Determinants of Capital Structure: Textile Firms in Two Different Groups of Economies

Sadia Asghar

Submitted to the
Institute of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Master of Science
in
Banking and Finance

Eastern Mediterranean University
January 2020
Gazimağusa, North Cyprus

Approval of the Institute of Graduate Studies and Research

<div style="text-align: right;">

Prof. Dr. Ali Hakan Ulusoy
Director
</div>

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science in Banking and Finance.

<div style="text-align: right;">

Prof. Dr. Nesrin Özataç
Chair, Department of Banking and
Finance
</div>

We certify that we have read this thesis and that in our opinion it is fully adequate in scope and quality as a thesis for the degree of Master of Science in Banking and Finance.

<div style="text-align: right;">

Prof. Dr. Mustafa Besim
Supervisor
</div>

Examining Committee

1. Prof. Dr. Cahit Adaoğlu   _____

2. Prof. Dr. Mustafa Besim   _____

3. Asst. Prof. Dr. Murad Abdurahman Bein   _____

ABSTRACT

The objective of this study is to unveil the effects of determinants of capital structure of textiles firms in two different groups of economies, one being developed (Italy, Spain) and the other developing (Pakistan, India). The study consists of 120 textile sector firms' data from two economies at different stages of development. Data has been gathered from 30 companies of each country's textile sector for the period of 2012 to 2017; it is balanced panel data with 720 observations. The study enlightens us on the differences of capital structure decision making in countries with different level of income. The dependent variables includes total debt, long term debt and short term debt while tangibility, age, size, profitability, liquidity, non-debt tax shield and income level are independent variables. Here we use the pooled least square and fixed effect techniques on the regression model for the capital structure. The relationship of independent variables and debts of the firm is discussed. We found that, there is negative relation between profitability and leverage of a firm. Tangibility and liquidity is negatively related to total debt and short term debt but positively to long term debt. Non debt tax shield, size has positive relationship with leverage. income level is positively associated to firm's debts ratios. Furthermore, in group of developed economies size, liquidity, profitability and NDTS are more influential while on the other hand in group of developing economies size and profitability and NDTS play more significant role on capital structure decisions.

Keywords: capital structure, profitability, developing economies, leverage

ÖZ

Bu çalışmanın amacı, ikisi gelişmiş olan (İtalya, İspanya) diğer ikisi ise gelişmekte olan (Pakistan, Hindistan) iki farklı ekonomi grubundaki tekstil firmalarının sermaye yapısı belirleyicilerinin etkilerini ortaya koymaktır. Çalışma, farklı gelişim aşamalarındaki iki grup ekonomisinden 120 değişik firmadan elde edilen verilerden oluşmaktadır. 2012-2017 yılları arasında her ülkenin tekstil sektöründen 30 firmadan veri toplanmıştır; 720 gözlemle dengeli panel veri seti oluşturulmuştur. Çalışma, farklı gelir düzeyine sahip ülkelerde sermaye yapısı konusunda firmaların karar vermedeki farklılıklar konusunda ışık tutmaktadır. Bağımlı değişkenler toplam borç, uzun vadeli borç ve kısa vadeli borçları; sabit kıymetler, firma yaşı, büyüklük, kârlılık, likidite ve borç dışı vergi kalkanı ile gelir seviyesi bağımsız değişkenlerdir. Sermaye yapısı için regresyon modeli üzerinde toplanan en küçük kareler ve sabit etki teknikleri kullanılarak bağımsız değişkenler ile firmanın borç oranı arasındaki ilişki tahmin edilmiştir. Çalışma, firmaların karlılık ve toplam borç, uzun vadeli borç ve kısa vadeli borç arasında negatif bir ilişki bulmuştur.. Duran varlık ve likidite, toplam borç ve kısa vadeli borç ile negatif ilişkide olduğu bulunurken, ayni değişkenler uzun vadeli borç ile pozitif ilişkide olduğu tespit edilmiştir. Borç dışı vergi kalkanı ve firma büyüklüğü kaldıraç ile pozitif ilişkisi olduğu tahmin edilmiştir, gelir düzeyi pozitif ilişkide iken. Ayrıca, gelişmiş ekonomiler grubunda büyüklük, likidite, kârlılık ve NDTS daha etkilidir. Diğer taraftan gelişmekte olan ekonomiler grubunda büyüklük ve kârlılık sermaye yapısı kararlarında daha önemli bir rol oynamaktadı

Anahtar Kelimeler: sermaye yapısı, karlılık, gelişmekte olan ekonomiler, kaldıraç

DEDICATION

To my Family

ACKNOWLEDGMENTS

I would like to thank my supervisor, Prof. Dr. Mustafa Besim, for his valuable advices and enthusiastic support in completing this work. He always spares time despite his busy schedule to discuss and I have had the benefit of his helpful suggestions.

I would equally like to thank all my lecturers in the Department of Banking and Finance who provided all the knowledge I need in order to build up my career, especially Prof. Dr. Cahit Adaoğlu whose lectures inspired me to carry out this research. To my family and anyone else who helped me in one way or the other throughout my study in Eastern Mediterranean University. And above, all to God Almighty who provided the strength and good health throughout my studies.

TABLE OF CONTENTS

LIST OF TABLES

Chapter 1

INTRODUCTION

1.1 Background of the study

Capital structure is how a corporation uses different resources to finance its overall position and growth. In corporate finance capital structure has an important place as a field of study. Debt and equity determines the firm's capital structure. The firm's equity comprises of retained earnings, common stock and preferred stock while issuing of bonds, payable and long term notes comes under debt. Working capital comes under the capital structure as a short term.

How to finance a new investment has always been the most challenging decision for corporations. First finance the new investment by using retained earnings of corporation, then through debt and at the end by issuing of preferred or common stock. Shareholder ownership comprises of issuing of equity and previous year's earnings while on the other hand debt holder ownership explains by amount of debt issue (La Porta & et al., 1999).

The main aim of the financial manager is to maximize the firm value. Therefore, to fulfil this aim the managers of the corporation determine those determinants which maximize the value of firm and support the firms in every situation. Brounen & et al, explain how to finance the firm's assets for every new investment, what proportion of equity and debt use to finance them (Brounen & et al, 2006)

In 1958, Modigliani and Miller presented the 'Theory of Investment, Corporate Finance and firms Cost. After that a number of researchers found the determinants which affect the corporation capital structure, which also explains the tax benefits and other elements which depend on how much debt to include in firms capital structure (Modigliani & Miller, 1958).

In 1963 Miller and Modigliani presented the trade-off theory (Modigliani & Miller, 1963) . After these developments more theories published on the same matter like the agency theory (Jensen & Meckling, 1975). Thereafter another theory was developed which is Pecking Order Theory (Myers & Majluf, 1984).

Companies use debt and equity to finance the firm. The trade-off between expenditures and income enables firms to reach optimal level by use of debt instruments. The main aim of the financial manager is to maximize the shareholders' value. This is based on assumptions like no agency cost, no taxes, zero bankruptcy cost etc.

Trade-off theory explains what happens if firm has taxes or has cost of bankruptcy while on the other hand information effects explained by pecking order theory. Moreover, after the year 1958 when Miller and Modigliani developed their theory which is related to determinants explained the capital structure. An empirical research explains the all possible aspects of capital structure (Harris & Raviv, 1991). The complete discussions on all the theories are explained in chapter 2.

1.2 Aim of the Study

The aim of this study is to assess the effects of determinants of capital structure of textiles firm in two different groups of economies, one being developed (Italy, Spain) and other developing (Pakistan, India). The research uses the information of textile sector firms over the period 2012-2017. Most importantly study aims to identify whether there is difference in capital structure decision making in countries with different level of income.. The research includes main question:

1. What are the main determinants that affect the capital structure decision making of selected textile corporations in two different group economies; developing (Pakistan and India) developed (Italy and Spain) ?

It is expected that at the end of study we would be able to answer this question and the study helps further research.

1.3 Proposed Structure

This study is composed of following sections: After the introduction in chapter (1), the chapter two includes the literature review. In this chapter the related theories are discussed.

The third chapter explains the methods which are used to collect and then analyse the variables. The hypothesis, models and research methodology are briefly explained in this chapter. As for chapter four, interpretation of the findings is explained and discussed. Chapter 5 conclude the study.

Chapter 2

LITERATURE REVIEW

As a part of business organizations to set up or making operations possible, every firm or corporation needs to determine an actual capital structure which optimizes the capital of the firm and maximize the firm's value under the supervision of good management. To reduce bankruptcy or financial distress a right percentage of equity and debt is needed. This is why different models of capital structure have been proposed, even though the optimum percentage of leverage has not been dictated (Wang & Sheikh, 2011). Mostly financial constraints have multipurpose nature. To get the desired or reliable results statistical analysis or numerical simulation are used. The techniques used depend on nature of the dilemma. There are many different ways to combine equity and debt of an organization to get the optimal capital structure, which is the main aim of the managers of a corporation. There are few studies that determine the capital structure of developing economics given that most researches have focused on developed economies instead. The main objective of this study is to determine the optimal value of the selected firm's capital structure with the use of suitable models. According to (Bos and Fetherston, 1993)capital structure is described as debt over asset which is interpreted as the risk and profitability of the corporation. The ratio of risk decreasing or increasing to change the company structure which increase or decrease the shareholders wealth and also optimize the firm value respectively.

2.1 Theories of capital structure

The main focus of the firm's capital structure is on the financial behaviour of the organizations and also the method used to select between equity and debt. There are many researches who have explained this behaviour with the help of different models (Myers, 2001). In the past 60 years many theories have emerged including, Agency cost theory, Miller and Modigliani, theory of trade- off and pecking-order theory.

2.1.1 The Modigliani and Miller Theory (MMT)

The Modigliani and Miller henceforth (M&M) theory is one of the most effective theories in corporate finance. M&M assumes that in a perfect market the value of a firm is not correlated with its financial decision or capital structure. The assumption is that it is a perfect market in the sense that there are no taxes, there are no transaction costs, agency cost and all the information is available. M&M theory is true in perfectly competitive market (Gordon, 1989). Modigliani and Miller theory puts more light on traditional view that is equity is more expensive than debt (Green et al, 2001). The chance of bankruptcy or default increases as the debt increases (Titman, 2002). M&M contains various prepositions in their theory. M&M states in their preposition I that the capital structure and the firm's market value are uncorrelated and capital structure does not change with changes in the value of the firm (Constantinides, 2003). Preposition I depends on two significant variables which are arbitrage and leverage. In debt financing the percentage of leverage is unrelated, so it doesn't matter debt is straight or convertible or is short term or long term (Myers, 2001). The return of shareholder decreases as the ratio of risk decreases (Green et al, 2001). Firms should not choose inexpensive debt equity as compared to high price equity, as it overall increases the equity cost of the firm (Myers, 2001).To conclude M&M theory, there

are few determinants like taxes or bankruptcy cost, agency cost which is the cause of imperfect firm's capital structure.

