetries; On the other hand, these predictive capacities are relatively low for non-local institutional ownership. The local benefit is particularly evident for local investment advisers, high local ownership institutions, high local turnover institutions. The study also indicates that stocks held by local institutional investors

(trade) generate higher returns around the announcements of future profits than those of non-local institutional investors (trade).

Jeon and Moffett (2010) study the effect of improving foreign capital on capital returns in the Korean market. This study is based on a sample of Korean companies listed on the Korean Stock Exchange (KRX) from 1992 to 2003. After the 1997-1998 financial crisis, the Korean government abolished the foreign ownership restriction to attract foreign investors.

The result is a dramatic increase in foreign investment. To address this important structural change, the sample is divided into two sub-periods, before 1998 and after 1998. The key variables in this study are foreign and domestic institutional holdings, changes in holdings and abnormal returns of herding year. This study applies a three-step least squares analysis to control the simultaneous relationship and identifies a strong and positive relationship between changes in foreign ownership and stock returns.

Based on the previous study, it is hypothesized that the ownership of foreign institutions has a significant positive impact on capital returns.

2.9- Quality of financial reporting and stock return:

Veronesi (2000) focuses on the effects of the quality of information on the returns of shares. This study examines the relationship between the quality of public information and return on assets and the effects of noisy information on stock market prices through a simple dynamic asset valuation model. The surprising results show that more accurate information increases the equity risk premium. When there is noisy information, an upper limit of the capital risk premium is formed and is independent of the risk aversion of the investor.

Li (2005) develops general dynamic equilibrium model of asset prices to demonstrate that the noisy signal that investors receive from the expected aggregate dividend growth rate has a

significant impact on stock returns. Two important theoretical results are derived. First, less accurate information aims to increase the risk premium. There is a risk premium for noisy information. Second, stock returns become more volatile when the information becomes less accurate. Findings suggest that cost of equity capital of firm can be reduced by disclosing to investors more precise information.

Mwangi and Mwiti (2015) study the link between voluntary disclosures and the stock market returns of companies listed on the Nairobi Stock Exchange. The population of this study is made up of 63 companies listed on NSE in August 2014. Twenty companies from 10 different sectors are selected for study. Secondary data of sampled firms were obtained from 2009 to 2013.Disclosure index is formed through five categories, 1) Human capital 2) market strategy 3) production 4) competition and outlook 5) strategy disclosure. Annual reports from 2009 to 2013 were used to create disclosure index of each year. This index measured the extent of voluntary disclosure within annual reports. This study uses multiple linear regressions of firm's returns against voluntary disclosure, interest rate, exchange rate and rate of inflation and finds positive relationship of each disclosure with stock returns listed at the NSE.

The quality of information increases the confidence of investors, so they trust on the information and it leads to fair pricing. Therefore, it can be hypothesized that there exists a significant positive relationship of quality of financial reporting and equity returns.

CHAPTER # 03

3. Econometric Model

An econometric model provides quantitative explanation of the behavior of economic variables through a set of equations.

3.1. Basic equation

$R_{i,t}=\propto_o+\beta_1 ROA_{i,t}+\beta_2 D(CR)_{i,t}+\beta_3 SG_{i,t}+\beta_4 ln(MC)_{i,t}+\beta_5(\frac{D}{E})_{i,t}+\beta_6(\frac{P}{E})_{i,t}+\beta_7 DY_{i,t}+\beta_8 FIO_{i,t}+$

$\beta_9 BCRA_{i,t}+u_{i,t}$…………………………………………………………………………..(1)

Returns are regressed on the values of return on assets, change in current ratio, sales growth, log of market capitalization, debt to equity ratio, price to earnings ratio, dividend yield ratio, foreign institutional ownership and best corporate report award.

