

Determinants of Capital Structure: Evidence from South Asian Emerging Economics

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Abstract: The main aim of this paper is to examine the determinants of the capital structure of non-financial firms of South Asian developing countries (Pakistan, Sri Lanka, and India). A total of 78 Pakistani firms, 279 Indian firms, and 123 Sri Lankan firms were selected for the period of 10 years (2009-2017). Eight different (tangibility, profitability, size, liquidity, NDTs, tax, volatility, and growth) firm-level determinants were used as independent variables, and three different proxies of leverage (long-term debt, short-term debt, and total debt) were used as dependent variables. The paper used panel regression model analysis in examining the capital structure. The key results show that tangibility, profitability, tax, volatility, and NDTs are the main factors in explaining the variation of the selected capital structure. The findings were also similar with predictions of the pecking order, agency cost, and Static trade-off theories which indicate that models of the capital structure of the Western world and modern finance theories are valid for South Asian developing economies. To the best knowledge of the authors, this is the very first study that examines the capital structure determinants of Pakistani firms with a contrast of Sri Lankan and Indian firms by utilizing the most recent data. Also, this paper going to prove that similar factors influence the choice of the capital structure of companies in emerging economies as determined for companies in the developed countries.

Keywords: Capital Structure, Karachi Stock Exchange, Non-debt Tax, Pecking Order Theory, Static Trade-off Theory

JEL classification: C22, G32, O16, O53

1. Introduction

The capital structure of a firm is the specific combination of equity, debt, and other sources of funding that are utilized to finance its long-term and short-term assets. The capital structure's key break-up is between equity and debt. The capital structure of any firm is affected by different factors; moreover, the optimal combination of financing should be determined by

the firm. Although many prior studies emphasize the prime determinants of capital structure, disagreement still exists.

(Myers, 1977; Titman and Wessels, 1988; Wald, 1999; Antoniou *et al.*, 2002; Bevan and Danpolt, 2002) these prior studies were focused on choice of capital structure of developed countries. Though, these findings of previous studies do not lead to a consensus result regarding significant determinants of capital structure. Due to the difference in utilization of short-term debt versus long-term debt or due to industrial differences that exist among developing and developed countries.

Thus, there is still a gap to research on factors which explain and determine how determinants of capital structure affect the decision of capital structure made by companies, for example, comparing the determinants of the capital structure of similar economies. Prior literature that evaluates determinants of the capital structure of companies among different countries had shown different factors. Booth *et al.*, (2001) examine the capital structure in Pakistan, along with other nine countries. Huat (2008) studied Malaysia, Philippines, Indonesia, and Thailand found that growth and profitability significantly affect the capital structure. Another study found a negative relationship between profitability and debt in 25 countries, out of which half of the developed economies Kabir & Jong (2008).

For the first time in Pakistan, Shah and Hijazi (2004) researched determinants of the capital structure of non-financial companies listed on the Karachi stock exchange. This work was a good start, as in Pakistan the researchers neglect this financial topic. Their study was based on six years data, and with revised data set, with a longer set of data and also considering more important variables, that are significant for financial decision making, possibly construct more valuable study.

The current study has been designed to focus on this gap and to determine the firm-level determinants of the capital structure by taking Asian countries (Pakistan, Sri Lanka, and India) in the analysis. The main aim of this research is to identify the key determinates of capital structure and financing pattern of non-financial firms in Pakistan, Sri Lanka and Indian economies. Besides this, also to carry out a comparative analysis of determinates capital structure of these three countries. The contribution and motivation of conducting this study is that lack of common consensus of previous studies of determinant of capital structure particularly Pakistan and not focused on capturing the firm specific factors which affects the capital structure. This study has two major contributions to the literature of determinants of capital structure. First, it take large sample which is not found previously in South Asian context and second, Booth *et al.*, (2001)

conduct research on developed and developing countries combine but this study conduct South Asian countries which are more similar economy which is not found earlier. Moreover, this study will help in diversification of portfolio for the investors and make suggestions for managers, analysts, and the researchers.

2. Literature Review

In this section, different empirical studies from all around the world with the predictions and suggestions of these theories those confirm or the reject each other.

2.1. Evidence form Developed Countries

<i>Authors</i>	<i>Study Scope</i>	<i>Methodology</i>	<i>Results</i>
(Deesomsak, Paudyal, & Pescetto, 2004)	Malaysia, Singapore, Australia, Thailand 1993-2000	OLS	Tangibility (+)*, Profitability (-)*, Size (+)*, NDTs (-)*, Liquidity (-)*, Growth (-)*
(Mateus, 2006)	16 European countries 1994-2004	Pooled Regression,	Tangibility(+)*, Size (+)*, profit(-)*, Growth(+)*,
(Jong, Kabir, & Nguyen, 2008)	42 developing and developed countries 1997-2001	OLS, Pooled OLS Regression	Mixed results for all countries
(Fan, Titman, & Twite, 2012)	39 Developing and developed countries (including Pakistan & India) 1991-2006	GMM, OLS, Pooled OLS, Fixed Effect	Mixed results for all countries
(Song, 2004)	1994-2002, 30 OECD member countries	Cross-sectional, OLS, Pooled, Fixed Effect Regression	Profit(-)*, NDTs(-)*, Growth(-)*, Size(+)*,
(Psillaki & Daskalakis, 2010)	Greek, French, Italian, Portuguese	Pooled EGLS, Fixed Effect	Mixed results for all 4 countries
(Rajan and Zingales 1995)	Japan, France, US, UK, Germany and Canada	Tobit, OLS	Tangibility (+), Profitability(-)
(Öztekin, 2015)	37 Countries 1991-2006	Pooled methodology	Mixed results for all countries
(VIVIANI, 2003)	303 French Companies 2000-2003	OLS (Stepwise Regression	Profitability(-)*, Tangibility(+)*, NDTs(-)*, Risk(-)*
(BAUER, 2004)	72 Czech companies 2000-2001	OLS	Size(+)*, Profitability(-)*, Tangibility(-)*, Tax(+)*, NDTs(-)*, VOLTY(+)*, Growth(-)*
(Fauzi, Basyith, & Idris, 2013)	79 New Zealand companies 2007-2011	OLS, 2SLS, dynamic panel (IV-GMM)	Tangibility(-)*, NDTs(-)*, Profitability(-)*, Growth(+)*, Size(-)*
(Chen, 2003)	88 Chinese companies 1995-2000	Pooled OLS, Fixed, Random Effect Regression	Profitability(-)*, Size(-)*, Growth(+)*, Tangibility(+)*, NDTs(-)*,
(Frank & Goyal, 2009)	US companies 1950-2003	OLS, Linear Regression	Tangibility(+)*, Profitability(-)*, Growth(-)*, Tax(-)*, Size(+)*, Risk(-)*
(Vergas, Cerqueira, & Brandão, 2015)	41 Portugal companies 2005-2012	Fixed Effect Regression, OLS	Tangibility(+)*, Profitability(-)*, NDTs(-)*, Size(+)*,

(*) means insignificant, (s) significant result, (+) positive result, (-) negative result