2.1.2 Trade-off Theory (TOT)

This theory states that, firms optimize their value when organization balance their debt benefits of saving tax with the cost of debt such as agency or financial distress cost (Brigham and Houston, 2004) . This theory argues that the organization would have to borrow until the saved tax benefits and debt cost of default equalized (Wang & Sheikh, 2011). The interest paid on debt is tax allowable so as the amount of debt increases the interest charge on it increase the income by paying less tax because interest on debt is tax deductible. On the other hand financial distress and agency cost also increases.
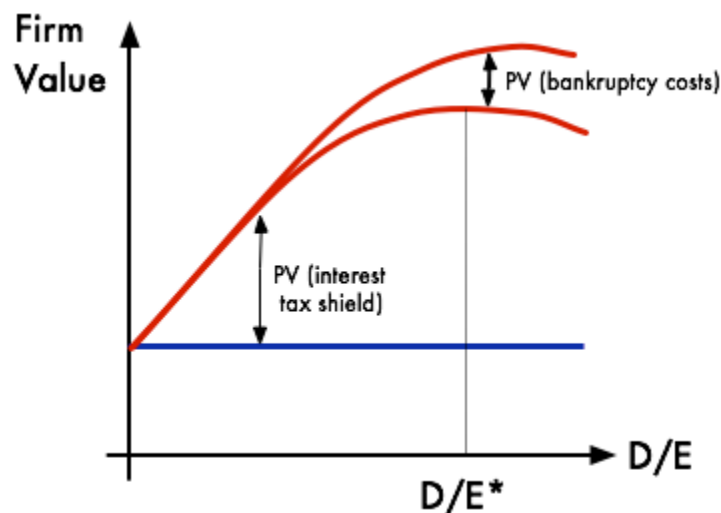
Figure 1: Trade-off theory   (Brigham and Houston, 2004)

As we can see in the figure above the firm's value raises as the D/E ratio increases and after a certain point it will decrease. This theory explains the nonlinear relation of value of firm and debt. According to (Smith and Watts, 1992) the trade-off theory argues that the firm with more profitability holds less debt. The study indicates that if

6

firms have tax shield then they have more profitability. Thus if corporations borrow more they would have less cost of financial distress or bankruptcy.

2.1.3 The Peeking Order Theory (POT)

The peeking order theory first suggested by Donaldson who states that the firms managers are looking more for internal financing instead of issuing new stock (Donaldson, 1961). This theory after extended by (Myers & Majluf, 1984) initiated new studies by taking into account the significance of issuing stock to increase financing, and also the company's preference divided into two main parts. In the first place, firms prefer internal financing to external financing. Secondly, organizations have more capacity of issuing debt rather than shares.

According to peeking order theory there are two types of costs which are, transaction cost and cost of asymmetry associated with the raising fund requirements by external financing. This is why firm managers prefer internal financing to external financing. This theory explains that the managers of the firm have more internal information than the outside investor for the risk and growing opportunity they have (Brealey, 2006) . This theory is based on the assumptions of imperfect market, issuing of less costly stock and market information (Myers & Majluf, 1984). Therefore based on these assumptions it can be summed up as firms prefer internal financing, but if internal financing is not enough then companies use debts and lastly equity.

2.1.4 The Agency Cost Theory

This is the conflict between shareholder and managers of a firm. Due to the separation of corporation's management and their ownership, agency cost arises. It happens when managers of a firm do not act to optimize the shareholders wealth but work for their own interest. Agency cost is also known as free cash flow problem (Jensen, 1986).

Sometimes managers prefer to invest in short term projects for reputational purposes instead of investing in long term projects that are profitable (Masulis, 1988).conflict of interest also exists between bondholders and shareholders (Jensen & Meckling, 1976). Hence to sum up, firms minimize agency cost by using short term debts because its help to improve the underinvestment and then shareholder and management can both get benefit (Grossman & Hart, 1988).

2.2 Determinants of Capital Structure

The theories related to firm's capital structure are discussed above. The followings are the main determinants of capital structure; structure of ownership, assets, non-debt tax shield (NDTS) firm's size, and age.

2.2.1 Tangibility

The ratio between the fixed assets and total assets is known as assets tangibility. We meant property plant and equipment as fixed assets. There are two types of assets tangible and intangible. The physical assets of organizations known as tangible like plant and equipment machinery etc. while on the other hand the intangible assets are like good will etc. the organization used their tangible assets. There is a positive relation between the tangibility and the companies leverage ratio (Buferna et al., 2005) (Myers & Majluf, 1984). The firms issue more debt to invest in risky projects in order to earn more profit (Abu Mouamer, 2011). Some studies explain that tangibility and firms leverage are positively correlated (Harris & Raviv, 1991) (Rajan & Zingales, 1995) but on the other hand according to (Titman & Wessels, 1988) there is negative relationship between them. The research studies on corporations of Pakistan, Turkey, Brazil and India done by (Booth et al., 2001) shows that the relation between the tangibility and leverage is negative .Overall tangibility gives less negative impact rather than positive.

2.2.2 Profitability

The term profitability is defined by many authors such as ratio of earnings before interest and tax to total assets (Rajan & Zingales, 1995)and (Harris & Raviv, 1991). Here we take return on assets as to measure the profitability of the firm. The pecking order theory explains that profitability and leverage of a firm's are negatively correlated and thus the reason that profitable companies are less concerned about external financing (Myers & Majluf, 1984). Many scholars aim to explain the negative relationship between leverage and profitability. They explain that the due to the negative relationship, profitable organizations avoid leverage and tend to retain profits (Kayo and Kimura, 2011), (Vivian, 2008), (Silva and Rêgo Rogão, 2009) and (Rajan & Zingales, 1995). Different capital structure theories have different conclusions on the impact of profitability. Trade-off theory prefers external financing, while pecking order theory firm prefers internal earnings rather than leverage. In this study the ROA is used as the profitability measure.

2.2.3 Non Debt Tax Shield (NDTS)

The significant determinant of a firm's capital structure has blended interaction between the leverage and tax. The relationship between tax and firms leverage is not distinct (Titman & Wessels, 1988). Some studies explain that the relationship between them is negative (Vivian, 2008) (Wald, 1999).Companies with higher NDTS assumed to have minimum balance of debt which also influence the payments of interest. Due to the positive correlated relation between the firm's capital structure and tax shield (Green et al, 2001). Firms hold tangible assets as the debt security (Moore, 1986).

According to (Vivian, 2008) and (Miguel & Pindado, 2001) some studies also explained that expense of interest is tax provable. Organizations minimize the level of debts take favour by paying tax.

2.2.4 Size

The size of the corporation is an important determinant of capital structure. The trade-off theory explains the positive relationship of size and leverage. As the firm's size increases the tendency of default decreases because it is more diversified in taking risk. The chances of asymmetric information and its interrelated cost is less in big size companies. According to Peeking order theory the large firms are more towards the internal financing rather than external financing (Frank & Goyal, 2009).

The similar empirical results of positive relation of debt and size are also similar in the studies of (Deesomsak Paudyal & Pescetto, 2004) (Elayan & Maris, 1990) (Hovakimian & Li, 2011) (Dessi & Robertson, 2003) (Singh & Nejadmalayer, 2004) and (Cassar & Holmes, 2003). The inverse relation between the short term debt (STD) and size shows that the small size firms prefer short term debt and face more difficulties to get long term debt (LTD) (Michaelas et al., 1999) (Vieira & Novo, 2010). In this study the natural logarithm of sales is used as the proxy of size.

2.2.5 Liquidity

There have been many researches done on relationship between leverage and liquidity. The trade-off theory explains negative relationship of leverage and liquidity. The firms more towards for internal rather than external financing as firm's liquidity increases. This is also empirically explained by (Abdullah, 2005). A current asset over current liability is ratio of liquidity.

2.3 Income Level

World Bank classifies the countries into developed and developing economies on the basis of per capita income. Countries having per capita income of US$1025 or less classify as lower income group while on the other hand US$12476 per capita income as high income group. According to IMF and World Bank India and Pakistan are low income group countries which are considered as developing or emerging economies. On the other hand Italy and Spain is considered as developed economies of having high income level. In this study dummy variable for Income level of developing and developed economies (1, 0) are presented, 1 being developing and 0 otherwise.

2.4 Textile sector

2.4.1 Textile sector in group of developed economies

Textile sector in Italy has taken up the 4% in national GDP in annual revenues. Previous research on Italy regarding the capital structure of textile sector and its determinants has given us insight that in order to remain competitive or keep up with the competition, financial resources play a pivotal role. As to cover the investment, in Italy, textile sector is dominated by small and medium sized enterprises. Previous study done by (Loris & Valeria, 2019) focuses on 2,446 companies confirms the imbalanced structure of debt financing. This study confirms that in most of areas in Italy, debt is way higher than the equity.

Previous researches on Spain's textile firms capital structure provides us insight that leverage has significant and positively related with non-debt tax, size and industry. One of previous study found that growth, volatility and profitability are negatively significant with debt. Also, they highlighted the tangibility, volatility, profitability and

non-debt tax shield as determinants of capital structure in any firm (Ntoung et al, 2016).

2.4.2 Textile sector in group of developing economies

Textile sector of Pakistan has played a major role in export share of country, so it impacts largely on the economy. Sabeel and Hanif, has researched the determinants of capital structure in Pakistan and found that tangibility has highly correlated with leverage while Size of firm was negatively correlated (Sabeel & Hanif, 2011). Also, they have found that ROA and ROE have negative relationship with leverage. Another study has found that tangibility, size of firm is significantly related with capital structure (Aurangzeb & Anwar ul Haq, 2012).

Indian Textile Industry is one of the largest textile industries in the world. It contributes nearly 12 % to Indian economy. Previous researches such as (Pandey et al, 2019)has given us insight that capital structure factors such as LTD,STD, ICR, DER has a significant impact on the profitability of textile firms. Another study elaborated by (Ramachandran & Madhumathy, 2016) that ROA, ROE, EPS, net profit margin; Return on capital employed has negatively correlated with capital structure in textile firms due to variation in debt-equity ratio.

Chapter 3

DATA AND RESEARCH METHODOLOGY

The determinants of capital structure have been examined or estimated by many theories and for the betterment of optimum capital structure of firms. This research tries to investigate and evaluate the determinants of capital structure of the textile firms of the two developing economies namely Pakistan and India and two developed economies Spain and Italy. In this chapter the design of study, data and variables will be discussed. Moreover, descriptive statistics and correlation analysis will be discussed and lastly the techniques and the model will be determined.

3.1 Research Design

The main purpose of this study is to determine the effects of determinants of capital structure of textiles firms in two different group of economies, one being developed (Italy, Spain) and the other developing (Pakistan, India). The study aims to identify whether there is difference in capital structure decision making in countries with different level of income. The firm's specific data used in this study consists of 30 companies from each country in both groups of economies. The time period is from 2012 to 2017 which represent the time series traits. Due to the time series and cross section data pattern at the same time, the panel data analyses is found to be more appropriate to this study. The researchers of the studies have opportunities to analyse both the data pattern such as time series and cross section at the same time (Greene, 2007).

3.2 Source of Data

The secondary data is used in this study and has been collected from Orbis database. The information about most of the firms is accessible here. The financial statements of companies and main ratios are also available. The ratios relevant to firm's capital structure are not readily available in this database, so in this research the ratios related to this study are calculated by using the financial statements of selected companies which are available in this database.

3.3 Sample

The data used in this study consists of non-financial firms from Pakistan and India representing developing economies and from Italy and Spain representing developed economies. The textile sector play important role in countries economy because this sector is key industrial sector of these economies. Here we randomly selected 120 firms from the textile sector 30 firms being from each country. The sample data consists of financial statements of these companies for the period of 2012 -2017.