3.2. Dependent Variables:

Annual Stock return is used as dependent variable in this study. Annual returns are calculated by using change in annual stock prices.

$$R_t = \text{Log}(\frac{P_t}{P_{t-1}})$$

3.3. Independent Variables:

3.3.1-Profitability ratio:

Gabrusiewicz(2014) reports that generating a profit is the main objective of the management and owners of a long-term business. Profitability ratio tells us about financial performance of the company during the specific period of time.it can be measured by using return on assets (ROA). ROA tells how effectively company's assets are being managed. It is calculated by using following formula:

$$ROA = \frac{Earnings\ after\ tax}{Total\ Assets}$$

3.3.2-Liquidity ratio:

Liquidity ratio tells a firm's capacity to pay its liability. Bankruptcy analysts and mortgage creditors use liquidity ratios to assess the problems of ongoing businesses, since liquidity indices indicate the positioning of cash flows. This study will use the current ratio as a measure of liquidity. It is calculated as follow:

$$CR = \frac{Current\ Assets}{Current\ Liabilities}$$

3.3.3-Growth:

In literature, various proxies are used for growth which includes sales growth, earnings growth etc. Sales growth is most widely used measure. It is calculated by using following formula

$$Sales\ growth\ in\ t\ year = \frac{Sales_t - Sales_{t-1}}{Sales_{t-1}}$$

3.3.4-Size:

This study uses market capitalization as a proxy for size. Market capitalization refers to the total market value of the outstanding shares of a corporation. It is calculated by taking the Log of the total market capitalization in one year.Whereas

Market capitalization= No of shares x MPS

Size= Log(market capitalization)

3.3.5- Leverage ratio:

It is used to evaluate the level of debt of a company. The most common leverage ratio is the debt to equity ratio. It measures to what extent the shareholders' equity can meet the obligations of the company with the creditors in case of liquidation. It is expressed as under

$$Levrage = \frac{Total\ Debt}{Total\ Equity}$$

3.3.6- *Market ratio:*

When a stock market analyst wants to understand how other investors value a company, they look at market ratios. There are various proxies of market ratios in literature which includes Price to earnings ratio, book to market ratio etc. P/E ratio is most widely used measure.

The price / earnings indicates the current state of mind of the investors to what extent they are willing to pay per share of the company's earnings.

$$\text{P/E ratio} = \frac{\text{Market Price per share}}{\text{Earning per share}}$$

3.3.7-Dividend yield:

Dividend yield is a financial ratio that measures the amount of cash dividends distributed to common shareholders in relation to the market value per share. Dividend yield is used by investors to show how their capital investment generates a cash flow in the form of dividends or an increase in the value of the asset through the appreciation of the stock. The dividend yield formula is calculated by dividing the dividends in cash per share by the market value per share.

$$\text{DY} = \frac{\text{Dividend per share}}{\text{Market price per share}}$$

3.3.8- Foreign Institutional ownership

It is measured by the ratio of number of shares held by foreign institutional investors.

$$\text{FIO} = \frac{\text{Number of shares held by foreign institutional investors}}{\text{total ownership of outstanding shares}}$$

3.3.9-Quality of financial reporting:

In this study, the quality of financial reporting is measured by the allocation of the best corporate report (BCR) award. The Institute of Chartered Accountants of Pakistan (ICAP) and the Institute of Accountants in Costs and Cost Management of Pakistan (ICMAP) have been awarding the Best Corporate Report (BCR) Award during the last fifteen years. This award encouraged entities to be

transparent in the preparation of their annual reports in line with international best practices.Quality of financial reporting is measured as follow:

BCRA=1 , if firm wins Best Corporate Report Award

BCRA=0 , otherwise

3.4- Hypothesis

H1: There exists significant positive relationship between profitability and stock returns

H2: There exists significant negative relationship between liquidity and stock returns

H3: There exists significant positive relationship between sales growth and stock returns

H4: There exists significant negative relationship between Market capitalization and stock returns

H5: There exists significant positive relationship between Debt/equity ratio and stock returns