2.3. Evidence from Developing Countries

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Authors	Study Scope	Methodology	Results
(Hadi, Hamad, & Suryanto, 2016)	63 Palestine, Egypt companies 2008-2012	GMM, Pooled OLS	Liquidity(-)*, Size(-)*, Tangibility(+), NDTs(-)*, Profitability(-), Growth(+)*,
(BOOTH, <i>et al.</i> , 2001)	10 developing countries 1980-1990 (including India, Pakistan)	Fixed Effects, Pooled OLS Regression	Mixed results for all countries
(Bas, Muradoglu, & Phylaktis, 2009)	25 Developing countries from 5 regions 2003 Including Pakistan, Bangladesh, Sri Lanka, India)	OLS, Fixed Effects Regression	Tangibility(-)*, Profitability(-)*, Growth(+)*, TAX(+)*, Small Size(-)* Large Size (+)*
(Mursalim, M, & Kusuma, 2017)	Thailand, Malaysia, Indonesia 2008-2012	Partial Least Square	Profitability(-)*, Size(+)*, Growth(+)*, VOLTY(-)*,
(Handoo & Sharma, 2014)	870 Indian companies 2001-2010	Multiple Regression,	Profitability(-)*, Growth(+)*, Tangibility(+)*, Size(-)*, Liquidity(+)*, Tax(-)*
(Kusi, Yensu, & Aggrey, 2016)	7 Ghana Banks 2005-2012	Fixed Effect, Random Effect Regression	Profitability(-)*, Tangibility(+)*, Size(+)*, Growth(+)*, Tax(+)*
(Baral, 2004)	40 Nepalese companies 2003	Multiple Regression	Size(+)*, Risk(+)*, Growth(+)*,
(Pandey, 2000)	106 Malaysian companies 1984-1999	Pooled OLS, Fixed Effect, OLS Regression	Growth(+)*, Profit(-)*, Risk(+)*, Size(+)*, Tangibility (-)*
(Prahalthan, 2008)	19 Sri Lanka companies 2003-2007	Linear Multiple Regression	Tangibility(+)*, Profit (+)*, Size(-)*, NDTs(-)*
(Yusuf, Al-Attar, & Al-Shattarat, 2015)	344 Jordanian companies 2006-2011	Pooled, Random, Fixed Effect Regression	Tangibility(-)*, Size(-)*, NDTs(+)*, Profit(-)*, Liquidity(-)*, Risk(-)*, Growth(+)*
(Salehi & Manesh, 2012)	59 Irani companies 2004-2011	Fixed Effect Regression	Profit(-)*, Growth(-)*, Size(+)*,
(Hossain & Hossain, 2015)	74 Bangladeshi manufacturing companies 2002-2011	Multiple Regression	Profit(-)*, Growth(-)*, Tangibility(-)*, Liquidity(-)*, NDTs(-)*
(Sethi & Tiwari, 2016)	1077 Indian manufacturing companies 2001-2013	OLS, GMM Regression	Profit(-)*, Size(-)*, Tangibility(+)*, Growth(+)*, NDTs(+)*

()* means insignificant, (s) significant result, (+) positive result, (-) negative result

2.4. Evidence from Pakistan

2.4 Evidence from Pakistan

Authors	Study Scope	Methodology	Results
(MAHMUD, 2003)	104 Pakistan, 505 Japan, 109 Malaysia companies 1989-1998	Pooled Regression	Growth(+)*, Size(+)*, Size(-)*, Tangibility(-)*, Profit(-)*
(SHAH & HIJAZI, 2004)	445 Pakistani firms 1996-2001	Pooled Regression	Tangibility(+)*, Size(+)*, Growth(-)*, Profit(-)*
(Hijaz & Tariq, 2006)	22 Cement firms 1997-2001	Pooled Regression	Size(-)*, Profit(-)*, Tangibility(+)*, Growth(+)*

contd. table

<i>Authors</i>	<i>Study Scope</i>	<i>Methodology</i>	<i>Results</i>
(Rafiq, Iqbal, & Atiq, 2008)	26 Chemical firms 1993-2004	Pooled Regression	Profit(-) ^s , Size(+) ^s , NDTs(+) ^s , Tangibility(+) ^s , Growth(+) ^s
(Afza & Hussain, 2011)	22 Automobile, 7 Cable & Electrical, 8 Engineering sectors 2003-2007	Pooled Regression	Mixed results for all industries
(Ali, 2011)	All financial sectors 2003-2008	Fixed Effect, Pooled Regression	Mixed results for all sectors
(Aijaz, 2017)	Domestic Corporations 1999-2013	Pooled Least Square, Fixed Effect Regression	Profit(-) ^s , Size(+) ^s , Growth(+) ^s , Tangibility(+) ^s , NDTs(-) ^s
(Amjad, Bilal, & Tufail, 2013)	26 Banks 2007-2011	Fixed and Random Effect Regression	Size(+) ^s , Tangibility(-) ^s , Profit(-) ^s , Growth(-) ^s , Liquidity(+) ^s
(Awan & Amin, 2014)	68 Textile firms 2006-2012	Pooled, Fixed Effect, Random Effect Regression	Liquidity(+) ^s , NDTs(+) ^s , Profit(-) ^s , Tangibility(+) ^s , Size(-) ^s
(Shah & Khan, 2007)	All non-financial firms 1994-2002	Pooled, Fixed Effect Regression	Tangibility(+) ^s , Size(+) ^s , Growth(-) ^s , Profit(-) ^s , VOLTY(+) ^s , NDTs(-) ^s

(*) means insignificant, (s) significant result, (+) positive result, (-) negative result

From above mention literature it is cleared that there were a lots of studies done in different countries with different models and industrial sectors and inconsistency found in their results in general (developing countries) and in particular (Pakistan). So there is still gap exist to verify their results in the context of developing countries taken recent data and focused on South Asian economies (Pakistan, Sri Lanka and India) which shared similar capital structure. In this study, we focused on firm-specific determinants of capital structure with large sample data sets 78 Pakistani firms, 279 Indian firms and 123 Sri Lankan firms.

3. Research Methodology

3.1. Data and Sample

Current study, used published financial annual reports of the non-financial listed companies, 10 years data from (2008-2017) is used and data collected from web portal of State Bank of Pakistan, firms website and open door website, Business Recorder and Bloomberg. This study has focused on developing economies of South Asia, mainly Pakistan, India and Sri Lanka countries selected for the study because of availability of all variables and industries sectors are all almost same. The sample contains panel data and initially 220, 394, 199 total firms of Pakistan, India and Sri Lanka listed on stock exchange, were selected and after selection of the data, 142, 115, 76 firms were dropped on the basis of not availability of all proxies required for analysis as well as total 10 years of data and remaining 78, 279 and 123 firms were selected for the panel analysis.

3.2. Variables and Hypothesis

The study used the following independent and dependent variables to find out answers of questions of this study.

Leverage

The study used leverage ratio as the dependent variable for the study while finding the determinant of the capital structure. In our study, we used the book value of total assets for measuring leverage in place of market value. The theories of capital structure used long term debt as the measure of the leverage (Jong, et al, 2008). The previous studies done in Pakistan consider long term debt (Rafiq, Iqbal, & Atiq, 2008) another study used long-term debt and total debt. (Irfan, 2011). We used three proxies for leverage I) Total debt II) long-term debt and III) short-term debt. (Shah & Hijazi, 2004) stated that in Pakistan mostly the size of the companies are small and rely on short-term debt and which makes them difficult to reach the capital market in terms of the technical and cost.