3.4 Variables

In order to achieve the objectives of the research the variables which are used and tested are explained in this section. The dependent variables are total debt (TD), long term debt (LTD) and short term debt (STD) ratios. These ratios have been calculated from the company's balance sheet. Age, tangibility, firm's size, profitability, liquidity, and tax shield (NDTS) are firm specific independent variables. In this thesis, we have also added level of income as independent variables.

Table3. 1: The list of all the variables classified as independent and dependent

List of Variable	Abbreviation	Dependent variables	Independent Variables
Total debt	TD	TD	
Long term debt	LTD	LTD	
Short term debt	STD	STD	
Tangibility	TANG		TANG
Age	AGE		AGE
Profitability(ROA)	ROA		ROA
Size	SIZE		SIZE
Liquidity	LIQ		LIQ
Non-debt tax shield	NDTS		NDTS
Level of income	Y		Y

The formulas for the ratios and proxy related to the all variables are explained in the following Table 3.2.

Table3. 2: The proxy and formulas for the ratios of variable

List of Variable	Proxy and Formulas of variables
Total debt (TD)	Total debt over total assets is total debt ratio (TD/TA).
Long term debt (LTD)	Long term debt over total assets is long term debt ratio (LTD/TA).
Short term debt (STD)	Short term debt over total assets is short term debt ratio (STD/TA).
Tangibility (TANG)	Fixed assets over total assets ratio are called ratio of tangibility (FA/TA).
Age	Subtraction of present year of firm from year of foundation($year_p - year_f$).
Profitability (ROA)	Earnings before interest and tax over total assets as ratio of profitability ($EBIT/TA$).
Size	Natural logarithm of sales (LN of sales)
Liquidity(LIQ)	A current asset over current liability is ratio of liquidity (CA/CL).
Non-debt tax shield(NDTS)	Total annual depreciation over total assets is non-debt tax shield (TD/TA).
Level of income(Y)	Dummy variable as developing or developed economy(1,0)

3.5 Descriptive Statistics

The descriptive statistics is a method which is used to better understand the behaviour of the variables used in the study. This analysis is a tool which helps to find out the variance and central tendency of the research data (Zikmund, 2003).To interpret the data of the study standard deviation, mean, medium, minimum and maximum used in the descriptive analysis. In Table 3.3, the summary of descriptive statistics of all variables is presented. The variables are explained in detail in literature review. The descriptive statistics analysis in two parts which are for developing economy (Pakistan and India) and for developed economy (Italy and Spain).

Table 3.3 shows the overall general results of the entire sample of data. From table 3.3 for total debt maximum value is 1.638 and minimum value is 0.056, standard deviation value of 0.191 and the mean value of total debt is 0.533 which means 53.3% of total assets of the textile firms of both the economies are financed by external source. The maximum value of LTD is 0.759, min value is 0.00, standard deviation is 0.126 and mean of Long term debt is 0.139 which means that 13.9% of textile firm's capital is LTD and standard deviation is 0.126 .The maximum value of STD is 1.903, minimum value is 0.067, the mean value for STD is 50.3% which is about more than three time of long term leverage and value of standard deviation is 0.221

Table 3.3: the descriptive statistics for both groups of economies for the time period 2012-2017

Variables	Mean	Median	Max	Min	Standard Dev.	No. of Observations
TD	0.533	0.537	1.638	0.056	0.191	720
LTD	0.139	0.107	0.759	0.000	0.126	720
STD	0.503	0.463	1.903	0.067	0.221	720
ROA	0.065	0.054	0.532	-0.539	0.096	720
NDTS	0.036	0.034	0.602	0.001	0.029	720
LIQ	1.010	0.768	13.26	0.063	1.037	720
AGE	3.733	3.761	5.869	0.000	0.707	720
SIZE	2.650	2.720	2.918	2.294	0.171	720
TANG	0.405	0.395	4.291	0.013	0.274	720
Y	0.517	1.000	1.000	0.000	0.500	720

Descriptive analysis for developing economies (Pakistan and India) for the time period 2012 to 2017 is presented in table 3.4. As it is seen in the table 3.4 for TD the maximum value is 1.638 and minimum value is 0.117 and the mean is 0.562 which means 56.2% of total assets of the textile firms of developing economies (Pakistan

and India) are financed by debt. The maximum value of LTD is 0.721, minimum value
is 0.00, standard deviation is 0.129 and mean is 0.180 which means that 18.0% of
textile firm's capital financed by LTD and standard deviation of LTD is 0.129 .The
maximum value of STD is 1.002, minimum value is 0.104, the mean value for STD is
46.7% which is about more than two times of long term leverage and value of standard
deviation is 0.162.

Table 3. 4: Descriptive statistics for developing (Pakistan, India) economies for time
interval 2012-2017

Variables	Mean	Median	Max	Min	Standard Dev.	No. of Observations
TD	0.562	0.598	1.638	0.117	0.180	360
LTD	0.180	0.162	0.721	0.000	0.129	360
STD	0.467	0.450	1.002	0.104	0.162	360
ROA	0.055	0.047	0.366	-0.539	0.082	360
NDTS	0.040	0.036	0.602	0.007	0.034	360
LIQ	0.666	0.556	3.224	0.063	0.426	360
SIZE	2.806	2.810	2.918	2.673	0.051	360
AGE	3.732	3.611	5.521	2.833	0.542	360
TANG	0.475	0.462	1.746	0.110	0.212	360
Y	1.000	1.000	1.000	1.000	0.000	360

In table 3.5 the descriptive statistics for developed economies (Italy and Spain) for the
time period 2012 to 2017 is shown. As it is shown in the table 3.5 the maximum value
is 1.11 and minimum value is 0.12 and the mean is 0.56 which means 56% of total
assets of the textile firms of developed economies (Italy and Spain) are used external
source of finance. The maximum value of LTD is 0.70, minimum value is 0.00and
mean is 0.18 which means that 18% of textile firm's capital financed by LTD and
standard deviation of LTD is 0.12.The maximum value of STD is 1.00,

minimum value is 0.10, the mean value for STD is 47% which is about more than two

time of long term leverage and value of standard deviation is 0.16

Table 3.5: Descriptive statistics for developed (Italy and Spain) economies for time interval 2012-2017

variables	Mean	Median	Maximum	Minimum	Standard Dev.	No. of Observations
TD	0.56	0.60	1.11	0.12	0.16	360
LTD	0.18	0.16	0.70	0.00	0.12	360
STD	0.47	0.45	1.00	0.10	0.16	360
NDTS	0.04	0.04	0.60	0.01	0.03	360
ROA	0.06	0.05	0.37	-0.19	0.07	360
LIQ	0.67	0.57	3.22	0.06	0.42	360
SIZE	2.80	2.81	2.92	2.67	0.05	360
TANG	0.47	0.46	1.75	0.11	0.21	360
AGE	3.71	3.53	5.52	2.83	0.55	360
Y	0.00	0.00	0.00	0.00	0.00	360

3.6 Correlation Analysis

In multi regression research study, the problem of multicollinearity arises if there is any high correlation present between the independent variables. The analysis which explains the nature of relationship between variables is correlation analysis (Muhammad Shah & Islam, 2014). If the problem of multicollinearity is present in study, then this implies that the coefficients of independent variables (X) such as 1 stays constant and do not make any change in dependent variable Y (Gujarati, 2009). The following are the ways which are used to handle the problem of multicollinearity.

- The first and common way which helps to handle the problem of multicollinearity is by increasing the size of sample of the data of the study.

The standard error of the data reduces by increasing the sample size and which leads to reduce the problem of multicollinearity.

- The second way is by removing the independent correlated variable from the model the problem of multicollinearity will be reduces.

- The variables which are related to theory but have independently correlated with other variables can be used by making new proxies with the help of different

3.7 Research Questions

The research includes main question:

1. What are the main factors that affect the capital structure decision making of selected textile corporations in two different group economies; developing (Pakistan and India) and developed (Italy and Spain) ?

3.8 Model Specification and Regression Analysis

The variables used in this study are introduced and explained in the previous section. There are total of 13 variables in this study, out of which three dependent variables (TD, LTD and STD) and ten independent NDTS, LIQ, SIZE, TANG, ROA, AGE and level of income are independent variables. The model used in this study is panel regression model, which is generally expressed as follows

$$Y_{it} = \alpha + \beta \, X_{it} + \mu_{it} \ , \text{i=1, 2, 3...} \tag{3.1}$$

In above equation,Y_{it} is the dependent variable i at time t, α is the intercept,β is the slope of line or coefficient, X_{it} shows the dependent variable i at time t, and μ_{it} is the error term. On the bases of more than one independent and dependent variables the model uses in this study is multi linear regression model and data is panel data. The multiple regression models for the research question are as follows:

$$TD_{it} = \alpha + \beta_1 \text{ ROA} + \beta_2 \text{ NDTS} + \beta_3 \text{ LIQ} + \beta_4 \text{ SIZE} + \beta_5 \text{ AGE} + \beta_6 \text{ TANG} + \mu_{it}$$

(3.2)

$$LTD_{it} = \alpha + \beta_1 \text{ ROA} + \beta_2 \text{ NDTS} + \beta_3 \text{ LIQ} + \beta_4 \text{ SIZE} + \beta_5 \text{ AGE} + \beta_6 \text{ TANG} + \mu_{it}$$

(3.3)

$$STD_{it} = \alpha + \beta_1 \text{ ROA} + \beta_2 \text{ NDTS} + \beta_3 \text{ LIQ} + \beta_4 \text{ SIZE} + \beta_5 \text{ AGE} + \beta_6 \text{ TANG} + \mu_{it}$$

(3.4)

$$TD_{it} = \alpha + \beta_1 \text{ ROA} + \beta_2 \text{ NDTS} + \beta_3 \text{ LIQ} + \beta_4 \text{ SIZE} + \beta_5 \text{ AGE} + \beta_6 \text{ TANG} + \beta_7 Y + \mu_{it}$$

(3.5)

$$LTD_{it} = \alpha + \beta_1 \text{ ROA} + \beta_2 \text{ NDTS} + \beta_3 \text{ LIQ} + \beta_4 \text{ SIZE} + \beta_5 \text{ AGE} + \beta_6 \text{ TANG} + \beta_7 Y + \mu_{it}$$

(3.6)

$$STD_{it} = \alpha + \beta_1 \text{ ROA} + \beta_2 \text{ NDTS} + \beta_3 \text{ LIQ} + \beta_4 \text{ SIZE} + \beta_5 \text{ AGE} + \beta_6 \text{ TANG} + \beta_7 Y + \mu_{it}$$

(3.7)

The method we have used in this study is ordinary pooled least square method which helps to remove the heterogeneity used in this study. The intercept and slop are equally assumed to be same for all companies used in this research.

