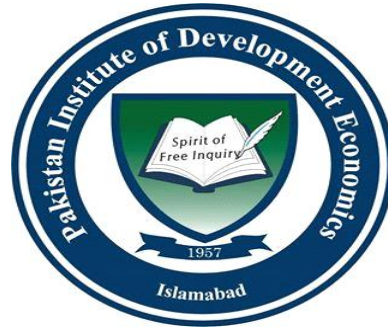


The Firm Debt - Performance Nexus in Pakistan:  
Explaining the Impact of Ownership Structure



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## CERTIFICATE

This is to certify that this thesis entitled: **“The Firm Debt-performance Nexus in Pakistan: Explaining the Impact of Ownership Structure.”** submitted by Mr. Esar Ali is accepted in its present form by the PIDE School of Social Sciences, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfillment of the degree of **Master of Science in Management Sciences**.

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### **Author's Declaration**

I, Esar Ali, declare that this thesis, **The Firm Debt - Performance Nexus in Pakistan: Explaining the Impact of Ownership Structure** has been composed solely by me under the supervision of Dr. Farhat Mahmood and Co-supervised by Dr. Abdul Rashid, and that it is authentic work and it has never been submitted in any previous degree or published journal.

I confirm that the work herein is my own except explicitly declared otherwise in this research study. Moreover, this study was conducted as a requirement of degree requirement at PIDE and this is done entirely by myself. I have not used any other means to complete this research.

Date: 9 September, 2021

Sincerely,

-Esar Ali



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## ABSTRACT

This goal of this study is to enhance the already prevailing literature on debt and firm performance relationship by concentrating on the role of ownership structure in this relationship. The study used performance measures (Return on Assets and Earnings per share) as dependent variables. The study includes control variables; age, size and sales growth. The study also examined the role of macro-economic variables (Rate of inflation and GDP growth rate) on performance of the firms. The study used data of 148 firms from non-financial sector listed on the Pakistan Stock Exchange for the period 2012 to 2019 and fixed effects model for estimation.

The results indicated that the impact of long term debt, short term debt and total debt on firm performance is significantly negative except with LTD in EPS models it is insignificant. The control variables revealed that; size is significantly positive in all models, sales growth is significantly positive in ROA models while it is insignificantly positive in EPS models, age is significantly negative in ROA models and in all of the models of EPS it is insignificantly negative. The macroeconomic variables; GDP growth rate is negative and insignificant in ROA models and it is positive and insignificant in EPS models. Rate of inflation is negative and insignificant in ROA with LTD and TD, except with STD it is positive and insignificant. Inflation rate in all EPS models is positive and insignificant.

The impact of ownership structure as an interaction term varies across all models; family ownership is positive and significant with STD and TD in ROA models while in EPS models it is positive and insignificant. State ownership is positive and insignificant in both ROA and EPS models, except in EPS model with STD it is negatively insignificant. Individual's ownership is negative and insignificant in ROA model with LTD and in all EPS models, while positive and insignificant with STD and TD in ROA models. Foreign ownership is negative and insignificant with LTD and STD and negatively significant with TD in ROA models, while it is negative and insignificant with LTD and TD and positively insignificant in EPS models. Institutional ownership is significant and negative with LTD and TD, and negatively insignificant with STD in ROA models. While in EPS models institutional ownership is positive and insignificant with LTD, and negatively insignificant with STD and TD.

**Keywords:** Profitability, Ownership structure, Debt Financing

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## LIST OF ABBREVIATIONS

EPS	Earnings per share
GDP	Gross Domestic Product
INF. RATE	Inflation Rate
LTD	Long Term Debt
MM MODEL	Modigliani and Miller
NPM	Net Profit Margin
PIDE	Pakistan Institute of Development Economics
PSX	Pakistan Stock Exchange
ROA	Return on Assets
ROE	Return on Equity
SSE	Shanghai Stock Exchange
STD	Short Term Debt
TD	Total Debt

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

The influence of firm debt on firm financial performance has been an important theme to firm owners over the period. The firm debt performance nexus is studied using theories such as theory of agency cost of Modigliani and Miller (1958) the theory of trade-off of Jensen and Meckling (1976) and the theory of pecking order of Myers and Majluf (1984). There is huge literature in the developed countries which examine the performance implications of capital structure decisions. However, in the developing countries such as Pakistan, the capital structure of the firms needs more attention of the researchers to examine the effect on performance. In countries such as Pakistan, Eldomiaty (2007) claimed that capital market is incomplete and less efficient and due to which it suffers from asymmetric information, as compare to developed countries capital markets. The less efficient capital market results in incomplete and irregular decisions related to financing in firms. For that reason, it is imperative to investigate the validity of firm leverage levels and performance nexus of Pakistani firms as an example of emerging economies.

Modigliani and Miller (1958) argued that under the conventions of the capital markets which are tax free economies, no transactions costs and investors uniform beliefs; the firm value does not get affected by capital structure decisions. However, in their study Modigliani and Miller (1963) they suggested firm value can be enhanced because of tax advantage. According to Gottwald (1913) investors want to purchase undervalued securities and sell overvalued securities to earn income. The investors influence such arbitrage opportunities by the falling price of overvalued securities and rising price of undervalued securities until both the prices become equal.

Nonetheless, such restrictive prepositions of capital structure are not true in the real world, which has created a space for the researchers to present rationalization for the assumption that showing the capital structure decisions affects the value of the firm.

Jensen and Meckling (1976) argued leverage in the firm affect conflicts between managers of the firm and firm shareholders by encouraging them or by compelling leaders to act more for shareholders interest which resultantly can alter the behavior of the managers towards operating decisions and thus the level of leverage in capital structure decisions affects performance of the firms. After the Jensen and Meckling (1976) point regarding capital structure effects on performance, numerous studies have been conducted on debt and performance relationship. However, empirical studies have shown positive, negative and mixed results on capital structure. As many as studies, concluded a positive association between firm debt and performance. Few studies concluded negative association between firm debt and firm performance (Fama & French, 1998; Majumdar & Chhibber, 1999; Gleason et al., 2000). Therefore in this study, we are examining the impact of debt on Pakistani non-financial firms performance, aiming to identify what relation it carries.

Long term debt depicts the amount of assets financed through debt which is payable after more than one years of time period. Long term debt contains long term debts and bonds. Yazdanfar and Öhman (2015) argued that long term debts carry higher interest rates as lenders demand high rate for taking risk for the longer period. Long term debt of firms restricts managerial preference by making access to new sources of funds. (Du et al., 2015). According to Elliott et al. (2008) long term debt is the main determinant of determining firms' financial performance and short term debt is a vital factor of a firm financial strength. Also, STD is the cheapest way of

financing. (UDEH et al., 2016). The short term debt of the firm possesses positive association in relation to growth opportunities observed by (García-Teruel & Martínez-Solano, 2007).

In this study, we also intended to inspect the role of ownership structure in firm debt and performance relationship. The role of corporate governance in last two decades especially ownership structure in financial management has been distinct area of empirical research. In recent past, comparatively more empirical studies have been documented on capital structure and corporate governance. Shleifer and Vishny (1997) argued that business governance is about dealing in the ways that assures the suppliers of finance get the return on their investment. Consequently, the major supplier of finance is equity holders of the firm. The major problem arises when management and ownership is separated. The problem is one of agent and principal. Corporate governance is particularly related to resolution of combined problems in firms. (Bebchuk et al., 2017).

One of the most accepted mechanisms in all countries of resolving collective problems is partial ownership and control concentration by large shareholders, since their interest is affiliated with firm. (Selarka, 2005). Shao (2019) argued that if the ownership structure is dispersed, the managers will be less likely of more scrutiny by firm's shareholders. Manager discretion is strong in firms having dispersed shareholding patterns of control. In those scenarios, the management of the firm takes decisions in a way that limits concentrated shareholding. According to Denis et al. (2015) if financing is made through debt, the managers of the firm can avoid inside monitoring, but allow themselves to monitor by the lenders of funds. What is acceptable for powerful managers (entrenched managers), a monitoring by lenders or by block shareholders of firm. In order to further elaborate the above mentioned argument of agency issue, this study intended to examine the impact ownership structure in the relationship of debt and

performance of firms from non-financial sector in Pakistan. In developing nations like Pakistan, economic system is dominated by the closely held firms, i.e. state-owned, family owned, held by large corporations and by institutions. The importance of understanding corporate ownership structure pattern can be observed in its potential influence on corporate decisions of firm valuation and performance. In developing countries like Pakistan, the closely held firms (State owned firms, family owned firms, held by corporations or financial institutions) dominate the economic system. Let's go through the control mechanism impact on Pakistani firms, as Abdullah et al. (2011) reviewed family ownership on firm performance and found that group ownership has no effect on performance, however suggested that ownership is larger, then firm performance becomes poor. In Pakistan, as many large firms are owned by state. Likewise, by Din et al. (2021) in a study on state ownership found significant and positive impact on ROA, ROE, TQ, MBR and ROE. Likewise, Shah and Hussain (2012) examined the impact of managerial ownership on firms' financial performance. The study results revealed negative yet significant impact of managerial ownership with performance whereas, ownership concentration showed insignificant relation with performance measured by Tobin's Q. Ali et al. (2021) found that institutional owners and foreign owners perform better than others. Likewise, Tahir and Abrar (2019) investigated institutional ownership and firm value on PSX on data ranging from 2008 to 2013. The findings revealed that ownership by institutions has positive impact on firm value whereas, debt ratio was found to be adversely related to firm value measured by ROA and Tobin's Q.

## **1.2 Problem Statement**

Decisions related to capital structure are useful financial decisions for all kinds of enterprises in every part of the world. Capital structure consist proportion of debt and equity which differs between firms based on many variables and factors. Firm stakeholders and firm financial managers want to know the mix of debt and equity which help to achieve firm value. Both modes of financing carry their own cost and benefits. In developing countries like Pakistan, access to debt financing has been an issue and thus firms become exposed to capital financing challenges. Previous research showed mixed views on debt and firm performance nexus. Therefore, it is important to reveal that whether debt and performance relation in Pakistan is positive/negative or has no relation keeping in view the role of ownership structure of non-financial firms. In Pakistan, the ownership control mechanism is mixed; firms are held by large shareholders, foreign owners, institutions, individuals and state. This control mechanism influences the financing decisions of the firms in Pakistan.

## **1.3 Research Gap**

This study is based on the perception that firms need a viable mix of debt and equity to maximize shareholders wealth. Previous research on capital structure presented both benefits and cost attached with sources of financing. La Rosa et al. (2018) explored the influence of debt financing and the role of institutional factors on firms financial performance in Nine European counties and they revealed positive association of institutional factors. Additionally, they found short term debt had positive relation and of long term debt had negative relation with firm performance.

Likewise in Pakistan, Shaik (2012) observed the impact of debt financing on firm performance and they found both STD and LTD is negative and significant. In the same arena, Sheikh and Wang (2013) for five years period. They found negative of debt return on assets and market-to-book ratio. Previous studies like Sheikh and Wang (2013) and Shaik (2012) studied capital

structure of Pakistani firms and their study did not include macroeconomic variables. Keeping in view the importance of macroeconomic factors impact on debt financing, this study included macroeconomic variables such as inflation rate and the gross domestic product as suggested by (Pattitoni et al., 2014) and (Dalci, 2018). This study included firms ownership structure in the estimation to explore the role of ownership structure in debt financing and performance relation of Pakistani firms from non-financial sector.

#### **1.4 Research Objectives**

The following are the objectives of this research;

- To examine the impact of leverage (debt) on firm performance.
- To examine how ownership structure affect the firm debt and performance of non-financial Pakistani firms.

#### **1.5 Significance of the Study**

This study aimed to find the effect of debt on firm performance and the results of this study are very important for entrepreneurs and companies, as argued by Zeitun and Saleh (2015) that a sound knowledge about capital structure can help in assessing borrowing capacity, financial needs and resultantly the capability to earn profits and maximize firm financial performance.

Firms in Pakistan function within a different environmental set up as compared to firms in developed countries and this vacuum emerges largely because of different institutional factors. An appropriate leverage decision is very important for any firm not only to maximize profits but also because of the impact of such decisions has on the firm capability to efficiently. The results of this study will help creditors and investors to ascertain the financial success based on the corporate performance evaluations.