Tangibility

A firm having more fixed assets can borrow debt easily at the cheap rate by providing the collateral of those fixed assets. Agency cost exists between shareholders and creditors as company might be make investment in ventures which are riskier after the borrowing as well as might be wealth transfer from the creditor to the shareholders. (Jensen & Meckling, 1976). Therefore, the lower the agency cost, higher the debt which means tradeoff theory predicts positive relation between the tangibility and the debt. Huang & Song, 2006; Margaritis & Psillaki, 2007; Jong, et. at. 2008; Frank & Goyal, 2009; Khrawish & Khraiweh, 2010; Al-Najjar, 2011) argue that the positive relation between tangibility and debt level. As compared, the developing countries results are mixed. (Booth et al, 2001; Bhaduri, 2002) have found negative relation. Huang and song 2006; Shah & Khan, 2007; Yusuf, Al-Attar, & Al-Shattarat, 2015) have found positively significant relationship. So the first hypothesis is that; H_{1a} : Tangibility will have been negative relation with short-term debt.

H_{1b} : Tangibility will have been positive relation with long-term debt.

H_{1c} : Tangibility will have been positive relation with total debt.

Profitability

Profitability is the well-founded dispute between Pecking Order theory and Static Tradeoff Theory. For static tradeoff theory, companies with higher profitability, higher the chances that it would have issuing debt for dropping

the burden of their tax. In contrast, pecking order theory presumes that higher earning leads to increases the main source company decides to cover up financial deficit e.g., retained earnings. Thus static tradeoff theory predicts positive while pecking order theory supposed opposite relation between the profitability and the debt. (Wijst & Thurik, 1993; Adedeji, 1998; Jordan *et al.*, 1998; Michaelas *et al.*, 1999; Chittenden *et al.*, 1996; Huang & Song, 2006) support the negative relationship results while some were supports positive relationship (Chang 1987; Titman and Wessel, 1988; Friend and Hasbrouck, 1988; Wald, 1999; Rajan and Zingales, 1995; Booth *et al.*, 2001; Fama & French, 2002; Chen & Strange, 2005). So the second hypothesis of this study; H_{2a} : Profitability will have been negative relation with short-term debt.

H_{2b} : Profitability will have been negative relation with long-term debt.

H_{2c} : Profitability will have been negative relation with total debt.

Liquidity

Pecking order theory stated that companies mostly have prefer the internal over the external finance; moreover that accessibility of their internal resources is shows by the liquidity. The liquidity of a company's equity have a effect on easiness of a firm could get its exterior capital by offering of stocks. (Weston, Butler, & Grullon, 2005). Additionally, (Graham & Harvey, 2001; Baker & Stein, 2004; Lipson & Mortal, 2009) proposed, liquidity of an asset and stock will change the capital structure of a company because the managers have a reason for raising money through issuing equity relatively to debt. Thus, in accordance to pecking order theory liquidity negatively related with the company's capital structure. Most of the previous empirical studies support this point of view that liquidity and profitability have negative relation with the debt (Rajan & Zingales, 1995; Titman & Wessels, 1988; Friend & Lang, 1988; Kim, Mauer, & Sherman, 1998; Mishra & Tannous, 2010; Guney, Li, & Fairchild, 2011; Akdal, 2011; Sharif, Naeem, & Khan, 2012; Šarlija & Hara, 2012) explain indirect negative relation exist between the liquidity and long-term and short-term debt level. So, the third hypothesis for the study is; H_{3a} : Liquidity will have been negative relation with short-term debt.

H_{3b} : Liquidity will have been negative relation with long-term debt.

H_{3c} : Liquidity will have been negative relation with total debt.

Size

(Rajan & Zingales, 1995) and (Frank & Goyal, 2009) both are support pecking order theory which suggest negative relation of size with leverage because

large companies do not have issue asymmetry information and also issue equity easily as compared to the smaller size companies. For static tradeoff theory proposed that large size companies, more possibilities for debt issuing, result a positive relation between size and the debt. The reason is that large size companies have less chances of the risk of bankruptcy and due to more diversified large companies not much face the bankruptcy, therefore they leveraged more. (Titman & Wessels, 1988). (Shah & Hijazi, 2004; Cheng & Shiu, 2007; Céspedes, *et al.*, 2010; Guney, *et al.*, 2011) also found that size is positively related with leverage. So fourth hypothesis for our study is; H_{4a} : Size will have been negative relation with short-term debt.

H_{4b} : Size will have been positive relation with long-term debt.

H_{4c} : Size will have been positive relation with total debt.

Tax

Tradeoff theory predicts the with high rate of the tax a company use more leverage and thus level of leverage should be high, the reason is that it have more income to protect from tax. (Fama & French, 1998) proved that the debt have no benefit for net tax. While (Auerbac, 1985) and (MacKIE-MASON, 1990) stated that almost everybody considered that taxes necessarily important for the choice of financing, but there was not much emprical support were found. Both studies found substancial effects of tax on choice between the equity and debt issuing; most of studies not find any significant effects. (Graham J. , 1996) concluded that, generally taxes not effect the company's financial decisions and effect is mostly insignificant. So the fifth hypothesis of the study is; H_{5a} : Tax will have been positive relation with short-term debt.

H_{5b} : Tax will have been positive relation with long-term debt.

H_{5c} : Tax will have been negative relation with total debt.

Volatility (Risk)

According to the both theories, tradeoff and pecking order theories, volatility of a company's earning increases the chances of default, the reason is that the holders of debt consider the future earnings of a company as the protection for the leverage. (Mehran, 1992). So, higher the risk of a company have a negative effects on the leverage level of a company. (Subadar, Lamport, & Bhujoo-Hosany, 2010) also find significant negative relation between risk and financial leverage of Mauritius Financial companies. As compare to agency cost theory predict that risk positively related with the debt, the reason is that volatility risk exaggerates the negative infleuence

on the asymmetric information (Schoubben & Hulle, 2004). So the sixth hypothesis for this study is as formulated; H_{6a} : Volatility will have been negative relation with short-term debt.

H_{6b} : Volatility will have been negative relation with long-term debt.

H_{6c} : Volatility will have been negative relation with total debt.

Non Debt Tax Shield

Companies with high level of debt component in capital structure benefits more in shape of tax shield on the payment of interest as payment of interest is an acceptable expense relative to the law of taxation. But, pecking order theory placed first retained earnings and second place the NDTs as preference to the external financing. According to the theory, profitable companies generally have the financial surplus. Literature found mixed results on this issue. (Titman & Wessels, 1988) have found no effects on the relation of NDTs with debt. (Bradley, Jarrell, & Kim, 1984) found strong direct relation of NDTs with leverage. (Chiarella, *et al.*, 1991; Michaelas, *et al.*, 1999; Hall, *et al.*, 2000; and Mira, 2001) support positive relation of short term debt with NDTs, negative relation with long term and the total debt. Accordingly, these prior studies, we formulate seventh hypothesis of the study that higher NDTs in Pakistani companies and thus the investment needs increases, higher the borrowed amount level. H_{7a} : NDTs will have been positive relation with short-term debt.

H_{7b} : NDTs will have been negative relation with long-term debt.

H_{7c} : NDTs will have been negative relation with total debt.

Growth

Tradeoff theory predicts that companies have higher the growth opportunities for future, which are in a shape of intangible assets, to be likely less borrow than those companies who hold more tangible assets, the reason is that growth opportunities cannot be collateralized. Hence, these findings suggest negative relation exist between growth and leverage. Agency theory also suggests negative relation because companies with high growth opportunities have more flexibility for future investments. So, a company is likely to use low leverage in its capital structure. (Ozkan, 2001; Hovakimian, *et al.*, 2001; Daskalakis & Psillaki, 2008) So the eighth hypothesis for growth rate stipulate is;

H_{8a} : Growth will have been positive relation with short-term debt.

