# IMPACT OF CAPITAL STRUCTURE ON CORPORATE FINANCIAL PERFORMANCE

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**By**

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# DEDICATION

To Prophet Muhammad (S.A.W.S.) (may Allah be pleased with him).

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In the name of All Mighty Allah the most Merciful and Omnipotent Who Taught Men the most significant use of the pen and taught men what they knew not. I, being a humble student, bow and prostrate before Him for completion of this endeavor. Without His Mercy and Help my endeavor could not have materialized.

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**Abstract**

This study relates to the capital structure (CS) of non-financial sector firms and its effect on firms' financial performance (FP). According to researchers, a company's performance is affected by CS. Company's investing decisions will be significantly influenced by the debt maturity and performance, as well as affected by the tax rate and government policies, and so on. This research assesses the impact of CS on a corporate performance and presents evidence for the impact of CS on the FP of a company. To assess the effect of CS on organizations' performance, distinctive factors were chosen, for example, CS, long-term debt to total assets, short term debt to total assets and total debt to total assets, which are denoted by LTDTA, STDTA and TDTA. Corporate performance can be measured by utilizing the factors return on assets, return on equity, earning per share and net profit margin, which are expressed by ROA, ROE, EPS and NPM, respectively, and some control variables: tangibility, current ratio and assets of the firm (Tangibility, CACL, and Size). CS variables are used as independent variables while the variables of corporate financial performance are used as dependent variables. All the data have been extracted from companies' annual reports. Data of 152 companies have been extracted from annual reports for 10 years, which comprises 2010 to 2019. Data is divided into six different sectors: textile, engineering sector, manufacturing and vehicles, sugar sector, food and communication, and petroleum and chemicals.

The findings of pooled ordinary least squares (OLS) reveal that all proxies of CS make a significant contribution to the FP of firms measured in terms of EPS. The results of fixed effects (FE) model highlight that all dimensions of CS except LTDTA make a negative contribution to EPS of firms. The negative coefficient values imply that excess reliance on short-term debt financing increases cost of capital, which in turn decrease EPS of firms. The result reveals that more profitable companies utilized less short-term debts in assets financing.

The findings of NPM under FE model show substantial negative influence of STDTA and TDTA on NPM of firms, while LTDTA has a positive impact. Thus, excess use of debt financing either with short-term or long-term sources is not favorable for firms' NPM. ROA is positively affected by LTDTA, which implies that financing from long-term sources, such as bonds and debentures, involves less cost than short-term sources of debt. The outcomes of this study reveals that the rest of the variables (TDTA) has no influence on ROE of firms. These outcomes are in compliance with pecking order theory (POT), which describes that cost-effective firms should use their retained earnings for investment.

The results of ROE under balanced FE model show significant negative influence of LTDTA and STDTA on firms' ROE. However, TDTA has no influence on ROE of firms. These outcomes are in compliance with POT, which describes that profitable firms should use their retained earnings for investment instead of external financing. Overall, the findings demonstrate adverse connection between CS and FP of firms.

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# Chapter 1

## Introduction

Every business organization has capital structure (CS) that fits its criteria perfectly. The objective of all organizations is to maximize their organizations' value in terms of performance and shareholder value. Mujahid and Akhtar (2014) revealed that a firm's CS is connected with its financial performance (FP). San and Heng (2011) discovered that a decrease in weighted average cost of capital (WACC) causes favorable influence on performance. Firms prefer the CS that minimizes their WACC.

Maximization of a firm's worth is not a simple task, it requires optimizing decisions regarding CS, capital budgeting and working capital management. CS requires the utilization of debt and equity financing opportunities in a well-organized environment. The wrong selection of debt financing might possibly give rise to financial disturbance and, in the end, lead towards a case of bankruptcy. Different determinants of CS have been discussed in previous studies. It is well known that external aspects might possibly influence the overview of a firm's CS; therefore, the option a firm takes could immediately influence its CS. Although financial efficiency is a subjective way of calculating a company's performance, it could be argued that the main functions of a business are to make use of its assets and produce revenues by following different economic alternatives. A basic method of determining an organization's financial fitness over a provided time frame is utilized to evaluate similar firms in the same industry or even to evaluate companies or sectors in aggregation. By keeping all of in your mind, we tend to be able to determine that the development of a CS could influence the power structure of a firm and eventually it can effect the capability of an organization to perform more effectively. Some experts reported that the type of diversification

method is associated with CS (Kochhar & Hitt, 1998). It was well-known that there is a adverse association between R&D and CS (Balakrishnan & Fox, 1993) because higher portion of debt resulted in higher financing cost which might restrict firms' investment in R&D.