Firm stakeholders daily analyze firm financial performance to ascertain the volumes and rate for financial resources. This study will support the creditors to understand risk management strategies of firms towards current and noncurrent assets and liabilities. Pakistani firms may use the findings of this study to know the suitable form of ownership to increase the performance. Investors may also take the advantage of the conclusions to diversify their investment portfolios in non-financial firms.

### **1.6 Research Question**

This study answers the research question, “How did the control mechanism and levels of debt impact financial performance of non-financial firms”.

### **1.7 Study Plan**

This study contains six chapters. First chapter is about introduction to the topic theoretically and empirically. It includes statement of problem, the research objectives, research question, study significance and research gap. The second chapter reviews the already available literature on debt and firm performance and ownership structure. Chapter three contains theories related to capital structure of the firm. Chapter four is about methodology and data collection methods related to this study. Chapter five discusses about the test estimations and results of the study and sixth chapter mention the conclusion of the study and future research direction.



## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Debt and Firms Performance**

Firm financial performance is affected by many factors including capital structure. Capital structure tells us the ways of financing firm assets. Some empirical studies found significant and positive relationship of debt and performance, few studies noted negative and mixed results. Majumdar and Chhibber (1999) in their study examined the level of firm leverage and Indian firms' financial performance. The results concluded a negative and significant relation between levels of debt and Indian firms. Mirza and Javed (2013) recognized capital structure one of the main internal dynamics that affects firm financial performance. There is cost attached to high levels of debt financing in the shape of bankruptcy cost and benefit is attached in the shape of tax savings. (Jones & Edwin, 2019).

Gleason et al. (2000) examined the association among capital structure, culture and performance of retailers from Europe. The results indicated negative effect of capital structure on performance. Thereby, creating agency problems, which tend firms to use more debt in firm capital structure, thus resulting in lowering financial performance. Berger and Di Patti (2006) in their study observed that using the data of banking industry, which is consistent with the agency theory assumptions, the outcomes were economically significant statistically and robust for US banking industry. Abor (2005) studied the association between firm structure of firm capital and firm profitability on Ghana Stock Exchange. The results concluded a positive association between debt ratio and return of equity (ROE). Additionally, the study also revealed that long-term debt to total assets and equity return were negatively related. Ebaid (2009) examined the decisions related to structure of firm capital and its impact on performance of Egyptian firms. By using

three financial performance accounting measures; ROA, ROE and GPM on data of Egyptian firms for the period 1997 to 2005, and the results concluded overall capital structure decisions carried weak and no impact on performance.

Margaritis and Psillaki (2010) inspected the different industries sample of French manufacturing firms studied the relationship among ownership structure, firm leverage levels and performance of the firm. They found and it supported agency cost theory hypothesis that high leverage in firms is linked with better efficiency over the whole range of the sampled data. DARE and Olorunfemi (2010) investigated the association between structure of firm capital and its impact on the financial performance of Nigerian Petroleum firms. Using panel data and fixed effects for estimation, the results revealed a positive relation relationship among dividend per share and earnings per share with leverage.

Sadeghian et al. (2012) in their study examined the association concerning firm debt policy and performance of listed firms on Tehran Stock Exchange (TSE). They employed pooled data from 2006 to 2001, thereby using gross profit margin, return on assets, Tobin's Q ratio and Debt ratios. The results revealed that an increase in the levels of total debt non-current debt and current debt negatively impacts firm performance. The results also stated that firms that only aim to create assets via debt without realizing the size of the company were not able to have better performance.

Balakrishnan and Fox (1993) in their study in USA argued that high levels of debt tend firm managers to be risk averse and hence it reduces their readiness to invest in the risky yet profitable projects. Majumdar and Chhibber (1999) investigated Indian firms and found that debt to equity ratio effects firms negatively, while firm size, inventory, diversity, liquidity and advertising were positively related to firm performance. Moreover, they observed that excise

duty, age and time effected performance negatively. Singh and Faircloth\* (2005) explored the data of United States manufacturing industries and found that high leverage levels negatively influences investments in research and development and thus in result it adversely impacts financial performance and growth.

Ebaid (2009) investigated Egyptian listen firms and concluded that both short term and total debt revealed insignificant and negative relation with return on asset. However, for South African firms trade credits and short-term debt affects ROA positively, while long-term debt and total debt showed negative association with ROA. According to the study Silva et al. (2016) on capital structure and its impact on firm performance, it was revealed that long term debt had significant negative relation with ROE. Likewise, it was also observed that most significant variable in examining financial performance are long term debts. In the same vein, empirical studies of (Zeitun et al., 2007; Yan, 2013; Onoja & Ovayioza, 2015) found positive impact of long term debt on firm performance measured by ROA. On the other side, Onaolapo and Kajola (2010) observed negative relation between long term debt and Return on Assets while Makanga (2015) showed negative association between long term debt and firm performance. Weill (2008) observed positive association between debt and performance and Makanga (2015) showed insignificant relationship between debt and ROA and found weak negative correlation between total debt and return on assets.

Sheikh and Wang (2013) investigated firms on the Pakistan Stock Exchange and observed that total debt had negative relation with performance. In the same vein, Saeedi and Mahmoodi (2011) found positive relation between debt ratio and performance of firms listed on TSE. Rajan and Zingales (1995) explored the structure of firm capital of 48 United States based firms for the period 1981 to 1990. The results revealed that profitability carried negative relation with firm

debt levels. In the same vein, a negative relation was also revealed by the study of Fama and French (2002) as their study observed that firms which are highly profitable and have lower financial distress are less levered, which is contradicting the tradeoff theory. They studied the impact of equity financing and debt financing on firm performance for Malaysian firms for the period from 2001 to 2010. The study results revealed performance is negatively impacted by debt.

Kinsman and Newman (1998) investigated debt levels and firm performance and found negative results. Their results found that earnings per share carried negatively relation with short term debt and positive relation with long term debt. The same has been tested and resulted by de Mesquita and Lara (2003) in Brazil. (He, 2013) explored the impact of structure of firm capital on performance in developed countries. The study included 12000 listed firms from Germany and Sweden and 1000 firms from China respectively for the period from 2003 to 2012. Based on OLS regression results, it is found that capital structure carried negative relation with financial performance of firms in China, whereas Germany and Sweden saw significant positive relation.

Salim and Yadav (2012) explored Malaysian firms' debt relationship with performance. The results revealed that debt has negative relation with performance estimated by EPS, ROA and ROE, whereas, Tobin's Q was significantly positive related to STD and LTD. Saeedi and Mahmoodi (2011) investigated the firm performance and found positive relation with performance measured by EPS and Tobin's Q whereas; negative results were observed for ROA. Their study further found no significant relation between structure of firm capital and return on equity. Same result was also found by Ghosh and Jain (2000) and Ebaid (2009) explored firm choice of capital structure and Egyptian firms performance. The study used multiple regressions on sampled data from 1997 to 2005. The results observed weak to no relationship with

performance. Al-Taani (2013) studied debt and performance relationship in Jordan and observed negative relation of debt with ROA and profit margin.

Hasan (2017) studied firm debt and performance relationship of 36 Bangladeshi firms listed on the Bangladesh Stock Exchange for the period 2007 to 2012. The study used panel data regression model and the results revealed the positive association of EPS with short tenure debt but significantly negatively association with long-term debt. The study observed that capital structure was negatively related to ROA and insignificant relation was found between capital structure and ROE and Tobin's Q. Pushpa Bhatt and Sumangala (2012) observed in their study on Indian high leveraged and low leveraged firms have no effect of leverage on earnings per share.

Similarly, Hasan et al. (2013) investigated the relation of debt ratio with earnings per share on the sample of 28 Bangladeshi firms and the results revealed that debt ratio had significant positive relation with EPS. The same was investigated firm leverage and profitability of cement sector firms in India. The results revealed leverage carried positive impact on EPS and ROA. According to a study performed by Rehman (2013) debt to equity ratio had positive relation with ROA and growth in sales. Further the results disclosed that debt to equity has negative relation with EPS, ROE and NP. Rehman (2013) investigated the sugar industry in Pakistan on the association of firm debt and its effect on financial performance. The study concluded mix results in the study; as debt to equity ratio had positive association with ROA and sales growth but adverse relationship was observed for debt to equity ratio for EPS, NPM and ROE. This study postulates the following hypothesis derived from the literature review.

H1: Debt has a positive effect on firm performance

## **2.2 Firm Size and Firm Performance**

Size is a major factor of firm performance. It has been the objective of the firms to increase their size for competitive edge over its market competitors. Economies of scale explain the positive relation between debt and performance. Previous studies have shown mixed results on the association of firm size and organizational performance. The literature has also identified a negative relationship between size and performance. Kouser et al. (2012) associated the agency problem to the personal interest's attainment of the managers. Pervan and Višić (2012) attributed the problem with replacing firm profit maximization with managerial utility maximization. The enhancement of increment in size doesn't match with level of performance of firms. The rationale behind this is the diseconomies of scale.

Canback et al. (2006) observed that as output grows then per unit cost declines due to the economies scale of production however, at certain point in time when economies of scale are exhausted then diseconomies of scale sets into play and affect the cost of production. Opeyemi (2019) observed that size increases the production cost which affects the firm performance to decline. John and Adebayo (2013) examined Nigerian manufacturing firms on the relationship of size and performance using regression method and Pearson product moment correlation on panel data. The results revealed that Nigerian manufacturing firms size both in terms of log of sales and log of total assets have positive impact on firm return on equity.

Ehi-Oshio et al. (2013) studied the determinants of organizational profitability using total sales turnover for firm size and the ordinary least square method showed positive relation between size and performance. Dencic-Mihajlov (2015) studied Siberian listed firms on the relationship between size, leverage and institutional ownership on firm performance. Using fixed effects model on the panel data from during the great recession from 2008-2011, the study revealed

significant and positive connection. In the same arena, Doğan (2013) investigated firm size and profitability for listed enterprises on Istanbul Stock Exchange and the study found positive relationship between size and profitability using regression and correlation method.

In addition, Devi and Devi (2014) studied Pakistani firms and size was one of the key determinants of profitability. Using ordinary least square method she found positive yet insignificant results on the relationship. Uyar and Kılıç (2012) investigated manufacturing firm size and profitability on the Istanbul stock exchange for the period covering 2005 to 2011. The results revealed positive results for total sales and total asset and profitability had positive relation. Similarly, Niresh and Thirunavukkarasu (2014) observed the effect of firm size on firm profitability for Sri Lankan manufacturing sector firms listed on the Colombo stock exchange. Using multiple regression and correlation method the results revealed positive and weak relation between firm size and profitability.

Similarly, Delmar et al. (2003) examined the effect of size effectiveness on firm profitability of Jordanian manufacturing companies on Aman Stock Exchange. Using unbalanced panel data regression analysis revealed positive but insignificant results between size and firm profitability. Also Becker-Blease et al. (2010) studied firm size and profitability for four digit manufacturing companies using panel regression analysis for the period 1987-2002. The results revealed that profitability increases but at decreasing rate for 47 companies as firm size increases, no relation was found for 62 companies on their size and profitability, and for 11 companies profitability continued to increase as firm size increases.

However, some studies observed negative relationship between size and profitability. Močnik and Širec (2015) examined firm size, leverage ratio and labor costs that determine firm profitability for 782 Slovenian companies. Using ordinary least square method for testing ratio of

net income as proxy for profitability the results showed negative association of firm size on firm financial performance. Likewise, VINTILĂ and DUCA (2013) explored the effect of size on return on equity whether larger firms are profitable than others. Using regression analysis for 100 firms from Bucharest Stock exchange the results revealed negative relationship between total assets, total sales and return on equity.

In addition, Tailab (2014) examined factors like liquidity inventory, leverage, size, growth and firm age that affect performance of the firms using non-financial firms from fortune 500 companies taking sample for the period 2009 to 2013. Using multiple regression method, the study reveals negative significant impact of inventory, growth, leverage and age on performance whereas, size and liquidity carried significant and positive impact on US firms profitability.

Previous studies used total assets of business and total business sales as proxies for measuring firm size. In this study log of total sales is used as proxy for size. Based on literature our second hypothesis is as below,

H2: Firm size has a positive effect on performance

### **2.3 Age and Firm Performance**

Firm age has been an important determinant of firm performance. Firm age is the sum of years any organization attains since its inception. Most researchers concur that there exists a desirable positive correlation between firm and performance. Coad et al. (2018) studied manufacturing firms in Spain and concluded that firm performance increases by age. However, few researchers hold contrary opinion on this relationship. For example, Legesse (2018) analysis showed that Ethiopian firms have failed to perform better with respect to firm age. Additionally, firm age has negative effect on family owned business, where such ownership structure has significant impact on firm performance. (Lwango et al., 2017).