H_{8b} : Growth will have been negative relation with long-term debt.

H_{8c} : Growth will have been positive relation with total debt

3.3. Analytical Techniques and Specification

This study used procedures of panel data, following (Booth et al, 2001; Shah & Hujazi, 2004; Shah & Khan, 2007; Irfan, 2011). The panel of this study is measured as typical, that a large units of cross sectional only a small number of periods (10 years). This study constructed two different models Random and Fixed Effect Regression for the panel data analysis of the effects and relationship between financial leverage and firm's characteristics (determinants of capital structure) selected firms. As a result intercept for the each company was different as refer to by β_{0i} in the given equation;

$$TD_{i,t} = \beta_0 + \beta_1(TANG_{i,t}) + \beta_2(PROF_{i,t}) + \beta_3(LQ_{i,t}) + \beta_4(Tax_{i,t}) + \beta_5(SZ_{i,t}) + \beta_6(NDTS_{i,t}) + \beta_7(GTH_{i,t}) + \beta_8(VOLTY_{i,t}) + \varepsilon_{i,t} \text{ Eq (I)}$$

$$LTD_{i,t} = \beta_0 + \beta_1(TANG_{i,t}) + \beta_2(PROF_{i,t}) + \beta_3(LQ_{i,t}) + \beta_4(Tax_{i,t}) + \beta_5(SZ_{i,t}) + \beta_6(NDTS_{i,t}) + \beta_7(GTH_{i,t}) + \beta_8(VOLTY_{i,t}) + \mu_{i,t} \text{ Eq (II)}$$

$$STD_{i,t} = \beta_0 + \beta_1(TANG_{i,t}) + \beta_2(PROF_{i,t}) + \beta_3(LQ_{i,t}) + \beta_4(Tax_{i,t}) + \beta_5(SZ_{i,t}) + \beta_6(NDTS_{i,t}) + \beta_7(GTH_{i,t}) + \beta_8(VOLTY_{i,t}) + \mu_{i,t} \text{ Eq (III)}$$

Where,

$TD_{i,t}$ = Total debt of a firm i at the time t ; $LTD_{i,t}$ = Long term debt of a firm i at the time t ; $STD_{i,t}$ = Short term debt of a firm i at the time t ; β = Common y intercept; $TANG_{i,t}$ = Coefficient of Tangibility of a firm i at the time t ; $PROF_{i,t}$ = Profitability of a firm i at the time t ; $LQ_{i,t}$ = Liquidity of a firm i at the time t ; $Tax_{i,t}$ = Tax of a firm i at the time t ; $SZ_{i,t}$ = Size of a firm i at the time t ; $NDTS_{i,t}$ = Non-debt tax Shield of a firm i at the time t ; $GTH_{i,t}$ = Growth of a firm i at the time t ; $VOLTY_{i,t}$ = Volatility of a firm i at the time t ; β_1 - β_9 = Coefficient of explanatory variables; β_0 = y intercept of a firm i ; $\mu_{i,t}$ = stochastic error term of a firm i at the time t .

Measurements, definitions and sources of variables mentioned in Table (I). Hausman Test is also carried out to determine the significance of these two models employed. The Hausman test results table (V) is given in appendix I.

4. Results and Discussion

Table 2: Descriptive Statistic and its Determinants for Whole Sample

Variables	Obs	Mean	Std. Dev.	Min	Max
Tangibility	4,847	0.02096	0.1056	-0.0031	2.7147
Profitability	4,857	0.9808	0.2137	-13.057	0.9867
Liquidity	4,842	0.0608	0.1007	-0.6290	2.4977

contd. table 2

Variables	Obs	Mean	Std. Dev.	Min	Max
Tax	4,845	-1.0986	2.3691	-11.1705	9.8444
Size	4,852	8.1818	3.1304	-0.9019	13.3279
NDTS	4,787	0.0306	0.8315	5.16e-07	4.8731
Growth	4,803	0.2217	0.6214	-0.9970	10.32733
Volatility	4,160	3.3849	7.4119	0.0721	184.5229
TD	4,662	0.01395	0.1434	1.59e-09	6.023586
LTD	4,185	0.1677	0.2532	9.32e-07	11.97293
STD	4,282	0.1326	0.1843	6.38e-07	8.0443

Table 2, present descriptive statistics summary for the whole sample, i.e., Pakistan, India and Sri Lanka, shows mean, standard deviation, minimum and maximum values for firm-level variables during 2009-2017. The mean of total debt ratio is (0.014), SD is (0.143) with a minimum value (1.5) and maximum value (6.02). Long-term debt ratio shows mean value (0.16), SD (0.25), minimum value (9.3) and maximum value (11.9). The means value of short-term debt ratio is (0.13), SD (0.18), minimum value (6.3) and maximum value (8.04).

Table 2.1: Descriptive Statistic and its Determinants for Pakistan

Variables	Obs	Mean	Std. Dev.	Min	Max
Tangibility	778	0.00724	0.0460	-0.0031	1.000989
Profitability	788	0.1279	0.1221	-0.1791	0.9867
Liquidity	787	0.0404	0.0706	-0.6290	0.5805
Tax	778	-1.1179	2.3896	-9.9288	9.48743
Size	787	4.1050	3.5576	-9.0191	9.9560
NDTS	769	0.0375	0.967	0.0000454	2.5694
Growth	775	0.1453	0.2773	-0.9970	2.4671
Volatility	678	3.0564	1.3307	0.1264	7.9658
TD	740	0.00267	0.00836	1.24e-08	0.1920
LTD	589	0.1595	1.7730	0.0000187	2.0735
STD	735	0.15670	0.1341	0.0000161	0.92273

Table 2.1 presents descriptive statistic summary for different determinants of capital structure for Pakistan during the 2009-17 period. The mean of total debt ratio is (0.02) a range between 0 to 0.99, it means that leverage of Pakistani firms have close to the industry average leverage level as compared to 0.65 total debt mean reported by (Booth *et al.* 2001) for Pakistan. Further, long-term debt ratio mean value is (0.159) and short-term debt ratio is (0.156), overall Pakistani non-financial firms financed 33.5% by total assets and remaining 65.5% financed by equity. The size

mean value is 4.1 and SD value is 3.5 with a minimum size -0.9 and maximum size 9.95. Furthermore, the mean value for tangibility is (0.7%). Each firm in Pakistan has 12% EBIT (operating income) on every unit in the total assets. The firms in Pakistan generates as low as -17% to as high as 98% profitability. The mean and SD values of Liquidity is 0.04 and 0.07 respectively which means that firms have capital to pay their short term obligations. The average volatility is 3.05 and SD is 1.33 with a minimum risk 0.12 and maximum 7.9. The average growth of Pakistani firms is 0.14 and SD is 0.277 with a minimum value is -0.99 and maximum value is 2.46. The average tax paid by Pakistani firm -1.11, SD 2.38 while minimum tax paid -9.92 and maximum 9.48. The average Non-tax debt shield ratio is 0.037, SD 0.967 with minimum tax advantage 0.00004 and maximum value 2.56.