### 1.1 Capital Structure

The main component of financial decisions at the firm level is CS. Kidwell (2009) reported that firms try to increase the net worth of their business by considering various financing alternatives. Every firm wants to achieve the best possible CS by making adjustments over the years in response to developments in the capital markets and as per their growth needs (Mahmud & Qayyum, 2003).

Peavler (2013) stated that CS is the combination of long-term debts and some specified short-term debt (e.g. bank notes, common equity and preferred equity). Simply speaking, the main structure is the means through which a company finances its situation, which is generally developed by using various types of resources. Debt is the most important component of CS, although short-term debt, such as execution of capital conditions, can certainly be considered to be an element of the CS. Both kinds have their own positive and negative effects.

#### 1.1.1 Debt Capital

Debt capital is a that portion of a firm's capital that is related to borrowing money from those people who have surplus funds. Long-term bonds are regarded as the most secure form of debt capital, since the company has years of selecting out the solution and possess only to cover the interest. Another kind of debt capital is short-term bonds which are issued by strong companies. The buying price of debt capital throughout the CS depends upon the capability of the balance the firm owns and the firm's credit background. If an organization or firm is AAA rated, it is in a

position to acquire at exceptionally reduced interest rates as compared to a company whose rating is not strong.

### 1.1.2 Equity Capital

From an accounting perspective, shareholders' capital equity discloses the equity of a company as separated between entity shareholders of common or preferred stock. Usually, equity capital is of two sorts: (a) contributed capital, which means that the fund was initially dedicated to the business enterprise in return for stocks regular issue; and (b) retained earnings, which signifies the profits retained by firms from earlier years and firms utilize these internal funds to make strong total quantity of acquisitions. Some authors argue that it is favorable for firms to rely on internal financing (equity capital) instead of external financing in order to reduce agency costs.

### 1.1.3 Other Types of Capital

Some other forms of capital can observe. For instance, vendor funding in which a firm can trade goods prior to the balance and for that motive firm can go back on equity however without any cost to the firm. The expenditure on other forms of capital in the CS varies significantly on an event to often case foundation as well as diminishes down into the ability and training related to managers, and this is called cash transformation that is unfavorable. Vendor financing is calculated as the portion of inventories to accounts receivables. The greater financing by vendor is highly desirable.

#### 1.1.3.1 Sweat Equity

Sweat equity is commitment to a venture or undertaking as exertion and work. Sweat equity is the possession intrigue or increment in esteem, which is made as an immediate after effect of diligent work by the owner. It is the favored method of building value for cash-strapped business people

in their start-up endeavors, since they may not be able to contribute much money-related funding to their venture. In the setting of real estate, sweat equity alludes to upgrades made by the property holders themselves to their properties. The term most probably came from the way that such value is thought to be created from the "sweat of one's forehead." An additional type of capital introduced to as sweat equity that will be when a holder operation by setting up long hours at a rate which is lower of each hour received back collectively whenever it goes to not really adequate capital essential to employ adequate employees to perform the work perfectly and invite all of them to operate a normally forty hour work a week. It is mostly not dependent on financial capital, which can be approximated by the price of payroll as a result of extra hours worked by the proprietors even as we recognize. The hope that is only that the business enterprise might develop rapidly sufficient to reimburse the owner whenever it will come to low pay, the long hour sweat equity instilled in to the enterprise.

The selection of choices regarding excellent CS is a determination that will be critical to any business, organization or firm. The selection is really important because of various reasons, such as to help improve returns to different organizational constituencies, in addition as a consequence of affect such a selection is putting on an ability which is usually organization’s deal with its saturated environment. However, a most favorable CS can be found that stabilizes the risk of insolvency by utilizing tax savings from debt (Modigliani & Miller, 1958, 1963). CS once demonstrated ought to offer superior returns to investors. Then again, experimental studies that have tried to examine this relationship generate theoretically created outcomes that lead to as many questions as answers (Ghosh, 1992; Myers, 1984).