Past studies have shown correlation between age and firm performance depending on the size of the firm and market. Majumdar (1997) studied Asian market firms and revealed that firms bigger in size are more productive but generates less profit, whereas older firms are less productive but are more profitable. Aging firms gradually increase their output, profits and equity by decreasing debts. Similarly in Pakistan, Vohra et al. (2014) studied the impact capital structure on performance of firms from non-financial sector of Pakistan. The study used cross sectional regression technique on the data from 2006 to 2010 and the results revealed that firm age is significant and negatively correlated with ROA, ROE and NPM. Based on the literature review, our third hypothesis is,

H3: Firm age has a positive effect on performance

#### **2.4 Sales Growth and Firm Performance**

Firm sales growth play a vital role in the determination of firm performance. The companies with high sales growth and profit tend to invest more money and are less likely to borrow debt for business operations. Firms sales growth influenced by factors internally and externally of which inner factors are related to the inside decision making system of the firm such as decisions related to mergers & acquisitions, company's capital, the proportion of retained earnings, determination of ratio of debt for investments and ownership structure etc. External factors which affect sales growth includes raw material prices, political and macroeconomic conditions, borrowing rate, market structure and business climate.

Khan et al. (2018) examined the telecommunication firms in India, using panel data from 2004 to 2017. They revealed that growth had significant positive impact on firms' profitability. Echekoba and Ananwude (2016) examined the corporate performance and financial structure of Nigerian real estate companies. The results from the study concluded that growth had a significant

positive connection with return on assets. Sivathaasan et al. (2013) investigated 11 Sri Lankan firms from manufacturing sector for the period from 2008 to 2011. From the study it was concluded that growth rate had no significant influence on firms' profitability of Sri Lankan manufacturing companies. Pham et al. (2018) investigated internal factors with performance relationship of the Vietnamese construction firms. From the study it was revealed that growth possess an insignificant relation with firms financial performance.

A study on Pakistani food sector firms, Bhutta and Hasan (2013) estimated the impact of firms particular factors on profitability for the years from 2002 to 2006. Using multivariate regression analysis, the results revealed that growth had positive yet has insignificant relation with firms profitability. Likewise, Fareed et al. (2016) explored the determinants of profitability for 16 firms operating in the energy and power sector in Pakistan. Using random effects regression model on the panel data from 2001 to 2012, the results revealed that growth had significant positive impact on firms profitability.

Meseret and Getahun (2017) explored the profitability determinants of wheat businesses in Ethiopia. The study sampled panel data from 2008 to 2012, using multiple regression method the results concluded that growth has insignificant impact on return on equity and return on assets. Likewise, Işık (2017) studied the factors of profitability of real estate 153 firms listed on the Borsa Istanbul for the period from 2005 to 2012. The study findings showed that growth had insignificant association with Return on Assets. Matar et al. (2018) explored the macroeconomic and firm specific factors that affect the profitability of the service and industrial firms in Jordan. Using the regression analysis on the panel data for the period from 2007 to 2016, the results in the study showed significant and positive impact on ROA and Market to book value (MBV).

Similarly, Yazdanfar (2013) and Akben-Selcuk (2016) studies found same results for sales growth with return on assets.

Al-Jafari and Samman (2015) examined the return on assets and net profit margin of the 17 listed industrial firms on the Muscat Stock Exchange. Using ordinary least square method, the study observed that growth had positive impact on ROA and NPM. Nikolaus (2015) examined the determinants that affect the profitability of 62 Dutch firms and 276 Indonesian firms for the period from 2009 to 2013. The study used Tobin's Q for testing of the sample and the study results showed that growth had significant positive affect on the financial performance of the firms in terms of return on assets.

In the same vein, Niar (2018) explored the determinants of profitability and firm values of the 55 Indonesian manufacturing companies. Using Structural Equation Model (SEM), the results of the study revealed that growth had positive impact on profitability measured in terms of ROA. Some studies showed insignificant relation between growth and financial performance of the firms. For instance, Pantea et al. (2014) examined the relation between microeconomic factors and firms financial performance in Romania. The study used data of 55 firms listed on the Bucharest Stock Exchange from 1999 to 2012 and the results showed that growth had an insignificant impact on return on equity and assets.

Likewise, in Pakistan Bhutta and Hasan (2013) explored the impact of growth on profitability of the food sector. The study sampled data from Karachi Stock Exchange from 2002 to 2006. The study used multivariate regression analysis and the results showed an insignificant impact of growth on profitability. Margaretha and Supartika (2016) investigated the performance of the small and medium enterprises on Indonesian stock exchange. The study regression analysis

revealed that growth had significant and negative impact on profitability which was measured by ROA.

Similarly, Bameri and Hossein (2014) in their study revealed through multivariate regression analysis that growth opportunities had insignificant impact on dividend payout of firms listed on Tehran Stock Exchange. Vuong et al. (2017) studied firm capital structure influence on the performance of very large firms listed on the London Stock Exchange from 2006 to 2015. Using regression estimates for the sample, the results stated that growth had no significant effect on performance measured in terms of EPS, ROA, ROE and Tobin's Q. Kanwal et al. (2017) investigated the effect of structure of firm capital on the performance of 213 listed firms listed on KSE. Using the regression analysis on data from 1995 to 2015, sales growth being the control variable had negative effect on ROE, ROA, P/E ratio and Tobin's Q. Our forth hypothesis in this study is;

H5: Sales growth has positive effect on firm performance

## **2.5 Macroeconomic variables and Firm Performance**

Micro-economic and macro-economic elements affect the financial performance of the firm substantially. Micro-economic factors lies inside company and under the managements control; such as leadership, organizational culture, manufacturing decisions, and demand and quality management. Macro-economic features exist externally of the company and certainly not under the control of the management of the company such as social environment, political atmosphere, government regulations and policies. Among the macroeconomic factors gross domestic product is one of the factors that affect firm performance. This has been seen from the crisis in East Asia, Latin America, and the global financial crises started in 2007. (Issah & Antwi, 2017). GDP is

measured as the total market value of number of goods and services manufactured by any country in a specific time period.

Ghareli and Mohammadi (2016) studied macro-economic variables and its impact on quality of reporting in Iran. The macro-economic variables were; rate of inflation, rate of interest, exchange rate and GDP. Using linear multiple regression and spearman correlation test on sample data from 2005 to 2013, the results of the study showed that interest rate, rate of exchange and leverage were significantly positive, but results were significant and negative for GDP. The results of the study also revealed inflation rate was negative and insignificant. Owoputi et al. (2014) explored the industry specific, bank specific macro-economic variables on profitability in Nigeria. The results revealed that GDP was insignificant whereas rate of inflation was significant for ROE and ROA. Furthermore, interest rate was insignificant for net interest margin and ROA. In Pakistan, Mirza and Javed (2013) studied both micro-economic and macro-economic elements of financial performance of firms in Pakistan. The study included of 60 financial firms listed on KSE from for the period from 2007 to 2011. The results revealed that income per capita was positive and significant, inflation remained negative but significant. Firm specific characteristics presented that ratio of debt to equity was positive and significant, also both long term and short term debt to total assets showed negative and significant results. Moreover, current ratio showed negative and significant results however firm size was positive and significant in the study. Nneka (2012) explored the monetary policy performance on the manufacturing industry in Nigeria. The results observed that monetary supply has positive affect on manufacturing index, whereas income tax rate, company lending rate, exchange rate and inflation rate had negative affect on the manufacturing firms performance in Nigeria. Similarly, Zeitun et al. (2007) explored micro and macroeconomic determinants of corporate failure and performance in Jordan.

The study included a total of 167 firms for the period 1989 to 2003. Using econometric tests, the results observed that interest rate had significantly negative relation with ROA. Moreover, the results also revealed that age, size, and debt to total assets is positive and significant.

Inflation represents the monetary policy and it measures the general hikes in prices. Inflation affects the non-financial sector in the form of increase in cost of production. Hyperinflation not only upsurges the lending rate but also it affects firms' capability to service their loan payment. (Fofack & Fofack, 2005; Klein, 2013; Baselga-Pascual et al., 2015). In countries where loan rates are highly variable, higher inflation would lead to higher rates subsequent from the actions of the monetary policy to fight inflation. (Nkusu, 2011).

In Pakistan, Chaudhry et al. (2013) explored inflation and sector wise growth. The study comprised the data from 1972 to 2010 from manufacturing, agriculture, and services sectors respectively. The study results revealed that inflation has negative relation with manufacturing sector, but were positively related to services and agriculture sector. Riaz et al. (2014) found that inflation had positive relation with debt used in textile sector of Pakistan. According to the study of Loto (2012) lending rate and inflation rate has insignificant and positive relation with manufacturing firms' performance measured by ROA. Based on our literature review, the fifth hypothesis of the study is:

H5: GDP growth and inflation rate have a significant influence on firm performance

## **2.6 Impact of Firm Ownership Structure on Firm Performance**

The nature of ownership structure in corporate governance has remained essential issue in literature. In developing nations like Pakistan, economic system is dominated by the closely held firms, i.e. state-owned, family owned, held by large corporations and by institutions. The discussion of the corporate ownership structure generally focuses on the degree of ownership

concentration and major stockholder/block holder's identity. The importance of understanding corporate ownership structure pattern can be observed in its potential influence on corporate decisions of firm valuation and performance. Theory suggest that the monitoring of management decisions related to capital structure by the diffused shareholders would be suboptimal, as they do not possess enough shares to influence the decision making whereas, concentrated ownership structure has devoted resources and information available to them to influence the decision making. Empirical research has identified that generally concentrated ownership structure dominates the corporate governance internationally. Claessens and Yurtoglu (2013) in a survey paper found that in East Asian country like Hong Kong and South East Asian Countries Malaysia and Indonesia, the largest shareholders are families who owned 50%, and this concentrated ownership rises 50% in Pakistan, India and Singapore and by 40% in Thailand.

Ownership concentration is considered to be an incentive for minimizing agency cost related with separation of management and ownership, which is useful to guard property rights of the firms. (Barbosa & Louri, 2002). With corporate governance development a lot of corporations possessed by separate shareholders and hire managers control them. Those incorporated firms whose shareholders are disseminated and individually each of them owns small fraction of already issued equity tend to underperform as revealed by (Berle & Means, 1932). In developing countries like Pakistan, the closely held firms (State owned firms, family owned firms, held by corporations or financial institutions) dominate the economic system. In these firms agency problems is controlled via pyramid structure, cross shareholding, interlock dictatorship and dual class voting shares that allows the holder to maintain control and voting rights while representing ownership of small fraction of ownership.

The study of Berle and Means (1932) regarding the separation of ownership structure from management control has increasingly allowed to test literature. Fama and Jensen (1983) argued that in order to protect the rights of shareholders, the shareholders must take active role in the selection of directors and thus influencing the selection of managers who run the business.

Jensen and Meckling (1976) suggested that equity ownership of dissimilar groups have diverse effects on performance of firms, as equity ownership reduces agency problems, thus supporting the interest of shareholders and managers both. They also argued firm value gets declined when both ownership and control are disconnected due to additional cost attached with monitoring and the participation of managers in the activities that does not create value for firm. However, according to Fama (1980) argued that there are proficiencies to keep ownership and control separate in risk bearing functions and decision making controls which make dispersed ownership pattern beneficial as the efficiency gains are larger than agency costs. The results of de V. Graaf (1950) and Feinberg (1975) propose firms with collective system of ownership control may choose to exchange revenues for other paybacks like selecting current consumption over future and non-pecuniary consumption. When shareholding is too diffused to managers, corporate assets may be used to benefit managers and not for maximizing shareholders wealth. By giving equity ownership to managers will solve moral hazard problems by supporting manager's interest with shareholders. Himmelberg et al. (1999) and Stulz (1988) argued that due to huge managerial ownership and by letting managers to block takeover bid could lower firm value.