Table 2.2: Descriptive Statistic and its Determinants for India

<i>Variables</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Tangibility	2,819	0.0379	0.1996	3.90e-06	0.9371
Profitability	2,819	0.1030	0.2645	-13.057	0.7042
Liquidity	2,809	0.0709	0.1149	0.000082	2.4977
Tax	2,818	-1.1767	2.3349	-11.17059	9.8444
Size	2,816	9.3833	2.405	1.010787	13.32792
NDTS	2,806	0.02945	0.0945	5.16e-07	4.8731
Growth	2,785	0.2266	0.5586	-0.88642	10.32733
Volatility	2,545	3.7987	9.3993	0.7211	184.5229
TD	2,706	0.0033	0.0353	1.59e-09	1.4912
LTD	2,569	0.1871	0.28366	9.32e-07	11.97293
STD	2,335	0.1153	0.1940	6.38e-07	8.044381

Table 2.2 represents the summary statistics of the variables used India sample set. As we observed that the Indian firms used average total debt, long-term and short-term debt is 0.33%, 18.71% and 11.53% with a minimum 1.5, 9.3 and 6.3, and maximum value is 1.49, 11.9 and 8.04 respectively. Indian non-financial firms financed 30.57% by total assets and remaining 69.43% financed by equity. The mean value of tangibility is 0.0037 with a minimum value 3.9 and maximum value is 0.93. The average profitability value is 0.10 and minimum and maximum value is -13.05 and 0.70 respectively. The average growth of Indian firms is 0.22 and SD is 0.55 with a minimum value is -0.88 and maximum value is 10.32. The average, minimum and maximum value of liquidity is 0.07, 0.00008 and 2.49 respectively. The average size of Indian firm is 9.38 with a minimum and maximum size is 1.01, 13.3 respectively. The mean of tax, volatility and Non-debt tax shield ratio is -1.07, 3.79 and 0.029 respectively.

Table 2.3: Descriptive Statistic and its Determinants for Sri Lanka

<i>Variables</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Tangibility	1,250	0.0682	0.1950	0.0002	2.7147
Profitability	1,250	0.6806	0.9426	-1.2127	0.4802
Liquidity	1,246	0.5101	0.0772	0.00003	0.7041
Tax	1,249	-0.9102	2.4378	-9.6950	9.4092
Size	1,249	8.0419	1.8208	1.0467	12.5327
NDTS	1,212	0.0288	0.0250	0.00001	0.50349
Growth	1,243	0.2584	0.8604	-0.9817	8.3399
Volatility	937	2.4984	1.1715	0.1428	7.3856
TD	1,216	0.0444	0.2735	2.01e-08	6.0235
LTD	1,027	0.1237	0.1978	0.00004	2.7673
STD	1,212	0.1515	0.1880	1.67e-06	2.3782

Table 2.3 represents the average total debt, long-term and short-term debt is 0.44%, 12% and 15% respectively. Sri Lankan firms depends 72.56% on equity financing, remaining 27.44% dependent on the debt financing. The average value of profitability is 0.068 with minimum and maximum score is -1.21 and 0.48 respectively. The average size is 8.04 with minimum value 1.04 and maximum value is 12.53. The mean value of tangibility is 0.068 with a minimum value 0.0002 and maximum value is 2.71. The average, minimum and maximum value of liquidity is 0.051, 0.00003 and 0.70 respectively. The average growth of Sri Lankan firms is 0.259 and SD is 0.0.860 with a minimum value is -0.981 and maximum value is 8.33. The mean of tax, volatility and Non-debt tax shield ratio is -0.091, 2.5 and 0.028 respectively.

The following correlation analysis results more conclusive explanation to the determinants of capital structure in Pakistani, Indian and Sri Lankan firms.

Table 3: Correlation Analysis for Whole Sample

	<i>Tan</i>	<i>Prof</i>	<i>LQ</i>	<i>Tax</i>	<i>SZ</i>	<i>NDTS</i>	<i>Gro</i>	<i>Vol</i>	<i>TD</i>	<i>LTD</i>	<i>STD</i>
Tan	1.0000										
Prof	-0.0545	1.0000									
LQ	0.0003	0.0572	1.0000								
TAX	0.0121	0.3413	0.1210	1.0000							
SZ	0.1253	-0.0130	0.0861	0.0313	1.0000						
NDTS	0.0613	0.0558	-0.0486	-0.2453	-0.0622	1.0000					
GRO	0.0033	-0.0239	0.0020	0.0038	0.0151	-0.0247	1.0000				
Vol	-0.0190	0.0427	0.0319	0.0477	0.0476	0.1459	0.0022	1.0000			
TD	0.2356	0.0355	0.0151	0.0249	-0.0673	0.1466	0.0070	0.0075	1.0000		
LTD	-0.0218	-0.1363	0.1373	-0.1302	-0.0077	0.0664	0.0066	-0.0063	0.0165	1.0000	
STD	-0.0235	-0.0843	0.1745	-0.1090	-0.0356	0.0474	-0.0066	-0.0443	0.0341	0.6526	1.0000

In Table 3.2, the highest correlation value noticed was 0.1583 and 0.1258 between profitability and non-debt tax shield variables. Lwis-Back (1993) suggested that if correlation of coefficient among explanatory variables is approximately 0.80 or larger than this value shows multi-collinearity problem. It is clear from the above table that there is no pair wise coefficient is 0.80 or higher than this value. So, there is no multi-collinearity problem is exist in our Indian data sample set.

Table 3.3: Correlation Analysis for Sri Lankan Firms

	<i>Tan</i>	<i>Prof</i>	<i>LQ</i>	<i>Tax</i>	<i>SZ</i>	<i>NDTS</i>	<i>Gro</i>	<i>Vol</i>	<i>TD</i>	<i>LTD</i>	<i>STD</i>
Tan	1.000										
Prof	-0.0388	1.0000									
LQ	0.0687	0.0870	1.0000								
TAX	0.0341	0.1791	0.1695	1.0000							
SZ	-0.5365	-0.0408	-0.0070	-0.0577	1.0000						
NDTS	0.0843	0.1028	-0.0036	-0.1858	-0.0116	1.0000					
GRO	-0.0212	-0.351	0.0062	-0.0577	0.0061	-0.0144	1.0000				
Vol	0.0064	0.5792	0.1513	0.2305	-0.0977	0.0326	0.0163	1.0000			
TD	0.2397	0.1416	-0.0102	0.0425	-0.2850	0.2322	0.0105	0.0341	1.0000		
LTD	0.0489	-0.0318	-0.0759	-0.0558	0.0896	0.1969	0.0021	-0.1257	0.1409	1.0000	
STD	-0.1088	0.0274	0.0137	-0.0733	0.0140	-0.0254	-0.0153	-0.1861	0.0916	0.0058	1.0000
No. obs	752										

In table 3.3 presents the correlation of coefficient among variables for Sri Lanka firms. Tangibility is positive related with debt; this means that contribution of tangibility is positive towards the level of debt of Sri Lankan firms. Size shows negative relation with the debt. Growth shoes negative relation with debt. As well as profitability also shows significant negative relation with leverage. It means that contribution of the size might be influence the profitability as well as the debt level. Liquidity, tax, non-debt shield and volatility show positive correlation with the level of debt. It is also seen in above table that there is no mutli-collinearity problem is exist in our Sri Lankan firms' data sample set.

The following regression analysis results may provide more concrete and conclusive explanations to the capital structure's determinants in Pakistani, Indian and Sri Lankan firms. Further, Hausman Test (Table-5) is also conduct to find out the significance of models used in the study table mentioned in appendix I.

