

An Assessment of Cash Flow Volatility Impact on Financial Leverage: Evidence from Textile Industry-Pakistan

Author's Details:

- ⁽¹⁾**Farman Ali Golo**-MBA- Student, Mehran University Institute of Science, Technology and Development – MUISTD Jamshoro - Email: alifarman84@yahoo.com
- ⁽²⁾**Dr Arifa Bano Talpur**-Assistant Professor, Mehran University Institute of Science, Technology and Development – MUISTD Jamshoro- Email: arifa.talpur@faculty.muet.edu.pk
- ⁽³⁾**Ms Tooba Hashmi**-Lecturer, Mehran University Institute of Science, Technology and Development – MUISTD Jamshoro - Email: tooba.hashmi@faculty.muet.edu.pk

Abstract:

The aim of this study is to examine the impact of volatility of cash flow on leverage levels of the firm. It also investigates other variables that may affect the leverage levels of Pakistani firms. The measures are constructed for volatility of cash flow as five-year rolling standard deviation of cash flows from operations. Generalized Linear Model (GLM) approach is applied to examine the effect of VCF on leverage levels. To eliminate possible outliers, VCF is winsorized at 1st and 99th percentile. Ordinary Least Square (OLS) is also applied as an alternative approach. It is found that volatility of cash flow is inversely proportional to the leverage of the firm. Pakistani markets consider firms more risky than recorded in books. Volatility of cash flow (VCF) is an important factor that affect the firms directly. Earlier empirical studies about relationship between VCF and leverage levels is not conclusive. On the other hand, existing studies mainly focused on developed countries. No earlier comprehensive study has been conducted on Pakistani firms with variables used in this study. This study fulfills that gap by applying models and variables in this study.

CHAPTER 1

INTRODUCTION

1.1 Introduction:

Pakistan needs to deal with its economy to invite investors and sure them secure and profitable mechanism for investment. Deciding capital structure or leverage is one of the most crucial factors for a firm to stand out and compete in an environment of changing economy technologically and so on. Leverage decides the company's frequent operations and future growth. It affects everything from risk to diversification of risk, from easy approach to get funds to restrict funds gaining.

The Volatility of cash flow as an important factor affecting leverage is a degree to which a company's cash flow is at risk affecting the firm's leverage. VCF as an important element may create the business risk since it volatile and affect operations of daily. If it goes high it affects in many ways, somehow positively and somehow negatively. In a view of trade-off theory, the prevalence of the best level of cash flow where the marginal costs of cash shortening compete the marginal costs for holding cash. It is one of the best risks measures for corporate to decide on leverage levels and helping throughout dynamic changes in the business. Financial leverage ratio is the ratio among debt and equity. It decides the firm's current and future daily operations and growth. It creates financial distress for the firm, from which the firm can suffer bankruptcy. The trade-off theory implies the parallel that companies which get leverage ratio also have greater risk and are probably to face bankruptcy. According to Cai et al. (2008), the choice of debt maturity is very essential for a firm. Opting a particular maturity mix may help firms to avoid possible corporate liquidations, address agency problems, consider financing flexibility and signal their earnings quality. Through using an option valuation model, Kane et al. (1985) showed a negative impact of volatility of assets returns on debt maturity. Sarkar (1999) also determined that debt maturity has an inverse association with risk and further argues that volatility gives rise to the probability of financial distress, consequently leading to higher risk of bankruptcy. For shunning this risk, there are more chances that the firms will use shorter maturity debts. The existing literature, thus, shows a relative lack of agreement on how volatility influences leverage. Moreover, most of the prior studies who aim to find the impact of volatility or business risk on

leverage and debt maturity focus only on the developed countries. , this study endeavors to provide the findings about the influence of VCF on both debt levels and Firm Value structure in the Pakistani Textiles Industries, which has a number of institutional differences with the developed countries.

The Volatility of cash flow (VCF) is an important factor that affects the firms directly. Earlier empirical studies about the relationship between VCF and leverage levels are not conclusive. On the other hand, no earlier comprehensive study has been conducted on firms with variables used in this study. This study fulfills that gap by applying models and variables. The Aim of this research is to examine the impact of volatility of cash flow on leverage levels of the firm. It also investigates other variables that may influence the leverage levels of Pakistani business. The results of the study will be knowledge addition for the future research. To fulfill these objectives, we apply GLM (Generalized Linear Model) to analyze this impact of volatility on leverage. It is because the dependent variable leverage is a fractional or proportional variable and the conditional expectation is a non-linear function of explanatory variables (Cook et al., 2008). We compute both book and market leverage ratios, where we measure debt as either all liabilities of the firm, long and short term debt or only long term debt. We find that the effect of VCF on each leverage measure is negative and significant. To fulfill these objectives, we apply GLM (Generalized Linear Model) to analyze this impact of volatility on leverage. It is because the dependent variable leverage is a fractional or proportional variable and the conditional expectation is a non-linear function of explanatory variables (Cook et al., 2008). We compute both book and market leverage ratios, where we measure debt as either all liabilities of the firm, long and short term debt or only long term debt. We find that the effect of VCF on each leverage measure is negative and significant. To fulfill these objectives, we apply GLM (Generalized Linear Model) to analyze this impact of volatility on leverage. It is because the dependent variable leverage is a fractional or proportional variable and the conditional expectation is a non-linear function of explanatory variables (Cook et al., 2008). We compute both book and market leverage ratios, where we measure debt as either all liabilities of the firm, long and short term debt or only long term debt. We find that the effect of VCF on each leverage measure is negative and significant. To fulfill these objectives, we apply the generalized linear model (GLM) to analyze this impact of VCF on leverage.

1.2 Theoretical Background

Hypothetical Background Previous work shows that there are numerous different reasons which are the impact the firm worth. The firm worth addresses the investor's value in addition to long haul risk partitioned by short in addition to long haul resources. Value holder consistently inclination to these organizations which produce income per offer and return on stock smooth which is known as a profit, it very well may be impacted by financial backers, accept as a financial backers point of assessment, assuming income per share are on the higher side, it very well may be conceivable the measure of profit is a lot of high on stock other than low profit per share. Assuming the profit is high will be high from financial backer assumptions, it pulls in the financial backer. At that point investor can buy more stock and because of an expansion in market interest of offers, the cost of the offer increments and it higher the firm worth. Assuming profit per portion of the firm is low, the profit is little as contrast with its offer cost, at that point the financial backer who worry with profit they sell out their offer and supply of the offers increment and it decline firm worth in light of the fact that the procuring per share isn't satisfying the assumption for the financial backer its show that the financial backer has worry with acquiring per portion of an association, yet organizations dont satisfy the assumption when it's acquiring per share not smooth and vacillate quickly in the following declaration. An organization with solid profit per offer may see the market cost of its stock ascent. This higher stock cost may make a positive impression of the organization's items in the personalities of clients, bringing about more prominent interest, expanded deals and at last higher profit. The reverse may likewise happen. Poor EPS may push down stock costs. Assuming organizations deal with the business positively, the costs of the offer are better in the stock trade as contrast with other organization and in the event that organizations incapable to deal with the business positively, organization share costs are bad when contrasted with other organization. Offer costs are straightforwardly influencing the estimation of the firm on the grounds that the low offer value implies the low estimation of the firm. Acquiring instability implies the pace of variety of profit per portion of the firm throughout a given timeframe, higher unpredictability turns into the reason for the higher danger of misfortune or gain. Assuming the acquiring per share is unstable, it is hard to establish