Using US data, Morck et al. (1988) and Holderness et al. (1999) found that firm value increases with low managerial ownership levels in the firm and with higher level of managerial ownership in the firm tends to decrease firm value. Blundell et al. (1999) argued that foreign investment firms observed higher productivity because their investment is excessively concentrated in high



productive sectors. Pound (1988) suggested three hypotheses based on institutional ownership and firm value relationship; hypothesis of interest conflict, efficient hypothesis of monitoring and strategic arrangement hypothesis. Hypothesis of effective monitoring proposes that institutional hypothesis have superior capability and can display management at lower cost. Hypothesis of conflict of interest says that apart from other profitable business relations with firm, the investors are forced into voting their shares with management of the firm. Hypothesis strategic alignment says that institutional owners and management seeks mutual benefit to cooperate. Consequently, the hypothesis of strategic alignment and hypothesis of conflict of interest predicts a negative relation between firm value and institutional ownership. Brickley et al. (1988) classified organizational investors as pressure sensitive and pressure resilient. Pressure complex investors are those having equity stake as well as business relations whereas pressure resistant owners have equity stake relation. Based on Pound (1988) work, pressure sensitive institutional investors had a negative relationship with performance of the firms and the opposite is true for pressure resistant institutional ownership.

Several researches suggested by Shleifer and Vishny (1986) and McConnell and Servaes (1990) argued stockholders are differentiable and they pursue diverse agendas. Seifert et al. (2005) studied the association between ownership by institutions and firm value in four different countries (Germany, Japan, UK and USA) and found the relationship is not consistent across the countries. This inconsistency reflects that institutional ownership is location specific. Qi et al. (2000) examined how Chinese firms' performance is affected by ownership structure. The results revealed that ownership composition and relative supremacy of numerous shareholders can impact the firms performance of state-owned enterprises and listed firms. (Kaplan & Minton, 1994) found similar results that in Japan financial institutions are controlled by huge equity

holders. La Porta et al. (2000) found that the higher cash flow ownership is linked to higher performance of the firm.

Kuznetsov and Muravyev (2001) suggested that concentrated ownership has its own cost associated when large shareholder's influence small shareholders and corporate decision make in their favor and deprive small shareholders of their part of return. Fama and Jensen (1983) highlighted other negative consequences of concentrated ownership which comprises of increase in cost of capital due to lesser diversification opportunities on investors part and due to lower market liquidity. Wiwattanakantang (2001) tested the impact of larger shareholders in Thailand on firms performance and revealed that the presence of larger shareholder was linked to better financial performance. Turki and Ben Sedrine (2012) inspected the relationship among ownership concentration and performance of firms in Tunisia and the study establish negative relationship. This study presents our sixth hypothesis based on the literature review.

H6: Ownership structure framework affects the relationship between debt and firm performance

## **2.7 Impact of Family Ownership on Firm Performance**

Family ownership is very common in public traded firms in both emerging and developed economies. In the US almost 90% of the firms are family owned/controlled. (Green, 2007). According to (Claessens et al., 2002) in East Asian countries around two third of the firms are held by individuals or families. In Western Europe a total of 44% firms are controlled by families. (Faccio & Lang, 2002). In recent times studies have shown that firms which are controlled by founding family members perform better than firms controlled by nonfamily members. Dodd et al. (2013) observed that family owned firm in S&P 500 index outperformed firms which are not controlled by family in returns on assets and return on equity by 6.65% and

created excess 10% market value. Empirical studies have shown that in Europe and Asia there exist a positive relationship between families owned firms and performance.

Yammeesri and Lodh (2004) explored 240 firms in Thailand and found that family owned firms have positive impact on performance of firms in terms of return on assets and net income to sales. Abdullah et al. (2011) studied the effect of family ownership on firm performance on Pakistan. Based on the OLS results it was observed that group ownership has no effect on performance, however when group ownership is larger, then firm performs poorly. In a similar study, Ahmad et al. (2014) examined the impact of family ownership on firm financial performance measured by ROA and ROE. The study based on the results of linear regression found that significant and positive relation of family ownership with firm performance in Pakistan. Likewise, Javid (2012) in a study on Pakistani firms listed on PSX found that family ownership had significant positive association with return on assets and negative association with dividend payout ratio concluding that family owned firms prefer to retain the earnings rather than to distribute.

## **2.8 Impact of State Ownership on Firm Performance**

State ownership is the fraction of shareholding held by the government in any firm. Companies listed on the PSX have seen uneven performance in recent past. Empirical studies have shown mixed results between state owned firms and performance. In a study Qi et al. (2000) investigated firms on SSE from 1994 to 1997 and concluded that state owned firms had negative relation with firm performance. Similarly, Ma et al. (2016) conducted a study on Chinese firms and found that state equity ownership has concave or inverted U shaped relationship with firm performance. In the same vein, Hess et al. (2010) who examined firms in China for the period 1996 to 2003 and 2000 to 2004, both found convex relationship among state ownership and firm

performance. Wei (2007) studied firms in China for the period from 1999 to 2002 and found that state owned firms have nonlinear relationship firm performance. When the shareholding is below 50% the relation is not negative but when it is above 50% the relationship is significant negative relationship.

Jiang et al. (2008) investigated firms listed on Shanghai Stock Exchange and the results revealed that state owned shareholding has linear and positive impact on firm performance. Similarly, in a recent study on Pakistani manufacturing firms, Din et al. (2021) found that state ownership had significant and positive impact on ROA and ROE and also insider ownership was found to have significant positive impact on TQ, ROE, MBR and ROE.

## **2.9 Impact of Individuals Ownership on Firm Performance**

Individual ownership is type of ownership in which a single person controls and operates business operations. (Upounsel.com). In Pakistan, a number of large businesses are owned by individuals. According to shareholding pattern on Pakistan Stock Exchange, 60% stocks are owned by general public and remaining 40% by consortium of Chinese investors (Shenzhen Stock Exchange, Shanghai Stock Exchange and China Financial Futures Exchange).

Alipour (2013) examined the association between individuals/ institutional, state owned and performance of firms. Using panel data and regression analysis on the data from 2005 to 2009 of Iranian listed companies on Stock Exchange in Tehran, the results exposed family, state and individuals ownership is negatively associated to firm performance whereas, institutional ownership had positive relation. Similarly, Al-Saidi and Al-Shammari (2015) explored the impact of ownership composition on Kuwaiti firms performance. The study sampled data of 103 firms for the period from 2005 to 2010 and the results observed that only individuals and government ownership impacts firm performance positively.

In Pakistan, Shah and Hussain (2012) examined the impact of managerial ownership on firms' financial performance. The study results revealed negative yet significant impact managerial ownership with performance whereas, ownership concentration showed insignificant relation with performance measured by Tobin's Q.

### **2.10 Impact of Foreign Ownership on Firm Performance**

Foreign ownership is defined as the ownership in firm by individuals who are not citizens of that country in which the firms are incorporated. Alabdullah (2018) explored the impact of ownership composition on firms financial performance in Jordan. The study used the data of 2012 from Amman Stock Exchange. The results concluded no evidence of foreign ownership having impact on financial performance. However it was also revealed that ownership by managers has a positive influence on performance. Arouri et al. (2014) observed the influence of ownership composition and firm performance of 58 listed GCC banks for the year 2010. The results revealed that family ownership, institutional ownership and foreign ownership has significantly positive relation with financial performance. Furthermore, CEO duality and board size showed insignificant impact on banks performance.

According to a study by Mardini and Lahyani (2020) they found significant positive relation between foreign ownership and performance of Syrian listed firms. Furthermore, the study showed concentrated managerial ownership had no impact on firm performance. A study conducted by Al-Gamrh et al. (2020) on the impact of Arab foreign investors and non- Arab foreign investors on financial performance of firms on Abu Dhabi Securities Exchange and Dubai Financial Market for the period from 2008 to 2012. The study results indicated that Arab foreign investors affect firm performance negatively, while non-Arab foreign investors do so positively. Rashid (2020) investigated the impact ownership control and its impact on the

performance of listed firms in Bangladesh. The study examined 527 annual reports of firms from 2015 to 2017. The results of the study revealed that director ownership and foreign ownership had significant positive impact on ROA. Rahman et al. (2020) in a study related to foreign ownership impact on firm performance in Pakistan, they found that foreign ownership and institutional ownership had positive impact on firm performance

### **2.11 Impact of Institutional Ownership on Firm Performance**

Institutional ownership is the number of shareholding owned by institutions like mutual funds, banks, private foundations, endowments and other firms that manage the funds of others. According to a study in Pakistan, Din et al. (2021) explored ownership structure impact on financial performance of 146 listed firms on Karachi Stock Exchange. The study used dynamic panel generalized methods of moments and the results revealed that institutional ownership has significant positive influence on ROE and market to book ratio, also insider ownership had positive impact on MBR, ROA, ROE and Tobin's Q. Additionally, the results also revealed significant and positive impact of state ownership on ROE and ROA.

According to a study by Panda and Leepsa (2019) on the influence of institutional ownership and performance of 361 listed Indian firm on National Stock Exchange, the results revealed that institutional ownership engagement by foreign institution and the pressure resistant institutors have a robust and positive impact whereas, pressure sensitive institution have negatively impacted firm performance. Rashid (2020) explored the effect of ownership structure and performance of firms in Bangladesh. The study used data from the financial reports of companies from 2015 to 2017. The results of the study discovered institutional ownership has only positive impact on accounting based measure ROA. Furthermore, the study also found that foreign ownership and director ownership positively impacted ROA and market based measurements.

In a similar study in Pakistan, Ali et al. (2021) found that institutional owners and foreign owners perform better than others. Likewise, Tahir and Abrar (2019) investigated institutional ownership and firm value on PSX on data ranging from 2008 to 2013. The findings revealed that ownership by institutions has positive impact on firm value whereas, debt ratio was found to be adversely related to firm value measured by ROA and Tobin's Q.

## **2.12 Conclusion**

This study examines the performance of non-financial firms listed on the Pakistan stock exchange for the period from 2012 to 2019. This study is also investigating the role of ownership structure of these firms to investigate that whether firm performance changes based on the control structure. Whereas, past empirical evidences about capital structure comes from studies that investigate the firms leverage decisions and choices between debt and equity financing.

In Pakistan many researchers have focused on single industries in capital structure studies, which has created a gap to include different sectors and in this study we have sampled 150 non-financial firms from 9 different sectors. Secondly, this study is using latest data from annual reports of the firms. This study is unique because this study is investigating the interactions between debt of the firm and performance measures. Only a few studies have analyzed interactions in capital structure studies, yet not focusing on macroeconomic variables. This study analyzes the impact of the macroeconomic variables on debt and firm performance nexus. The previous research on the debt and firm performance has produced mixed results. As mentioned in the above literature review, it contains positive, negative and no impact of debt on firm performance.

### 2.1.1 Past Empirical Studies

Reviewing past empirical studies are of extreme importance and in the below table illustrates previous research being conducted on debt and firm performance relationship and capital structure.

**Table: 2.1.1** Summary of Past Empirical Studies

Variable	Study	Author	Year	Variable	Study	Author	Year
ROA ROE STD LTD TD	The firm debt and performance relationship. The influence of institutional factors.	Ibrahim El-Sayed Ebaid	2019	ROA BOD Family Govt Age Size	The performance of the firm and the role monitoring mechanisms. A case of politically connected firms in Malaysia	Romleh Jaffer and Zaliha Shukoor	2016
EPS DPR ROA ROE	Firm performance and dividend policy. A case of Indian IT companies	Shamim Mohd Taqi, Ajmal Jahangir Chauhan ,	2019	EPS NPM	Earnings per share impact on non-financial firms performance	Agha Amad Nabi	2014
ROA GDP Inflation Size Leverage	Firm Characteristics Firm financial performance, and macroeconomic factors. A study Nigerian listed manufacturing firms	Franci Chinedu Uchenna Okerekeoti	2018	ROA ROE Size STD LTD	Structure of Capital and Performance: A case of Malaysian Listed Firms	Mahfuzzah Saleem and Yadav	2012
ROE ROA STD LTD GDP Inf. Rate	Firm financial performance and firm capital structure choice: an evidence from Egyptian firms	Rosa Forte & José Miguel Tavares	2018	ROA ROE Size	Firm size and its impact on firm business	Maja Pervan and Josipa Višić	2012



## CHAPTER 3

### THEORETICAL BACKGROUND

#### 3.1 Theories related to the study

This section presents the theoretical framework which underlines diverse theories related to capital structure and firm performance.