H6: There exists significant positive relationship between P/E ratio and stock returns

H7: There exists significant positive relationship between Dividend yield ratio and stock returns

H8: There exists significant positive relationship between local Institutional ownership and stock returns

H9: There exists significant positive relationship between foreign Institutional ownership and stock returns

H10: There exists significant positive relationship between BCR award and stock returns

3.5-Data

The sample consists of hundred non-financial companies listed on Pakistan Stock Exchange for the period 2005 to 2016. The restriction is that ownership variable is being reported since 2005 in company's annual report. That's way sample is restricted from 2005 to 2016. The companies are selected on the basis of market capitalization.The reason for selection of only hundred companies is that most of the companies are illiquid in Pakistan market. Data is collected on annual basis.

The accounting data is extracted from various publications of State Bank of Pakistan. Data of ownership variable is collected from annual reports of companies. Data of Best Corporate Report (BCR) award is collected from newsletters issued by The Institute of Chartered Accountants of Pakistan (ICAP). Data for prices is collected from the websites of business recorder and open door. Non-financial firms' data is employed whereas, banks and other financial institutions have different capital structure and employ different method of making financials. Therefore, results of these would not be comparable to the ratios used in this research.

3.6-Methodology

3.6.1-Common constant method:

Assumption under this method: Constant is common for all firms.it implies that there are no differences between the estimated firms. In this model, the hypothesis is the data set is a priori homogeneous (e.g. a sample of only high-profit firms or only PSE listed firms). This method is useful for quite active cases and fixed and random effect method are useful for the estimation of broad cases with more interest involvement.

This study uses the following common constant method:

$$R_{i,t} = \propto_o + \beta_1 ROA_{i,t} + \beta_2 D(CR)_{i,t} + \beta_3 SG_{i,t} + \beta_4 ln(MC)_{i,t} + \beta_5 \left(\frac{D}{E}\right)_{i,t} + \beta_6 \left(\frac{P}{E}\right)_{i,t} + \beta_7 DY_{i,t} + \beta_8 FIO_{i,t} +$$

$$\beta_9 BCRA_{i,t} + u_{i,t} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (1)$$

3.6.2-The Fixed Effect Method

In the fixed effects method, the constant is treated as firm-specific. This means that the model allows for different constants for each firm. The fixed effects estimator is also known as the least-squares dummy variables (LSDV) estimator because in order to allow for different constants for each firm, it includes a dummy variable for each firm.

In the fixed-effects method, the constant is treated as firm-specific. This means that the model

takes into account different constants for each company. The fixed effects estimator is also known as the least-squares dummy variables (LSDV) estimator because it includes a dummy variable for each company to allow different constants for each company.

$$R_{i,t}=\alpha_i+\beta_1 ROA_{i,t}+\beta_2 D(CR)_{i,t}+\beta_3 SG_{i,t}+\beta_4 ln(MC)_{i,t}+\beta_5 \left(\frac{D}{E}\right)_{i,t}+\beta_6 \left(\frac{P}{E}\right)_{i,t}+\beta_7 DY_{i,t}+\beta_8 FIO_{i,t}+$$

$$\beta_9 BCRA_{i,t}+u_{i,t}\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(2)$$

F -test is used to check fixed effects against the simple common constant OLS method.

3.6.3-The Random Effects Method:

The difference between the fixed-effects method and the random-effects method is that the latter manages the constants of each company not so fixedly, but in the form of random parameters. Therefore, the variability of the constant for each company is derived from the fact that:

$$\alpha i=\alpha+v_i$$

Where v; is a zero-mean standard random variable. The random effects model therefore takes the following form

$$R_{i,t}=(\alpha+v_i)+\beta_1 ROA_{i,t}+\beta_2 D(CR)_{i,t}+\beta_3 SG_{i,t}+\beta_4 ln(MC)_{i,t}+\beta_5 \left(\frac{D}{E}\right)_{i,t}+\beta_6 \left(\frac{P}{E}\right)_{i,t}+\beta_7 DY_{i,t}+\beta_8 FIO_{i,t}+$$

$$\beta_9 BCRA_{i,t}+u_{i,t}\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(3)$$

