The Determinants of the Non -Financial Firms' Profitability in Pakistan: 2005-2014

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By

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DEDICATION

Dedicated

To

My Mother

A strong and gentle soul who taught me to trust in Allah, believe in hard work and that so much could be done with little

My Father

For earning an honest living for us and for supporting and encouraging me to believe in myself

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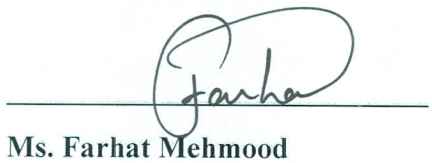

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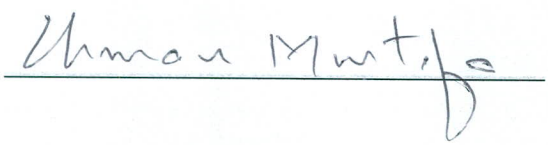

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IN THE NAME OF ALLAH, THE MOST GRACIOUS AND THE MOST MERCIFUL.

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ABSTRACT

This study examines the impact of firm size, financial market development, liquidity and leverage on financial performance of selected non-financial Pakistani firms. For this purpose, data for the period of 2005-2014 of 100 non -financial companies listed in the Pakistan Stock Exchange have been used. Return on assets is used to measure firm performance as the dependent variable whereas the independent variables such as M2/GDP ratio are used as a proxy of financial market development, firm size is used by taking natural log of total sales, current ratio for liquidity and financial D/E ratio used for leverage. For empirical results we have used fixed effect and random effect models as estimation techniques. It has been found that out of the selected independent variables only financial market development and firm size have positive and significant relationship with firm's performance. These findings have significant implications for company managers in increasing company's profitability.

Keywords: Firm Size, Return on Asset, Financial Market Development, Hausman Test

CHAPTER I

INTRODUCTION

The importance of the firm's profitability is very crucial for the investors, stakeholder and the economy. A well-performing business will have high return for the investors and the high profitability will result in higher income for employees, better quality products for customers and environment friendly units of production. Ultimately, more profit means the addition in the future investments and higher employment opportunities. The literature of finance has huge volume of research on the factors that are causing positive or negative effects on the profitability of the firm but there is still lack of models that explain most of such type of variations.

Profitability is the most important factor that indicates the performance of the firms and also fulfills the primary objective of financial management that always seek to increase the owner's wealth. Therefore, for the survival and better performance of firm, the profitability is main variable, to consider.

Pandey (1980) explained the productivity as the capacity of an industry to generate profit. It is required to inspect the factors of productivity to comprehend how firms manage to finance their business. A financial profit is recognized when the sum of profits earned from a business activity exceeds the costs needed to bear the activity. Profitability exploration categorizes measures and evaluates the performance of the firm in terms of the profits it earns each in relation to the share-holder's investment in the companies. Most entrepreneurs invest the profit earned by a business that can be used to measure the profitability of that investment.

At macro level, profitable business environment and effective cost have been developed that have contributed to strengthen the business environments. Organizations generally understand important responsibilities that their performance is one of the major issues out of many important issues for most of the company's stakeholders, such as creditors, shareholders, employees, suppliers and the government (Guijarro *et al.,* 2007). Several factors affect the organization's profit. These factors are essential for each organization and many important external forces

shape the performance of the profit (Augwuanyi *et al.* (2012)). The fact is that financial performance of companies directly affects the stability of the country's economic systems. Therefore, in the current capitalist world economy, the companies focus on the factors that influence profit margin (Akbas & Karaduman, 2012).

Based on prior studies the aim of this study is to examine determinants that influence the productivity of manufacturing firms in Pakistan. These elements include the size of firm, leverage, financial market development, and liquidity of the company. There exists a lack in the literature studying the determinants of productivity in Pakistan. Therefore, to determine these issues it will establish great benefits to investors of these firms like creditors and managers.

Firstly, firm size plays a significant role in defining the sort of relationship a non-financial company maintains within and outside their operating environment. Large size companies have great influence on their stakeholders. The influence of multinational companies in today's global economy is substantial just because of their size in the corporate environment (Abiodun, 2013). The practice of corporate finance has much discussed earlier where the impact of company size has been interrogated a lot. In today's global and capitalist's economy, no doubt, companies are playing an important role in providing opportunities for many company stakeholders. (Bhayani, 2010).