##### 3.1.1 Modigliani and Miller Model (No Taxes)

Modigliani and Miller (1958) challenged the old-fashioned view of the effects of leverage on organizational cost of capital. In their opinion, without the existence of corporate taxes and cost of capital the firm market value will remain the same across all levels of leverage. The M&M theory proves that under certain restrictive conditions, the capital structures do not affect firm value and this suggests that financing decision choice is irrelevant. They came to the following conclusion based on their proposition;

- The firms having same business risk falls under homogeneous risk class.
- The investor's possess similar expectations about risk and earnings.
- The perfect capital market existence and debt interest rate is at risk free rate
- The cash flows of the firm are perpetual.

Modigliani and Miller (1963) amended their earlier study with the inclusion of tax and tax savings proportionately linked financing through debt. The outcome revealed positive relation of leverage on performance of firm due to positive impact of tax savings. After MM model proposition of perfect capital markets, many researchers argued the inexistence of perfect capital

markets. However, many years after researchers drew their attention to figure out optimal value of capital structure which maximizes firm value and reduces the cost of the capital thus creating equilibrium between risk and return. Nonetheless, no scientific methodology is yet available to determine optimal value of capital structure.

### **3.1.2 Agency Theory**

The theory of agency was coined by Jensen and Meckling (1976) and Myers and Majluf (1984) revealed that high agency conflicts increases the agency cost and thus lower the performance of the firm. Williamson (1988) defines costs related to agency problem as sum of total monitoring cost incurred by principal, bonding expenses by agents and the residual loss incurred by the owner on business ownership and dilution. He further argued that these costs actually incurred by providers of capital in which case holders of debt experience it by enhancing interest rates and holders of equity incur agency cost by paying cheaper price for shares of company. Shleifer and Vishny (1986) argued that agency costs are also incurred so that interest of management is aligned with interest of shareholders. Therefore, it indicates that increasing agency costs results in better financial performance of the firms. Agrawal and Knoeber (1996) in his study argued that agency cost can be reduced by introducing block shareholding. The block holders have significant voting rights in the organization to be able to influence the decision making. Agency theory also advocates the negative association of debt on firms performance. Berger and Udell (2006) in their study studied impact of agency cost on capital structure and performance and found increasing agency cost is negatively associated with performance. According to Weill (2008) agency theory supports positive effect of debt and performance nexus arising via managerial and shareholding conflicts.

### **3.1.3 Pecking Order Theory**

The Pecking order theory was coined by Myers and Majluf (1984) which discusses costs related asymmetrical information which validate firms financing options of internal and external sources. The theory states that there exist hierarchy in financing firms investments and that adherence with hierarchy derives the optimal financing strategy for the firm. The managers have more know how about the firm than investors and the firms order financing decision strategy on the basis of their financing needs. This method tells firms to utilize inner sources of finance as preferred source because it is not expensive source. This theory argues that there exist a negative connection between debt levels of firm and performance. Since profitable firms generates higher earnings on investments that can be useful for self-financing, which enable them to less opt debt financing and less profitable firms don't have this opportunity.

### **3.1.4 Trade-off Theory**

The tradeoff theory holds an opinion that the decision of firm regarding financing through equity or debt is grounded on the cost and benefits balance. As the use of debt can bring tax saving but on the other side it risks bankruptcy costs. The tradeoff theory proposes that tax deductibility of interest payments prompts a firm to barrow capital up to the boundary where current value of tax shield is just offset to the value of loss due agency cost arising from risky debt as well as possible reorganization or liquidation. Miller (1977) proposes that optimal leverage ratio of the firm is ascertained by the tradeoff of the current tax shield benefits of the debt and higher bankruptcy costs implied by huge corporate indebtedness. According to this theory, positive association exists between leverage and performance. Debt financing help firms to avail tax benefits; however, debt usage increases firm risk levels. By law, firms are liable to pay off debt regardless of profits. (Mwangi et al., 2014).

### **3.1.5 Conclusion**

So, despite a number of studies there is huge debate on capital structure of the firms. These theories include Modigliani and Miller (1958) the agency theory, Jensen and Meckling (1976) the theory of pecking order, and Myers and Majluf (1984) the tradeoff theory. In spite of these empirical researches, several aspects in the field of capital structure are unanswered or well not answered. These questions are as; what are the factors of capital structure choice between equity financing and debt financing. How do the macroeconomic conditions affect financing decisions choice? How does the control system affect the financing decision choices? In contemporary world inexistence of tax system is not possible and thus MM model (1958) doesn't seem to be fit in its spirit. However, their modified model in 1963 produced positive impact on firm performance. As firm leverage levels grow, agency issues arise between shareholders and debt holders and thus the implications of this theory are relevant in this study. Firm managers need sound understanding of financial needs of firms and sources of financing needs. In this regard, pecking order theory (1984) is relevant in this study as it suggest that firm prefer sources of funds internally than external sources and debt financing is preferred when firm need external financing. In this scenario, it is noticeable that change in firm debt ratio largely depends on need of the firm for external financing. Another dimension in capital structure decisions is the optimal level of capital structure which the tradeoff theory predicts. It is relevant to understand as argued by tradeoff theory that the cost of debt is always lower than the cost of equity due to tax deduction on interest but debt always carry the risk of bankruptcy. Hence, this study aimed to examine the inferences drawn from the above mentioned relevant theories of capital structure in the context of Pakistan.

## CHAPTER 4

### METHODOLOGY AND DATA DESCRIPTION

#### 4.1 Model Specification

To measure firm debt and performance relationship and the role of ownership structure, this study sampled 148 firms which are non-financial listed on the PSX for the period from 2012 to 2019. After taking the input from literature review, this section mentions the estimation model of the study.

We will start by measuring the relationship without introducing the interactive term which is ownership structure in equation (1) and will then proceed by introducing interactive term in equation (2) of the model. Since this study is using panel data, as argued by Wooldridge (2002) two methods can be used to test the estimation; fixed effects model and random effects model. In contemporary econometrics random effect is related to the model with zero correlation between the independent variables and dependent variables. While fixed effects do not mean that, in which arbitrary correlation is allowed between the dependent effect and independent explanatory variables.

In the first equation, the model has two proxies to measure performance which are return on assets and earnings per share and three proxies for debt which are short- term debt, long- term debt and total debt.

The model for testing is as below;

$$PERF_{it} = \beta_0 + \beta_1 SDEBT_{i,t} + \beta_2 LDEBT_{i,t} + \beta_3 TDEBT_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 GROWTH_{i,t} + \beta_6 AGE_{i,t} + \beta_7 GDP\_GROWTH_t + \beta_8 INFLATION_t + \alpha_i + \mu_{it} \quad (4.1.1)$$

$$PERF_{it} = \beta_0 + \beta_1 SDEBT_{i,t} + \beta_2 LDEBT_{i,t} + \beta_3 TDEBT_{i,t} + \beta_4 SDEBT_{i,t} \times OWNST_{i,t} + \beta_5 LDEBT_{i,t} \times OWNST_{i,t} + \beta_6 TDEBT_{i,t} \times OWNST_{i,t} + \beta_7 SIZE_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 AGE_{i,t} + \beta_{10} GDP\_GROWTH_t + \beta_{11} INFLATION_t + \alpha_i + \mu_{it} \quad (4.1.2)$$

Here,  $PERF_{it}$  is dependent variable which is representing the performance of the firm and return on assets and earnings per share were taken measurement proxies of performance. The explanatory variables,  $DEBT_{i,t}$  represents debt of the firm,  $DEBT_{i,t} \times OWNST_{i,t}$  mentioned as interaction term between each proxy of debt and each variable of ownership structure. Here,  $\beta_1 SDEBT_{i,t}$   $\beta_2 LDEBT_{i,t}$   $\beta_3 TDEBT_{i,t}$  are representing short term, long term and total debt respectively. The model also has control variables  $SIZE_{i,t}$ ,  $GROWTH_{i,t}$  and  $\beta_6 AGE_{i,t}$ . The measurement proxies for performance are return on assets and earnings per share. These two financial ratios explain the overall performance of the firm and how effectively management is utilizing capital of the firm. Debt is vital source of finance for any firm and given the importance of debt financing, this research used short term debt, long term debt and total debt as proxy for debt measurement. Other variables in the model are very important, size, sales growth and age of the firm needs to include in the model as control variables. Macro-economic condition of the country obviously plays an effective role in development and functioning of firms. The macroeconomic condition reflects the suitability of the country for firms to operate their

operations and also it shows the financing sources and their cost associated. Therefore, it is imperative to include macroeconomic conditions of the country.

In addition to that, according to Dalci (2018) and Pattitoni et al. (2014) the model includes macro-economic variables; rate of growth of GDP and rate of inflation. In line with previous studies (Zeitun et al., 2007; Ebaid, 2009; Zhu & Jiao, 2013) Kahlami et al. 2016) to measure the firm performance, in this study we will use return on assets and earnings per share. Pursuant to the previous studies (Abor, 2007; Ebaid, 2009; Olokoyo, 2013; Akeem et al., 2014) the total duration of debt will be covered via long term debt and current liabilities to measure the debt.

**Table 4.1.1 Variables Description**

<b>Variable name</b>	<b>Measurement</b>	<b>Reference</b>
<b>Dependent Variable</b>		
Return on assets	Net income divided by total assets	Forte et al (2018)
Earnings per share	Net income divided by total common stock	Goya (2013)
<b>Independent variable</b>		
Short-term debt	Short-term debt divided by total assets	El-Chaarani (2015)
Long-term debt	Long-term debt divided by total assets	El-Chaarani (2015)
Total debt	Total debt divided by total assets	El-Chaarani (2015)
Firm Size	Log value of total sales	Weill (2008)
Age	Number of years since incorporation	Coad et al (2013)
Sales growth	Growth in sales in each year	Zeitun et al (2015)
Gross domestic product growth rate	Growth in annual gdp in each year in country	Pattitoni et al (2014)
Inflation rate	Rate of change in prices	Pattitoni et al (2014)
Family ownership	Percentage of shares held by family	Abdullah et al (2011)
State ownership	Percentage of shares held by government	Qi et al (2000)
Individuals ownership	Percentage of shares held by individuals	Alipour (2013)
Foreign ownership	Percentage of shares held by foreigners	Arouri et al (2014)
Institutional ownership	Percentage of shares held by institutions/firms	Din et al (2021)

This study uses three proxies to reflect the measurement of debt; STD, LTD and TD corresponding to ratio of current obligations, long-term debt and total debt over total assets respectively. The return on assets is ratio of net income to total assets while earning per share is the ratio of net income to outstanding common shares.

The control variable, Size is measurement of log value of sales, as it is being used as proxy by previous studies. (Weill, 2008; Zeitun & Saleh, 2015). The previous studies results related to debt and performance is bit ambiguous. One view, which exists highlights positive influence of size on performance as larger firms can influence economies of scale and usage of technology and their capability to gain market share and product diversification. (Majumdar & Chhibber, 1999; Weill, 2008; Yazdanfar & Öhman, 2015). However, Pervan and Višić (2012) argued to defend that the negative impact of size on performance as they say, large firms influenced by the managers for their own motive of maximizing their utility and hence it replaces the value maximization objective of the firm.

Regarding Growth, it is a measurement of sales growth of the firm and it is anticipated to have a positive association with performance as growth generates additional revenue to the firm from investment projects. (Zeitun & Saleh, 2015). Firm age is the measurement of number of years of the firm since its incorporation. The macro-economic variables rate of GDP growth and rate of inflation, according to Pattitoni et al. (2014) few studies highlights that firm performance is procyclical in nature, as the economy of the country is growing resultantly firm performance is positive. Hence, GDP growth rate is expected to carry positive relation, and inflation is expected to have a negative relation.

The variable which includes GDP growth rate and inflation reflects the macroeconomic conditions of the country. Gross domestic product growth rate is the economic output of the



country while inflation rate is the rate of increase in prices over the period. The data in this study is collected from the annual reports of the firms listed on PSX, while macroeconomic variable data is taken from state bank of Pakistan website. This study used ownership structure as interaction term; the proxies of ownership structure include family ownership; state ownership; individual's ownership; foreign ownership and institutional ownership. Family ownership is ownership of a son/daughter or close blood related person while state ownership is the number of shareholding held by government owned bodies. Individual's ownership represents shares held by individuals.