that what the offer cost of the organization is later on. Assuming procuring per share variety in a positive manner, its a decent sign. Assuming the acquiring per share is unpredictable, it is hard to confirm that what the offer cost of the organization is later on. In the event that procuring per share variety in a positive manner, its a decent sign. On the off chance that profit per share are high when contrasted with share value its mean is that the monetary director takes abundance amplification choice. They accept that when a financial backer considers the profit from venture then he just contemplates organization income. The financial backer has no worry with profit since venture choice is subject to just the speculation strategy of the organization. The innovator has likewise discovered that an ideal market happens where market costs don't influence by a solitary purchaser or dealer. The profit superfluity hypothesis has a few suspicions. There is some presumption in regards to this hypothesis, the primary supposition that will be that the capital expense of a business is simply identified with the danger of a business in any case cost of capital stay consistent. The estimation of a business is just dictated by count of the expense of capital of a business, the expense of outside financing obligation is unaltered and charges don't exist on corporate pay. The Shareholders hazard increment when Introduction 7 business builds acquiring, obligation, as we can say that the capital construction of a business isn't influenced by the estimation of an association. Most organizations utilized total compensation approach in light of the fact that these methodologies characterize the linkage between the capital design of an organization and the estimation of a business. As indicated by this hypothesis, the estimation of a business is and an organization's straightforwardly influenced by the capital construction of an association in light of the fact that the capital design and an estimation of an organization are associated with one another. Cost of capital methods what an organization bears to the detriment making an item and until to sell an item. There is some supposition with respect to the net gain approach of capital design, the primary supposition that will be that perception of a financial backer isn't influenced by continueally expansion paying off debtors of an organization, the subsequent supposition that will be that the value cost of a business has consistently been higher than the obligation cost of an organization, and the third supposition that will be that there is no contribution of charges on an organization's corporate pay. It is additionally accepted that the expense of capital of an organization can be diminished by expanding under water of an organization. The estimation of a business can be expanded by lessening the capital expense of a business and support the profit of an organization. At the point when a business expands its external account then its become a reason for the lessening in the capital expense of an association, and it possibly happens when an organization just relies upon obligation. The capital design implies a blend mix of an organization's absolute capital, which can be as value, excess, and hold and furthermore incorporate the credit from business banks other monetary establishment distinctive sort of protections and debentures, the estimation of an organization just rely upon the expense of capital and procuring of an organization. As we realize that the center target of an organization monetary director to augment the abundance of the organization's investors. The capital design of an association no affects overall gain of a firm however it can influence the lingering income of investors. This purpose of a firm is only achieved when a firm designs a good and unique capital structure. It is very difficult to make to make a good and unique capital structure. A good capital structure is a backbone of a company's growth because if capital structure is not good, then it creates a conflict between management and shareholder who is known as agency problem . A good capital structure is only achieved when a firm creates a balance between shareholder expectation and capital or finance requirement of an organization.

1.3 Problem Statement / Research Gap

Despite theoretical explanations on why volatility of cash flow supposed to influence the financing decision of the firms. The impact of volatility of cash flow the leverage of the firm has not been conclusively known yet. This study will address the problem in a way that may somehow be decisive and help in future studies too. The earlier study of this has not been conducted yet except one study, in which, they just studied elements of capital structure, Ahmed Sheikh, N. and Wang, Z. (2011). The existing literature indicates that there is a dynamic impact of the volatility (earning and cash flow) upon the firms Financial Leverage.

1.4 Research Questions

- i. How the volatility of cash flow will impact the firm leverage?

- ii. Is their cash flow volatility has an effect on the firm value?

1.5 Research Aim and Objectives

The aim of this study is to analyze the impact of volatility of cash flow on leverage levels of the firm and the ultimate effect on the market value of the firm. It also examines other variables that may affect the leverage levels of Pakistani firms.

1. To determine the impression of volatility of cash flow on debt levels.
2. To examine the effect of the volatility of cash flows on over all leverage.
3. To Analyze the connection between cash flow volatility, leverage and Firm Value.

1.6 Significance of the study

Today's capital markets are so linked to their country's political and economic condition and in these conditions deciding on the optimal level of leverage is concerning. Volatility of cash flow is a risk for any business for its operations and to its decision regarding choosing optimal debt and equity ratio. These factors are too important for any type of the firm operating anywhere in the today's world. For that, studying and analyzing determinants that affect the firm's decision regarding leverage ratio is important especially for developing countries like Pakistan.

It is contended that the investigation of income unpredictability is significant on the grounds that these are influencing the company's Financial Leverage, This is exceptionally significant just as giving a solid clarification for the more extensive danger the executives activities that organizations are included. The discoveries of this examination are solid with the activities of many market members who appear to give goal on the profit as a solid indication of monetary perfection and strength. This investigation assists the directors to put forth attempts to make or keep a steady and smooth budget report which adds an incentive for the organizations. This investigation additionally is useful for directors improve comprehend the relationship between income instability, firm qualities and obligation level, The discoveries of the examination fill in as an apparatus to settle on the best choice on which firm to do contribute. Organizations in Pakistan work in an erratic and dynamic climate, for which Company not just requirements to change its administration to these varieties yet in addition monetarily have the option to oversee up with these. This examination permits the organizations in Pakistan to have a general perspective on every one of the variables which can affect their expect to accomplish target perfection in fiscal summaries to add an incentive for the organizations and low influence, This expects organizations to have the option to distinguish the objective perfection in the budget reports and afterward have the option to recognize the elements which can affect a company's capacity to arrive at these objectives. The changing idea of the monetary climate impacts the organizations to offer Financial Expressions cover, intends to have such a construction which can change as per the evolving necessities. Whenever this is done, firms should likewise have the option to recognize the time-frame) which they need to arrive at those objectives. This investigation additionally permits the organizations to have the option to manage every one of the issues referenced previously. This investigation is additionally useful for chiefs to improve comprehend the relationship among stock liquidity and profit arrangements. The discoveries of the examination fill in as an apparatus to make improvement of financial influence.

1.7 Plan of study:

The plan of the study is chapter 1st introduction about volatility, cash flow volatility and firm value, this chapter also contains theoretical background ,Introduction problem statement, research objective research questions and the significance of the study. The 2nd chapter includes existing literature and their findings. The 3rd chapter covers the data descriptions, measurement of variables and methodology of the study. The 4th chapter is of Data analysis . Lastly, the 5th part entails of conclusion, discussion , recommendations and future directions.

CHAPTER 2

Literature Review

2.1 Literature Review:

Ahmed Sheikh, N. and Wang, Z. (2011) have just discussed on Pakistani firms' capital structure and its determinants where they denoted size, earning instability, non-debt tax shields, productivity, visibility, development chances, and liquidity as important determinants, profitability and liquidity as damaging and significantly related to debt ratio, confirming that firms follow the funding model recommended by the pecking order theory, Earnings volatility was adverse and statistically substantial with debt ratio following trade-off theory implying companies to use more debt quantities. The bond market is insignificant and immature in Pakistan due to which Pakistani firms rely more on bank debts. NDTs and growth results are unrecognized by their study. Whereas, NDTs and growth are positively related VCF suggesting that firms whose VCF is high should go with low debt levels and grow more than those whose VCF is low. Tangibility is negatively related with debt ratio and consistent with my results that are for VCF. But some other countries, i.e. Karadeniz et al. (2009), Both et al. 2001, have resulted negative, the studies have shown encouraging connection among clarity and control, i.e. Wald (2009) and Rajan and Zingales (1995).