It can be written in the following form

$$R_{i,t}=\alpha+\beta_1 ROA_{i,t}+\beta_2 D(CR)_{i,t}+\beta_3 SG_{i,t}+\beta_4 ln(MC)_{i,t}+\beta_5 \left(\frac{D}{E}\right)_{i,t}+\beta_6 \left(\frac{P}{E}\right)_{i,t}+\beta_7 DY_{i,t}+\beta_8 FIO_{i,t}+$$

$$\beta_9 BCRA_{i,t}+(v_i+u_{i,t})\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.(4)$$

The Hausman test is designed to facilitate the choice between the fixed-effect model and the random-effects model. The Hausman test is sometimes described as a test for model misspecification. In the analysis of panel data (analysis of data over time), the Hausman test can help us to choose between a fixed-effect model or a random-effects model. The null hypothesis is that the preferred model is random effects; The alternative hypothesis is that the model has fixed

effects. Panel Estimated generalized least square (EGLS) method is used in order to correct autocorrelation, heteroskedasticity and weights problems. If problem of endogeniety observed, the study may use GMM model.

CHAPTER # 4

4. RESULTS

In the previous chapter, methodology is being discussed, and now in this chapter, it is going to use the above methodology for the analysis of our data, for the model described above. This chapter covers main findings and discussion about the findings with references. Section 4.1 describes about the results of descriptive analysis. Section 4.2 describes the correlation results and section 4.3 discuss the main finding of the final model.

4.1 Descriptive analysis:

Table 4.1 reports the statistical behavior of the hypothesized variables. Descriptive statistics includes mean, median, standard deviation, skewness etc. as shown in the table below:

Table 4.1. Descriptive statistics							
	Mean	**Median**	**Max**	**Min**	**Std. Dev.**	**Skewness**	**Kurtosis**
R	0.07	0.06	1.89	-1.80	0.50	-0.08	1.12
ROA	0.090	0.071	3.026	-1.961	0.191	5.754	116.379
CR	1.615	1.23	9.716	0	1.280	2.732	9.879
SG	0.087	0.03	3.903	-1.000	0.281	5.198	56.377
MC	21.768	21.652	27.748	15.944	1.923	0.066	0.256

D/E	1.505	1.099	14.144	-7.607	1.912	0.647	6.932
P/E	8.054	6.330	411.500	-186.61	26.904	6.171	98.269
DY	0.036	0.017	0.977	0.000	0.059	5.509	61.618
FIO	0.09	0.00	0.881	0	0.19	2.40	5.117
BCRA	0.13	0	1	0	0.34	2.12	2.507

Data Source:
(i)   Annual Reports of Companies.
(ii)   Business Recorder.
(iii)   State Bank of Pakistan.

The above table explained the descriptive statistics of the hypothesized variables. Based on the sample of top 100 firms listed on the Pakistan stock exchange for 11 years, the arithmetic mean value of log returns is 7.1% which indicates most of firms earn positive returns. The positive medium returns of 6% depicts that half of the realized returns of the sample firms are equal or less to 6% and half of the firms earned more or equal to 6% returns. Maximum return earned by the selected firms is 1.9% and offers positive returns for most of the firms. The returns of firms exhibit risk of 50% and are mostly negatively skewed returns showing the trend towards risk. The mean value of the Return on Asset is 9% which indicates that top listed firms of PSX have positive earning by utilizing their assets. These firms are less risky as their standard deviation is positive indicating a positive pattern for their earnings from assets at long run and are positively skewed. Current ratio is also showing positive mean value which depicts that sample firms have more assets to pay-off their liabilities. Current ratio is less risky as their standard deviation is positive so it would be easy for the respected firms to pay off their short-term liabilities on term without any