Foreign ownership represents the ownership stake held by foreign companies in Pakistani firms. Institutional ownership is the ownership stake held by firms/corporations in Pakistan non-financial firms. Starting the model without interactive term, this study estimates total six models as there are two performance measurement proxies and three different proxies for debt. (See Table 5.3.1). However, in all of these models Hausman test results came in favor of fixed effects model and hence it was used. With the introduction of interaction term into equation, we have a total of fifteen models as we have three proxies of debt and five proxies for ownership structure. (See Table 5.3.2 & 5.3.3).

#### **4.2 Sources of data and characteristics of sample**

The present empirical study used 148 listed non-financial firms listed on the PSX for the period 2012 – 2019. The firms were taken from chemicals industry; sugar industry; textiles industry, manufacturing industry, food sector; pharmaceuticals industry; fertilizer sector; oil & gas exploration & marketing firms and others. The annual financial reports were used for collecting data of the firms listed on KSE. The industries and time period under the analysis were affected by the accessibility of the financial data due to which it is unbalanced panel data. Lastly, the

macroeconomic variables information was obtained from the State Bank of Pakistan website. The data related to ownership structure was obtained from the shareholding pattern section of the annual reports. In 2003, the Code of Corporate Governance 2002, was implemented and the listed companies required by companies' ordinance 1984 to state publicly about ownership control. The ownership structure information is available on form 34 of companies' ordinance 1984 and under clause XIX of Code of Corporate Governance.

To make it further clear, in this study ownership structure has been split into five groups, a) Family owners, b) state ownership c) Financial Institutions owners d) Foreign owners and e) individual owners. Family ownership is defined as the percentage of shares held by wife, husband, son, daughter and any relative by either blood or marriage. State ownership is the ownership of government in firms shareholding. Whereas, individual ownership is the sole control rights of an individuals who owns the firm equity and assets. Foreign ownership is the percentage of shares owned by businesses which are resided outside Pakistan and they have operations functioning in Pakistan. The ordinance also defines any firm that has more than 5% equity holding is held by outside company. Financial institutions ownership is the percentage of shares owned by corporations such as trust and investment firms.

#### **4.3 Econometric Model Selection**

Fixed effects and random effects are the two models which are used estimation of panel data regression analysis. Fixed effects models is the estimation method in which ignored variables which persistently remain over the period but diverges to each case are essential to be controlled. The fixed effects method helps to estimate the effect of independent variable on change in the dependent variable over the period time.

In fixed effects model we perceive that in all studies the true effect size remains same and the only reason why the effect size varies among studies is due to sampling error. Baltagi (2008) argued that in fixed effect model it is presumed that there is zero variation in intercept over the period of time in each of the cross sections. Fixed variables carry an assumption that values have been measured without measurement error. The variables which are used in the study contain all of values of the variable in the population. A value in the fixed effect can have different and it is not equal across groups necessarily.

Borenstein et al. (2010) stated the very important characteristics of fixed effects model is common effect size shared in all analysis of the studies. In fixed effects model, the solely reason of uncertainty is sampling or estimation error within study. Another assumption of the fixed effects model states that the time variant features are unique to the individuals and these features should not be correlated with the other individual's characteristics. Fixed effect model assumes that there is one true effect that analyses all the studies in analysis and all the differences in observed values are due to sampling error.

While random effect model assumes that changes in the entities of study is random and posits no correlation with the dependent variable of the study. In random effects model we perceive that in all studies the true effect changes from one study to another. In Random effect model the true effect size differ. Radom values are believed to be drawn from larger population and it represents them. In random effects model it is the same reason of uncertainty with additional source between the study variance. According to Greene (2008) suggest that  $\mu_{it}$  not correlated with regressors. Random variables carry an assumption that values have been measured with measurement error. The scores of the values come from larger population and intended to generalize possible values of the population with normal distribution.

In random effects model, it is presumed that the study sample was drawn randomly and also the coefficients are demonstrated from population of the study randomly. Therefore, in all proposed models in the study in order to select which testing technique should we use, this decision will be based on the results of Hausman test. To check which test to be selected for regression estimation we have of the estimation of Hausman test results. The Hausman test states that; if

Select Random Effect ( $P > 0.05$ )

Select Fixed Effect ( $P < 0.05$ )

The results of Hausman test results favored fixed effect estimation method and fixed effect is adequate over random effect model. Now, to differentiate between whether fixed or common constant (Pooled OLS), according to Wooldridge (2010), stated that Pooled OLS is selected when the study contains different sample for each year/period in a panel data. Since our study employed same sample data over the period of the study, so we will have fixed or random effect to be chosen and based on the results of Hausman test, we will select fixed effect for the model testing. Hence, in all models of the estimation Hausman test results suggest that (Chi- Square prop  $< 0.05$ ). The results of Hausman test results favored fixed effect estimation method and hence, in this study fixed effect model is used. (See Table 4.3.1).

**Table 4.3.1 Results of Hausman test**

	Coefficient
Chi-square	256.204
P-value	0.01

The estimation has been run using standard robust errors in the model in Stata, so there is no issue of heteroskedasticity and also the variables doesn't contain lagged values in the model and hence, serial correlation doesn't exist in the model.

## **CHAPTER 5**

### **RESULTS AND DISCUSSION**

#### **5.1 Descriptive analysis**

To comprehend the conduct of the variables mentioned in the estimation models, it is pertinent to study and understand the dependent and independent variables descriptive statistics. Looking at the characteristics mentioned in the table 5.1.2, it shows significant differences among the variables, with that of respective standard deviations as well.

This table is showing mean, minimum, maximum and standard deviation of the observed values from 2012 to 2019. The mean value of profitability measures, ROA is 6.932% and EPS is 16.36%. Beside this, the mean values of STD (short-term debt), LTD (long- term debt) and TD (total debt) are 17.148%, 11.113% and 28.136% respectively, which tells us that Pakistani non-financial firms are less moderately levered. So, short-term debt is more than long-term debt on average for Pakistani firms. It can be said here that firms are interested with risky mode of financing.

Descriptive statistics shows that 28.136% of assets are financed through debt, of that a total of 17.148% is financed through short term debt which depicts that Pakistani firms largely finance its assets via short term debt. This could be due to inaccessibility to long term financing or small firms resisted to external financing and only rely on internally generated funds. The firm size average is 15.467 with minimum value is 5.288 and maximum value is 20.895 with a standard deviation of 2.34. The mean value of sales growth is .114% having minimum -.99% and maximum 8.67% sales growth with standard deviation of 0.541. The average number of firm year (age) is 27.637 years and minimum is 1 years and maximum is 67 years.

About the macroeconomic variables, rate of GDP growth is showing a negative average (-.041%) which is not surprising as the country has seen downfall in economic growth in the recent years. The annual change in inflation is on average of -.001. Regarding the ownership structure variable, family ownership is 23.124%, state ownership is 7.157%, individual's ownership is 23.410%, foreign ownership is 10.902% and institutional ownership is 40.228% respectively. The stats show that institutions have more ownership in terms of percentage followed by individuals and then family. Foreign ownership is very minimal for Pakistani non-financial firms in this study. The sample data is unbalanced in this study and regression is tested on Stata and hence, the observations for each variable are different.

**Table 5.1.2** Descriptive Statistics

<b>Variable</b>	<b>Obs</b>	<b>Mean</b>	<b>Min</b>	<b>Max</b>	<b>Std. Dev</b>
ROA (%)	1184	6.932	-.076.77	14.51	15.552
EPS (Rupees)	1184	16.36	-375.58	610.77	51.828
STD (%)	1015	17.148	0.015	17.606	16.465
LTD (%)	1176	11.113	0.12	14.67	12.790
TD (%)	1184	28.136	0.13	24.48	25.098
Size (Log of Sales)	1170	15.467	5.288	20.895	2.034
Sales growth (%)	1029	.114	-.99	8.67	.541
Age	1182	27.637	1	66	14.602
GDP Growth (%)	1184	-.041	-.83	.14	.304
Inflation (%)	1184	-.001	-.05	.06	.03
Family Ownership (%)	1141	23.124	.0008	98.8	24.520
State Ownership (%)	1029	7.157	.0001	96.09	16.416
Individual Ownership (%)	1184	23.410	.088	91.38	17.479
Foreign Ownership (%)	918	10.902	.0001	97.65	21.677
Institutional Ownership (%)	1175	40.228	.0033	100	30.638

Notes: ROA, return on assets; EPS, earnings per share; STD, short-term debt; LTD, long-term debt; TD, total debt

## 5.2 Correlation Analysis

Understanding the correlation between variables is pertinent before proceeding to estimations of the model. The correlation matrix is mentioned (See Table 5.2.1). The correlation matrix analysis allows us to ensure that correlation has no high values among variables exist that could be source of issues in the models of estimation.

If the correlation coefficient among the variables is 0.80 or larger than that, then multi-collinearity issue may arise. (Lewis, 1993 Gujrati, 2004). From the table, none of the variables has value greater than 0.80 and there doesn't exist multi-collinearity problem. In fact, the only highest value (0.751) is among short-term debt and total debt which are alternative measurement proxies for debt. All rest of the independent variables have smaller values of correlation coefficient than 0.80

**Table 5.2.1** Matrix of Correlation

<b>Variables</b>	<b>ROA</b>	<b>EPS</b>	<b>STD</b>	<b>LTD</b>	<b>TD</b>	<b>Size</b>	<b>SG</b>	<b>Age</b>	<b>GDP</b>	<b>Inf_R</b>	<b>FO</b>	<b>STO</b>	<b>PO</b>	<b>FRO</b>	<b>Inst_O</b>
(1) ROA	1.000														
(2) EPS	0.377	1.000													
(3) STD	-0.158	-0.043	1.000												
(4) LTD	-0.230	-0.032	0.104	1.000											
(5) TD	-0.306	-0.100	0.751	0.579	1.000										
(6) Size	0.213	0.250	-0.047	0.163	0.050	1.000									
(7) Sales growth	0.194	0.065	-0.054	0.004	-0.047	0.095	1.000								
(9) Age	0.005	0.027	0.060	-0.172	-0.058	0.079	0.040	1.000							
(10) GDP Rate (Annual Change)	-0.008	-0.022	-0.051	-0.012	-0.017	-0.046	0.019	-0.090	1.000						
(11) Inflation Rate (Annual Change)	-0.023	0.043	0.062	-0.015	0.017	0.071	-0.054	0.120	-0.641	1.000					
(12) Family Ownership	-0.119	-0.036	0.200	0.044	0.139	-0.299	-0.023	-0.127	0.035	-0.047	1.000				
(13) State Ownership	-0.310	-0.094	-0.087	0.249	0.121	0.292	-0.017	0.332	0.015	-0.028	-0.224	1.000			
(14) Individual's Ownership	-0.088	-0.156	-0.005	-0.091	-0.030	-0.428	-0.046	-0.159	-0.016	0.013	0.139	-0.186	1.000		
(15) Foreign Ownership	0.432	0.294	0.022	-0.131	-0.097	0.201	0.118	0.223	-0.031	0.026	-0.257	-0.093	-0.283	1.000	
(16) Institutional Ownership	0.036	-0.010	-0.146	-0.019	-0.101	0.265	-0.016	-0.074	-0.009	0.025	-0.692	-0.081	-0.458	-0.163	1.000

**Note:** The table shows the correlation between independent and dependent variables. Inf\_R is Inflation Rate; FO is family ownership; STO is state ownership; IO is individual's ownership; FRO is foreign ownership and Inst\_O is institutional ownership.



### 5.3 Regression Analysis

This section of the study conducts models estimation given above in equation (1) and (2). First, we will begin with the estimation of our first model which is without interaction term. As the Hausman test results favored fixed effects model, so fixed effects regression is used. The results in the (Table 5.3.1) illustrate a negative relation of debt and performance nexus. Nonetheless, performance measures used in models (ROA in model (1) (2) (3) or EPS in model (4) (5) (6)) and also measurement proxies of debt (LTD in model (1) and (4), STD in model (2) and (5) and TD in model (3) and (6)), results show that by keeping other things constant an increase in debt negatively affects firms performance. The results indicate that in Pakistan, the non-financial firms have negative association with debt.