3.9 Research Hypothesis

3.9.1 Research hypothesis for question

The research hypotheses to answer the research question, Alternate hypothesis are as follows,

1. The relationship between the profitability (ROA) and TD, LTD and STD is negatively and also positively significant.

2. The relationship between the non-debt tax shield (NDTS) and TD, LTD and STD is negatively significant.

3. The relationship between the liquidity (LIQ) and TD, LTD and STD is positively and also negatively significant.

4. The relationship between the size of the firms and TD, LTD and STD is positively significant.

5. The relationship between the age of the firms and TD, LTD and STD is negatively and also positively significant.

6. The relationship between the tangibility and TD, LTD and STD is positively significant.

7. Income level (Y) effects the capital structure decisions of textile firms of both the groups of economies positively.

3.10 Data Analysis and Technique

The technique to analysis the data first it starts with descriptive statistics in order to see the statistical behaviour of the data by calculating mean , minimum, maximum and standard deviation of the data which help to forecast the data. Then for the panel data the techniques which are used in this thesis are pooled least square and robust fixed effect.

The pooled least square method assumed that firms have same characteristics. The panel data is consists of both cross section and time series so the pooled OLS method ignores the nature of data. This method does not distinguish between the firms used for this research. The pooled OLS method ignores the heterogeneity problem and assumed that it is not present among the firms used which is not possible in real events. (Watson, 2011).

The analysing technique which is used to analyse the change in a variable over the time is fixed effect method. All the firms which are used in this research have different intercept value and this method also deals with the problem of heterogeneity. In fixed effect method, it is assumed that the slope of all the companies do not change as the time passes. (Wooldridge, 2010).

22

The data and the methodology which is used in this research are discussed in this chapter. The model and hypothesis according to the research questions are also presented in this chapter. The regression techniques and the methods which are used for the data analysis have also been introduced in this chapter; in the next chapter the outcomes of correlation, ordinary least square and fixed effect method results will be explained.

Chapter 4

EMPIRICAL RESULTS

In this chapter correlation and regression analysis for this research data are presented and discussed. The results will also be compared with other research studies. To estimate the effects on firm's capital structure in both developed and developing economies, data obtained from the Orbis database has been used. The data of the study consists of 120 textile sector firms from two economies at different stage of development. There are 30 companies from each country's textile sector for the period of 2012 to 2017; the data is balanced panel data with 720 observations.

4.1 Correlation Analysis

The analysis which is used to test the problem of multicollinearity is known as correlation analysis. In multi regression research study the problem of multicollinearity arises if there is high correlation present between the independent variables.

The multicollinearity problem arises when the correlation results are higher than 0.8 (Lewis-Beck, 1993). To see whether there is any multicollinearity problem exists the results of correlation analysis are shown in Table 4.1.

Table 4. 1: Correlation matrix for the time period 2012 to 2017

	TD	LTD	STD	NDTS	ROA	LIQ	SIZE	TANG	AGE	Y
TD	1									
LTD	0.583***	1								
STD	0.635***	-0.160**	1							
NDTS	0.039	0.170**	-0.148**	1						
ROA	-0.476***	-0.408***	-0.153**	0.033	1					
LIQ	-0.431***	-0.160	-0.291***	-0.172	0.147**	1				
SIZE	0.068	0.264***	-0.222***	0.204***	-0.016	-0.30***	1			
TANG	-0.077	0.093	-0.210***	0.137**	-0.012	-0.119**	0.238***	1		
AGE	0.077	0.008	0.052	-0.071	-0.128**	-0.092	0.048	-0.026	1	
Y	0.114**	0.314***	-0.201	0.167**	-0.060	-0.316***	0.914	0.288***	0.003	1

Significance level of coefficients at α = 10%, 5% and 1% shows by *, **, and *** respectively.

As it is showing in above table 4.1 all the coefficients below than 0.8.so its means there is no multicollinearity between the independent variables (Lewis-Beck, 1993). From table 4.1 as expected the non-debt tax shields (NDTS) and size has significant positive relation with TD and LTD. Tangibility is negatively correlated with Total Debt and Short term debt. The ROA has negative relation with size, tangibility, age, level of income.

4.2 Outcomes of Regression Analysis

The results of pooled ordinary least square regression analysis which are discussed in chapter 3 are shown in the following tables 4.2 and 4.3. From Table 4.2 OLS regression analysis for both the groups of economies shows, the OLS regression analysis for total debt (TD); the value of R square for the model before adding income in the model is 0.3787. It means that 37.87% of variations in independent variables explained by total debt (TD). The value of R square changes after adding income level (Y) in model is 0.3827 which is not enough. The prob. value of F statistics is 0.000 which tells that model is good enough to make decisions.

For long term debt (LTD), R square is 0.2529; firm's specific independent variables explain 25.29% of dependent variable which is long term debt. The value of R square change after adding income level in model is 0.2716. The prob. value of F statistics is 0.000 which tells that the model is good enough to make decision. For short term debt (STD); the R square is 24.61% this number is very small. The value of R square after adding income level (Y) is 24.67%. The prob. value of F statistics is 0.000.

Table 4.3 shows the OLS regression analysis for groups of developing (Pakistan and India) and developed (Spain and Italy) economies. For group of developing

economies; for total debt (TD) the value of R square for the model is 0.4557. It means that 45.57% of variations in independent variables explained by total debt (TD). The prob. value of F statistics is 0.000 which tells that model is good enough to make decisions. For long term debt (LTD), R square is 0.2347; independent variables explain 23.47% of dependent variable which is long term debt. The prob. value of F statistics is 0.000 which tells that the model is good enough to make decision. For short term debt (STD); the R square is 25.29% this number is very small. The prob. value of F statistics is 0.000.

For group of developed economies; for total debt (TD) the value of R square for the model is 0.4364. It means that 43.64% of variations in independent variables explained by total debt (TD). The prob. value of F statistics is 0.000 which tells that model is good enough to make decisions. For long term debt (LTD), R square is 0.1785; independent variables explain 17.85% of dependent variable which is long term debt. The prob. value of F statistics is 0.000 which tells that the model is good enough to make decision. For short term debt (STD); the R square is 25.71% this number is very small. The prob. value of F statistics is 0.000.

For both groups of economies; results of fixed effect panel least square for total debt is shown in Table 4.4. The value of R square for the total debt is 85.66%. It shows that the independent variables explain 85.66% of the dependent variable which is total debt. The prob. value if F-statistics is 0.000, meaning it is a good model.

 For long term debt (LTD), the R square is 75.67%. It explains that independent variables explain 75.67% of dependent variable which is long term debt. The prob. value if F-statistics is 0.000, meaning it is a good model.

For short term debt (STD), R square is 77.49%. It implies that independent variables explain 77.49% of the dependent variable which is long term debt. The prob. value if F-statistics is 0.000, meaning it is a good model. Overall the value of R square is good in fixed effects regression analysis.

Table 4.5 shows fixed effect panel least square for groups of developing (Pakistan and India) and developed (Spain and Italy) economies. For group of developing economies; the value of R square for the total debt is 85.66%. It shows that the independent variables explain 85.66% of the dependent variable which is total debt. The prob. value if F-statistics is 0.000, meaning it is a good model.

 For long term debt (LTD), the R square is 75.85%. It explains that independent variables explain 75.85% of dependent variable which is long term debt. The prob. value if F-statistics is 0.000, meaning it is a good model.

 For short term debt (STD), R square is 77.62%. It implies that independent variables explain 77.62% of the dependent variable which is long term debt. The prob. value if F-statistics is 0.000, meaning it is a good model. Overall the value of R square is good in fixed effects regression analysis.

For group of developed economies; the value of R square for the total debt is 72.93%. It shows that the independent variables explain 72.93% of the dependent variable which is total debt. The prob. value if F-statistics is 0.000, meaning it is a good model.

For long term debt (LTD), the R square is 61.62%. It explains that independent variables explain 75.85% of dependent variable which is long term debt. The prob. value if F-statistics is 0.000, meaning it is a good model.

For short term debt (STD), R square is 60.17%. It implies that independent variables explain 60.17% of the dependent variable which is long term debt. The prob. value if F-statistics is 0.000, meaning it is a good model. Overall the value of R square is good in fixed effects regression analysis.

Table 4. 2: OLS Regression Analysis for both groups of economies for the time period of 2012 to 2017

OLS	TD		LTD		STD	
	Coefficients	Coefficients	Coefficients	Coefficients	Coefficients	Coefficients
ROA	-0.844***	-0.831***	-0.544***	-0.512***	-0.227***	-0.233***
	(-14.1)	(-13.89)	(-12.55)	(-12.17)	(-2.9799)	(-3.044)
NDTS	0.066	0.1033	0.568***	0.621***	-1.002***	-1.019***
	(0.32)	(0.513)	(3.882)	(4.282)	(-3.8979)	(-3.9477)
LIQ	-0.071***	--0.0704***	-0.001	0.000	-0.086***	-0.086***
	(-12.3)	(-12.06)	(-0.334)	(0.079)	(-11.560)	(-11.576)
SIZE	-0.028	-0.1889**	0.165***	-0.064	-0.3523***	-0.2796***
	(-0.79)	(-2.283)	(6.361)	(-1.088)	(-7.7186)	(-2.6379)
AGE	-0.003	-0.0014	-0.008	-0.004	0.0006	-0.0005
	(-0.48)	(-0.173)	(-1.409)	(-0.796)	(0.0584)	(0.0515)
TANG	-0.088***	-0.0967***	0.005	-0.007	-0.144***	-0.1408***
	(-4.16)	(-4.504)	(0.340)	(-0.459)	(-5.3544)	(-5.1175)
Y		0.0614**		0.088***		0.0278***
		(2.149)		(4.278)		(0.7593)
R-Square	0.3787	0.3827	0.2529	0.2716	0.2461	0.2467
F-Static Prob.	0.000	0.000	0.000	0.000	0.000	0.000

At $\alpha = 10\%$, 5% and 1% the coefficients are statistically significant shows by *, **, and *** respectively. . In brackets the value of t statistic is shown.

Table 4. 3: OLS Regression Analysis for group of developing economies and developed economies for the time period of 2012 to 2017

OLS	For Group of Developing Economies			For Group of Developed Economies		
	TD	LTD	STD	TD	LTD	STD
	Coefficients	Coefficients	Coefficients	Coefficients	Coefficients	Coefficients
ROA	-1.085***	-0.544***	-0.227***	-0.9150***	-0.524***	-0.2464**
	(-11.57)	(-12.55)	(-2.9799)	(-9.603)	(-5.971)	(-2.342)
NDTS	0.2013	0.568***	-1.002***	0.1364	0.517***	-0.5167**
	(0.927)	(3.882)	(-3.8979)	(0.6852)	(2.819)	(-2.342)
LIQ	-0.126***	-0.001	-0.086***	-0.1250***	0.008	-0.1575***
	(-7.206)	(-0.334)	(-11.560)	(-7.6667)	(0.558)	(-8.747)
SIZE	0.734***	0.165***	-0.3523***	0.9697***	0.646***	0.1416
	(4.522)	(6.361)	(-7.7186)	(6.2637)	(4.535)	(0.828)
AGE	-0.022	-0.008	0.0006	-0.0276**	-0.002	0.0067
	(-1.506)	(-1.409)	(0.0584)	(-2.0314)	(-0.231)	(0.452)
TANG	-0.009	0.005	-0.144***	-0.0095	0.052*	-0.079**
	(-0.255)	(0.340)	(-5.3544)	(-0.2953)	(1.754)	(-2.212)
R-Square	0.4557	0.2347	0.2590	0.4364	0.1785	0.2571
F-Static Prob.	0.000	0.000	0.000	0.000	0.000	0.000

At α = 10%, 5% and 1% the coefficients are statistically significant shows by *, **, and *** respectively. . In brackets the value of t statistic is shown.