The findings in Colum 4 of table 4 shows the value in fixed effects regression model of R²for the whole sample are 0.0375, 0.0739 and 0.1250 for total debt, long-term and short-term respectively. It means that 3.75% the dependent variables total debt is explained by the independent variables;

Table 4: Fixed Effect Regression Analysis

$$\begin{aligned}
 TD_{i,t} &= \beta_0 + \beta_1(TANG_{i,t}) + \beta_2(PROF_{i,t}) + \beta_3(LQ_{i,t}) + \beta_4(Tax_{i,t}) + \beta_5(SZ_{i,t}) + \beta_6(NDTS_{i,t}) + \beta_7(GTH_{i,t}) + \beta_8(VOLTY_{i,t}) + \varepsilon_{i,t} & \text{Eq (I)} \\
 LTD_{i,t} &= \beta_0 + \beta_1(TANG_{i,t}) + \beta_2(PROF_{i,t}) + \beta_3(LQ_{i,t}) + \beta_4(Tax_{i,t}) + \beta_5(SZ_{i,t}) + \beta_6(NDTS_{i,t}) + \beta_7(GTH_{i,t}) + \beta_8(VOLTY_{i,t}) + \varepsilon_{i,t} & \text{Eq (II)} \\
 STD_{i,t} &= \beta_0 + \beta_1(TANG_{i,t}) + \beta_2(PROF_{i,t}) + \beta_3(LQ_{i,t}) + \beta_4(Tax_{i,t}) + \beta_5(SZ_{i,t}) + \beta_6(NDTS_{i,t}) + \beta_7(GTH_{i,t}) + \beta_8(VOLTY_{i,t}) + \varepsilon_{i,t} & \text{Eq (III)}
 \end{aligned}$$

See table I and section methodology for the definitions of the variables.

Variables	Column 1			Column 2			Column 3			Column 4		
	Pakistan			India			Sri Lanka			Full Sample		
	TD	LTD	STD	TD	LTD	STD	TD	LTD	STD	TD	LTD	STD
Tangibility	0.0084 (0.0079)	0.1883** (0.0941)	0.0060 (0.0201)	0.4972*** (0.0732)	5.7677*** (1.8704)	1.3824 (1.0555)	-0.5223 (1.1857)	-0.1803 (0.2004)	0.1019 (0.1853)	-0.1513 (0.7281)	0.0476 (0.1302)	0.1823 (0.2287)
Profitability	0.0035 (0.0043)	0.0744 (0.1514)	-0.0490 (0.0988)	-0.0183 (0.0115)	-0.4357*** (0.1989)	-0.3523*** (0.1209)	0.7290 (0.5406)	-0.0021 (0.1022)	0.2091 (0.1323)	0.1113 (0.1004)	-0.4272*** (0.1381)	-0.2399*** (0.0775)
Liquidity	-0.0028 (0.0024)	-0.0253 (0.0841)	-0.0637 (0.0566)	0.0224 (0.0241)	0.8630 (0.8696)	0.8630 (0.5493)	-0.1574 (0.1894)	-0.0234 (0.0621)	-0.1294 (0.1124)	0.0042 (0.0299)	0.7634 (0.7726)	0.6845 (0.4572)
Tax	0.0001 (0.0002)	0.0121** (0.0054)	-0.0050** (0.0022)	0.0006 (0.0005)	-0.0119 (0.0086)	-0.0088 (0.0063)	0.0007 (0.0026)	0.0017 (0.0024)	-0.0018 (0.0015)	-0.0001 (0.0007)	-0.0068 (0.0056)	-0.0069* (0.0038)
Size	0.0000 (0.0001)	-0.0042 (0.0033)	0.0022 (0.0018)	-0.0004 (0.0005)	-0.0039 (0.0032)	-0.0021 (0.0017)	-0.0671 (0.0568)	0.0008 (0.0081)	-0.0093 (0.0093)	-0.0036 (0.0032)	-0.0052** (0.0026)	-0.0019 (0.0015)
NDTS	0.0148 (0.0136)	0.1244 (0.2860)	0.0611 (0.1106)	0.1943 (0.1809)	-0.3330 (0.4531)	0.4554 (0.3517)	1.8077 (2.1777)	0.2861 (0.2473)	0.0105 (0.1488)	1.0101 (0.9886)	0.1424 (0.2531)	0.2395* (0.1421)
Growth	0.0007 (0.0006)	0.0429 (0.0308)	0.0471** (0.0204)	-0.0025 (0.0019)	0.0074 (0.0065)	-0.0066 (0.0044)	0.0035 (0.0031)	-0.0023 (0.0031)	0.0004 (0.0030)	-0.0017 (0.0014)	0.0015 (0.0042)	-0.0033 (0.0030)
Volatility	-0.0012** (0.0005)	-0.0539*** (0.0175)	-0.0205** (0.0079)	-0.0000 (0.0001)	-0.0009 (0.0007)	-0.0017* (0.0009)	-0.0225 (0.0162)	-0.0137*** (0.0041)	-0.0235*** (0.0065)	-0.0004 (0.0003)	-0.0009* (0.0005)	-0.0033** (0.0016)
Constant	0.0048*** (0.0012)	0.3085*** (0.0486)	0.1927*** (0.0190)	0.0017 (0.0016)	0.1792*** (0.0615)	0.0947** (0.0370)	0.5534 (0.4762)	0.1267* (0.0722)	0.2619*** (0.0806)	-0.0012 (0.0117)	0.1892*** (0.0411)	0.1223*** (0.0213)
Observation	613	483	608	2395	2269	2070	895	755	894	3903	3507	3572
R-Square	0.0913	0.0399	0.1298	0.0688	0.0942	0.1783	0.1558	0.0553	0.0605	0.0375	0.0739	0.1250
No. of Companies	77	67	77	282	281	281	125	119	124	484	467	482

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

7.39% and 12.50% the dependent variables long-term and short-term debt is explained the independent variables. Furthermore, all variables show positive relation with total debt except size, tax, volatility and tangibility. Profitability, size and volatility are significant negative at the level of 1%, 5% and 10% respectively while tangibility, growth, NDTs and liquidity are positive related with the long-term debt. Profitability, volatility and tax negatively significant at the level of 1%, 5% and 10% respectively related while size and growth are insignificant negative whereas liquidity, tangibility is insignificant positive and NDTs positive significant at the level of 10% negative while size is insignificant negatively related with short term debt.

Impact of Determinants of Capital Structure on Leverage

Column 1 of table 4 represents the Fixed Effect regression results for the Pakistani firms. The impact of tangibility is insignificant positive on total debt and insignificant positive on long-term debt this result is in line with Jensen and Meckling (1976) and Myers (1977) report static-trade-off theory further in line with (Rajan and Zingales, 1995; Shah & Hijazi, 2004). This result confirms pecking-order theory that firms with low level of asset tangibility faced the information asymmetry problems that decrease the price of the equity so they rely on leverage financing. This result is in line with Deesomsak, Paudyal, & Pescetto (2004). The impact of profitability is insignificant positive on total and long-term debt. This is not in line with pecking-order theory and (Shah & Hijazi, 2004; Khan, 2007; Rafiq, Iqbal and Atiq, 2008; KIRAN, 2013; Aijaz, 2017) while insignificant negative on short-term debt. This is in line with (Deesomsak, Paudyal, & Pescetto, 2004; BAUER, 2004; Chen, 2003; Shah & Hijazi, 2004; Kiran, 2013). The impact of volatility (risk) is negative significant at the level of 5% with total and short-term debt while negative significant with long-term debt at the level of 1%. This finding is in line with (Viviani, 2003; Chen, 2003; Vergas, Cerqueira, & Brandão, 2015; Kiran, 2013). This result confirms with bankruptcy cost theory, trade-off theory, and agency cost theory. **Liquidity** has an insignificant negative impact on total debt, long-term and short-term debt it means that firms' financing pattern is similar to the pecking order theory. Although liquidity variable is not turned significant in our study for Pakistani firms but negative results are in line with (Akdal, 2011; Sheikh & Wang, 2011). The impact of tax is insignificant positive on total debt, this is in line with Kusi, Yensu, & Aggrey (2016) and significant positive on long-term debt at the level of 5%. This result is consistent with (BAUER, 2004; Jong, Kabir, & Nguyen, 2008), while significant negative impact on short-term debt at the level of 5% Frank & Goyal (2009). NDTs have a positive