Liquidity states the share in current assets and current liabilities which are settled within one year or less and are important for firm's daily tasks (Kesimli & Gunay, 2011). The concept of liquidity is related to working capital which is the finance required to fund the daily profits making activities of the firm. Authors also explained that working capital management has an important role in shaping the achievement or failure of a firm in business performance because of its effect on firm's productivity. The successful business depends deeply on the capability of financial administrators to efficiently achieve the machineries of working capital (Filbeck and Krueger, 2005). For this purpose, a company may adopt an aggressive or a conventional working capital management policy to achieve this objective.

According to the Kapil (2011), the financial leverage is related to the financing activities of the firms. Graham and Smart, (2011) demonstrated that a firm having

debt on its balance sheet is termed leveraged and conversely a company that funds its activity solitary through equity is termed to be unleveraged.

Mikinnon (1973) and Shaw (1973) explained that development of financial market poses a large impact on economic structure of any country in the world. Financial development aids to assign capital efficiently to the sectors that are more productive in the economy and makes the structure of plan in an economy that facilitates the manner and growth of economic contract with help of savings and investment. The mobilizing of funds from surplus units to deficit units in both developed and developing economies can be possible through the financial institutions. These institutions include banks and non-financial institutions and their share in making sure the general growth and development of a country that cannot be exaggerated. Take an example that the search for financial liberalization that is a facet of financial development is an effort to lessen financial repression and straight intervention of administration in the market mechanism of the economy for productivity. Financial repression which disproves financial development forces institutions to pay low interest rates and thus decrease the reserves offered to finance capital accumulation. Therefore, the study reports the factors which determine productivity of the selected manufacturing companies listed in Pakistan Stock Exchange.

1.1.Literature Gap

Examining the factors responsible for the company's profitability and identifying causes of changes in profitability at the company level have been considered mandatory study topic for the Pakistan. Although, many studies carried out by researchers to find out list of such factors for better understanding, in the case of Pakistan there is need for such studies that have found out the impact of such factors on Pakistani non-financial firm's profitability.

1.2.Objective of the Study

Keeping in view the above-mentioned gap in the existing literature of the study has to investigate the determinants that explain profitability and its leverage on the profitability of the selected Pakistani firms.

1.3.Research Questions

To achieve the objective this study focuses on the following questions:

i. Does size of companies has any impact on the profitability of the companies?

ii. Does the financial market development has any impact on the profitability of companies?

iii. Does the liquidity ratio play any role in the profitability of companies?

iv. Does the leverage have any impact on the profitability of companies?

1.4.Significance of the Study

The concept of economies of scale is representing the positive association between the size of the companies and profitability. This aspect is salient in the earlier works of Hall and Weiss (1967), Scherer (1973). Large firms can take advantage of economies of scale (the average per unit cost drops over a range of output) and from the economies of scale, they obtained additional cost savings as a result for the manufacture process. On the other side, large companies can obtain a better administration and subsidy of product development, commercialization, marketing, concentration, financial sector, strong treatment, large market share, strong competitive power and better information. Likewise, liquidity states, leverage ratio and the extent of financial markets development plays critical role in the performance of companies. So this is a worthy area of research for the economy of Pakistan.

1.5.Plan of the Study

This study is structured as follows. It is started with introduction by explaining the introduction, literature gap, objective, research questions and significance of the study. Chapter II is about literature review. Chapter III is about data source methodology, and the estimation techniques. Results are interpreted with the explanation of all variables presented in the Chapter IV. Finally summary, conclusion, policy implications and limitations of the study are given in Chapter V.

CHAPTER II

LITERATURE REVIEW

This chapter includes the prior studies along with their empirical evidence about the factors that matters in firm's profitability in Pakistan Stock Exchange. The literature presented in this chapter helps to generate the hypotheses for the current study.

2.1 Determinants of Firm's Profitability

Following are the determinants of firm's profitability explained by keeping in view different studies:

2.1.1. Firm Size

Variables like firm size, profitability, sustainability and survival vary widely for a company while operating in market economy. These are predetermining factors for the observed variables. Company size considered to be very important determinant for company's profitability. Firms listed in Nigerian Stock Exchange have been examined by investigating the impact of company size on its profitability by Babalola (2013). The panel data studies have been used from period 2000 to 2009. By using proxy of Return on asset profitability was estimated, while company total asset and sales were used as the proxies of firm size. The study concluded that company size in relations of total sales and total assets has a positive effect on the profitability of manufacturing firms in Nigeria.