risk of default. Arithmetic mean of sales growth is positive i.e 0.087 indicating that sales are growing at 8.7% and are less risky because of positive standard deviation. The trend is positively skewed showing that sales will grow further. Mean value of debt to equity ratio is 1.5 which indicates that on average the listed firms use more debt than equity for financing. Maximum D/E ratio is 14.14 by the sample firms listed on Pakistan stock exchange. Skewness is positive for D/E ratio as the trend is positive for debt to equity ratio. On average the Price by earning ratio is 8.054 showing that current price of the shares of the 100- index firms listed on PSX relative to its per-share earnings which is positive. Maximum P/E ratio is 411.5. There exists less risk of fall of share price relative to its per share earnings as its standard deviation is 26.5% depicted less deviation from the mean value. Mean values of other hypothesized variables i.e. Dividend yield, Foreign ownership and Basic Corporate Reporting are 3.56, 0.09 and 0.136 respectively. All are positively skewed and less risky variables for the returns of the sample listed firms. All the hypothesized variables are statistically significant in the proposed model as their probability value is 0.000.

4.2- Correlation Matrix:

Table 4.2. Exhibits correlation coefficients which suggests the preliminary evidence related to the association between hypothesized variables

Table 4.2: correlation matrix:										
	R	**ROA**	**CR**	**SG**	**MC**	**D/E**	**P/E**	**DY**	**FIO**	**BCRA**
R	1.00									
ROA	0.21	1.00								
CR	-0.02	0.03	1.00							
SG	0.07	-0.05	-0.01	1.00						
MC	0.02	0.21	0.05	-0.01	1.00					
D/E	-0.03	-0.08	-0.04	-0.01	-0.01	1.00				
P/E	-0.01	0.00	0.35	-0.00	0.00	-0.00	1.00			
DY	0.05	0.13	0.04	-0.01	0.02	-0.04	-0.01	1.00		
FIO	-0.02	0.06	0.01	-0.02	0.02	-0.01	-0.03	-0.00	1.00	
BCRA	0.04	0.12	0.01	-0.01	0.32	-0.02	0.00	0.03	0.11	1.00

Data Source:
(i)   Annual Reports of Companies.
(ii)   Business Recorder.
(iii)   State Bank of Pakistan

The above table shows the correlation matrix among the hypothesized variables under study. Return on asset, sales growth, size, dividend yield, and Best Corporate Report (BCR) award are positively correlated to stock returns of the 100 indexed firms listed on PSX indicates that if return on assets increases then the stock returns of the respected firms also increases. But these variables are weakly correlated with the stock returns. Similarly, current ratio, price by earning

ratio and foreign ownership are negatively correlated to the stock returns and their strength of correlation is weak. Current ratio, size, P/E ratio, dividend yield, foreign ownership and BCR are positively correlated with Return on Asset which means a slight increase in the ROA brings an increase in these variables.

4.3- EGLS RESULTS:

Table 4.3: Impact of company fundamentals on stock returns:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.0413	0.0873	-0.4736	0.6359
D(Current ratio)	0.0147	0.0069	2.1413	0.0325
Return on Assets	0.009724	0.002554	3.806559	0.0001
Market Capitalization	0.00000	5.94E-13	2.883220	0.0040
Sales Growth	0.008756	0.001886	4.642868	0.0000
P/E Ratio	-0.000292	0.000110	-2.650019	0.0082
Dividend Yield	0.002668	0.003700	0.720917	0.4711
Foreign Ownership	-0.231792	0.159285	-1.455198	0.1459
BCR Award	0.059628	0.046030	1.295400	0.1955

D/E Ratio	-0.000265	0.000201	-1.319005	0.1875
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
Adjusted R-squared	0.0490	Prob(F-statistic)		0.0009
F-statistic	1.522	Durbin-Watson stat		1.9917

Data Source:
(i) Annual Reports of Companies.
(ii) Business Recorder.
(iii) State Bank of Pakistan.