Nevertheless, Ahmed Sheikh, N. and Wang, Z (2011) didn't include VCF as important determinant of capital structure. For instance, Frank and Goyal (2009) explore 25 descriptive variables applied in earlier surveys and found 6 elements that can steadily detail the capital structure of firm, but didn't discover instability fully describes capital formation. Same as Leary and Roberts (2005) & Antoniou, Guney, & Paudyal (2008) did not find that volatility is really important in clarifying capital composition. In a groundbreaking analysis of worldwide organizations, Rajan and Zingales (1995) also do not add volatility as an autonomous and important

changing. Additionally, Kayhan and Titman (2007) and Leary and Roberts

don't add volatility in their studies. In last, Bradley, Jarrell, and Kim (1984) and Kim and Sorensen (1986) learn a destructive connection. Whereas, Friend and Lang (1988) find a definite link amid volatility and leverage. Modigliani and Miller (1958) demonstrated that optimal option of financing among debt & equity is irrelevant of firm's value, consequently, management should not worry about debt and equity ratio because they said in perfect market both options are equally good.

It is considered an important factor of capital structure because it governs the probability of financial distress. De Bondt and Forbes* (1999) more volatile are the earnings of the firm, more difficult and uncertain, it becomes to make the interest payments and meet debt obligations, so firms with higher earnings volatility should use lower debt. Almost all of the researchers who have conducted the study on this aspect of the capital structure have found a negative relation between volatility and leverage such as Booth et al. (2001). Choi and Richardson (2016) according to these studies, there can be four perspectives to understand the relationship between earning volatility of cash flow, debt level, firm's level and financial leverage, either the debt financiers require higher return due to volatile of cash flow, so debt financing more costly to the firm. The other perspective is that due to uncertain earnings, the firm not able to manage regular repayments. In both cases, leverage and volatility are inversely related. Antoniou et al. (2008) agency Theory predicts a positive relationship among volatility and leverage; it is because the problem of under investment gets resolved due to increased earnings volatility. Zhuosi (2006) not all earnings volatility is unpleasant. So also, not all strength is excellent. If an organization was making a little, unacceptable measure of benefit a seemingly endless amount of time, its income would be profoundly steady. However, such an organization would be an ugly speculation prospect. At the point when an enterprise is at last beginning to turn things around and develop its benefits, the income instability will be incremental because there will be an exciting and sudden change in profit. Such instability is certain. In this manner, as with each other money-related measure, instability must be assessed inside the correct setting. Profit can be volatile for some reasons. Organizations, whose benefits are fixed to the condition of the economy, for example, retailers, could create erratic outcomes when the economy moderates and shoppers are not spending on mark name things like they typically do. Sustenance organizations could create volatile outcomes when the cost of

wares, for example, grains and deliver, rise and expenses go Literature Review 16 up. Polica and mak, (2015) looked to patch up the bookkeeping model insurance agencies utilized for revealing different kinds of protection contracts. If embraced, the change was relied upon to prompt volatility starting with one quarter, then onto the next among insurance agencies and other money-related establishments. Frank and Goyal (2009) they find that earnings volatility has a noteworthy negative impact on a company's capital structure. Our outcome could get from two primary differences. First, utilize yearly fluctuation of benefit returns as volatility measure. Conversely, they utilize a contingent earnings volatility measure created by De Second; utilize a direct relapse to locate the solid components. Conversely, they consider the way that our relevant variable (obligation proportion) is an extent variable and the contingent desire is a nonlinear capacity of the independent factors. A company's estimation of money and interest for trade rely upon changes out the association's outward and inward conditions. Since the utilization and estimation of money are time fluctuating, the ideal level of money property is likewise continually evolving. The progressive idea of ideal money property ought to inspire firms to modify money towards the ideal level efficiently. The advantages of altering money towards its ideal level can be significant, including diminished over investment prompting exhausted money holds, constrained money storing, and smoothing the impacts of the financial cycle by guaranteeing the measure of money is adequate to withstand tough circumstances. These advantages propose that: if a firm continually changes money property to pursue the ideal money level and consequently expands the instability of money possessions, there should to be a comparing increment in firm esteem (Das et al., 2013).

2.2 The Effect of Cash Flow Volatility, Firm Value and Debt level:

A major example of non-monetary firms has been concentrated to discover the proof of income instability connected with the firm worth and obligation level. Income instability is adversely connected with the firm worth and the affiliation is discovered to be critical when the market to book proportion is used as an estimation. 30% to 37% decrease in firm worth was seen when the income unpredictability is related with an increment in one standard deviation in the income instability, (Thomas and Zhang, 2002). A new report proposes that assuming the income instability is all the more exorbitant, the impact on firm worth had negative as recorded by (Schrand and Minton, 1999). They examined the proof from the consequences of them and discover that supporting may likewise positively affect firm worth, yet the investigation additionally supplements the expense of income unpredictability that adversely affects the firm incentive for being a lot of exorbitant (Leuz et al., 2003). Minton and Schrand (1999) that higher income instability is identified with lower basic partner levels of interest in capital costs, R&D, and publicizing. This connection shows that "organizations do presently don't utilize outside capital business sectors to totally income deficits however rather forever do without venture. Income instability is additionally connected with better costs of approaching external capital. Also, those higher costs, as estimated with the guide of a couple of intermediaries, suggest an additional affectability of venture to income unpredictability. Accordingly, income unpredictability not best expanded the likelihood that a "firm will need to get a passage into the capital business sectors, it additionally builds the expense of outside financing. Cormier et al. (2013) additionally discover that in the wake of representing the income instability, lower cost of capital is seen with more prominent profit smoothing. Thomas and Bernard, (1990) contend that there is a relationship between the income instability and stock returns that consider the return profit by financial backers.

A new report dependent on the proof from the investigation of corporate chiefs shows that monetary business sectors ordinarily lean toward smooth income and incomes (Harvey, Gopal, and Graham, 2005). The Study results propose that practically 97% of the reactions were agreeable to smoother income and smooth profit. These outcomes plainly support the speculation that income unpredictability is stayed away from by the organizations since it is contrarily connected with the estimation of firm. In addition, concentrates likewise propose that frustrating the unpredictability and instability decrease models, for example, supporting or reinsurance ought to likewise be resolved exclusively for the distinctive sort of firms as per their work space and development openings. For instance, when the market hazard premium is high because of the income unpredictability, firms ought to deal with the dangers and instability with less eagerly when contrasted with the time frames when the market hazard premium is high. Different examinations likewise recommend that incomes that show unpredictability don't generally uncover private details and data, not at all like the volatility of income that uncovers private data with respect to the firm (Melumad and