insignificant impact on all three proxies of debt which is in line with Kiran (2013), this positive results is also similar with (Rafiq, Iqbal, & Atiq, 2008; Yusuf, Al-Attar, & Al-Shattarat, 2015) but in our study NDTs is not turned into significant and also supports (Rajan and Zingales, 1995; Bradley, et al, 1984). This positive relation is due to flat taxation system of Pakistan and in Pakistan the corporate tax rate does not vary according to the different level of income. There are three rates, (i) to public limited firms, (ii) to commercial organization in government ownership and (iii) to financial sectors firms. The impact of size is insignificant positive for total debt and short-term debt while insignificant negative with long-term debt. This finding is in line with (BOOTH, *et al.*, 2001; Pandey, 2001; Prasad, *et al.*, 2003; Yusuf, Al-Attar, & Al-Shattarat, 2015) and also with the agency and trade-off theories, proving that larger size firms tend to have better borrowing capacity rather than small size firms. The impact of growth is positive insignificant on total and long term debt this result is in line with MAHMUD (2003) and significant positively related with short-term debt at the level of 5%. This recommends that the growing firms in Pakistan used more leverage than the equity to finance their new projects. One possible explanation for this positive relation is that in Pakistan, most sectors order to grow, huge cash flow are needed, which may be growing firms not be able to meet through internal sources and so these huge sectors firms have to reliable on leverage this result supports the findings of (Hijaz & Tariq, 2006; Rafiq, Iqbal, & Atiq, 2008; Aijaz, 2017; BOOTH, *et al.*, 2001).

Colum 2 of table 4 represents the Fixed Effects regression results for the Indian firms. The impact of tangibility is significant positive on total and long term debt at the level of 1% this is conformity with the static trade-off theory in terms of distress cost. This is also is in line with agency theory and pecking order hypothesis framework from the point of view of information asymmetry and agency cost. Same results found by Ranjan and Zingalas (1995) in their sample set of G-7 countries and (BOOTH, *et al.*, 2001) in their sample set of 10 developing countries (Mateus, 2006; Handoo & Sharma, 2014; Sethi & Tiwari, 2016) while insignificant positive related with long term debt this is in line with (Fauzi, Basyith, & Idris, 2013)(Kuczynski, 2006) found insignificant positive. The profitability is significant negative related with long term debt at the level of 5%, while insignificant negative related with total debt and significant positive related with short term and short term debt at the level of 1%. These findings are similar with pecking order theory. Our results are similar with (Rajan and Zingales, 1995; BOOTH, *et al.*, 2001) and Song (2004) in their 30 OECD member countries sample and (Handoo & Sharma, 2014; Sethi & Tiwari, 2016; Deesomsak, Paudyal, & Pescetto, 2004). The Liquidity is insignificant

positive related with all three total, long-term and short-term debts. Our result is similar with the findings of Jong, Kabir, & Nguyen (2008) in their sample set of 42 developing and developed countries and Handoo & Sharma (2014). But inconsistent with the findings of Fan, Titman, & Twite (2012) found significant positive impact in their sample set of 39 developing and developed countries. The theory expects a positive impact of tax on debt. However, previous findings are not much clear and also this is true for our results of this study. The tax is insignificant positive related with total debt this is in line with (Vätavu, 2012) and Frank & Goyal (2009) while insignificant negatively related with long-term and short-term debt but this positive relation is in line with (Handoo & Sharma, 2014; BAUER, 2004). However, both positive and negative impact is statistically insignificant. The size is insignificant negative related with all three proxies of debt total, long-term and short-term debt this is in line with (Chen, 2003; Kuczynski, 2006). This result is similar with (Vergas, Cerqueira, & Brandão, 2015; AKDAL, 2011). The NDTs is insignificant positive related with total debt and short-term debt while insignificant negative with long-term debt. However, the positive relation of NDTs and short term debt most possibly due to no tax benefits on the short-term borrowings. Our results is similar with (Sethi & Tiwari, 2016; Kuczynski, 2006) but inconsistent with Handoo & Sharma (2014). The growth is insignificant negative related with total and short-term debt while insignificant positive related with long-term debt. This is in line with (Rajan and Zingalas, 1995; BOOTH, *et al.*, 2001) but inconsistent with (Handoo & Sharma, 2014; Sethi & Tiwari, 2016) found significant positive and insignificant negative related with long-term debt this is similar with the results of (Deesomsak, Paudyal, & Pescetto, 2004; Song, 2004). The volatility is insignificant negative related with total and long-term debt This result supports both trade-off and pecking order theory. Our result is similar with (VIVIANI, 2003; Frank & Goyal, 2009; AKDAL, 2011; Lim, 2012; Mursalim, M, & Kusuma, 2017) while significantly negative related with short-term debt at the level of 10%.

Colum 3 of table 4 represents the Fixed Effects regression results for the Sri Lankan firms. **Tangibility** is insignificant negative influence on total debt and long-term debt at the level of 1% and insignificant positive influence on short-term debt (Samarakoon, 1999; Ajanthan, 2013). **Size** is found insignificant positive impact on total debt, long-term and short-term debt it means increases in size, firm borrow more long-term debt and short-term debt. This findings are in line with (Samarakoon, 1999; Bas, Muradoglu, & Phylaktis, 2009). Further, **profitability** insignificant positive impact on total debt and short-term debt this is similar with Prahalathan (2008) but not turned into significant while insignificant negative on long-term this is

in line with (Ajanthan, 2013; Samarakoon, 1999) and Bas, Muradoglu, & Phylaktis (2009) in their 25 developing countries sample. **Tax** has a positive impact on total debt and long term debt it indicates as tax increases, both total and long-term debt increases but insignificant negative impact on short-term debt. This result is consistent with Bas, Muradoglu, & Phylaktis(2009). The impact of **Non-debt tax shield** is insignificant positive with all three proxies of debt. But this is not in line with (Prahalthan, 2008) found insignificant negative The impact of **volatility** (risk) is significant negative on long-term and short term debt at the level of 1%, this is in line with (Mursalim, M, & Kusuma, 2017; Frank & Goyal, 2009) but statistically insignificant negative on total debt. The impact of **liquidity** is insignificant negative on all three proxies of leverage total, long term and short-term debt. This findings are in line with (Hadi, Hamad, & Suryanto, 2016; Yusuf, Al-Attar, & Al-Shattarat, 2015; Hossain & Hossain, 2015). **Growth** has insignificant positive relation with total and short-term debt although this positive relation is consistent with pecking order theory Bas, Muradoglu, & Phylaktis (2009) and Ajanthan (2013) found positive but significant relation and Kusi, Yensu, & Aggrey (2016) found positive insignificant result while insignificant negative related with long-term debt is in line with trade-off theory.