Niresh and Thirunavukkarasu (2014) examined the effects of company size on productivity by using manufacturing firms of Sri Lanka. The data set composed of 15 firms which were trading actively in Colombo Stock Exchange (CSE). For the period of 2008 to 2012, approximate results shows the profitability of return on assets and net profits. Whereas total assets and sales has been used as indicators of company size. Correlation and regression methods were used for the empirical analysis. The findings of this study revealed that there is no relationship exists between company size and profitability. Moreover, the study also showed that company size has no reflective impact on productivity.

Another study investigated on company size and assessed its influence on company's profitability. Besides the size of a company, a company performance is affected by a variety of internal and external variables. Therefore, apart from only inspecting the relationship between company size and performance, it also discovered that the effect of some other variables decisive in determining company profitability. The analysis covered the year 2002 to 2010 period and the results revealed that firm size has a significant positive effect on company productivity (Pervan and Višić, 2012).

In order to identify the sources of diversity of profitability at the company level, researchers have made many efforts in industrial economics, strategic management, marketing and accounting and finance. Dogen (2013) has examined the profits and size of the company of 200 active companies in the Istanbul Stock Exchange (ISE) between 2008 and 2011. The "return on assets" (ROA) used as a proxy for profits and total assets, total sales and numbers of employees have been used as size indicators. Several regression and correlation methods have been used in the proportional analysis. The results of the analysis show that there is a positive relationship between the size indicators of the companies and the profits.

Mule *et al.*, (2015) explored the effect of company size on the productivity and market value of listed companies in Kenya. In this study, the author has analyzed the data of the companies that were active in the Nairobi Securities Exchange (NSE) between 2010 and 2014. The estimation methods used were panel methodology and correlation analysis. The results indicated that there is a positive and significant relationship between the size of the company and the profitability

Dahmash (2015) examined the impact of size on the profitability of the company listed at the Jordanian by applying two different models between a comprehensive sample of 1538 companies which were listed at Amman Security Exchange covered period from 2005 and 2011. The findings showed highly significant value for 3 main-sectors of the sample. The industrial sector firms show the highest significance value which tailored with the services sector companies and finally financial sector companies.

Mirza and Javed (2013) inspected potential cooperation between the company and financial indicators such as corporate governance, ownership structure, capital

structure and financial performance of risk management. This is one of the very few studies, which has tested the various factors of company performance in the context of the development of Pakistan's market. The period used in this study is from 2007 to 2011, for the 60 Pakistani firms listed in the Pakistan Stock Exchange (PSE). There is a positive cooperation between corporate governance and performance and risk management while mixed results are celebrated for other variables.

Baker *et al.*, (2010) inspected the effect of company size on earnings in the manufacturing sector of the United States. The study used data for the period 1987-2002. It was found that there are statistically negative relationships between the total assets of total sales, the total number of employees, the total assets of their profitable companies.

Dahmash (2015) agreed to the first study to examine the relationship between company size and profits. Dahmash (2015) did not investigate any statistical relationship between the company and the size of profitability. Another study by Hall and Weiz (1967) found an important positive association between profitability and the size of the firm. On the contrary, in Shepherd (1972) he found a significant negative relationship between productivity and the size of the company. While another study by Stierwald (2009) examined the lack of connection between size and profitability

Fenenbaum and Kernani (1991) inspected the positive relationship between profitability and company size. Majumdar (1997) has examined the profitability of small and large companies in India. This study has shown that large companies have obtained more benefits than small companies. But another study by Scherer (1973) argued that the benefit of big companies is low. Babalola (2013) inspected the effect of the size of the firm on the performance of firms in Istanbul. In this study the figure were taken from the Istanbul Stock Exchange from 2000 to 2005. The discovery of this study has shown that the performance of large companies is very high compared to smaller companies.

2.1.2. Financial Market Development

Islam and Mozumdar (2002) investigated the effect of the financial market development, for which companies must rely on internal capital to invest. In this study, data from 31 countries have been used for the period 1997-1997. This study has

found negative relation between the development of the financial market and the importance of internal capital. It was also found in the study that large companies are dependent on internal funds as compared to large companies.

Padachhi and Sethanah (2007) investigated the relation between development of the stock market and capital structure of the companies. The study used data from 38 listed firms in the Mauritius stock exchange for the period 1994-2005. The finding of this study showed that the development of the market is linked to loan financing for non-financial companies. This is not the case for financial companies, which is the replacement of equity for loans.