Kirschenheiter 2002). Basu, (1997) the entire situation put by the writing study to track down any critical connection between firm worth and income unpredictability demonstrate that there is a huge effect of income instability on and firm worth. Smooth income kept up by a firm is viewed as better according to the CRM (Corporate Risk Management) Theory. Smooth income, as per (Scharfstien, Stein, and Froot 1993), can add esteem by limiting the dependence of a firm on outside money which is all the more exorbitant. (Badrinath, &G, 1989) additionally contended that organizations speculation strategy can be influenced with income instability as it is exorbitant and it improves the probability of raising outer capitals alongside the expenses. Investigation of past observational work tells that unstable procuring is generally kept away from by the specialists and the organizations as the probability of gauge mistakes is expanded significantly, and a comparative report surveyed that the organizations with huge varieties in their VCF are normally maintained a strategic distance from by the institutional financial backers. The odds of negative income shocks are additionally expanded with high acquiring instability, which brings about the commitment of directors in broad profit smoothing. Olsen, Francis and Lafond, (2004) additionally discover that in the wake of representing the income instability, lower cost of capital is seen with more prominent profit smoothing. Notwithstanding the relationship of profit unpredictability to the income instability, it may likewise be related with the firm worth. Monetary vulnerability identifies with the firm worth in various manners and according to the CAPM, efficient danger or quirky danger likewise influences the firm worth. There are sure autonomous factors that can be related with the firm worth and firm presentation where the firm worth is the needy variable. The estimation of these factors is significant since it means and features the monetary steadiness of a firm. Additionally, Firms hazard the board approaches and administrative choices likewise straightforwardly influence the genuine monetary soundness of the organizations fiscal summary. Other most recent part of works has consumed on relating supporting activities to firm worth and on exploring the proof tardy supporting, explicitly, the VCF is costly for the organizations. Allayannis and Weston (2001) finds that the utilization of cash subsidiaries is an option for supporting advances worth fundamentally. They discover proof that money unpredictability is exceptionally costly and that it's enduring upsets speculation. They additionally discover a strong antagonistic connecting among VCF and standard phases of interest in resource uses, Research and advancement and notice uses, and positive relationship among VCF and costs of recovering external capital. These outcomes suggest that VCF raises similarly the opportunity of the cost of recovering external capital commercial centers. Myers and Majluf (1984) show that outer capital more expensive than inner capital. Consequently, firms that require greater outside capital relative to internal capital may have lower funding, all else the same, assuming firms comply with the simple net present value (NPV) decision rule for capital budgeting. That lower analyst following implies greater statistics asymmetry and a better cost of gaining access to fairness capital firms with better cash flow volatility has better equity capital costs. Together, the two effects of cash flow volatility mean that discounts on cash flow volatility through chance management, sports can lessen a firm's anticipated under investment' fees. Froot et al. (1993) two sorts of capital shape alternate are examined: provider change offers, and recapitalization. The effects indicate that both stock costs and firm values are positively related to adjustments in debt degree and leverage; senior protection prices are negatively related to these capital shape alternate variables. This evidence is regular with the fashions of most effective capital structure and with the speculation that debt degree changes launch information approximately modifications in company value. This researchers is paid to current works by directly tested hypothesis firms with smother Financials are prized at superior comparative towards firms, with an unstable financial although monitoring for additional elements of firm value, such as the size of a firm, the leverage (Debt to Equity ratio), profitability, and growth (capital expenditure /sales), along with other sorts of risk, such as un-diversifiable risk and diversified risk. More specifically, if the VCF is highly expensive as recognized by (Myers, 1977) then it must be negatively distress value of the firms. This hypothesis covers the findings (Olawale et al., 2017) by an explanation of this question of why the positive effect of hedging on firm value. This is a vital consequence as it recognizes the spread tool concluded Firm value can be influenced by risk management. i.e. by making the smooth sequence of firms financial statements. Additionally, this consequence also proof taking place the expenses of the CFV, it has documented the negative effect of VCF on the firm value. They also examine the hypothesis of EV negatively disturbs firm value. Firm value also affects VCF, and in short and long turn, earnings volatility. Yet, the firm can also affect Earning Value traditionally by placing in earnings smooth via accrual estimates. This literature has reported a large number of explanations why the rest of these firms

may want to show smoother VCF. For example, small EV may increase professionals' following and increase value

2.3 Review of Capital Structure Theories:

2.3.1 Modigliani and Miller theory:

The present hypothesis of capital design depend on the conversation started by Modigliani and Miller (1958). Where they demonstrated that ideal decision among obligation and value financing is immaterial of company's worth, thusly, the executives ought not stress over obligation and value proportion since they said in amazing business sector the two choices are similarly acceptable. However, Modigliani and Miller's obligation unimportance hypothesis limit suspicions as a general rule. They accepted that there are no office costs, no insolvency costs, no duty, no awry data and no exchange costs. Decision of capital construction becomes significant factor while deciding estimation of firm when suppositions are taken out. In their investigation, considering charges proposed that organizations should go with obligation however much as could reasonably be expected due to burden deductible installments. Further, the turned association's worth surpasses similar to unlevered firms by an equivalent measure of present estimation of duty saving which can emerge from obligation utilized. By and by, capital market are consistently defective, which is contradicting this traditional hypothesis of Modigliani and Miller hypothesis (1958) by calling it ridiculous.

2.3.2 Trade-off theory:

The static trade-off theory tells about finding the best balance (trade-off) between the benefits and the cost of equity & debt. Where a profit earning firm needs less requirement for external financing. To satisfy fund needs, firm will move to debt. Normally, a profitable firm relies on less debt. But, the trade-off theory says, the more cash flow a profit earning firm has, the more debt it generates. Tax shields and leverage benefits will be captured as debt capacity accumulates. By using more debt has advantages with disadvantages too. Expected bankruptcy cost, agency cost and less flexibility are some of the disadvantages in trade-off theory.

2.3.3 Pecking Order Theory:

The hierarchy hypothesis is based to flourish for acquiring practical financing. The hypothesis infers that supervisors should utilize obligation instruments since they are a safer for lessening stock cost. Keeping in see that organizations have information they will require money inside the future to coordinate beneficial undertakings, they crowd the money from today, so they won't need to face to capital business sectors when assets are required. By and by, because of the overflow money, supervisors are slanted to purchase and will likely create inefficient spending on exercises.

2.4 Variables:

2.4.1 VCF:

Earlier studies used different measures for volatility, such as first difference of the percentage change in annual earnings minus average of the first differences (Antoniou et al, 2009), annualized standard deviation of operating cash flows divided by total assets (Dierker et al, 2013), standard deviation of earnings before interest and taxes (EBIT) scaled by assets of firm (Friend and Lang, 1988), or standard deviation of the returns on sales (Booth et al, 2001). Cash Flow Volatility is a business risk. Best alternative method to measure by using cash flow statement, measured by five-year rolling standard deviation of cash flow from operations, Allayannis and Watson (2003) and Memon et al (2018), Friend and lang (1998). The very important factor that has been discussed in recent papers instead of volatility of earnings as in Memon et al (2018) and Keefe, M. O. C., & Yaghoubi, M. (2014) is followed in my study. In a view of trade-off theory with Opler et al. (1999) find that the prevalence of a best level of cash flow in which the marginal costs of cash shortening compete the marginal costs of holding cash. The more volatility as the firms hold more cash.

2.4.2 Industry leverage:

Memon et al (2018) have shown that industry leverage, i.e. median of total debt to total assets of industry, is positively related with VCF meaning that firms with high VCF are belonging to the industry with more levels of debt. Whereas, my study has opposite results which are consistent with Keefe, M. O. C., & Yaghoubi, M. (2014), where it is negatively related with VCF meaning that firm belongs to the industry with lower levels of debt.