#### 1.1.3.2 Float

Float might similarly indicates the cumulative stocks manageable for trading. Float is figured by deducting firmly held shares from the collective extra stocks. Organizations that gather funds and earnings which create the resources prior to having to pay it all of them contact at the near future in the shape of covered person rewards contrary to the loss happen that was guaranteed. This basically means float is funding which an ongoing company retains, however will imply of that fund. These have most of the advantages of debt but none of the disadvantages. The most important consideration is probably the expense of capital, which means how much cash it costs the people who possess a business entity to come up with float. A few circumstances which can be unpaid there, when the price can as a matter of fact be negative, which means you might be paid to take a possession other people's money and you are free to maintain the income by using the opportunities.

Gupta, Srivastava and Sharma (2014) stated that the basic purpose of every firm's CS is to boost the performance of the firm and shareholder value and diminish the cost of capital to the firm. In an earlier study, Akintoye, Beck and Hardcastle (2008) highlighted that firms' FP is sensitive to their CS. San and Heng (2011) established positive connection between CS and FP of firms. Khan (2012) emphasized the effect of CS on the FP of firms. A recent study by Vatavu (2015) also highlighted the impact of debt maturity on a firm's performance.

Titman and Wessels (1988) stated that their results were unfavorably related to leverage. Some authors stated that there is certainly a adverse connection between the weakness of shareholdings and the satisfaction level of firms. The effectiveness of business corporations is impacted by their specific strategies in addition to operations in the market as well as non-market environments

(Baron, 2000). Each one of these types of discoveries illustrates the relationship between CS and the strategies of these firms. Martin and Scott (1974) expressed that when settling on debt value choices, firms have a tendency to consider seven general money-related problems: liquidity, gains, profits, market value, firm size, sales development and sales inconstancy. Another issue that organizations consider when settling on their budgetary decisions is the cost and the advantages that can be created from each financing technique (Titman & Wessels, 1988). Hung et al. (2002) revealed a connection between CS and the productivity of a firm. In earlier years, CS theories described the relevance or irrelevance of CS. However, an undeniable fact is that there is still no recognized specific method through which managers might possibly make use of a debt level which is perfect. These theories give some information for comprehending the impact of CS on the FP of firms.

### 1.2 Problem Statement

CS is an important issue for companies. The management of firms needs to choose a CS that is consistent with shareholders' wealth maximization and which does not harm the organization's profitability. CS plays an essential part in the financial execution of an organization; therefore, due to its significance, different financial analysts have directed research on CS. A substantial portion of the exploration of CS is with reference to developed economies; there is less research with reference to developing economies like Pakistan. The diverse division of any economy is a source of financial aggressiveness; so, CS is an essential issue. Most previous studies examined the role of CS in the performance of firms in Pakistan without considering the differences across industrial sectors. In addition to firms' specific factors, use of debt and the structure of debt maturity are also influenced by the characteristics of the industry (e.g. requirements of capital expenditure, operating

cycle, technology, competition and product features). In order to improve understanding and to provide deep insight about the association between CS and firms' performance, comparative studies are needed. This study highlights the differences across industrial sectors regarding the influence of CS on FP of firms.

### 1.3 Objective of Study

This study aims at examining the role of CS on a firm's FP. The following is specific objective of present study:

- To empirically study the influence of CS on firms' FP.

### 1.4 Rationale for This Study

Review of extant literature reveals that majority studies conducted to study the role of CS on FP are found in developed economies of the world (Abdullah & Tursoy, 2019; Abeywardhana, 2016; Avcı, 2016; Berger & Patti, 2006; Chaganti & Damanpour, 1991; Detthamrong et al., 2017; Iavorskyi, n.d.; Jiahui, 2015; Margaritis & Psillaki, 2010; Salim & Yadav, 2012; Saputra et al., 2015). Limited empirical evidences are observed in developing and emerging economies (Abbas et al., 2013; Akhtar et al., 2019; Basit & Hassan, 2017; Chadha & Sharma, 2015; Fosu, 2013; Hossain et al., 2019; Kanwal et al., 2017; Nawaz et al., 2011).

Majority of extant empirical evidence have focused on non-financial sector (Chinaemerem & Anthony, 2012; Dada & Ghazali, 2016; Fosu, 2013; Nenu et al., 2018; Nguyen & Nguyen, 2020; Pandey & Sahu, 2017). However, some studies have concentrated on a single sector such as Information technology (Hossain et al., 2019), textile (Abbas et al., 2013; Akhtar et al., 2019; Ahmed & Siddiqui, 2019; Amjed, 2007; Asad et al., 2019; Bokhari et al., 2019; Maroof et al., 2017; Nawaz et al., 2011; Sachdeva, 2019; Sattar, 2020), engineering (Khan, 2012), sugar (Saeed

& Badar, 2013). The findings of studies reveal negative influence of debt financing on firms' FP (Kanwal et al., 2017; Zaheer et al., 2011). Some studies have found positive consequence of debt financing on firms' FP. Thus, extant literature reveals inconclusive findings.