Stierwald (2009) investigated the determinants of company profitability of 961 large Australian companies. The study used data for the period 1995 to 2005. The study used random and fixed effect models. The profit model includes a time-variant, company-level measure for total factor productivity which was estimated through auxiliary cost function. The finding of this study revealed that, size and productivity level, such as lagged profit, have a positive and large impact on company profitability. The effects of sectors are present but play a minor role.

2.1.3. Capital Structure

Companies need large sums of money from external parties for the development of companies. Weston and Brigham (1994) argued that companies are gradually increasing instead of increasing the possibility of using a loan. According to Suginero and Winnie (2005), the company's earnings have the potential to generate profits in relation to its assets with total assets. Profitability has become the most significant factor in the capital structure. To the general companies wanted to develop at the level of profitability which is always high and stable whose high productivity will reduce the debt. This prevents the firm from depending on internal resources and reduces the use of credit in most profits.

Jaggi and Fernando (1999) carried out the research to examine the size of the company, the relationship between free cash flow and composition of capital in Hong Kong. The multiple regression analysis study used to show that free cash flow and the influence of the company to shape the structure of the positive capital. It has been said in the study that free cash flow flows affect positively when development

opportunities are lower. The findings of this study also show that there is a positive relationship between debt and growth in large companies, when free cash flow (FCF) is low. When the loan level requires higher funds for the higher company, more companies will choose to go to the debt market instead of the stock market. The main reason behind this is relatively cheap compared to the stock market. It is easy to regulate the additional debt because the risk is relatively minor compared to the stock market.

Another research has been conducted by Prabansari and Kusuma (2005) about capital structure using ownership structure, profitability, company growth and risk. The finding of this study showed that sales growth, size, structure of ownership and profitability has significant positive impact to the structure of the capital. But a negative significant relationship has observed between risk and capital structure. This study also stated that when more debt is used by the company in their capital structure, sales growth will be higher for the company. Zhang (2010) examined the relationship between profitability, tangibility, company's company capital structure, size of the company against age. The findings of this study showed that profitability, tangibility, growth company, company capital structure and size of the company have not any significant effect on the capital structure.

Velnampy *et al.* (2012) inspected the relationship between profitability and capital structure in Srilanka. This study used data of listed Srilankan banks. For the period 2002 to 2009. Finding of this study revealed that negative relationship observed between profitability and capital structure. In addition, selected Sri Lankan firms have also been observed considering their value added performance and productivity. For this purpose, study utilized data of fifteen financial firms that have been listed under Colombo Stock Exchange. Findings revealed that there is a positive relationship between profit before tax/employee and fixed assets in term of its value added per rupee. Positive correlation is also observed between gross profit and labor cost to sales.

Different authors examined the relationship between the company's liquidity, product variability, profitability and size with the structure of capital. Finding showed that there is not any significant effect on the capital structure of variable liquidity, product, size, touch and variability. But the profitability of the company has a large negative

impact on the capital structure of the company. Large-scale companies have more long-term loans. Large companies are reflected in the constant rate of return on the behalf of lender and a low level of risk. And this is due to the availability of long-term debt. Because large companies can take more money, the reliability of large companies is greater because for small businesses in comparison the probability of default is low. Due to greater debt, the corporate resources of large companies increase, this loan can be added in any measure to the losses incurred by companies and allow companies to obtain more loans. Due to the loans, the company will significantly reduce taxes.

Pontoh and Ventje (2014) examine the relation between capital structure, tangibility, growth of the company, influence of level of operation and size of the company. This study is conducted in Indonesia. Finding of this study revealed that there is not any significant relationship between all independent variables with the capital structure. Priority of big companies is internal funding. This study also finds that aim of companies is to get stability in their cash flows. In addition, big companies do not use debt to change its capital structure.

In a study conducted by Gathogo and Mary (2014) in Kenya, for the investigation of the relationship between the size of the company, risk, profitability, liquidity, debt, the company's growth in the capital structure. Risk and size of company turned out to be having positive impact on company's capital strucrure, while liquidity and profitability have a significant negative impact on the capital structure. No significant relationship has been noted between the growth of the loan and the cost of capital with the capital structure. Due to low confidence, foreign investors invest less in Kenya due to the risks associated with effective commercial risks, when the risks in the business increase, investors will try to avoid having shares out there. The stock market will have difficulties to increase the capital for the companies.