5. Conclusion

The main aim of this study to emphasized on the options selected by the non financial listed firms of emerging economies of Asian countries (Pakistan, India and Sri Lanka) for ten years period during 2008-2017. The study used debt ratio (total debt, short-term debt and long-term debt) as an independent variable.

The results of firm level determinants of the capital structure of the chosen countries (Pakistan, India, Sri Lanka) are similar with Ranjan and Zingalas (1995) in their sample set of G-7 countries and (BOOTH, *et al.*, 2001) in their sample set of 10 developing countries and recommends that there are two mainly theories which affects the attributes of the capital structure of the select emerging countries companies funding behavior of Pakistan, India and Sri Lanka. The first one is Pecking Order Theory and second one is Static Trade-off Theory. The funding behavior of Pakistani firms depends on the tangibility, growth, profitability, non-debt tax shield, and tax provision of companies. The Indian financing behavior depends on the volatility, liquidity, tax provision, profitability and tangibility while the Sri Lanka financing behavior depends on the profitability, tax provision, liquidity, size and volatility. The overall results of study are largely mixed. Tangibility is positive significant related with debt in Pakistan and Indian

sample but not in Sri Lanka. Profitability is positive and negative significant related with leverage in Pakistan, Sri Lanka and India respectively. In our study liquidity is not found significant and important determinant of capital structure in all three countries but when we used fixed effect model it turns into significant positive and negative related with short-term leverage in all three countries while positive related with total and long-term leverage in India but not in other two countries. Same result found in the case of tax, it is not turn into significant determinant of capital structure in pooled regression for all three countries but negative significant related with short-term, positive and negative related with long-term debt respectively in Pakistan and India but not in Sri Lanka. Size factor is positive significant related to debt in Pakistan but not in other two countries studied. Non-debt tax shield is significant positive related with leverage in all three countries. Growth is positive significantly affecting the capital structure in Pakistan although not significant in case of other two countries. It was noted that volatility is negative significant related with all three proxies of debt in all three countries.

This study signified some policies implications for the firms' investors and managers that the large size companies have good asset structure should finance their current operations growth by leverage funding and firms with rising cost of debt should be used their retained earnings as they have not any other option to survive in the market because of bad economic conditions and then equity financing if further funds are required. We found to some extent different outcomes from our study in these countries as well as other developing economies as well as conclusion from previous studies from developed economies as well found in these developing countries.

5.1. Recommendation and Future Research

The findings of our study may give some practical implications. Considering and understanding the key determinants of capital structure may help whether the investors sell or buy stocks of the firm. As the investors may avoid investing money on highly leveraged firms because of bankruptcy problem might be occur. These findings also may help company management in planning, controlling and estimating the funding demands. In addition, managers of the companies can be formulate the optimal structure that help to design the more suitable capital structure for their firms as well as make plan for loan strategies. The findings of this paper also will helpful for managers for determination of best possible debt-equity choice for non-financial firms. It also develops a path to find out the key determinants which have major effects on capital structure decision of

Pakistani, Indian and Sri Lankan non-financial firms along with the application of capital structure theories.

This study motivate upcoming researchers to consider the capital regulations and incorporate some other factors (corporate governance, dividend, taxation policies in each country, GDP, inflation, managerial behavior, cost of debt, financial flexibility, credit rating etc) as well in their study in addition, they can expand the data years and even segregate the sample with respect to private, small, medium and large size firms as well cross industry or sector wise categorized and also sample also conduct same study on overall financial sector with a view of getting a better picture of capital structure of the Pakistani firms in contrast with other developing economies. In future research, work on all these limitations, we can improve the understanding of the determinants and choice of capital structure on the indebtedness.

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APPENDIX-I

Table 1: Measurements of Determinants of Capital Structure (Independent Variable)

<i>Determinants</i>	<i>Measures</i>	<i>Sources</i>
Tangibility	Fixed Assets / BVTotal Assets	(Titman & Wessels, 1988); (Shah & Khan, 2007); (Khrawish & Khraiwesh, 2010); (Al-Najjar, 2011)
Profitability	EBT/BVTotal Assets	(Booth <i>et al.</i> , 2001); (Huang & Song, 2006); (Margaritis & Psillaki, 2007); (Chen & Strange, 2005)
Liquidity	Cash/ Total Assets	(Titman & Wessels, 1988); (Akhtar 2005); (Lipson & Mortal, 2009); (Šarlija & Harc, 2012); (Sharif, Naeem, & Khan, 2012)
Tax	Tax Provision/ Profit before Tax OR (EBT – E)/EBT	(Titman & Wessels, 1988); (Kanwar, 2007);
Size	Natural Log (Total Assets)	(Gaud <i>et al.</i> , 2005); (Fattouh <i>et al.</i> , 2005); (Céspedes, <i>et al.</i> , 2010); (Guney, <i>et al.</i> , 2011)
Volatility (Risk)	σ (ROA) OR σ EBITDA/ Total Assets	(Deesomsak, 2004); (Song, 2005); (Dincergok & Yalciner, 2011); (Lim, 2012)
Non-Debt Tax Shield	Depreciation /Total Assets	(Deesomsak, 2004); (Fattouh <i>et al.</i> , 2005); (Akhtar, 2005); (Viviani, 2008)
Growth	Sales of current year –Sales of previous year / Sales of previous year	(Shah & Hijazi, 2004); (Shah & Khan, 2007); (Eldomiaty & Ismail, 2009)
Measures of Capital Structure (Dependent Variables)		
Total Debt	Total Debt/ BVTotal Assets	(Shah & Hijazi, 2004); (Cheng & Shiu, 2007); (Céspedes, <i>et al.</i> , 2010); (Guney, <i>et al.</i> , 2011)
Long Term Debt	Long-term Debt/ BVTotal Assets	(Shah & Hijazi, 2004); (Shah & Khan, 2007); (Frank & Goyal, 2009); Al-Najjar (2011)
Short Term Debt	Short-term Debt /BVTotal Assets	Al-Najjar (2011); (Šarlija & Harc, 2012) (Akdal, 2011); (Sharif, Naeem, & Khan, 2012)

Table 5: Hausman Test Results
Dependent Variable – Total Debt

<i>Countries</i>	<i>Chi-Square Statistics</i>	<i>p-Value</i>	<i>Result</i>	<i>Remarks</i>
Whole Sample	0.0000	145.09	Significant	Fixed Effect is suitable
Pakistan	0.017	19.65	Significant	Fixed Effect is suitable
India	0.1902	11.21	Not Significant	Random Effect is suitable
Sri Lanka	0.0000	40.96	Significant	Fixed Effect is suitable
Dependent Variable – Long-Term Debt				
Whole Sample	0.0000	100.56	Significant	Fixed Effect is suitable
Pakistan	0.1331	12.45	Not Significant	Random Effect is suitable
India	0.0000	127.43	Significant	Fixed Effect is suitable
Sri Lanka	0.0212	18.01	Significant	Fixed Effect is suitable
Dependent Variable – Short-Term Debt				
Whole Sample	0.0000	90.05	Significant	Fixed Effect is suitable
Pakistan	0.0000	34.37	Significant	Fixed Effect is suitable
India	0.0000	140.50	Significant	Fixed Effect is suitable
Sri Lanka	0.0198	18.19	Significant	Fixed Effect is suitable