2.4.3 Leverage ratios:

There could be number of ways to measure leverage. The previous studies have measured by both market and book leverage ratio. Many author's adopted six leverage measures following Huang and Song (2006), and Memon et al (2018). Total-Liabilities Book Leverage Ratio (BLR_TL) as total liabilities divided by total liabilities plus equity's book value, Total-Debt Book Leverage Ratio (BLR_TD) by dividing total debt (short- plus long-term) with total debt plus equity's book value, Long-Term Book Leverage Ratio (BLR_LTD) by dividing long-term debt by long-term debt plus equity's book value, Total-Liabilities Market Leverage Ratio (MLR_TL) by dividing total liabilities with total liabilities plus market book value, Total-Debt Market Leverage Ratio (MLR_TD) by dividing total debt (short- and long-term) with total debt plus market book value, Long-term Market Leverage Ratio (MLR_TLD) by dividing long-term debt with long-term debt plus market book value, respectively. The trade-off theory said that firms' leverage is inversely proportional to VCF, witnessed Frank and Goyal (2009).

The past writing has shown less arrangement for the impact of the income instability that the amount it influences the influence. Further to this, prior investigations just engaged created nations markets. Remembering, less examination in the event of creating or arising economies like Pakistan, this investigation researches to give results on impacts of income unpredictability on influence in Pakistan see since Pakistan's market are a lot of unstable than other agricultural nations like China and created nations like European and American business sectors. To satisfy these target ,I use Generalized Linear Model (GLM) to examine the impact because the dependent variable, Cook et al (2008) told that leverage is a fractional variable or proportional variable and the conditional expectation is a non-linear function of independent variable.

CHAPTER 3

Research Methods and Materials

3.1 Research design

This study investigates the power of volatility of cash flow on leverage, recorded on the Pakistan Stock Exchange (PSX) previously Karachi Stock Exchange from 2013- 2017, utilizing the data gathered and announced by the SBP. The SBP circulated data delivers important and helpful knowledge on major accounts of the economic reports of all non-financial firms registered on KSE during 2013 to 2017 only one sector have been picked from the industry for investigation, i.e. textile Furthermore, it supported for the an estimate of various variables that are important to be appropriate and used previous findings of companies in established countries. The last trial, after examining some lost data, is consisted of a strongly unbiased panel of 79 businesses around a cycle of five years. Businesses in study signify the important business strength in Pakistan for export, especially textiles and it is hoped that the model will be perfectly enough in catching combined leverage in the nation. Our sample comprises all non-financial firms that have issued A-shares and are listed on Pakistan Stock Exchange over the period starting from 2013 to 2017. The pertinent annual data are taken from the Financial Research Database and Pakistan stock Exchange and Accounting Research Database. Firms, whose book values for total assets, total liabilities or revenues are missing, have been eliminated from our sample. Firms having negative common equity, total assets or total revenues are also excluded. To ensure that the sample does not contain any outliers, These procedures yield a final sample of 79 firms and 5 year observations.

3.2 Methodology

This study used panel data procedures because sample contains the data across firms and five years period of time. Notably, the use of panel data increases the sample size and is more suitable to study the aspects of

change. In order to estimate the effects of explanatory variables of the debt ratios (leverage measures), I used estimation models, namely, generalized linear model to examine the impact because the dependent variable, Cook et al (2008) told that leverage is a fractional variable or proportional variable and the conditional expectation is a non-linear function of independent variable and ordinary least squares (OLS) as an alternative. Pairwise correlation between VCF and independent is also run to view the correlation among variables. For removing any possible outliers, the VCF is winsorized at 1st and 99th percentile, other control variables also.

3.3 Measurement of VCF

Through the literature available there is no any usual degree for VCF. Earlier practical lessons used numerous volatility measures. While measuring VCF, I trail Friend and Lang (1988) and Memon et al (2018) to compute 5-year progressing standard deviation of the cash flow from processes. Some prior research studies like Bradley et al. (1984) and Dierker et al. (2013) calculate volatility measures by taking the company's total resources. Pinkowitz and Williamson (2007) said cash properties of the security are a job of VCF. To remove this role, I have eliminated cash from total assets. Therefore, I applied the organization's assets (total assets less cash and tradable securities) to measure VCF. The advantage of calculating the volatility degree is that it will be equivalent throughout the businesses. For removing some probable outliers, VCF at 1st and 99th percentages before applying in the models. According to Allayannis and Weston (2003), applying actual financial statements data reported by firms for constructing cash flow measure is superior than using alternative cash flow measures utilizing income statement or changes in balance sheet items.

3.4 Measurement of leverage:

Around the number of methods to quantity control. Next the fiction, this learning dealings leverage levels by together manuscript and marketplace leverage relations. The previous studies have measured by both marketplace and manuscript leverage ratio. leverage measures following Huang and Song (2006), and Memon et al (2018). Total-Liabilities Book Leverage Ratio as total liabilities divided by total liabilities plus equity's book value, Total-Debt Book Leverage Ratio by dividing total debt (short- plus long-term) with total debt plus equity's book value, Long-Term Book Leverage Ratio (BLR_LTD) by dividing long-term debt by long-term debt plus equity's book value, Total-Liabilities Market Leverage Ratio by dividing total liabilities.

3.5 Development of Hypothesis:

High variability of cash flows and higher financial distress costs are the characteristics of riskier firms. Trade-off theory assumes that firms experiencing high risk relatively lower debt. There also exist other solid theoretical explanations which lead us to believe that volatility affects the leverage structure. For example, Merton (1974) models equity as a call option on the assets of the firm. According to this model, if firm's value of debt is higher than the value of assets at the time of maturity of the debt, it consequences to firm's default. This notion provides a simple manifestation for the probability of firm's default as a function of present value of the assets of the firm compared with the value of the debt and Cash flow volatility assets volatility. Leland (1994) derived optimal capital structure by proposing a model similar to that of Merton (1974), who argued that optimal leverage offsets debt-tax advantages with the expected financial distress costs. Escalating volatility raises the probability of occurrence of situation where the firm is no longer able to avail the debt-tax advantages. In most of the previous research studies, the influence of volatility on level of debt is mentioned to be negative. It is because as volatility rises, it gives rise to the chances of facing financial distress and as a result decreases the current value of debt-tax advantages. Moreover, empirical study on the cost of debt by Minton and Schrand (1999) shows that VCF has positive correlation with the cost of debt. So, the firms facing high VCF decrease their leverage levels so that they can minimize their cost of debt. Therefore, we hypothesize that leverage has an inverse relationship with VCF, Literature suggested that business which experiences big risk use comparatively lower debt, Higher variability in cash flow and financial distress cost are the aspect of an uncertain business, some available studies also encourage in theoretical perspective that leads this study to ensure that cash flow volatility affect the leverage structure. However,