Stierwald (2009) conducted a study and stated that profit, growth and debt interest of the companies have significant positive effect on the structure of the capital. Then the result of this study showed that profitability effect negatively to the capital structure. In addition this study also found that tariff margin corporate taxes have no effect on the capital structure. Similarly, another research conducted by Tarus *et al*. (2001) examined capital structure in Kenya and found significant negative influence of

liquidity and profitability on this structure. This study also found that company size has no significant effect to the capital structure.

Gul *et al.* (2006) examined the relationship between size of companies, profitability, tangibility, liquidity and capital structure in Pakistan. Results of this study showed that capital structure is negatively affected by liquidity and profitability. While the other variable company growth, tangibility and size of company have significantly positive impact on capital structure. Capital structure is negatively affected by profitability, in accordance with theory of pecking order. According to this theory, managers will eventually prefer internal funding over the external funds if profit of companies is higher than internal funding. Liquidity is having negative effect because it is remained high for banking companies, so high cash flow is produced to finance and so their project excess cash is used. Compared to companies with low liquidity, companies with high liquidity depend less on debt. This incident has taken care the principle of business. According to this theory large companies may provide maximum debt in their capital structure compared to smaller companies because it has a small risk with constant cash flows.

2.1.4. Liquidity

Padachi (2006) inspected the effect of liquidity management on firm performance. This study has used 58 Mauritian small industrial firms as its sample. The findings showed that for smoothing daily operations, firm is required to hold stability between the liquidity and profitability. The study also stated that liquidity confirm the firm's ability to meet its short-term requirements. The results also declared that non-stop flow of liquidity can be definite for the profitable projects of a firm.

Alipour (2011) inspected the sample of 1063 firms listed at Tehran stock exchange. The study discovered a negative association between inventory turnover number relating to day's accounts receivable and profiatablity, cash conversion cycle while a positive significant association with number of days accounts payables. The study argued that the profitability of the firms has been significantly affected by working capital management.

Gathogo and Mary (2014) considered the impact of prerequisites of working capital management on profitability and liquidity in Pakistan. For this purpose, they took the

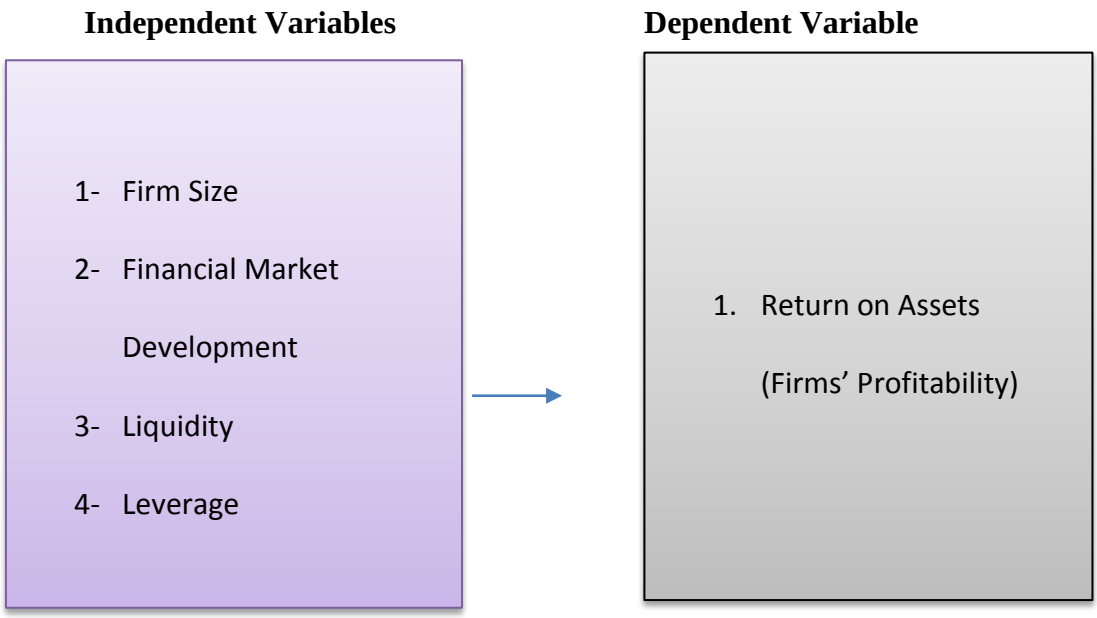
data of 94 firms that have been listed on Pakistan stock exchange for the time period of six years (1999-2004). The study found a negative correlation between profitability and prerequisites of working capital management. Moreover, profitability and liquidity have also been found identically related.