Regarding sectoral differences, FP with regard to CS of non-financial sector firms vary from sector to sector (Islam & Khandaker 2015; Salim & Yadav 2012). However, limited empirical evidence has been found to gauge financial performance of steel and automobile sectors. Moreover, dearth of empirical evidence is found to compare the financial performance of steel and automobile sectors with reference to capital structure. To the best of researchers' knowledge, only Kanwal et al. (2017) gauged FP of firms with reference to CS in the context of Pakistan. Due to dearth of literature on sectoral differences in steel and automobile industries, a study is needed to cover the identified gap.

### 1.5 Significance of the Study

The industrial sector of Pakistan is very diverse. It consists of numerous industries which have varying growth potential and tax treatment. The role of CS on the performance of firms depends on their potential business growth and taxation. Thus, the optimal CS for firms differ from industry to industry. The findings of this study will highlight the different impacts of CS on the FP of firms across various industrial groups and will provide deep insight to academics as well as practitioners. The findings will be useful for the managers of firms in developing industry-specific strategies and policies about CS.

On a theoretical note, this study highlights the value of CS for the non-financial sector of Pakistan. This study considered various industries ranging from manufacturing to service sector firms. CS and its implications for different industries could differ and different behavior could be expected

from each industry. This research studies different industries in isolation to unveil their CSs and their relative influence on corporate performance. Thus, theory and evidence on CS are enriched by this study in a way that previous studies have ignored. This study argues that CS of different industries could differ and provides evidence in this regard. This study documents that the role of CS in the corporate performance of capital-intensive industrieswhich significantly differs from services oriented firms in terms of CS. Thus, this study has paved the path for more specific enquiry into the nature of the connection between CS and corporate FP.

On a practical note, this study has documented the specific influence of fixed liabilities and current liabilities on the corporate FP of different industries in Pakistan. Further, different maturity structures of CS influence different aspects of corporate performance differently. Thus, this study provides specific implications of the impact of different debt maturity structures on different aspects of corporate performance. The findings of this study will enable different industries to adjust their CS in an optimal manner to improve their performance. Further, policy makers and government could also devise specific debt relief packages for different industries, for example there is a specific need to revive the textile industry to boost exports. More specifically, short-term debt has negative implications for the textile industry, while long-term debt has positive implications. Government could devise a plan to restructure the debt of the textile sector by providing long-term loans at low interest rates and discourage short-term loans to the sector. Thus, policy makers could also decide on an action plan to use corporate debt to promote performance of the different sectors included in this study.

### 1.5 Structure of this Study

Chapter Two delivers a comprehensive review of literature on CS theories and its elements, that are equally applicabe at micro-level, meso-level and macro-level across Pakistan and other nations. Chapter Three provides information regarding data, data collection, definition of variables, methodology, and hypotheses development. Chapter Four provides information regarding the results of regression analysis, fixed effects (FE) model, multicollinearity test results and unit root test. Chapter Five provides an extensive view of the overall study as well as conclusion, contributions of the study and recommendations.

# Chapter 2

# Literature Review

This chapter delivers a brief but critical examination of existing literature about the association between CS and the FP of firms. CS plays a significant role in each capital investment decision because these factors influence the profitability of firms. CS is the combination of preference shares, debt and equity and these are the main constituents of a firm's balance sheet. Various studies have endorsed an association between a firm's FP and CS, mainly the renowned Modigliani–Miller (MM) theorem (1958, 1963). Mostly, managers of firms use a combination of debt and equity to fund their resources. Therefore, appropriate selections of debt and equity are significantly important for the mangers of every firm. A number of studies have been found in literature regarding the optimal CS that leads to a firm's higher profitability.

## 2.1 Theories of Capital Structure

Every firm maintains its financing structure through debt and equity. CS is sometimes called the financial structure. A firm's CS is extremely imperative subsequently it is linked with the flexibility to satisfy the requirements of firms' shareholders. Modigliani and Miller (1958) claimed that CS was not relevant in gauging a firm's FP. Modigliani and Miller (1963) questioned on the practicality of the model and claimed that if tax was taken into consideration.