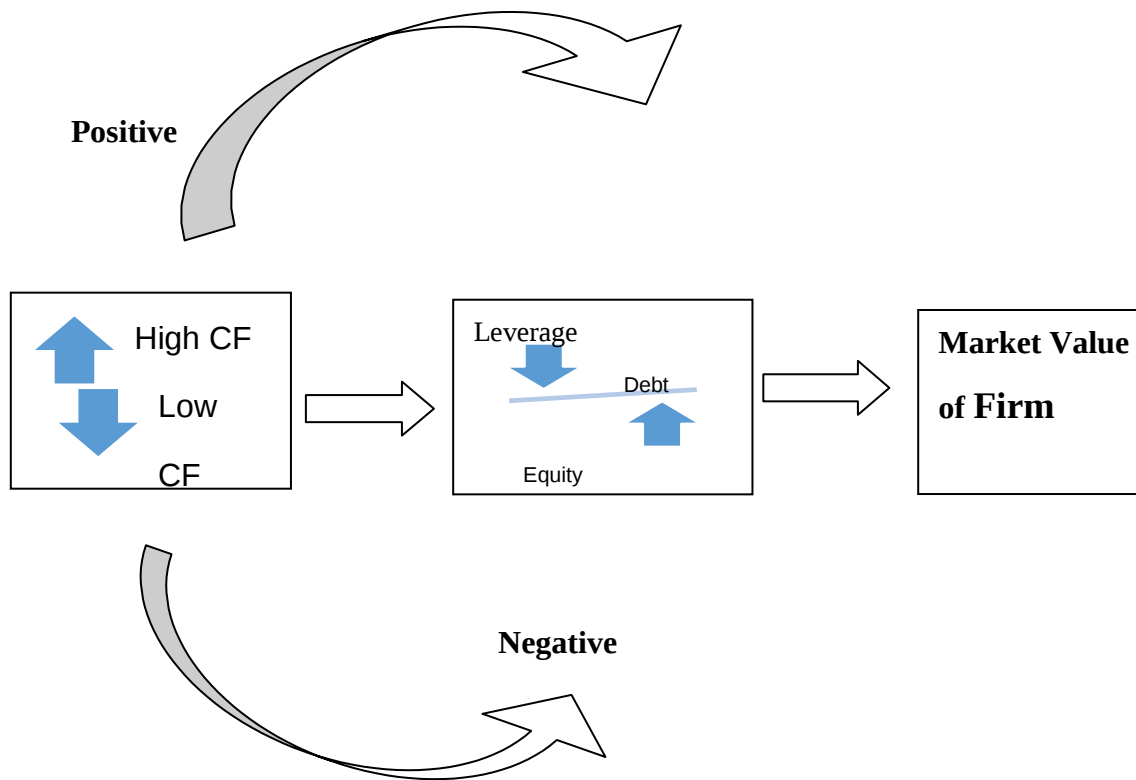
3.6 Hypothesis:

H1: With high(Low) volatility of cash flows leads firms to use the long or short debt.

H2: Increasing earning volatility with time to maturity positivity related to increasing financial distress

H3: Volatility of cash flow expected significantly inverse relationship on firm value. And leverage

3.7 Research Model/Conceptual Framework/Theoretical



CHAPTER 4

Data Analysis

4.1 Data Analysis:

The current study aims to explore the impact of cash volatility, Cash flow volatility on firm value for 79 non-financial companies listed at Pakistan Stock exchange. The sample period is about 5 years from 2013 to 2017. Firms with incomplete financial data are not included in the sample; because they cannot serve as the purpose of the study, as well as all proxies, cannot be applied to incomplete data. Only non-financial companies are used for analysis, also the capital structure of non-financial firm is different and all other decisions of a financial sector are well regulated and significantly different from the companies in non-financial sectors ((Bassey et al., 2014). At the same time, this study can be used in the financial sector as well by making some fundamental changes. The tests are based on lagged and forward year information. That's why few years observations are lost in regression.

4.2 Sources of Data :

In this study secondary data is used for analysis. Annual data is used for analysis. Only those companies are selected which companies closing date is 30th June. The data for other variables are collected from the annual financial statements of firms. The Data is collected from the following sources:

- Pakistan Stock Exchange website, PSX
- Business recorder website
- State bank of Pakistan website
- Websites of companies used in the analysis

4.3 Objective 1

Objective 1: To determine the impression of volatility of cash flow on debt levels.
H1: With high(Low) volatility of cash flows leads firms to use the long or short debt.
Measurements:
$D/E \text{ ratio} = a + b1 (VCF) + e$ equation (1)
Where as
D/E ratio= Dependent Variables, which indicates Debt to equity ratio.
VCF= Independent Variable which indicates firm's VCF

Table 1 Model Summary.

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.71 ^a	.632	.631	7.71640	.637	102.75	1	395	.000	2.175
a. Independent variable: Cash flow										
b. Dependent Variable: D/E ratio										

Table 1 provide statistical result for dependent variable D/ ratio and other independent variables is Cash flow . This analysis furnished the impact of independent variables on dependent variable. indicate R^2 reflects the strength of regression model is 71 % strong and absolute relationship between variables, R^2 coefficient value show the goodness fit model and explain variation around the D/E ratio and has probe value .000 is significant relationship between variables, F value 102.75 is statically significant and the Durbin-Watson value 2.175.

Table 2 ANOVA

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19261.074	1	19261.074	102.75	.000 ^b
	Residual	10955.878	394	59.543		
	Total	30216.952	395			
a. Dependent Variable: Cash flow						
b. Predictors: (Constant), D/ E Ratio						

Table 2 shows ANOVA of D/E ratio result shows F value (102.27) and probe value .000 is statistical significant.

Table 3: Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	22.208	1.963		11.313	.000	18.335	26.081
	Cash flow	.724	.040	.798	17.986	.000	.645	.804
a. Dependent Variable: D/E ratio								

Table 6. Coefficients of Em_performance shows that the results reflect the individual independent variable has statistical significant relationship or not with the dependent variable. The results shows equation 2 cash flow Beta value .724 and probe value 0.00 Positive relationship with the Cash flow statistical significant. There is a positively significant impact of Cash flow on Debt to equity ratio. Hence, alternate hypothesis Ha1 is **Accepted**.

4.4 Objective 2

Objective2: To examine the effect of the volatility of cash flows on over all leverage	
H2: Increasing earning volatility with time to maturity positivity related to increasing financial distress	
Measurements:	
Levg= $a+b1(VCF)=e$	equation (2)
Where as	
Levg= Dependent Variables, which indicates Firm's leverage	
VCF= Independent Variable which indicates firm's VCF	

Table 4 Model Summary.

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.699 ^a	.489	.479	7.14817	.637	46.695	4	395	.000	1.823
a Independent variable: Cash flow										
b. Dependent Variable: Leverage ratio										

Table 4 provide statistical result for dependent variable Leverage and other independent variables is Cash flow . This analysis furnished the impact of independent variables on dependent variable. indicate R² reflects the strength of regression model is 69.9 % strong and absolute relationship between variables, R² coefficient value show the goodness fit model and explain variation around the Leverage and has probe value .000 is significant relationship between variables, F value 46.695 is statically significant and the Durbin-Watson value 1.823.

Table 5 ANOVA

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19261.074	1	19261.074	46.695	.000 ^b
	Residual	10955.878	395	59.543		
	Total	30216.952	395			
a. Dependent Variable: Cash flow						
b. Predictors: (Constant), Leverage						

Table 5 shows ANOVA of leverage result shows F value (46.695) and probe value .000 is statistical significant.

Table 6: Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	22.208	1.963		11.313	.000	18.335	26.081
	Cash flow	.724	.040	.798	17.986	.000	.645	.804
a. Dependent Variable: D/E ratio								
b. Independent variable : Leverage								

Table 6 Coefficients of D/E ratio shows that the results reflect the individual independent variable has statistical significant relationship or not with the dependent variable. The results shows equation 2 cash flow Beta value .724 and probe value 0.00 Positive relationship with the Cash flow statistical significant. There is a positively significant impact of Cash flow on Debt to equity ratio. Hence, alternate hypothesis Ha2 is **Accepted**.

4.5 Objective 3

Objective 3: To Analyze the connection between cash flow volatility, leverage and Firm Value	
H3: Volatility of cash flow expected significantly inverse relationship on firm value.	
Measurements:	
$Vf = a + b1(VCF) + b2(Levrg) + e$	
Equation (3)	
Where as	
Vf = Dependent Variables, which indicates Firm's Value	
Vcf= Independent Variable which indicates firm's VCF	
Levrg= Independent Variable which indicates leverage.	