On the contrary, Bibi and Amjad (2017) tried to figure out the relationship between the firm's liquidity and profitability in Pakistan. The study collected 50 companies which were listed on Pakistan Stock Exchange and used secondary data of firms for 5 years from 2007 to 2011. The results obtained from the regression analysis concluded that the current ratio which is the proxy used for liquidity is positively associated with the firm's profitability. Current ratio coefficient turned out to be positively significant that implies when firms progress in dealing their short-term liabilities then it has positive effect on the firm's profitability.

2.2. Analytical Framework

This research is based on the following theoretical grounds:

Figure 1: Theoretical Framework of Company Performance



2.3. Hypothesis

H1: Company size has significant positive impact on company's performance.

H2: Financial market development has significant positive impact on company's performance.

H3: Leverage has significant negative impact on company's performance.

H4: Liquidity has significant negative impact on company's performance.

CHAPTER III

DATA DESCRIPTION AND METHODOLOGY

3.1. Data Description

Different data collection techniques have been found in the literature such as group discussion, interviews, questionnaire and observations etc. This research study has used 100 listed companies' empirical data that have been listed at Pakistan Stock Exchange. Time period has been chosen from 2005 to 2104. More than 700 companies are listed with Pakistan Stock Exchange, out of which 100 companies have been selected for the analysis of this study. Moreover, companies related to financial sectors have excluded from the analysis as there may be some influence of these companies on current study because their capital structure is different.

3.2. Dependent Variable

The dependent variables for this study are as under:

a) Returns on Assets

Performance of the company can be assessed by using different proxies but return on assets is much more appropriate indicator of any company's performance (Marimuthu, 2008). Therefore, the returns on assets (ROA) have been opted as a dependent variable to indicate company's performance. Ratio of return on assets has been calculated as ratio of net income to total assets. This ratio is in percentage form.

3.3. Independent Variables

The independent variables are as follows:

a) Firm Size

The proxy used for the companies' size is the log of total sales of the company.

b) Financial Market Development

Financial market development indicates as the percentage of money supply (M2) to the gross domestic product (GDP) so that M2/GDP

Table 1: Measurement Method of Variables

Variables Name	Acronym	Measurement
Dependent Variable		
Return on Asset	ROA	Calculated by dividing a company's annual earnings by its total assets.
Independent Variables		
Firm Size	FS	Log of total Sales of the company.
FinancialMarket Development	FMD	Percentage of money supply (M2) to gross domestic product (GDP).
Liquidity	LIQ	Current Ratio.
Leverage	LEV	Debt to Equity ratio.

c) Liquidity

Companies' liquidity (LIQ) is computed as current ratio.

d) Leverage

Companies' leverage (LIV) is computed as Debt to Equity ratio.

3.4. Definition of Key Terms

Following table shows the independent and dependent variables we are going to use in this work. It also explains the way of computation of these variables.

3.5. Methodology

Panel data have been used in this study. Panel data model comprises of two data sets, time series data and cross-sectional data. The individual could be company's states, entities etc. Panel data could be balanced and unbalanced. In balanced panel data examination of each individual is done every year of the study while in unbalanced panel data individuals are not observed each year of the study.

General form of panel data regression is like this

$$Y_{it} = \alpha + \beta X_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots (eq.1)$$

In panel data we consider two techniques which are fixed effect and random effect. Through panel data researches can obtain a large data set which increase the degree of freedom in order investigate explanatory variables and their relationships.

In fixed effect model error term (εit) varies non-stochastically with respect to t or i. Making fixed effect model directs towards dummy variable model towards one direction. In random effect, εit varies stochastically with respect to t or i and it requires error variance matrix as a special treatment.

In this study both random effect and fixed effect models are applied. Hausman test is applied to decide whether to use random effect model or fixed effect model. Here, the hypotheses are generated for making the decision between the appropriate estimation approach.

Ho = It is appropriate to use Random Effects Model.

H_1 = It is appropriate to use Fixed Effects Model.