All the variables in model 1, model 2 and model 3 have significant results with dependent variable ROA except macro-economic variables i.e rate of gdp growth and rate of inflation. The independent variables with dependent variable (EPS) in model 4, model 5 and model 6 have mixed results in terms of their significance. In model 4, only size and age are statistically significant, short term debt and size are significant in model 5, while in model 6, only total debt and size are significant. In all of the models, macroeconomic variables have shown insignificant results both with ROA and EPS models.

**Table 5.3.1** Model Estimation with ROA and EPS

Variables	Dependent Variable: ROA			Dependent Variable: EPS		
	(1) L.T.D	(2) S.T.D	(3) T.D	(4) L.T.D	(5) S.T.D	(6) T.D
Debt	-0.102*** (0.0336)	-0.102*** (0.0219)	-0.0770*** (0.0164)	-0.0699 (0.0812)	-0.205*** (0.0622)	-0.106** (0.0427)
Size	3.656*** (0.722)	3.016*** (0.652)	3.447*** (0.676)	11.22*** (1.690)	10.79*** (1.841)	11.01*** (1.743)
Sales growth	0.934*** (0.167)	0.910*** (0.166)	0.885*** (0.171)	0.374 (0.395)	0.295 (0.472)	0.374 (0.444)
Age	-0.447** (0.178)	-0.461*** (0.160)	-0.508*** (0.170)	-9.134** (4.473)	-5.612 (4.986)	-7.343 (4.860)
Gdp_growth Rate	-1.268 (1.133)	-0.0886 (1.003)	-0.0360 (1.056)	1.663 (2.756)	0.583 (2.918)	1.309 (2.811)
Inflation Rate	-16.88 (14.80)	1.064 (13.41)	-6.709 (14.22)	17.60 (30.24)	30.09 (32.27)	36.34 (31.21)
Constant	-40.36*** (11.55)	-29.21*** (10.52)	-33.69*** (10.88)	-136.9*** (28.68)	-133.6*** (31.21)	-131.9*** (29.69)
Observations	677	819	875	677	819	875
R-squared	0.159	0.157	0.142	0.093	0.076	0.071
No. Firms	148	148	148	148	148	148

**Notes:** Size is calculated by the logarithm of Sales; all estimations of the models were prepared using, STATA, by using robust standard errors. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The proxies of debt in all of the models show a negative debt and performance relationship which means that increase in debt levels effect profitability negatively. The results of model 1, 2 and 3 show the association of long term debt on ROA. The results indicate significance at 99% and negative association in all three models. The R-squared shows that 15.9% variation in ROA is due to long term debt in model 1, while in model 2, R-squared shows that 15.7% variation in ROA is caused by short-term debt and 14.2% of variation in ROA is caused by total debt. The Hausman results were in favor of fixed effects model and based on the p-value of the measurement proxies, the study reject null hypothesis in all first three models with dependent variable ROA. The results of model 4, 5 and 6 show the relationship between proxies of debt with dependent variable earnings per share. The results indicate insignificant yet negative association in model 4, model 5 shows 99% significance while model 6 indicates 95%

significance. In all models 4, 5 and 6 there is negative relationship with dependent variable EPS. The R-squared shows that 9% variation in model 4 is caused by long term debt, while 7% variation is caused by short-term and total debt in model 5 and model 6. Therefore, the study rejects null hypothesis and accepts alternative hypothesis in all three models with dependent variable EPS. As leverage has a direct cost which reduces firm profitability and also excessive level of debt in less profitable situation tends to impact profitability negatively. The negative relationship of debt (long term; short term, total debt) with performance estimated by ROA and EPS is in contradiction with Modigliani and Miller (1958) signaling theory and Gill et al. (2011) which explains the higher level debt helps firms to be more profitable. The negative association of debt with profitability measures supports the pecking order theory Myers and Majluf (1984) and also consistent with prior studies (Zeitun et al., 2007; Saeedi & Mahmoodi, 2011; Salim & Yadav, 2012).

Regarding the control variables, size is showing significantly positive relation with return on asset and earnings per share. The significance level of size is 99% in all six models. Large Size seems to favor the generation of profits in firms and this enhancement in profitability with size is consistent with previous findings of (Miller, 1977; Fama & French, 1998; Abor, 2005, 2007). The study accepts second hypothesis which states that an increase in firm size has positive affect on performance. Firm sales growth as expected shows a positive impact on performance. Sales growth is significantly positively related to ROA and insignificantly positively related to EPS. The significance level of sales growth with ROA models is at 99% level. As Zeitun and Saleh (2015) indicated that growth in sales is considered as alternative opportunities for growth and firms in which growth opportunities are higher tend to have higher financial performance. The results of sales growth are in consistent with earlier empirical findings of (Abor, 2005, 2007).

The study accept third hypothesis which states that an increase in sales growth rate has positive impact on performance.

Age is significant and is negatively related with ROA, while age is carrying significant negative relation with EPS in model (4) and insignificant negative relation in model (5) & (6). The significance level of age in model 1 and model 4 is 95%, and 99% in model 2 and model 3. Overall, the relation of age with ROA and EPS is negative. In Pakistan, firm's financial competition has increased over the years and profitability didn't come with respect to firm's maturity. Barron et al. (1994) suggested that older firms expose to inertia effects, as older firms become inflexible and face difficulties in fitting with changing business environment. Also, newer firms seem to be more flexible and adaptable than older firms which help them adopting new technological advancements in business at rapid pace. From this approach, it can be concluded that older firms in Pakistan lacks agility and responsiveness, so as with aging more opportunities are being missed in market thus causing financial loss to firms. The study reject fourth hypothesis which states that an increase in firm age has positive impact on performance.

Regarding the macroeconomic variables the results are mixed; gdp growth rate shows an insignificant inverse relation with ROA, while with EPS, gdp growth rate is insignificant and positive. The insignificant results showed that non-financial firms have extreme low or no impact of gdp growth and change in inflation rate on firm performance, if the increased gdp growth; gets equated when the cost of business operation increased side by side. The results indicate that higher GDP will lead to lower ROA. Whereas, negative inverse relation of gdp on performance is in contradiction with theory that asserts economic growth enhances profits. This opposite effect could be because of other factors, which includes Pakistani non-financial firms tendency to allocate their funds for savings and taking loans and due to information asymmetry among

investors to invest in non-financial firms stocks; also the lack of information about economic changes in the country. The insignificant inverse effect of GDP on performance is supported by the results of previous studies. (Khrawish & Al-Sa'di, 2011; Sufian, 2011; Sharma & Mani, 2012). (Fischer, 1993) found in his study that inflation affects economic growth negatively by decreasing investments and by reducing rate of productivity. While with earnings per share, the macroeconomic variable gdp growth rate is showing positive association. The results are similar to Suryanto and Kesuma (2013) which observed that GDP growth doesn't significantly influence earnings per share and stock prices of the company. The insignificant yet positive association of EPS with GDP growth rate shows gdp growth is less influential for investors to invest in the shares of the Pakistani nonfinancial firms.

However, the positive relation shows that an increase in Gdp growth rate increases the earnings of the company as growth is linked with increase in per capita income which rises the purchasing power and demand for the company's products and hence, the earnings per share increases. The inflation rate is insignificant and inversely related to return on assets in model (1) and (3) while in model (2) inflation rate is insignificant and positive. The negative impact of inflation on return on assets is because when inflation increases, it increases cost and expenses of the firm and thus reduces income. These results match with the studies of Forbes conducted in 2002. However, the inflation rate is positively yet insignificantly related to earnings per share. This indicates the phenomenon that "overleveraged" (too much debt) and not too much equity, which increases earnings per share as earnings are distributed over a few number of shares.

With the addition of interactive terms (ownership structure) in this study, we have estimated fifteen models for each performance measurement proxies (ROA and EPS- Table 5.3.2 and 5.3.3), as in this study we have total three debt estimation measures and five interactive terms.

Concerning measures of debt, by introducing interactive terms, the coefficients of the variables LTD, STD and TD debt have retained the negative association although in few cases they were insignificant. (See Table 5.3.2 and Table 5.3.3).

In addition, regarding the analysis of the coefficient of the interaction terms, family ownership is showing positive association with all measures of debt and significant results with STD and TD in ROA models, while in EPS models, family ownership is positively insignificant. State ownership is positively insignificant with all measures of debt in ROA models, while in EPS models, it is positively insignificant with LTD and TD and negatively insignificant with STD. Individuals ownership is negatively insignificant with LTD and positively insignificant with STD and TD in ROA models, but in EPS models with all measures of debt individual ownership is negatively insignificant.

Foreign ownership is negatively insignificant with LTD and STD but negatively significant with TD in ROA models, however it is negatively insignificant with LTD and TD but positively insignificant with STD in EPS models. Institutional ownership is negatively significant with LTD and TD but insignificant with STD in ROA models, while it is negatively insignificant with STD and TD but positively insignificant with LTD in EPS models.

Therefore, to study the total influence of debt on firm financial performance, we have to consider ownership structure as the interaction. For instance, related to total debt (TD), the anticipated effect on performance estimated by ROA, taking into consideration the variable with interactive term family ownership (the indicator of percentage of control held by families) is as given by  $dPERF/dLTD = 0.0013 - 0.00045 \times 0.22259 = 0.0012$  which is positive. Therefore, it is concluded that performance is positively associated with family owned firms and this validates previous

studies that family owners take timely best investment decision and better usage of investment in long time horizon. (Coles et al., 2014; Malik & Tayyab, 2019).

In the same way, state ownership show a positive association is akin to the government support and political associations. Also in Pakistan, state owned major Oil and Gas, transport and other firms which are backed by government. The results are similar to empirical studies of the past.(Yu, 2013; Tran et al., 2014). Likewise, individual ownership posits negative association in most of interaction terms which validates the argument of Pound (1988) that individual's owners suffer from pooling resources than other forms of ownership. Also individual owners become more risk averse and focus on low risk projects. The results are similar to Omran et al. (2008) who studied Arabian Countries firm.

In addition to that, foreign ownership is negatively associated in most models when used as interaction term between debt and ownership structure. According to Majumdar (1997) firms are prone to inertia, bureaucratic styles and ossification that goes on side by side with age leads to the inability to cope with competitive environment and leading to poor financial performance. Also foreign firms competing in totally different environment with settled competitors and they need learning process to compete with domestic firms (Dimelis & Louri, 2002). The results are similar to the previous empirical studies. (Saraç, 2002; Kumar, 2003; Sulong & Nor, 2008) Likewise, institutional ownership is carrying negative association as interaction term, reveals that institutional investors are driven by shorter investment decisions. These results match with (Tsouknidis, 2019). By the addition of interaction terms the results of other variables of the study largely did not change: they possess the identical sign and only slight changes in their coefficients. The ownership structure framework of the firms is definitely influencing the association between debt and performance of the firms.