Table 4. 4: Fixed Effect Panel Least Square for both groups of economies for the time period of 2012 to 2017

Fixed Effect	TD	LTD	STD
	Coefficients	Coefficients	Coefficients
ROA	-0.593***	-0.358***	-0.145**
	(-11.11)	(-7.546)	(-1.812)
NDTS	0.025	0.313***	-0.465**
	(0.181)	(2.479)	(-2.189)
LIQ	-0.051***	0.002	-0.086***
	(-9.062)	(0.569)	(10.013)
SIZE	0.544***	0.281	0.392
	(2.741)	(1.594)	(1.317)
AGE	-0.035	0.007	-0.031
	(-1.052)	(0.232)	(-0.609)
TANG	-0.034	0.026	-0.129***
	(-1.573)	(1.351)	(-3.970)
R-Square	0.8651	0.7567	0.7749
F-Static Prob.	0.000	0.000	0.000

At α = 10%, 5% and 1% the coefficients are statistically significant shows by *, **, and *** respectively. . In brackets the value of t statistic is shown.

Table 4. 5:Fixed effect panel least square Regression Analysis for group of developing economies and developed economies for the time period of 2012 to 2017

Fixed Effect	For Group of Developing Economies			For Group of Developed Economies		
	TD	LTD	STD	TD	LTD	STD
	Coefficients	Coefficients	Coefficients	Coefficients	Coefficients	Coefficients
ROA	-0.920***	-0.551***	-0.387***	-0.902***	-0.568***	-0.284**
	(-9.997)	(-6.443)	(-3.578)	(-8.202)	(-5.680)	(-2.218)
NDTS	0.038	0.172	-0.212	-0.029	0.254	-0.414**
	(0.256)	(1.246)	(-1.210)	(-0.161)	(1.527)	(-1.936)
LIQ	-0.075***	0.021)	-0.107***	-0.110***	0.031**	-0.162***
	(-4.323)	(1.344)	(-5.204)	(-5.916)	(1.843)	(7.4526)
SIZE	0.025	-0.225	0.632	0.791**	-0.189	1.271***
	(0.069)	(-0.666	(1.475)	(2.586)	(-0.682)	(3.560)
AGE	-0.092	-0.100	-0.068	-0.030	-0.033**	0.037*
	(-1.178)	(-1.375)	(-0.726)	(-1.649)	(-1.953)	(1.739)
TANG	-0.104**	-0.020	-0.078	-0.033	0.019	-0.074
	(-2.027)	(-0.424)	(-1.301)	(-0.829)	(0.538)	(-1.618)
R-Square	0.8566	0.7585	0.7562	0.7293	0.6162	0.6017
F-Static Prob.	0.000	0.000	0.000	0.000	0.000	0.000

At α = 10%, 5% and 1% the coefficients are statistically significant shows by *, **, and *** respectively. . In brackets the value of t

statistic is shown

4.3 Determinants of Capital Structure and Leverage

The relationship between independent variables and dependent variables (TD, LTD and STD) will be discussed here. Under this section empirical results of other studies and theories also examined.

4.3.1 Profitability (ROA)

Profitability is one of the important determinants of the firm's capital structure The results of profitability (ROA) which are shown in table 4.2 and 4.3 is statistically significant and negatively related to total debt (TD), long term debt (LTD) and short term debt (STD).

According to results of fixed effect panel least square from table 4.4 and 4.5 as it was expected ROA is negatively significant with total debt (TD), long term debt (LTD) and short term debt (STD). According to (Myers & Majluf, 1984) pecking order theory explains that profitability and leverage of a firm's are negatively correlated and thus the reason that profitable companies are less concerned about external finance.

However similar results of negative relationship between profitability and firms leverage explained by (Shyam-Sunder & Myers, 1999) (Harris & Raviv, 1991)((Lemmon Roberts & Zender, 2008) (Rajan & Zingales, 1995) (Gaud et al., 2005) (Fama & French, 2002) (Hovakimian & Li, 2011).

4.3.2 Non Debt Tax Shield (NDTS)

In table 4.2 there is positive significant relation between NDTS and long term debt (LTD) but have negatively significant relation with short term debt (STD). According to table 4.3 for developing and developed group of economies there is positive significant relation between NDTS and long term debt (LTD) but have negatively significant relation with short term debt (STD).

According to results of fixed effect panel least square from table 4.4 as it was expected NDTS has significant positive relation with long term debt (LTD) but have significantly negative relation with short term debt (STD). According to table 4.5 for developing and developed group of economies there is positive significant relation between NDTS and long term debt (LTD) but have negatively significant relation with short term debt (STD).

The significant determinant of a firm's capital structure has blended interaction between leverage and tax. Some studies explain that relationship between them is negative (Esperanca et al., 2003) (Fama & French, 2002) (Titman & Wessels, 1988) (Vivian, 2008) (Wald, 1999). The trade-off theory is consistent with the inverse relationship between leverage and NDTS which explains that companies with higher NDTS assumed to have minimum balance of debt which also influence payments of interest. Due to the positive correlated relation between firm's capital structure and non-debt tax shield (Hovakimian & Li, 2011) (Green et al, 2001) (Harris & Raviv, 1991) (Moore, 1986) state that firms hold tangible assets as debt security.

4.3.3 Liquidity

The results OLS regression analysis for both group of economies are shown in table 4.2 which explained liquidity is negatively correlated to total debt (TD) and short term debt (STD). For both developing and developed economies Table 4.3 shows there is a negative relationship with total debt (TD) and short term debt (STD)

According to results of fixed effect panel least square from Table 4.4 there is negative relationship between liquidity, total debt (TD) and short term debt (STD). For both developing and developed economies table 4.5 shows there is a negative relationship with total debt (TD) and short term debt (STD)

The inverse relationship between leverage and liquidity such as liquidity of firm increases, firms go less towards issuing of debt. This is also empirically explained by the (Abdullah, 2005). The inverse relation also supports by peeking order theory which explains that as firm's liquidity increases the firms more towards internal financing.

4.3.4 Size

According to the Table 4.2 the results of size are shown as size is positively significant with total debt (TD) after adding income level in the model. The size and long term debt (LTD) is positively related and it's significant before adding income level in the model. Short term debt (STD) is negatively significant to size.

From Table 4.3 for group developing economies size is positively significant with total debt (TD) and long term debt (LTD). Short term debt (STD) is negatively significant to size. For group developed economies size is positively significant with total debt (TD) and long term debt (LTD).

According to results of fixed effect panel least square from Table 4.4, 4.5 shows that there is positive significant relation between size and total debt (TD). Furthermore in developed economies (Italy and Spain) size is positively significant with total debt and short term debt.

The trade-off theory explained that the tendency of default decreases with the increase of size of firm because it is more diversified in taking risk. The chances of asymmetric information and its interrelated cost is less in big size companies. According to Peeking order theory the large firms are more towards the internal financing (Frank & Goyal, 2009).The empirical results of positive relation of debt and size are also similar in studies of (Deesomsak Paudyal & Pescetto, 2004) (Elayan & Maris, 1990) (Hovakimian & Li, 2011) (Dessi & Robertson, 2003) (Singh & Nejadmalayer, 2004) (Cassar & Holmes, 2003). The inverse relation between STD and firm size shows that smaller size companies prefer short term debt and face more difficulties to get long term debt (LTD) (Michaelas et al., 1999) (Vieira & Novo, 2010).

4.3.5 Age

According to the Table 4.3OLS regression analysis shows there is negative significant relation between age and total debt (TD), long term debt (LTD) in group of developed economies and insignificant with long term debt(LTD) and short term debt (STD). From Table 4.5 the fixed effect panel least square analysis for developed economies

shows that there is negative significant relationship between age and total debt (TD) and positive significant with short term debt (STD).

The inverse relation between leverage and age is consistent in UK studies of SME's (Michaelas et al., 1999) (Hal et al., 2004). The positive relation between debts and age is explained by (Hal et al., 2004) for different countries like Ireland, UK, Spain, and Netherlands.

4.3.6 Tangibility

The ratio between fixed assets and total assets is known as assets tangibility. We meant property plant and equipment as fixed assets. According to table 4.2, there is negatively significant relation between tangibility and total debt (TD). There is a significant negative relation between short term debt (STD) and tangibility. According to Table 4.3 for group of developing economies there is negatively significant relationship between short term debt (STD) and tangibility. For group of developed economies there is positive relation with tangibility and long term debt (LTD) and negative with short term debt (STD).

According to the results of fixed effect panel least square from tale 4.4, there is a significant negative relation between short term debts (STD). Table 4.5 shows that for group of developing economies there is negative significant relationship between tangibility and total debt.

According to (Abu Mouamer, 2011) the firms issue more debt to invest in risky projects in order to earn more profit. Some studies explain that tangibility and firms leverage are positively correlated (Harris & Raviv, 1991) (Rajan & Zingales, 1995)

but on the other hand there is negative relationship between them (Titman & Wessels, 1988). Moreover it is implies that the firms are more investing in fixed assets. The research studies on corporations of Pakistan, Turkey, Brazil and India shows that the relation between tangibility and leverage is negative. Overall tangibility gives less negative impact rather than positive (Booth et al., 2001).

4.3.7 Income level

Dummy variables for Income level of developing and developed economies (1, 0) are presented in order to explain the hypothesis. As it is shown in table 4.2 income level is positively significant with leverage in all confidence intervals which implies that as the income level of the countries increases the firms prefer debt financing.

4.4 Summary

The results of regression analysis with ordinary least square and fixed effects model are discussed in this chapter. The empirical results of consistence theories are also discuss. As results show profitability (ROA) has a negative relationship with debt. Non-debt tax shield (NDTS), size, is positively correlated with total debt and long term debt conversely negative with STD. Liquidity and tangibility is negatively related with total debt(TD) and STD. income level have positive relationship with short term debt(STD),long term debt (LTD) and total debt (TD) . In group of developed economies size, liquidity, profitability and NDTS are more influential while on the other hand in group of developing economies size and profitability and NDTS play more important role on capital structure decisions.

Chapter 5

CONCLUSION

This study examines the effects of determinants of capital structure of textile firms in two different groups of economies. The textile sector play important role in countries economy because this sector is key industrial sector in these economies. The study chose 120 firms from textile sector, 30 firms being from each country for the period of 2012 -2017. According to descriptive analysis 53.3% of total assets of the textile firms of both the economies are depend on debt and others on equity. 13.9% of textile firm's capital is long term debt (LTD) and short term debt (STD) is 50.3% which is about more than three time of long term leverage. It is implies that textiles firms in both group of economies prefer to give short term debt, However results on descriptive analysis are similar to (Hal et al., 2004) and (Abor, 2008). In addition OLS regression analysis and fixed effect model have been applied to test all the variables.

The results of estimation demonstrate that liquidity, profitability, size, NDTS, and income level are significant determinants of capital structure in both the group of economies. Furthermore it could be sum up as in developed economies; size, liquidity, profitability and NDTS are more influential while on the other hand in group of emerging economies size and profitability and NDTS are more important. This study chose the period of 6 years. Further studies can get more comprehensive results by adding more years.