Table 4.3 shows the results of panel EGLS (Estimated Generalized Least Square) regression model. The study has computed the stock returns of 100 index non-financial firms listed on Pakistan Stock Exchange (PSX) from the period of 2005 to 2016 and regress on the firms' specific variables. The results of EGLS model shows that change in current ratio is statistically significant and positively affecting the stock returns depicting that the firms exhibit the liquidity behaviour and exists a possibility that dividend might be paid from it and such liquidated assets contribute to the earnings of the firms in case of PSX. The results are consistent with the theory and past studies of Aga et al., (2013) and Bagherzadeh et al., (2013).

As profitability ratios are used to assess how well a firm is at generating earnings over a specified period and one of the most important ratios is return on assets (ROA). The result of ROA for our sample firms shows that return on assets is highly significant and positively related of the

stock returns of the firms, explaining that these firms are efficient enough to manage the assets to convert into profitability of the selected firms. Gitman and Zutter (2012) stated that "return on assets measures the effectiveness of management in generating profit with its available assets". Thus, higher the return on assets, the better the performance of the management in a company. As theory says that more the profit of the firm, more will be the return of such firms. So, results are consistent with the theory and empirical past studies of Har and Ghafar (2015), Anwaar (2016), Gitman and Zutter (2012) and Farkhan and Ika (2013).

When size is regressed on the stock returns in the model, size of the firm is statistically significant and associated with the stock returns positively in case of PSX. Results are consistent with the studies of Benz (1981), Sehgal and Tripathi (2005) and Khan et al., (2012)

Sales growth is also one of the main variable in predicting the stock returns. Result shows sales growth of selected firms has significant relationship with the returns of the firms. The result reflects the findings of empirical studies demonstrated by Lau, Lee and McInish (2002) that sales growth has a significant relationship with return.

Price to earnings ratio is significant and negatively affecting the stock returns and consistent with the theory and past empirical studies by Basu (1983) and Tripathi (2008). Depicting that the top non-financial firms with highest market capitalization yields high earnings for their firms as compared to their stock prices and in returns increasing stock returns of their respected firms thus results confirming the hypothesis. When earning per share increases those investors who want short term gain, sell their shares in the market. It results in the excess supply of stock in near future and stock returns decrease.

In case of top firms listed on PSX, their dividend yield ratio appeared to be statistically insignificant thus not the reason of generating stock returns of firms and these results are consistent with the study of Black and Scholes (1974). In emerging market like Pakistan, companies do not believe on regular payments of dividends. There are many family owned companies in sample. The other possibility is low tendency to pay dividends in Pakistan. Dividends are more vulnerable to the fluctuations of earnings in emerging market than developed markets where earnings are immediately followed by dividend trends. Bekaert and Harvey (1995) reports low association between the returns of developed and emerging markets due to the differential industrial composition existing in emerging markets. Emerging firms in emerging markets are generally small and growing, prefer to reinvest their earnings instead of paying dividends. As a result, dividends in emerging markets are lower and more volatile than in developed markets. These characteristics reduce the explanatory power of dividend yield in emerging markets. These characteristics leads to lower explanatory power of dividend yield in emerging markets. This study suggests that it is not possible to provide evidence that different dividend yields lead to different stock returns by using the best available empirical methods. This argument depends upon clientele effect (Blume;1980) those who pay taxes would be the predominant holder of stocks with high dividend yield and those who pay high taxes would be the predominant holders of stocks with low dividend yield. If in some sense, the arrangement of stocks with different dividends were exactly equal to that are demanded by clienteles then relationship between returns and dividend yield would be unobservable. If the arrangement were not equal to that are demanded, then firms would have to change the dividend policy until the arrangement of stocks paying different dividends equals to that are demanded. One would expect no relationship between dividend yield and returns in an efficient capital market in which firms were trying to optimize their investors' interests before the stakeholders' taxes unless there are significant costs associated with the changes in dividend policy. Those dividend yield which are actually prevail in a market having

stockholders with different taxes in a study. This study would suggest one or more of the following: firms are not optimizing the interests of stakeholders; model is incorrect that is used in adjusting returns for risk; there are significant costs attached with changes in dividend policy; actual performance of individual firms did not match to investor's prior calculations over the period of study.