Table 7: Model Summary.

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. Change	
1	.465 ^a	.216	.212	4.093	.216	54.310	1	394.1	.000	1.465
a. Independent variable: Cash flow, leverage										
b. Dependent Variable: Firm Value										

Table 7 provide statistical result for dependent variable Leverage and other independent variables is Cash flow . This analysis furnished the impact of independent variables on dependent variable. indicate R² reflects the strength of regression model is 46.5 % an average relationship between variables, R² coefficient value show the goodness fit model and has probe value .000 is significant relationship between variables, F value 54.310 is statically significant and the Durbin-Watson value 1.465.

Table 8: ANOVA

ANOVAs						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.081	2	2.041	54.310	.000 ^b
	Residual	1.480	394	3.757		
	Total	1.889	396			
a. Dependent Variable: Firm's Value						
b. Predictors: (Constant), cash flow, Leverage						

Table 8 shows ANOVA of leverage result shows F value (54.310) and probe value .000 is statistical significant.

Table 9: Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	12.077	3.154		3.980	.000	9.593	6.562
	Leverage	94.534	4.67	.09	2.018	.045	23.039	18.609
	Cash flow	-4.596	.451	-.454	-10.185	.000	-5.483	-3.708
a. Dependent Variable: Firm's Value								
b. Independent Variable: Cash Flow, leverage								

Table 9 Coefficients of Leverage and cash flow shows that the results reflect the individual independent variable has statistical significant relationship or not with the dependent variable. The results shows equation 3 leverage Beta 94.534 and Cash flow Beta value - 4.596 and probe value 0.045 and .000 accordingly. Leverage shows positive relationship and cash flow indicate negative relationship with the firm value and statistically significant. Hence, alternate hypothesis Ha3 is **Accepted**.

CHAPTER 5

CONCLUSION, DISCUSSION RECOMMENDATIONS, FUTURE STUDIES

5.1 Discussion

Textiles and clothing trade is a vital part of the world economy with many nations heavily dependent on this sector for foreign exchange earnings and employment generation. Pakistan is the 8th largest exporter of textile products in Asia. It is 4th largest producer and 3rd largest consumer of cotton. It comprises of 46% of the total manufacturing sector and provides employment to 40% of the total labor force.

5.2 Conclusion

This study endeavors to determine how VCF can affect leverage and debt level and firms value for Pakistan listed firms. The purpose of this study to examine how Volatility of cash flow and its impact on textiles firm's Value, Leverage ratio and Debt Level.

It is observed from the analysis of cash flow that firm's with high volatility of cash flows leading to lower firms value. Hence this study indicate the results that already referred in such as (Memon, Z. A., Chen, Y. Tauni, M. Z., & Ali, H 2018).

It is also evidence from the results that higher volatility of cash flows result in lower leverage levels. Hence existing empirical literature also high lighting influence of variables of cash flows on leverage

This study reports several findings which can be beneficial in the following dimensions. First, firms encountering high VCF can reduce their costs of financial distress or bankruptcy by shrinking their leverage levels or by using shorter maturity debts. Second, we conclude that state-ownership is a crucial element which must be considered by the financial managers in their decision-making process as it influences the

firm's optimal capital structure. Third, our results indicate that banks in China offer convenient credit facilities to SOEs, regardless of their cash flow volatility level, which may not be beneficial for the development of SOEs. Fourth, results of this research imply that the banks and other financial institutions may decrease their risk of non-performing loans by limiting their financing or by increasing the cost of debt for the NSOEs having high VCF. Finally, our findings might also be useful for the investors as they can analyze the risk level of the firm by examining its variability of cash flows before taking any investment decisions.

5.3 Recommendations

The exploration can additionally be led for different ventures of Pakistan or Pakistan industry all in all (public and private). For longer timeframe and for the various areas.

Based on the discoveries, it is suggested that organizations should keep a beware of the varieties over the long haul. In this cycle the thought of different components is vital. It permits distinguishing those elements which make the perfection in fiscal reports. Exceptional thought ought to be given to the control factors which sway the firm worth, Debt level of the non-financial firms. The precise danger which is typically gives incredible significance in regards to the firm worth. This investigation clarifies that the unpredictability in budget reports impacts in regards to the Value of the firm and Debt level. Being mindful about just those factors which impact the estimation of the firm permits saving time and energy spent by firms in settling on these choices and their execution. In the event of influence firms should keep ideal obligation to value proportion. This factor ought to be kept considering the non-monetary firms when settling on capital construction choices.

5.4 Directions of the Future Research:

The study may propose the following future directions.

- The Total Risk may also have an impact on firm value. It could be included in the future study.
- The Use of derivatives may also affect Firm value so it should be Included in the study.
- Dividend pattern may also affect the firm value it can also be Included in the study.
- This study is only limited to non-financial companies, pattern of financial firms shall also be studied

References:

- i. 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.
- ii. Ahsan, T., Wang, M. and Qureshi, M.A. (2016), "Firm, industry, and country level determinants of capital structure: evidence from Pakistan", *South Asian Journal of Global Business Research*, Vol. 5 No. 3, pp. 362-384.
- iii. Allayannis, G. and Weston, J.P. (2003), "Earnings volatility, cash flow volatility, and firm value",
- iv. Allen, F., Qian, J. and Qian, M. (2005), "Law, finance, and economic growth in China", *Journal of*
- v. Antoniou, A., Guney, Y. and Paudyal, K. (2009), "The determinants of capital structure: capital market-oriented versus bank-oriented institutions", *Journal of Financial and Quantitative Analysis*, Vol. 43 No. 1, pp. 59-92.
- vi. Bauer, P. (2004), "Determinants of capital structure: empirical evidence from the Czech Republic", *Czech Journal of Economics and Finance (Finance a uver)*, Vol. 54 Nos 1-2, pp. 2-21.
- vii. Black, F. and Scholes, M. (1973), "The pricing of options and corporate liabilities", *Journal of*
- viii. Booth, L., Aivazian, V., Demirguc-Kunt, A. and Maksimovic, V. (2001), "Capital Structures in
- ix. Bradley, M., Jarrell, G.A. and Kim, E.H. (1984), "On the existence of an optimal capital structure: theory and evidence", *The Journal of Finance*, Vol. 39 No. 3, pp. 857-878.
- x. Brounen, D., de Jong, A. and Koedijk, K. (2004), "Corporate finance in Europe: confronting theory capital structure in china?", *Pacific-Basin Finance Journal*, Vol. 30 No. C, pp. 87-113.