REFERENCES

Abdullah. (2005). Abdullah, A. K. (2005). Capital structure and debt maturity: evidence from listed companies in Saudi Arabia.

Abor. (2008). Abor, J. (2008). Determinants of the capital structure of Ghanaian firms.

Abu Mouamer, F. M.-l.-2. (2011). Abu Mouamer, F. M. (2011). The determinants of capital structure of Palestine-listed companies. The Journal of Risk Finance, 12(3), 226-241.

Aurangzeb & Anwar ul Haq. (2012). Dr. Aurangzeb & Anwar ul Haq, (2012), Determinants of Capital Structure: A case from Textile Industry of Pakistan, International Journal of Academic Research in Business and Social Sciences, April, 2012, Vol. 2, No 4,.

Booth et al. (2001). Booth, L., Aivazian, V., Demirguc-Kunt, A., & Maksimovic, V. (2001). Capital structures in developing countries. The journal of finance, 56(1), 87-130.

Bos and Fetherston. (1993). *Bos, T., & Fetherston, T. A. (1993). Capital structure practices on the specific firm. Research in International Business and Finance, 10(3), 53-66.*

Brealey. (2006). Brealey, R. A., Myers, S. C., & Allen, F. (2006). Corporate Finance: International Edition. McGraw-Hill/Irwin.

Brigham and Houston. (2004). Brigham, E. F., & Joel, F. Houston, 2004,
Fundamentals of Financial Management, 10e. International Student Edition,
Thomson Learning.

Brounen et al. (2006). *Brounen, D., De Jong, A., & Koedijk, K. (2006). Capital
structure policies in Europe: Survey evidence. Journal of Banking & Finance,
30(5), 1409-1442.*

Brounen, D. D.-1., & et al, B. (2006). *Brounen, D., De Jong, A., & Koedijk, K. (2006).
Capital structure policies in Europe: Survey evidence. Journal of Banking &
Finance, 30(5), 1409-1442.*

Buferna et al. (2005). Buferna, F. M., Bangassa, K., & Hodgkinson, L. (2005).
Determinants of capital structure: evidence from Libya (Vol. 8). University of
Liverpool.

Cassar & Holmes. (2003). Cassar, G., & Holmes, S. (2003). Capital structure and
financing of SMEs: Australian evidence. Accounting & Finance, 43(2), 123-
147.

Constantinides. (2003). Constantinides, G. M., Harris, M., & Stulz, R. M. (Eds.).
(2003). Handbook of the Economics of Finance: Corporate finance. Elsevier.

Deesomsak Paudyal & Pescetto. (2004). Deesomsak, R., Paudyal, K., & Pescetto, G.
(2004). The determinants of capital structure: evidence from the Asia Pacific
region. Journal of multinational financial management, 14(4-5), 387-405.

Demirgüç-Kunt & Maksimovic. (1999). Demirgüç-Kunt, A., & Maksimovic, V. (1999). Institutions, financial markets, and firms' choice of debt maturity. The World Bank.

Dessi & Robertson. (2003). Dessí, R., & Robertson, D. (2003). Debt, incentives and performance: Evidence from UK panel data. The Economic Journal, 113(490), 903-919.

Donaldson. (1961). Donaldson Jr, R. J. (1961). Radar reflectivity profiles in thunderstorms. Journal of Meteorology, 18(3), 292-305.

Elayan & Maris. (1990). Elayan, F. A., Maris, B. A., & Maris, J. M. B. (1990). Common stock response to false signals from CreditWatch placement. Quarterly Journal of Business and Economics, 29(3), 16-36.

Esperanca et al. (2003). Esperanca, J. P., Gama, A. P. M., & Gulamhussen, M. A. (2003). Corporate debt policy of small firms: an empirical (re) examination. Journal of small business and enterprise development.

Fama & French. (2002). Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. The review of financial studies, 15(1), 1-33.

Frank & Goyal. (2009). Frank, M. Z., & Goyal, V. K. (2009). Capital structure decisions: which factors are reliably important?. Financial management, 38(1), 1-37.

Gaud et al. (2005). Gaud, P., Jani, E., Hoesli, M., & Bender, A. (2005). The capital structure of Swiss companies: an empirical analysis using dynamic panel data. European Financial Management, 11(1), 51-69.

Gordon. (1989). *Gordon, M. J. (1989). Corporate finance under the MM theorems. Financial Management, 19-28.*

Green et al. (2001). *Prasad, S., Green, C. J., & Murinde, V. (2001). Company financing, capital structure and ownership: a survey and implications for developing countries.*

Greene. (2007). Greene, W.(2007). Econometric Analysis, (6th Ed.). Prentice Hall.

Grossman & Hart. (1988). Grossman, S. J., & Hart, O. D. (1988). One share-one vote and the market for corporate control. Journal of financial economics, 20, 175-202.

Hal et al. (2004). Hall, G. C., Hutchinson, P. J., & Michaelas, N. (2004). Determinants of the capital structures of European SMEs. Journal of Business Finance & Accounting, 31(5-6), 711-728.

Harris & Raviv. (1991). Harris, M., & Raviv, A. (1991). The theory of capital structure. the Journal of Finance, 46(1), 297-355.

Harris, M. &.-3., & Raviv, H. a. (1991). *Harris, M., & Raviv, A. (1991). The theory of capital structure. the Journal of Finance, 46(1), 297-355.*

Hovakimian & Li. (2011). Hovakimian, A., & Li, G. (2011). In search of conclusive evidence: How to test for adjustment to target capital structure. Journal of Corporate Finance, 17(1), 33-44.

Jensen & Meckling. (1976). Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of financial economics, 3(4), 305-360.

Jensen. (1986). Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. The American economic review, 76(2), 323-329.

Jensen, M. C.-3., & Meckling, J. &. (1975). *Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of financial economics, 3(4), 305-360.*

Kayo and Kimura. (2011). Kayo, E. K., & Kimura, H. (2011). Hierarchical determinants of capital structure. Journal of Banking & Finance, 35(2), 358-371.

La Porta, R. L.-d.-S.-5., & et al., L. p. (1999). *La Porta, R., Lopez‑de‑Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. The journal of finance, 54(2), 471-517.*

Lemmon Roberts & Zender. (2008). Lemmon, M. L., Roberts, M. R., & Zender, J. F. (2008). Back to the beginning: persistence and the cross-section of corporate capital structure. The journal of finance, 63(4), 1575-1608.

Lewis-Beck. (1993). Lewis-Beck, M. S. (1993). Regression analysis. SAGE Publications/Toppan Publishing.

Loris & Valeria. (2019). Loris Nadotti, Valeria Vannoni (2019), How Much Is the Financial Structure of Italian Textile SMEs?, Chinese Business Review, Jan. 2019, Vol. 18, No. 1, 37-42.

Masulis. (1988). Masulis, R. W. (1988). The debt/equity choice. Financial Management Assoc.

Michaelas et al. (1999). Michaelas, N., Chittenden, F., & Poutziouris, P. (1999). Financial policy and capital structure choice in UK SMEs: Empirical evidence from company panel data. Small business economics, 12(2), 113-130.

Modigliani, F. &.-2., & Miller, M. &. (1958). *Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. The American economic review, 48(3), 261-297.*

Modigliani, F. &.-4., & Miller, M. &. (1963). *Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: a correction. The American economic review, 53(3), 433-443.*

Moore. (1986). Moore, W. T. (1986). Asset composition, bankruptcy costs, and the firms choice of capital structure. Quarterly Review of Economics and Business, 26(4), 51-61.

Muhammad Shah & Islam. (2014). Muhammad, H., Shah, B., & ul Islam, Z. (2014). The impact of capital structure on firm performance: Evidence from Pakistan. 산경연구논집 (IJIDB), 5(2), 13-20.

Mundlak. (1978). Mundlak, Y. (1978). On the pooling of time series and cross section data. Econometrica: journal of the Econometric Society, 69-85.

Myers. (2001). *Myers, S. C. (2001). Capital structure. Journal of Economic perspectives, 15(2), 81-102.*

Myers, S. C.-2., & Majluf, M. &. (1984). *Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. Journal of financial economics, 13(2), 187-221.*

Ntoung et al. (2016). Ntoung A. T. Lious*, Huarte G. Cecilio, Puime G. Felix (2016) ,CAPITAL STRUCTURE DETERMINANTS: EVIDENCE FROM SPANISH LISTED FIRMS ,Corporate Ownership & Control / Volume13, Issue 4, Summer 2016.

Pandey et al. (2019). Pandey, N. & Mansuri, Babu & Pandey, Meenu & Vasantharajan, S. (2019). A STUDY ON CAPITAL STRUCTURE AND PROFITABILITY: EVIDENCE FROM TEXTILE INDUSTRY IN INDIA. 7. 468-478.

Philip Nwosa. (2018). Philip Ifeakachukwu Nwosa, The Impact of Financial Development on Capital Structure of Firms in Nigeria, Journal of Accounting and Management JAM vol. 8, no.1 (2018).

Rajan & Zingales. (1995). Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. The journal of Finance, 50(5), 1421-1460.

Ramachandran & Madhumathy. (2016). Dr. K.K.Ramachandran, M.Madhumathy, (2016) A STUDY ON CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE OF INDIAN TEXTILE INDUSTRY, International Journal of Management (IJM) Volume 7, Issue 3, March-April 2016, pp.313–322,.

Sabeel & Hanif. (2011). Ahmed, Sabeel & Hanif, Muhammad. (2011). Determinants of Capital Structure in Textile Sector of Pakistan. SSRN Electronic Journal. 10.2139/ssrn.1962277.

Sheikh and Wang. (2011). *Ahmed Sheikh, N., & Wang, Z. (2011). Determinants of capital structure: An empirical study of firms in manufacturing industry of Pakistan. Managerial Finance, 37(2), 117-133.*

Shyam-Sunder & Myers. (1999). Shyam-Sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order models of capital structure. Journal of financial economics, 51(2), 219-244.

Silva and Rêgo Rogão. (2009). Silva Serrasqueiro, Z. M., & Rêgo Rogão, M. C. (2009). Capital structure of listed Portuguese companies: Determinants of debt adjustment. Review of Accounting and Finance, 8(1), 54-75.

Simon & Afolabi. (2011). Simon–Oke, O.O. & Afolabi, B. (2011). Capital structure and industrial performance in Nigeria. (1999-2007). International Business and Management,2(1), pp. 100-106.

Singh & Nejadmalayer. (2004). Singh, M., & Nejadmalayeri, A. (2004). Internationalization, capital structure, and cost of capital: evidence from French corporations. Journal of multinational financial management, 14(2), 153-169.

Smith and Watts. (1992). Smith Jr, C. W., & Watts, R. L. (1992). The investment opportunity set and corporate financing, dividend, and compensation policies. Journal of financial Economics, 32(3), 263-292.

Titman & Wessels. (1988). Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. The Journal of finance, 43(1), 1-19.

Titman. (2002). *Titman, S. (2002). The Modigliani and Miller theorem and the integration of financial markets. Financial Management, 101-115.*

Vieira & Novo. (2010). Vieira, E., & Novo, A. J. (2010). A estrutura de capital das PME: evidência no mercado português. Revista Estudos do ISCA, 4(2), 1-16.

Vivian. (2008). Viviani, J. L. (2008). Capital structure determinants: an empirical study of French companies in the wine industry. International Journal of Wine Business Research, 20(2), 171-194.