In this study we have used the given model.

$$ROA_{it}=\acute{\alpha}i + ß\ FS_{it} + ß\ FMD_{it} + ß\ LIQ_{it} + ß\ LEV_{it} + \mu_{it} \text{ ---------- (eq.2)}$$

Where;

ROA_{it}	=	Return on Assets
FS_{it}	=	Firm Size
FMD_{it}	=	Financial Market Development
LIQ_{it}	=	Liquidity
LeV_{it}	=	Leverage
μ_{it}	=	Error Term

Diversification effect is captured by opting random or fixed effect model using Hausman test as a decision making tool. Hypothesis of Haussmann test takes the form:

H_0: Random Effect Model is Appropriate

H_1: Fixed Effect Model is Appropriate

(Reject H0 if Prob < 0.05)

CHAPTER IV

RESULTS AND DISCUSSION

1.1. Descriptive Statistics

Descriptive statistics of the variables used in equation 2 is listed in Table 2 as below:

Table 2: Descriptive Statistics of Variables

Stats	FS	FMD	LEV	LIQ	ROA
Mean	14.30	0.71	3.00	3.65	41.7
S. Deviation	1.35	0.17	16.80	13.29	22.60
Minimum	5.07	0.47	-6.82	0	1
Maximum	17.33	0.99	16.90	18.0	29.0

Note: *The descriptive statistics table shows the summary of each variable of eq.2 in the table.*

4.1.1 Mean

Central tendency of any data is usually checked by statistical mean of that data which is its average. Among all averages mean average is widely used as it includes each and every value of the data set. But it has been criticised on the grounds of being biased as it is affected by the extreme values.

Table 1 showed the descriptive analysis from which it can be seen that highest mean value 41.7 is of ROA variable. However independent variables like size, leverages and liquidity got mean values of 14.3, 3.0 and 3.65 respectively. Moreover, financial development got lowest mean value of 0.71.

4.1.2 Standard Deviation

Dispersion of any data set is checked by using standard deviation. Lower the value of standard deviation closer the data set is to the mean value. In contrast, as the value of standard deviation gets higher it means the original data points are more farther from the mean value.

From Table 2, it has been found that independent variable financial development has the lowest spread of data having standard deviation of 0.17. However size, leverage and liquidity got higher spread having standard deviation of 1.35, 16.80 and 13.29 respectively. Moreover, ROA also got some significant spread having standard deviation of 22.60.

4.2 Correlation Matrix

Correlation means mutual relationship or connection between two variables. Table 3, provide the details of correlation between all the variables used in equation 2.

Table 3: Correlation Matrix of Variables

	ROA	FS	FMD	LEV	LIQ
ROA	1.00				
FS	0.196*	1.00			
	0.000				
FMD	0.089*	0.155*	1.00		
	0.004	0.000			
LEV	-0.029	0.060	0.048	1.00	
	0.359	0.074	0.123		
LIQ	-0.012	-0.170	0.012	-0.011	1.00
	0.707	0.000	0.684	0.712	

Note: *The correlation value of each variable is given in the table of correlation matrix.*

Before applying the statistical estimation techniques, the tests are performed to make the dataset free from any statistical errors that distort the results obtained from different regression analysis. Hence, to identify whether the multicollinearity exists between the variables of this study, correlation matrix is generated which is the tool to identify the values of variables that correlates with other variable and make the results insignificant. The values of correlation must be in the range of +1 to -1 which shows the absence of multicollinearity.

The above correlation matrix of current study revealed the correlation values of the variables used. The results documented that there is no multicollinearity problem exists in the current study as all the correlation values are in the threshold limit described above. The table shows that liquidity has positive relation with the financial

market development whiles the negative relationship with all other variables. It means the larger the liquidity, the larger will be the financial development in market. Like this, debt to equity rati positively associated with the size of the company and the financial development and has no negative relationship with any variable. Finally, the size of the company is positively related to financial development. Hence, the overall result of the above matrix showed that highest possible correlation is between the company size and the profitability with value of 0.1963 whereas, the highest negative correlation value to be -0.1715 between the company size and the liquidity. Therefore, this tool concluded that the data is free from any multicollinearity issue none of the correlation is greater than 60% and can be used for further statistical purposes.

4.3 Empirical Analysis

In order to empirically analyze equation 2, two different models i.e. random and fixed effect models have been used in this study. ROA have been taken as a proxy of the companies' profitability. Following is the Table 4 presenting the empirical findings related to the models mentioned above.