- xi. Chang, C., Chen, X. and Liao, G. (2014), "What are the reliably important determinants of
- xii. Chaplinsky, S. and Niehaus, G. (1993), "Do inside ownership and leverage share common determinants?", *Quarterly Journal of Business and Economics*, Vol. 32 No. 4, pp. 51-65.
- xiii. Chen, J., Jiang, C. and Lin, Y. (2014), "What determine firms' capital structure in China?", *China Economic Review*, Vol. 17 No. 1, pp. 14-36.
- xiv. Cook, D.O., Kieschnick, R. and McCullough, B.D. (2008), "Regression analysis of proportions in
- xv. Cooper, M.J., Gulen, H. and Schill, M.J. (2008), "Asset growth and the cross-section of stock corporate capital structure", *The Journal of Finance*, Vol. 43 No. 2, pp. 271-281.
- xvi. Cull, R., Xu, L.C. and Zhu, T. (2009), "Formal finance and trade credit during China's transition",
- xvii. DeAngelo, H. and Masulis, R.W. (1980), "Optimal capital structure under corporate and personal taxation", *Journal of Financial Economics*, Vol. 8 No. 1, pp. 3-29.
- xviii. developing countries", *The Journal of Finance*, Vol. 56 No. 1, pp. 87-130.
- xix. Dierker, M.J., Kang, J.-K., Lee, I. and Seo, S.W. (2013), "Do firms adjust capital structures to manage risk?", *SSRN Electronic Journal*.
- xx. Dudley, E. and James, C. (2015), "Cash-flow volatility and capital structure choice", *SSRN Electronic Journal*.
- xxi. Fan, J.P., Titman, S. and Twite, G. (2012), "An international comparison of capital structure and debt maturity choices", *Journal of Financial and Quantitative Analysis*, Vol. 47 No. 1, pp. 23-56.
- xxii. Firth, M., Lin, C., Liu, P. and Wong, S.M.L. (2009), "Inside the black box: Bank credit allocation in China's private sector", *Journal of Banking & Finance*, Vol. 33 No. 6, pp. 1144-1155.
- xxiii. finance with self-selection", *Journal of Empirical Finance*, Vol. 15 No. 5, pp. 860-867.
- xxiv. *Financial Economics*, Vol. 77 No. 1, pp. 57-116.
- xxv. *Financial Economics*, Vol. 83 No. 1, pp. 1-32.
- xxvi. Frank, M.Z. and Goyal, V.K. (2009), "Capital structure decisions: which factors are reliably important?", *Financial Management*, Vol. 38 No. 1, pp. 1-37.
- xxvii. Friend, I. and Lang, L.H.P. (1988), "An empirical test of the impact of managerial self-interest on
- xxviii. Graham, J.R. and Harvey, C.R. (2001), "The theory and practice of corporate finance: evidence from the field", *Journal of Financial Economics*, Vol. 60 No. 2, pp. 187-243.
- xxix. Huang, G. and Song, F.M. (2006), "The determinants of capital structure: evidence from China",
- xxx. *Journal of Applied Corporate Finance*, Vol. 19 No. 3, pp. 74-81.
- xxxi. *Journal of Finance*, Vol. 29 No. 2, pp. 449-470.
- xxxii. *Journal of Finance*, Vol. 49 No. 4, pp. 1213-1252.
- xxxiii. *Journal of Financial Intermediation*, Vol. 18 No. 2, pp. 173-192.
- xxxiv. Ju, N. and Ou-Yang, H. (2006), "Capital structure, debt maturity, and stochastic interest rates",
- xxxv. Kale, J.R. and Shahrur, H. (2007), "Corporate capital structure and the characteristics of suppliers and customers", *Journal of Financial Economics*, Vol. 83 No. 2, pp. 321-365.
- xxxvi. Kale, J.R., Noe, T.H. and Ramirez, G.G. (1991), "The effect of business risk on corporate capital structure: theory and evidence", *The Journal of Finance*, Vol. 46 No. 5, pp. 1693-1715.
- xxxvii. Kane, A., Marcus, A.J. and McDonald, R.L. (1985), "Debt policy and the rate of return premium to leverage", *Journal of Financial and Quantitative Analysis*, Vol. 20 No. 4, pp. 479-499.
- xxxviii. Kayhan, A. and Titman, S. (2007), "Firms' histories and their capital structures", *Journal of*
- xxxix. Keefe, M.O.C. and Yaghoubi, M. (2016), "The influence of cash flow volatility on capital structure and the use of debt of different maturities", *Journal of Corporate Finance*, Vol. 38 No. S.C, pp. 18-

- 36.
- xl. Kester, W.C. (1986), "Capital and ownership structure: a comparison of United States and Japanese manufacturing corporations", *Financial Management*, Vol. 15 No. 1, pp. 5-16.
 - xli. Kieschnick, R. and McCullough, B.D. (2003), "Regression analysis of variates observed on (0, 1):",
 - xl.ii. Kim, W.S. and Sorensen, E.H. (1986), "Evidence on the impact of the agency costs of debt on corporate debt policy", *Journal of Financial and Quantitative Analysis*, Vol. 21 No. 2, pp. 131-144.
 - xl.iii. Leary, M.T. and Roberts, M.R. (2005), "Do firms rebalance their capital structures?", *The Journal of Finance*, Vol. 60 No. 6, pp. 2575-2619.
 - xl.iii. Lee, H., Oh, S. and Park, K. (2014), "How do capital structure policies of emerging markets differ from those of developed economies? Survey evidence from Korea", *Emerging Markets Finance and Trade*, Vol. 50 No. 2, pp. 34-72.
 - xl.iv. Leland, H.E. (1994), "Corporate debt value, bond covenants, and optimal capital structure", *The*
 - xl.v. Li, K., Yue, H. and Zhao, L. (2009), "Ownership, institutions, and capital structure: evidence from China", *Journal of Comparative Economics*, Vol. 37 No. 3, pp. 471-490.
 - xl.vi. *Managerial Finance*, Vol. 40 No. 10, pp. 1024-1039.
 - xl.vii. Memon, Z. A., Chen, Y., Tauni, M. Z., & Ali, H. (2018). The impact of cash flow volatility on firm leverage and debt maturity structure: evidence from China. *China Finance Review International*, 8(1), 69-91.
 - xl.viii. Merton, R.C. (1974), "On the pricing of corporate debt: the risk structure of interest rates", *The*
 - xl.ix. Miltersen, K. and Torous, W. (2008), "Risky corporate debt with finite maturity", *SSRN Electronic*
 - l. Minton, B.A. and Schrand, C. (1999), "The impact of cash flow volatility on discretionary investment and the costs of debt and equity financing", *Journal of Financial Economics*, Vol. 54 No. 3, pp. 423-460.
 - li. Papke, L. and Wooldridge, J. (1996), "Econometric methods for fractional response variables with an application to 401(K) plan participation rates", *Journal of Applied Econometrics*, Vol. 11 No. 6, pp. 619-632.
 - lii. *percentages, proportions and fractions*", *Statistical Modelling*, Vol. 3 No. 3, pp. 193-213.
 - lii.iii. Pinkowitz, L. and Williamson, R. (2007), "What is the market value of a dollar of corporate cash?",
 - liv. *Political Economy*, Vol. 81 No. 3, pp. 637-654.
 - lv. *returns*", *The Journal of Finance*, Vol. 63 No. 4, pp. 1609-1651.
 - lvi. *The Journal of Business*, Vol. 79 No. 5, pp. 2469-2502.
 - lvii. *with practice*", *Financial Management*, Vol. 33 No. 4, pp. 71-102.
 - lviii. Working Paper No. 22906, University of Virginia, Charlottesville, VA, September.
 - lix. Rajan, R.G. and Zingales, L. (1995), "What do we know about capital structure? Some evidence from international data", *The Journal of Finance*, Vol. 50 No. 5, pp. 1421-1460.
 - lx. Sarkar, S. (1999), "Illiquidity risk, project characteristics, and the optimal maturity of corporate debt", *Journal of Financial Research*, Vol. 22 No. 3, pp. 353-370.
 - lxi. Wald, J.K. (1999), "How firm characteristics affect capital structure: an international comparison", *Journal of Financial Research*, Vol. 22 No. 2, pp. 161-187.
 - lxii. Wang, Z. and Li, Y. (2013), "Optimal capital structure: case of SOE versus private listed corporation", *Chinese Management Studies*, Vol. 7 No. 4, pp. 604-616.