Wald. (1999). Wald, J. K. (1999). How firm characteristics affect capital structure: an

international comparison. Journal of Financial research, 22(2), 161-187.

Watson, S. &. (2011). Stock, J. H., & Watson, M. (2011). Dynamic factor models.

Oxford Handbooks Online.

Wooldridge. (2010). Wooldridge, J. M. (2010). Econometric analysis of cross section

and panel data. MIT press.

Zikmund. (2003). *Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2003).*

Business research methods 7th ed. Thomson/South-Western.

APPENDICES

Appendix A: Ordinary Least Square regression Analysis

For Both Groups of Countries

Dependent Variable: TD
Method: Panel Least Squares
Date: 11/01/19   Time: 21:29
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.273555	0.439841	-2.895487	0.0040
ROA	-1.084994	0.093751	-11.57310	0.0000
NDTS	0.201366	0.217257	0.926855	0.3546
LIQ	-0.126256	0.017521	-7.206011	0.0000
SIZE	0.734423	0.162379	4.522894	0.0000
AGE	-0.022730	0.015087	-1.506620	0.1328
TANG	-0.009060	0.035499	-0.255217	0.7987

R-squared	0.455697	Mean dependent var	0.562327
Adjusted R-squared	0.446446	S.D. dependent var	0.179793
S.E. of regression	0.133768	Akaike info criterion	-1.166164
Sum squared resid	6.316556	Schwarz criterion	-1.090601
Log likelihood	216.9095	Hannan-Quinn criter.	-1.136119
F-statistic	49.25606	Durbin-Watson stat	0.396512
Prob(F-statistic)	0.000000		

Dependent Variable: TD
Method: Panel Least Squares
Date: 01/09/20   Time: 16:12
Sample: 2012 2017
Periods included: 6
Cross-sections included: 120
Total panel (balanced) observations: 720

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.167487	0.203573	5.734983	0.0000
ROA	-0.831037	0.059832	-13.88948	0.0000
NDTS	0.103390	0.201473	0.513173	0.6080
LIQ	-0.070489	0.005843	-12.06413	0.0000
SIZE	-0.188907	0.082750	-2.282861	0.0227
AGE	-0.001407	0.008144	-0.172826	0.8628
TANG	-0.096773	0.021486	-4.504085	0.0000
Y	0.061406	0.028568	2.149502	0.0319

R-squared	0.382736	Mean dependent var	0.532733
Adjusted R-squared	0.376667	S.D. dependent var	0.190525
S.E. of regression	0.150422	Akaike info criterion	-0.939694
Sum squared resid	16.11028	Schwarz criterion	-0.888814
Log likelihood	346.2900	Hannan-Quinn criter.	-0.920052
F-statistic	63.06806	Durbin-Watson stat	0.314092
Prob(F-statistic)	0.000000		

Dependent Variable: LTD
Method: Panel Least Squares
Date: 11/01/19   Time: 22:12
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.644698	0.373549	-4.402899	0.0000
ROA	-0.645763	0.079621	-8.110439	0.0000
NDTS	0.442675	0.184512	2.399163	0.0170
LIQ	0.010049	0.014880	0.675352	0.4999
SIZE	0.656619	0.137905	4.761375	0.0000
AGE	-0.007215	0.012813	-0.563097	0.5737
TANG	0.042106	0.030149	1.396624	0.1634

R-squared	0.234749	Mean dependent var	0.179624
Adjusted R-squared	0.221741	S.D. dependent var	0.128778
S.E. of regression	0.113607	Akaike info criterion	-1.492894
Sum squared resid	4.555996	Schwarz criterion	-1.417331
Log likelihood	275.7209	Hannan-Quinn criter.	-1.462849
F-statistic	18.04772	Durbin-Watson stat	0.460824
Prob(F-statistic)	0.000000		

Dependent Variable: LTD
Method: Panel Least Squares
Date: 01/09/20   Time: 16:15
Sample: 2012 2017
Periods included: 6
Cross-sections included: 120
Total panel (balanced) observations: 720

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.297389	0.146629	2.028172	0.0429
ROA	-0.524527	0.043096	-12.17122	0.0000

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NDTS	0.621420	0.145116	4.282226	0.0000
LIQ	0.000331	0.004209	0.078665	0.9373
SIZE	-0.064868	0.059603	-1.088336	0.2768
AGE	-0.004669	0.005866	-0.795958	0.4263
TANG	-0.007099	0.015476	-0.458723	0.6466
Y	0.088024	0.020577	4.277874	0.0000

R-squared	0.271649	Mean dependent var		0.139154
Adjusted R-squared	0.264488	S.D. dependent var		0.126333
S.E. of regression	0.108346	Akaike info criterion		-1.595932
Sum squared resid	8.358007	Schwarz criterion		-1.545051
Log likelihood	582.5355	Hannan-Quinn criter.		-1.576289
F-statistic	37.93576	Durbin-Watson stat		0.435878
Prob(F-statistic)	0.000000			

Dependent Variable: STD
Method: Panel Least Squares
Date: 11/01/19   Time: 22:15
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.020170	0.462693	2.204853	0.0281
ROA	-0.310718	0.098622	-3.150591	0.0018
NDTS	-0.358997	0.228545	-1.570795	0.1171
LIQ	-0.162248	0.018431	-8.802900	0.0000
SIZE	-0.159228	0.170815	-0.932166	0.3519
AGE	0.017259	0.015870	1.087500	0.2776
TANG	-0.066574	0.037343	-1.782760	0.0755

R-squared	0.259081	Mean dependent var		0.466756
Adjusted R-squared	0.246487	S.D. dependent var		0.162108
S.E. of regression	0.140718	Akaike info criterion		-1.064863
Sum squared resid	6.989962	Schwarz criterion		-0.989300
Log likelihood	198.6753	Hannan-Quinn criter.		-1.034818
F-statistic	20.57251	Durbin-Watson stat		0.431190
Prob(F-statistic)	0.000000			

Dependent Variable: STD
Method: Panel Least Squares
Date: 01/09/20   Time: 16:16
Sample: 2012 2017
Periods included: 6
Cross-sections included: 120

Total panel (balanced) observations: 720				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.456171	0.260823	5.582991	0.0000
ROA	-0.233324	0.076658	-3.043683	0.0024
NDTS	-1.019016	0.258132	-3.947660	0.0001
LIQ	-0.086658	0.007486	-11.57588	0.0000
SIZE	-0.279671	0.106022	-2.637865	0.0085
AGE	-0.000538	0.010434	-0.051538	0.9589
TANG	-0.140875	0.027528	-5.117526	0.0000
Y	-0.027791	0.036602	-0.759276	0.4479
R-squared	0.246701	Mean dependent var		0.502510
Adjusted R-squared	0.239295	S.D. dependent var		0.220968
S.E. of regression	0.192724	Akaike info criterion		-0.444062
Sum squared resid	26.44562	Schwarz criterion		-0.393181
Log likelihood	167.8621	Hannan-Quinn criter.		-0.424419
F-statistic	33.31081	Durbin-Watson stat		0.364447
Prob(F-statistic)	0.000000			

For Developing Economies

Dependent Variable: TD				
Method: Panel Least Squares				
Date: 01/09/20 Time: 16:28				
Sample: 2012 2017				
Periods included: 6				
Cross-sections included: 60				
Total panel (balanced) observations: 360				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.273555	0.439841	-2.895487	0.0040
ROA	-1.084994	0.093751	-11.57310	0.0000
NDTS	0.201366	0.217257	0.926855	0.3546
LIQ	-0.126256	0.017521	-7.206011	0.0000
SIZE	0.734423	0.162379	4.522894	0.0000
AGE	-0.022730	0.015087	-1.506620	0.1328
TANG	-0.009060	0.035499	-0.255217	0.7987
R-squared	0.455697	Mean dependent var		0.562327
Adjusted R-squared	0.446446	S.D. dependent var		0.179793
S.E. of regression	0.133768	Akaike info criterion		-1.166164
Sum squared resid	6.316556	Schwarz criterion		-1.090601
Log likelihood	216.9095	Hannan-Quinn criter.		-1.136119
F-statistic	49.25606	Durbin-Watson stat		0.396512
Prob(F-statistic)	0.000000			

```
Dependent Variable: LTD
Method: Panel Least Squares
Date: 01/09/20   Time: 16:30
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360
```

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.644698	0.373549	-4.402899	0.0000
ROA	-0.645763	0.079621	-8.110439	0.0000
NDTS	0.442675	0.184512	2.399163	0.0170
LIQ	0.010049	0.014880	0.675352	0.4999
SIZE	0.656619	0.137905	4.761375	0.0000
AGE	-0.007215	0.012813	-0.563097	0.5737
TANG	0.042106	0.030149	1.396624	0.1634

R-squared	0.234749	Mean dependent var		0.179624
Adjusted R-squared	0.221741	S.D. dependent var		0.128778
S.E. of regression	0.113607	Akaike info criterion		-1.492894
Sum squared resid	4.555996	Schwarz criterion		-1.417331
Log likelihood	275.7209	Hannan-Quinn criter.		-1.462849
F-statistic	18.04772	Durbin-Watson stat		0.460824
Prob(F-statistic)	0.000000			

```
Dependent Variable: STD
Method: Panel Least Squares
Date: 01/09/20   Time: 16:30
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360
```

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.020170	0.462693	2.204853	0.0281
ROA	-0.310718	0.098622	-3.150591	0.0018
NDTS	-0.358997	0.228545	-1.570795	0.1171
LIQ	-0.162248	0.018431	-8.802900	0.0000
SIZE	-0.159228	0.170815	-0.932166	0.3519
AGE	0.017259	0.015870	1.087500	0.2776
TANG	-0.066574	0.037343	-1.782760	0.0755

R-squared	0.259081	Mean dependent var		0.466756
Adjusted R-squared	0.246487	S.D. dependent var		0.162108
S.E. of regression	0.140718	Akaike info criterion		-1.064863

Sum squared resid	6.989962	Schwarz criterion	-0.989300
Log likelihood	198.6753	Hannan-Quinn criter.	-1.034818
F-statistic	20.57251	Durbin-Watson stat	0.431190
Prob(F-statistic)	0.000000		

For Developed Economies

Dependent Variable: TD
Method: Panel Least Squares
Date: 11/02/19   Time: 02:34
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.917691	0.419552	-4.570810	0.0000
ROA	-0.915012	0.095283	-9.603067	0.0000
NDTS	0.136460	0.199132	0.685273	0.4936
LIQ	-0.125095	0.016317	-7.666627	0.0000
SIZE	0.969762	0.154821	6.263743	0.0000
AGE	-0.027621	0.013593	-2.031956	0.0429
TANG	-0.009576	0.032429	-0.295299	0.7679

R-squared	0.436436	Mean dependent var	0.562409
Adjusted R-squared	0.426857	S.D. dependent var	0.162770
S.E. of regression	0.123227	Akaike info criterion	-1.330326
Sum squared resid	5.360256	Schwarz criterion	-1.254763
Log likelihood	246.4588	Hannan-Quinn criter.	-1.300281
F-statistic	45.56178	Durbin-Watson stat	0.798250