In developing countries like Pakistan, foreign institutional investors do not actively participate in the decision-making process of companies due to the strong participation and shareholding of family business and groups., Foreign investment and its variations is not too much in Pakistan. It exists in limited sectors e.g. chemical, pharmaceutical, energy etc. Most of the sectors do not have foreign investment in Pakistan.They have limited shares and less presentation on board in non-financial sector that's way international evidence exists but local evidence is limited in case of Pakistan. Therefore, our empirical results also show the insignificance of foreign ownership in PSX, consistent with the past literature Gurbuz and Aybars (2010) and Daraghma (2016). Thus, it can be concluded that when the dominant factor in the ownership structure of the firm is the domestic investor, additional investments by the foreigners do not have a positive and significant impact on operating profitability.

Best corporate report award is appeared as statistically insignificant. only few large companies receive this award every year with no significant variation, only few large multinational companies are consistent others are not improving. The findings of this research fairly confirmed the results of the research done elsewhere by Hail (2001), Wesonga (2008), Mwirichia (2008), Zareian (2012) and Kageha (2013). Mostly companies are same every year for BCR award, only few are changed. New companies are not listing and already listed companies are delisting themselves. Number of listing companies are decreasing. Seven hundred and twenty companies were listed in 2007-2008, now only five hundred and sixty companies are listed. Reason is companies avoid from strict regulations of SECP, it shows quality of financial reporting does not affect the stock returns of non-financial firms listed on Pakistan Stock Exchange.

Debt to Equity ratio is statistically insignificant,implying that debt to equity ratio is not an appropriate explanatory variable of return in case of non-financial firms listed on Pakistan Stock Exchange.The result reflects the findings of empirical studies demonstrated by Mais(2005) that D/E ratio does not have a significant relationship with return.

Chapter # 05

Conclusion and Recommendations

This study provides the insight about the role of firm specific variables in explaining the stock returns and aims to investigate the nature of relationship of stock returns with profitability, liquidity, growth, size, leverage, market multiple, dividend, foreign institutional ownership and quality of financial reporting of non-financial firms listed on Pakistan Stock Exchange (PSX). Return on assets, current ratio, sales growth, market capitalization, debt to equity ratio, P to E ratio, dividend yield, percentage shares held by foreign institutional investors and best corporate report award are used as proxies for Profitability, liquidity, growth, size, leverage, market multiple, dividend, foreign institutional ownership and quality of financial reporting respectively. This study explains the nexus of company's fundamentals and stock return of non-financial firms listed at Pakistan Stock Exchange. The study sample consists of hundred non-financial companies listed on PSX for the period 2005 to 2016. Panel EGLS (Estimated Generalized Least Square) regression model is used to get the empirical findings. Current ratio, return on assets, sales growth and market capitalization of the firm are found to be statistically significant and positively effecting the returns whereas price to earnings ratio appears to be negatively significant with the stock returns. This study recommends managers of non-financial firms to focus more on those financial ratios that have a significant impact with stock return for more profits and growth.

Policy implications:

- The equity return are reflection of profit of company, so managers must consider the bottom line of income statement which is priced by market.Therefore, optimal utilization of resources is divided.

- Liquid companies are more profitable in comparison to illiquid companies

- Growth firms offer better opportunity so may be a good vehicle of investment for individual/institutional investors

- Big companies offer higher return so investors can prefer these.

- The relatively low P/E ratio indicates good investment, while a relatively high P/E ratio indicates poor investment prospects.

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