Modigliani and Miller (1963) claimed that a firm's CS is composed exclusively of debt because of tax write-offs on interest expenses. Brigham and Gape (1996) confirmed that validity of MM model; however, in practice, bankruptcy expenses occur and these charges

are directly connected with level of a firm's debt. Using theoretical models, the upper management of firms can estimate optimal CS, but many researchers found that in real-world situations a majority of firms did not have an optimal CS (Simerly & Li, 2000). Jensen and Meckling (1976, p. 308) stated that "an agency relationship is a contract under which one or more persons (the principal) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent." The stake of executives and stockholders differs significantly and, in this scenario, a manager is answerable for operating the firm inclines to achieve his or her personal goals instead of getting the best out of returns to the shareholders.

CS is a mixture of financing provisions: the first is share capital and the other is a debt. There are a variety of concepts that basically outline the consequences of various situations among these options from the overall expense of capital to the overall worth of the company. Modigliani and Miller's (1958) suggestion of CS irrelevancy and others' earlier ideas showed that there were clearly no commonly approved concepts of CS.

Modigliani and Miller's (1958) MM idea created the cornerstone of advanced thought on CS, although it is normally regarded as an entirely theoretical outcome because it disregards a lot of critical indicators that are considered for CS determination. This specific idea showed that in a perfect market the means by which an organization is actually funded is unrelated to its worth.

The contributory performance of Modigliani and Miller (1958) gives the idea of present on CS. Modigliani and Miller (1958) demonstrated that the selection among equity and debt financing has zero impact on a company's worth; as a consequence of this, managing a firm should really stop

about the proportion of financial obligation plus equity investments inside ideal capital markets. Any kind of mixture of personal debtequity investments are really as ideal as another.

### 2.1.1 MM-Proposition I (1958)

MM-Proposition I (1958) stated that under particular states of no duty, no insolvency cost and a productive market, additionally in unbalanced data, the firm value is unaffected by how the firm is funded, what the profit is and how the capital of the firm is raised. So, the estimation of the firm absolutely relies on the genuine resources not on the CS. The idea of debts irrelevancy is based upon limited presumptions which do not occur in reality.

### 2.1.2 MM-Proposition II (1963)

MM-Proposition II (1963) emphasized that companies ought to utilize the maximum amount of loans they can because interest tax is allowable. Furthermore, the significance connected with an organization is certainly leveraged as compared to non-leveraged organization through a sum corresponding to the present value belonging to the tax cost savings which occur due to the utilization of loans. Miller (1977) introduced a different concept through introducing taxation this is certainly distinctive inside the evaluation this is the company tax rate, the normal individual rate of tax, which could relate to interest earnings in addition to individual rate of tax on equity earnings. He suggested that the income tax cost savings originating from a company's borrowings can be actually zero whenever an individual's taxation in addition to corporate taxation are invented. When interest earnings will not be assessed over the degree which is corporate taxed in the personal standard, equity earnings looks taxed through corporate level however could possibly avoid personal taxes. The capable individual rate of tax on collateral earnings is commonly lower

as compared to frequent personal tax rate on interest earnings whilst the consequences. Most of the positive aspect is decreased through these types of aspects associated with debts financing. Relating to Miller's evaluations, the method of getting corporate credit extends when the company rate of tax surpasses the non-public rate of tax associated with traders consuming the supply that is enhanced.

MM-II indicates that a firm's reputation is important to its CS. MM-II inferred that with 100% obligation, the CS of a firm is ideal because of conspiracy and tax protection. Aside from this, a few specialists confirmed that expansion of obligation in an association's financing is the main cause of insolvency (Jensen & Meckling, 1976; Titman, 1984). Jensen and Meckling (1976) and Titman (1984) identified that the desired level of financing and equity-to-debt ratio as well as the cost of loans offered, basically connected with a firm's worth.

It may not be an authentic strategy to possess 100% loans when you look at the CS, within the MM-II statement, maximum CS looks a variety of loans, common equity plus best capital who minimizes the calculated expense of capital even as we recognize, because of this worthiness regarding the firm enhanced (Mayer et al., 2004).