**Table 5.3.2** Estimation of the model using interaction between debt and ownership structure  
Dependent Variable: ROA

Variables	L.T.D	L.T.D	L.T.D	L.T.D	L.T.D	S.T.D	S.T.D	S.T.D	S.T.D	S.T.D	T.D	T.D	T.D	T.D	T.D
Debt	-0.144*** (0.0427)	-0.117*** (0.0393)	-0.0893* (0.0474)	-0.0929*** (0.0349)	-0.0309 (0.0453)	-0.133*** (0.0276)	-0.109*** (0.0229)	-0.107*** (0.0311)	-0.0815*** (0.0259)	-0.0926*** (0.0272)	-0.109*** (0.0207)	-0.0812*** (0.0174)	-0.0933*** (0.0239)	-0.0602*** (0.0178)	-0.0530** (0.0219)
Debt × Family Ownership	0.00190 (0.00118)					0.00112* (0.000606)					0.00113** (0.000450)				
Debt × State Ownership		0.00103 (0.000865)					0.00223 (0.00267)					0.000935 (0.000846)			
Debt × Individuals Ownership			-0.000604 (0.00161)					0.000282 (0.00110)					0.000782 (0.000823)		
Debt × Foreign Ownership				-0.00248 (0.00264)					-0.000789 (0.000537)					-0.00121** (0.000511)	
Debt × Institutional Ownership					-0.00232** (0.000997)					-0.000384 (0.000666)					-0.000779* (0.000473)
Size	3.689*** (0.721)	3.743*** (0.722)	3.693*** (0.724)	3.733*** (0.724)	3.705*** (0.719)	3.144*** (0.655)	3.050*** (0.652)	3.010*** (0.654)	3.025*** (0.652)	3.018*** (0.657)	3.636*** (0.677)	3.470*** (0.676)	3.433*** (0.676)	3.474*** (0.674)	3.517*** (0.680)
Sales growth	0.932*** (0.166)	0.925*** (0.166)	0.930*** (0.167)	0.925*** (0.167)	0.928*** (0.166)	0.897*** (0.166)	0.906*** (0.166)	0.910*** (0.167)	0.901*** (0.166)	0.911*** (0.167)	0.874*** (0.170)	0.881*** (0.171)	0.886*** (0.171)	0.868*** (0.171)	0.888*** (0.171)
Age	-0.436** (0.173)	-0.467*** (0.173)	-0.450*** (0.174)	-0.438** (0.173)	-0.446*** (0.172)	-0.445*** (0.154)	-0.448*** (0.155)	-0.453*** (0.155)	-0.478*** (0.156)	-0.432*** (0.157)	-0.503*** (0.163)	-0.503*** (0.164)	-0.506*** (0.164)	-0.522*** (0.163)	-0.487*** (0.164)
Gdp_growth Rate	-1.529 (1.160)	-1.331 (1.159)	-1.463 (1.161)	-1.420 (1.161)	-1.430 (1.156)	-0.116 (1.027)	-0.109 (1.027)	-0.153 (1.030)	-0.167 (1.028)	-0.131 (1.030)	-0.170 (1.079)	-0.0630 (1.083)	-0.161 (1.083)	-0.160 (1.079)	-0.126 (1.082)
Inflation Rate	-18.44 (13.69)	-17.41 (13.69)	-18.70 (13.72)	-18.21 (13.71)	-18.42 (13.65)	-0.950 (12.38)	0.0620 (12.39)	-0.783 (12.42)	-0.864 (12.40)	-0.801 (12.42)	-8.492 (13.09)	-7.989 (13.14)	-8.555 (13.14)	-8.874 (13.10)	-8.389 (13.13)
Constant	-41.24*** (11.50)	-41.14*** (11.50)	-40.88*** (11.53)	-41.88*** (11.58)	-41.01*** (11.47)	-31.69*** (10.52)	-30.14*** (10.46)	-29.37*** (10.53)	-29.21*** (10.47)	-29.97*** (10.57)	-36.71*** (10.84)	-34.23*** (10.83)	-33.59*** (10.85)	-34.18*** (10.80)	-35.12*** (10.87)
Observations	677	676	677	677	677	819	818	819	819	818	875	874	875	875	874
R-squared	0.164	0.161	0.160	0.161	0.168	0.161	0.160	0.157	0.160	0.156	0.149	0.144	0.143	0.149	0.144
Firm Number	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148

**Notes:** Size is calculated by logarithm of sales; Age is calculated by number of years of firms since its inception; L.T.D is long term debt; S.T.D is short term debt; T.D is total debt; all estimations of the models were prepared using STATA, by using robust standard errors. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



**Table 5.3.3** Estimation of the model without using interaction between debt and ownership structure  
Dependent Variable: EPS

Variable	L.T.D	L.T.D	L.T.D	L.T.D	L.T.D	S.T.D	S.T.D	S.T.D	S.T.D	S.T.D	T.D	T.D	T.D	T.D	T.D
Debt	-0.0517 (0.102)	-0.0487 (0.0940)	-0.0279 (0.113)	-0.0331 (0.0833)	-0.0442 (0.108)	-0.240*** (0.0785)	-0.204*** (0.0651)	-0.168* (0.0884)	-0.234*** (0.0737)	-0.171** (0.0772)	-0.129** (0.0540)	-0.108** (0.0454)	-0.0928 (0.0621)	-0.103** (0.0466)	-0.0844 (0.0570)
Debt × Family Ownership	0.000350 (0.00281)					0.00104 (0.00172)					0.000843 (0.00117)				
Debt × State Ownership		0.000317 (0.00207)					-0.00299 (0.00762)					0.000433 (0.00220)			
Debt × Individuals Ownership			-0.000766 (0.00383)					-0.00212 (0.00313)					-0.000596 (0.00214)		
Debt × Foreign Ownership				-0.00296 (0.00629)					0.000912 (0.00153)					-0.000190 (0.00133)	
Debt × Institutional Ownership					1.34e-05 (0.00239)					-0.00166 (0.00189)					-0.000691 (0.00123)
Size	11.06*** (1.722)	11.08*** (1.728)	11.08*** (1.726)	11.13*** (1.728)	11.06*** (1.722)	10.71*** (1.863)	10.66*** (1.857)	10.67*** (1.856)	10.59*** (1.853)	10.76*** (1.865)	10.97*** (1.768)	10.83*** (1.761)	10.85*** (1.760)	10.84*** (1.759)	10.97*** (1.771)
Sales growth	0.369 (0.398)	0.366 (0.398)	0.366 (0.398)	0.360 (0.398)	0.368 (0.398)	0.288 (0.473)	0.297 (0.473)	0.294 (0.473)	0.309 (0.473)	0.299 (0.473)	0.368 (0.445)	0.374 (0.445)	0.374 (0.445)	0.373 (0.445)	0.374 (0.445)
Age	-0.391 (0.412)	-0.400 (0.414)	-0.401 (0.414)	-0.387 (0.412)	-0.393 (0.412)	-0.101 (0.439)	-0.134 (0.443)	-0.0759 (0.441)	-0.0703 (0.442)	-0.0585 (0.444)	-0.232 (0.425)	-0.228 (0.426)	-0.222 (0.426)	-0.232 (0.426)	-0.232 (0.426)
Gdp_growth Rate	1.511 (2.771)	1.562 (2.775)	1.515 (2.769)	1.567 (2.769)	1.525 (2.769)	0.552 (2.923)	0.570 (2.926)	0.585 (2.924)	0.550 (2.923)	0.536 (2.924)	1.201 (2.816)	1.247 (2.822)	1.226 (2.817)	1.215 (2.817)	1.211 (2.818)
Inflation Rate	12.70 (32.71)	13.01 (32.77)	12.50 (32.72)	13.10 (32.71)	12.67 (32.71)	21.89 (35.23)	22.74 (35.28)	22.67 (35.24)	22.30 (35.23)	21.51 (35.25)	29.43 (34.17)	29.51 (34.22)	29.49 (34.18)	29.37 (34.19)	29.44 (34.20)
Constant	-152.5*** (27.48)	-152.6*** (27.53)	-152.6*** (27.49)	-	-152.4*** (27.62)	-147.4*** (29.94)	-145.5*** (29.80)	-147.2*** (29.87)	-145.9*** (29.77)	-148.9*** (30.00)	-148.0*** (28.30)	-146.0*** (28.21)	-146.4*** (28.21)	-146.0*** (28.18)	-147.8*** (28.31)
Observations	677	676	677	677	677	819	818	819	819	818	875	874	875	875	874
R-squared	0.088	0.088	0.088	0.088	0.088	0.075	0.075	0.075	0.075	0.076	0.069	0.068	0.068	0.068	0.069
Firm Number	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148

**Notes:** Size is calculated by logarithm of sales; Age is calculated by number of years of firms since its inception; L.T.D is long term debt; S.T.D is short term debt; T.D is total debt; all estimations of the models were prepared using STATA, by using robust standard errors. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## CHAPTER 6

### CONCLUSION AND RECOMMENDATIONS

#### 6.1 Snapshot of the Study

The influence of debt on financial performance of firm has been an important theme to study over the years. This area of study has been studied by different researchers in the light of the different theories of capital structure. Weill (2008) in his study explored the impact of debt on performance and role of institutional framework on that relation in just one country. Similarly, this study examines the effect of debt on firm performance and role of ownership structure on that relationship in Pakistan. In this way, it was the aim of this study to answer, whether financial performance of firms in Pakistan is negatively or positively related and what impact does ownership structure of those firms have on this relation. In this regard, to respond and solve this question, we sampled 148 non-financial firms listed on PSX from 2012 to 2019 period.

#### 6.2 Key Findings

The results indicated negative impact of debt on firm performance of the sample studied confirming to the pecking order theory and results of past empirical studies. (Zeitun et al., 2007; Saeedi & Mahmoodi, 2011; Salim & Yadav, 2012). Similarly, the control variables; size and sales growth have shown positive impact on firm performance. The control variable age showed negative association with firm performance. Regarding the macro-economic variables which are; rate of growth in gdp and inflation rate both showed negative association with ROA and positive association with EPS. Also when interaction terms were introduced in the model, the results were mixed. Family ownership and state ownership as an interaction in the model has shown positive association. While individual's ownership, foreign ownership and institutional ownership

revealed negative association when used as interaction term in the model. The positive association of family owners on firm performance reveals that family owners take timely and accurate decisions related to investment and better usage of funds in the long run.. Similarly, the state owned firms are backed by government in harsh financial times, which is why these firms showing positive association. In the same way, individual owners are more prone to risk and they are more risk averse due to which they invest in low yield projects and thus have negative association is found. Similarly, foreign ownership firms have shown negative association which is because foreign firms face competition with settled firms. The institutional owned firms in Pakistan have shown negative association with firm performance, which shows that institutionally owned firms prefer internal source of funds and they less rely on external source of financing. Therefore, looking at these inferences drawn from the results, this study proved that firm performance varies with respect to ownership structure of the firm.

### **6.3 Policy Implications**

This study attempts to give an insight into capital structure decisions of the firm when firms have different ownership structure. From policy implication point of view, the findings of the study have several policy implications for academic scholars, firm managers, government institutions and policy makers. We also hope that the results of this study would be helpful for active stakeholders and different financial investors including credit institutions and banks.

Our findings suggest that firm debt has negative impact on financial performance as measured by return on assets and earnings per share. Our results also revealed that firm financial performance varies with respect to ownership structure of the firm. Our findings of the study indicate that governing and regularity authorities should have to devise measures that affect firm performance positively in Pakistan and for that it is recommended that firms should prefer internal sources of

funds, i.e. equity financing. Specifically, when a firm lessens their reliance on external source of financing and increases the usage of their internal funds and cuts external financing expenditure. This phenomenon affects production capacity positively and thereby it affects economic growth positively.

On the downside of debt financing, non-financial firms become prone to due payments during financial unrest, it is in this regard suggested that governments and other financial credit issuing bodies should extend firms due payments of debt and need to make access to debt easy to help firms to sustain in difficult macroeconomic conditions.

As debt flows are important financing mechanism for developing countries like Pakistan. On the downside of debt flows, an increase in debt causes firms vulnerable to economic shocks. Despite the extreme importance of debt being the source of finance, firms in Pakistan have lower tolerance for high debt to equity ratios. Thus, the management of the long term cost and sustainability of these sources is of extreme importance. The firm managers need to make viable mix between debt and equity in the capital structure of the firm.

The difference between expenditure and revenues and their rate of growth posits problems for managers to manage firm debt management. In order to limit the firm debt burden and further growth of debt traps, it is vital for firm managers to ensure significant real growth in revenues is achieved while taking immediate realization of firm expenditures.

These findings of the study would particular be helpful for firm investors in designing their investment plans in most efficient manner. These findings would also be useful for firm managers in devising effective and efficient strategies to manager their operations in adverse conditions and overall macroeconomic conditions of the country. As, the results revealed that in Pakistan family ownership and state owned firm have positive influence on debt financing and

performance, so it is recommended that in Pakistan non-financial firms should be encouraged to owned by families and government should buy stakes in firms.

#### **6.4 Study Limitations**

This study results have limitations despite consistent results. The findings of this study are limited to non-financial firms of Pakistan. This study sampled 148 non-financial firms listed on PSX from 2012 to 2019 and the results are not related to unlisted non-financial firms in Pakistan. The study sampled firms from different sectors and the number of firms for each sector and data is not balanced.

#### **6.5 Direction for Future Research**

This study sampled Pakistani firms and thus the findings are exclusive to one market. Therefore, future research should improve the generalization of the study by adding sample data from other Asian countries and by increasing the number of years in the study to improve reliability of the results. Moreover, future research can be performed on the behavior of the investors to evaluate whether investors are more interested in investing their capital in debt financed firms or equity financed firms. Future research should focus on institutional factors that affect firm performance, like shareholders rights and rule of law. In future research more proxies for measurement of performance can be included and more emphasis on removing the limitations of this research by concentrating on comprehensive data set and more indicators which affect this relationship for a longer period of time.

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