Table 4: Determinants of Returns on Assets

	Fixed Effect Model	
Variable	Coefficient	P-Value
FS	58.719***	0.000
FMD	97.147***	0.012
LEV	-0.223	0.541
LIQ	-3.700	0.231
Constant	-477.950**	0.001

Note: *This table presents the results of fixed effects model. The symbol (**) represents 5% while (***) represents 1% level of significance respectively.*

4.4 Hausman Specification Test

Hausman test has been used to choose between random and fixed effect model. Following is the statistics of this test:

Table 5: Hausman Test

Test Summary	Chi-Sq. Statistic	Prob.
	12.78	0.0124

Hausman test having the probability of 0.0124 that is not more than 0.05 suggests to reject the null hypothesis of choosing random effect model and recommends the fixed effect model. This fixed effect model equation regressed the variables such as size, financial development, leverage and liquidity as explanatory variables while the dependent variable is considered to be ROA which is the profitability of company.

4.5 Fixed Effects Model

The interpretation of Table 4 is given below.

4.5.1 Effect of Company Size on Profitability

This study found a statistically significant relationship between profitability and company size in Pakistan because the value of p is 0.000 therefore, the hypothesis H1: "Company Size has significant impact on Company Performance" is accepted. That testifies a positive impact of company size on the ROA of companies which means that if there is one unit increase in the company size there will be 58.72 units increases in the profitability of the company. This study supports the argument that large the size, of companies larger will be the profitability of companies of Pakistan under study. This finding is consistent with the Dogan (2013) which has also found that company size positively affect the profitability of the companies enlisted in Istanbul Stock Exchange during the years 2008-2011.

4.5.2 Effect of Financial Market Development on Profitability

Second independent variable of the study is financial market development (FMD) indicated as the percentage of money supply (M2) to gross domestic product (GDP). The current study found the statistically significant relationship between profitability of companies in Pakistan and the financial market development because the value of p is 0.012 therefore, the hypothesis H2: "Company Size has significant impact on financial market development" is accepted which means that if there is one-unit

increase in the financial development, there will be 95.51 unit increases in the profitability of the company. This finding is consistent with the Doku (2011) which also found the same positive and significant impact of financial market development on the profitability of the company in Ghana Stock Exchange.

4.5.4 Effect of Leverage on Profitability

Leverage (LIV) is usually computed as debt to equity ratio. The effect of leverage on profitability is also obtained from the fixed effect model. In this study, the value of p for leverage is 0.541 which is greater than 0.05, therefore, leverage has no significant on ROA . This study is contrary to the some of the studies which found that leverage has significant impact on the profitability.

4.5.5 Effect of Liquidity on Profitability

Liquidity (LIQ) is the last independent variable in this research. The results obtained from the fixed effect model revealed that the effect of liquidity the profitability is statistically insignificant as the p-value is greater than 0.05. The hypothesis of this study H4: "Liquidity has significant impact on Company Performance" is rejected on the basis of its coefficient negative sign level. Liquidity has negative relationship with profitability and it is also shown that with the increase in leverage the profitability decreases because of its more dependence on debt. This finding is contrary to the other studies (Gathogo and Mary, 2014 and Tarus *et al.,* 2001) which found that liquidity has impact on the profitability of companies.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

This study has done on the selected non-financial firms listed in the Pakistan Stock Exchange to investigate the impact of the company size, financial market development, leverage and debt to equity ratio on companies' performance. In this study empirical analysis has been done using a data series of 100 Pakistan Stock Exchange listed firms is for 10 years from 2005 to 2014. We have not included a single firm from financial sector.

According to previous studies, company performance is tested by using accounting measures such as return on assets (ROA). Also, four independent variables are used in this study such as leverage (LIV) and liquidity (LIQ) company size (S) and financial development (FD), According to the findings of this study, company size has significant impact on ROA. Financial market development has also significant impact on ROA.

However, the first two hypothesis of the study showing that in selected companies size and financial market development are particular variables that can boost the company's performance has been accepted.

For econometric techniques we have used fixed effect method as that fits with the nature of study data. Financial market development and company size have positive and significant relation with company's profitability which indicates that with the increase in firm size and improved financial market the company's income rises. This study has concluded that for the purpose to increase the company profitability, companies should focus to increase company's size and financial market betterment.

5.2. Policy Implications

This study has following policy implication which is given below.

1) This study highlights the significant role of firm size and financial market development in increasing company profitability.

5.3. Limitations of the Study

This study has also some limitations which are discussed below.

1) The list of explanatory variables can be extended.
2) Impact of company size and financial market development is examined only on company profitability but it can be checked on company investment as well.

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