Dependent Variable: LTD
Method: Panel Least Squares
Date: 11/02/19   Time: 02:39
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.647525	0.386494	-4.262750	0.0000
ROA	-0.524138	0.087776	-5.971347	0.0000
NDTS	0.517185	0.183441	2.819348	0.0051
LIQ	0.008387	0.015031	0.558008	0.5772
SIZE	0.646847	0.142622	4.535382	0.0000

AGE	-0.002900	0.012522	-0.231557	0.8170
TANG	0.052408	0.029874	1.754311	0.0802

R-squared	0.178596	Mean dependent var	0.175709
Adjusted R-squared	0.164635	S.D. dependent var	0.124201
S.E. of regression	0.113517	Akaike info criterion	-1.494469
Sum squared resid	4.548824	Schwarz criterion	-1.418906
Log likelihood	276.0045	Hannan-Quinn criter.	-1.464424
F-statistic	12.79202	Durbin-Watson stat	0.772994

Dependent Variable: STD
Method: Panel Least Squares
Date: 11/02/19   Time: 02:40
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.227507	0.463198	0.491167	0.6236
ROA	-0.246430	0.105196	-2.342590	0.0197
NDTS	-0.516716	0.219848	-2.350336	0.0193
LIQ	-0.157584	0.018014	-8.747751	0.0000
SIZE	0.141607	0.170928	0.828461	0.4080
AGE	0.006789	0.015007	0.452350	0.6513
TANG	-0.079229	0.035803	-2.212906	0.0275

R-squared	0.257134	Mean dependent var	0.471546
Adjusted R-squared	0.244507	S.D. dependent var	0.156521
S.E. of regression	0.136046	Akaike info criterion	-1.132391
Sum squared resid	6.533530	Schwarz criterion	-1.056828
Log likelihood	210.8303	Hannan-Quinn criter.	-1.102345
F-statistic	20.36444	Durbin-Watson stat	0.864186

Appendix B: Fixed Effect

For Both Groups of Economies

Dependent Variable: TD
Method: Panel Least Squares
Date: 10/30/19   Time: 17:31
Sample: 2012 2017
Periods included: 6
Cross-sections included: 120
Total panel (balanced) observations: 720

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.673826	0.522667	-1.289208	0.1978
ROA	-0.593314	0.053401	-11.11059	0.0000
NDTS	0.025707	0.141995	0.181039	0.8564
LIQ	-0.051927	0.005730	-9.062895	0.0000
SIZE	0.544869	0.198721	2.741874	0.0063
AGE	-0.035841	0.034065	-1.052130	0.2932
TANG	-0.034055	0.021649	-1.573063	0.1162

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.865069	Mean dependent var	0.532733
Adjusted R-squared	0.836675	S.D. dependent var	0.190525
S.E. of regression	0.076998	Akaike info criterion	-2.132453
Sum squared resid	3.521621	Schwarz criterion	-1.331084
Log likelihood	893.6829	Hannan-Quinn criter.	-1.823080
F-statistic	30.46607	Durbin-Watson stat	1.177408
Prob(F-statistic)	0.000000		

Dependent Variable: LTD
Method: Panel Least Squares
Date: 10/30/19   Time: 17:44
Sample: 2012 2017
Periods included: 6
Cross-sections included: 120
Total panel (balanced) observations: 720

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.635741	0.465313	-1.366264	0.1724
ROA	-0.358737	0.047541	-7.545842	0.0000

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NDTS	0.313435	0.126413	2.479450	0.0134
LIQ	0.002859	0.005101	0.560419	0.5754
SIZE	0.281952	0.176915	1.593713	0.1115
AGE	0.007023	0.030327	0.231585	0.8169
TANG	0.026042	0.019273	1.351196	0.1771

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.756767	Mean dependent var	0.139154	
Adjusted R-squared	0.705582	S.D. dependent var	0.126333	
S.E. of regression	0.068549	Akaike info criterion	-2.364918	
Sum squared resid	2.791156	Schwarz criterion	-1.563549	
Log likelihood	977.3706	Hannan-Quinn criter.	-2.055546	
F-statistic	14.78483	Durbin-Watson stat	1.144292	
Prob(F-statistic)	0.000000			

Dependent Variable: STD
Method: Panel Least Squares
Date: 10/30/19   Time: 17:23
Sample: 2012 2017
Periods included: 6
Cross-sections included: 120
Total panel (balanced) observations: 720

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.255473	0.782855	-0.326335	0.7443
ROA	-0.144957	0.079984	-1.812323	0.0704
NDTS	-0.465423	0.212681	-2.188361	0.0290
LIQ	-0.085931	0.008582	-10.01304	0.0000
SIZE	0.392018	0.297647	1.317057	0.1883
AGE	-0.031083	0.051023	-0.609205	0.5426
TANG	-0.128798	0.032426	-3.972022	0.0001

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.774955	Mean dependent var	0.502510	
Adjusted R-squared	0.727597	S.D. dependent var	0.220968	
S.E. of regression	0.115328	Akaike info criterion	-1.324446	
Sum squared resid	7.900519	Schwarz criterion	-0.523077	
Log likelihood	602.8005	Hannan-Quinn criter.	-1.015073	
F-statistic	16.36378	Durbin-Watson stat	1.122473	
Prob(F-statistic)	0.000000			

For Developing Economies

Dependent Variable: TD
Method: Panel Least Squares
Date: 11/01/19   Time: 23:44
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.985408	0.979430	1.006104	0.3152
ROA	-0.920426	0.092067	-9.997335	0.0000
NDTS	0.038179	0.149324	0.255677	0.7984
LIQ	-0.075826	0.017541	-4.322811	0.0000
SIZE	0.025266	0.364816	0.069258	0.9448
AGE	-0.092472	0.078529	-1.177560	0.2399
TANG	-0.104224	0.051404	-2.027525	0.0435

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.856615	Mean dependent var	0.562327	
Adjusted R-squared	0.824914	S.D. dependent var	0.179793	
S.E. of regression	0.075231	Akaike info criterion	-2.172359	
Sum squared resid	1.663962	Schwarz criterion	-1.459906	
Log likelihood	457.0246	Hannan-Quinn criter.	-1.889074	
F-statistic	27.02192	Durbin-Watson stat	1.282908	
Prob(F-statistic)	0.000000			

Dependent Variable: LTD
Method: Panel Least Squares
Date: 11/01/19   Time: 23:45
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.205620	0.910330	1.324377	0.1864
ROA	-0.551335	0.085572	-6.442965	0.0000
NDTS	0.172906	0.138789	1.245823	0.2138
LIQ	0.021917	0.016303	1.344337	0.1799
SIZE	-0.225753	0.339078	-0.665783	0.5061
AGE	-0.100322	0.072988	-1.374497	0.1703

TANG	-0.020239	0.047778	-0.423611	0.6722

Effects Specification				

Cross-section fixed (dummy variables)

R-squared	0.758557	Mean dependent var	0.179624
Adjusted R-squared	0.705176	S.D. dependent var	0.128778
S.E. of regression	0.069924	Akaike info criterion	-2.318685
Sum squared resid	1.437456	Schwarz criterion	-1.606233
Log likelihood	483.3633	Hannan-Quinn criter.	-2.035401
F-statistic	14.21041	Durbin-Watson stat	1.295918
Prob(F-statistic)	0.000000		

Dependent Variable: STD
Method: Panel Least Squares
Date: 11/01/19   Time: 23:32
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.912369	1.151344	-0.792439	0.4287
ROA	-0.387248	0.108227	-3.578105	0.0004
NDTS	-0.212534	0.175534	-1.210785	0.2270
LIQ	-0.107325	0.020620	-5.204962	0.0000
SIZE	0.632520	0.428850	1.474920	0.1413
AGE	-0.068827	0.092312	-0.745586	0.4565
TANG	-0.078629	0.060427	-1.301221	0.1942

Effects Specification				

Cross-section fixed (dummy variables)

R-squared	0.756274	Mean dependent var	0.466756
Adjusted R-squared	0.702388	S.D. dependent var	0.162108
S.E. of regression	0.088436	Akaike info criterion	-1.848930
Sum squared resid	2.299358	Schwarz criterion	-1.136478
Log likelihood	398.8075	Hannan-Quinn criter.	-1.565646
F-statistic	14.03493	Durbin-Watson stat	1.248022
Prob(F-statistic)	0.000000		

For Group of Developed Economies

Dependent Variable: TD
Method: Panel Least Squares
Date: 11/02/19   Time: 02:47
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.400363	0.856910	-1.634200	0.1033
ROA	-0.902278	0.110000	-8.202540	0.0000
NDTS	-0.029492	0.183523	-0.160702	0.8724
LIQ	-0.110782	0.018723	-5.916976	0.0000
SIZE	0.791998	0.306172	2.586773	0.0102
AGE	-0.030744	0.018633	-1.649974	0.1000
TANG	-0.032893	0.039649	-0.829591	0.4074

Effects Specification				

Cross-section fixed (dummy variables)

R-squared	0.729334	Mean dependent var	0.562409
Adjusted R-squared	0.669493	S.D. dependent var	0.162770
S.E. of regression	0.093576	Akaike info criterion	-1.735944
Sum squared resid	2.574400	Schwarz criterion	-1.023491
Log likelihood	378.4699	Hannan-Quinn criter.	-1.452659
F-statistic	12.18784	Durbin-Watson stat	1.633444
Prob(F-statistic)	0.000000		

Dependent Variable: LTD
Method: Panel Least Squares
Date: 11/02/19   Time: 03:01
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.823563	0.778652	1.057677	0.2911
ROA	-0.567791	0.099954	-5.680518	0.0000
NDTS	0.254789	0.166762	1.527858	0.1276
LIQ	0.031354	0.017013	1.842969	0.0663
SIZE	-0.189900	0.278211	-0.682576	0.4954
AGE	-0.033068	0.016931	-1.953075	0.0518

TANG	0.019391	0.036028	0.538219	0.5908

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.616160	Mean dependent var	0.175709
Adjusted R-squared	0.531297	S.D. dependent var	0.124201
S.E. of regression	0.085030	Akaike info criterion	-1.927480
Sum squared resid	2.125656	Schwarz criterion	-1.215027
Log likelihood	412.9464	Hannan-Quinn criter.	-1.644195
F-statistic	7.260671	Durbin-Watson stat	1.496363
Prob(F-statistic)	0.000000		

Dependent Variable: STD
Method: Panel Least Squares
Date: 11/02/19   Time: 03:03
Sample: 2012 2017
Periods included: 6
Cross-sections included: 60
Total panel (balanced) observations: 360

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.056505	0.999632	-3.057631	0.0024
ROA	-0.284680	0.128321	-2.218504	0.0273
NDTS	-0.414666	0.214089	-1.936883	0.0537
LIQ	-0.162773	0.021841	-7.452625	0.0000
SIZE	1.271786	0.357167	3.560765	0.0004
AGE	0.037808	0.021736	1.739416	0.0830
TANG	-0.074878	0.046253	-1.618879	0.1065

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.601665	Mean dependent var	0.471546
Adjusted R-squared	0.513598	S.D. dependent var	0.156521
S.E. of regression	0.109161	Akaike info criterion	-1.427836
Sum squared resid	3.503368	Schwarz criterion	-0.715383
Log likelihood	323.0104	Hannan-Quinn criter.	-1.144551
F-statistic	6.831883	Durbin-Watson stat	1.529170
Prob(F-statistic)	0.000000		