### 2.1.3 The Trade-off Theory

In the light of alteration of MM-Proposition 1, the stationary trade-off model infers that organizations have a tendency to pick an ideal level of debt value mixture that is controlled by the tradeoff between the expenses and the advantages of liabilities. Jensen and Meckling (1976) stated that a company's ideal CS would contain a trade-off among the impact of business and individual taxes, insolvency expenses and management costs. Exchange of postulation which proposes that businesses ought to think about a sensible debt proportion and try to accomplish this objective on

a long-term basis. In this way, a firm can earn extraordinary profit by utilizing obligation as a modest source of financing. Tax saving is one of the outcomes from utilizing obligation; therefore, the cost of potential financial depression is considered a weakness of utilizing obligation, particularly when the firm depends on an excessive amount of obligation. This theory proposes an tradeoff between the tax reduction and the impediment of higher danger of monetary distress. Most firms perpetual with the trade-off theory, firms with minor expense charges were further disposed to use value contrasted with exceedingly helpful for firms that support obligation.

Kraus and Litzenberger (1973) revealed that the duty of protection advantages is balanced through the expense of monetary plain. Interestingly, even with a tax cut, Merton (1977) spotted the superfluity of CS in balance, and Miller (1977) stated that the upside of obligation vanishes under an assortment of assessment administrations, consequently, the estimation of a firm is getting to be autonomous of its CS. DeAngelo and Masulis (1980) established that the normal increases from influence are decreased through different findings of assessable pay which is recognized as non-duty obligation, which is devaluation and speculation expense. Myers (2003) contended that the benefit of interest duty derivations might vanish at the base layer of tax collection. Contrary to the tax advantages of the application of loans finances, DeAngelo and Masulis (1980) recommended that organizations possess techniques aside from attention on debts to protect earnings, for instance tax deficit move ahead, devaluation, financial investment taxation financing as well as many more. The best thing about tax covers on interest expenses is that they motivate organizations to try to get additional debt, having said that, they additionally enhance the possibility that profits in certain full decades are probably not enough to transfer the entire tax rebates; therefore, a number of them may possibly stay excess, like the tax deductibility interesting expenses. For that reason,

organizations using huge debt that is non-tax shields in relation to specific anticipated cash flow consist of lower debt within their CS and this observation indicates that tax shields will be the substitute belonging to the tax shields on loans funding.

Myers (2001) explained the fact that disputes among the debt owners and share owners happen if it is discovered that a chance of nonpayment exists. However, debt owners do not have any curiosity about the earnings as well as the benefits or danger for the firm when debts are wholly free from standard risk. However, stockholders then might obtain advantages at the cost of debt owners in the event that the possibility of default looks considerable; furthermore, executives also act within the importance of stockholders. The executives might possibly provide in to relax and play selection which can be different switching benefits from debt owners inside share owners at debt holder expense. This trade-off theory of CS pertains to the concept in which an organization decides exactly which debts and equity finances to utilize through stabilizing the expenses about the business enterprise. This idea reports that organizations acquire the position where the tax discounts that can come through the improved chance for economic stress.

A benefit of tax shields is that they might possibly allow organizations to implement additional loans compared to various external alternative resources; however, this form of financing is definitely not free of expenses. Two prospective costs tend to be connected with this availability of credit: (a) insolvency costs and (b) department costs. The insolvency is merely a procedure that may be appropriate to the loan providers to accept dominance as soon as the fall when you look at the cost of assets stimulate a standard. Insolvency costs tend to be the expenses of employing this procedure. This cost of insolvency can be secondary or primary.

Gruber and Warner (1977) noticed that the proportion of immediate insolvency charges into the market worth associated with the organization decreases due to the firm value. They evaluated the market charge of insolvency is regarding the ordinary about 1% associated with the firm's market value ahead of insolvency. Additionally, immediate expenses of insolvency seem to reduce as being a work associated with the specifications of the company that is definitely insolvent and immediately proportional. So, all of these conclusions declare that immediate insolvency costs are less significant for CS judgments of huge organizations.

### 2.1.4 Free Cash Flows Theory

Free cash flow (FCF) is essential since it allows a firm to follow situations that upgrade investor esteem. Without money, it is difficult to grow new items, create acquisitions, to pay profits and diminish obligation. Identified with CS, this hypothesis communicates that alleviation of FCF by paying interest of obligation and profits retain a foremost from likely deviations to mishandle organization's income for individual purposes. In light of law fundamentals, paying the essential and interest of obligation is likened paying profits to reduce the level of FCF (Jensen, 1986).

Another essential theory is that CS could be the theory of FCF which shows that maximum leverage results in an increase when considering a firm's worth regardless of the danger of financial distress, as soon as a firm's operating cash flow surpasses their rewarding funding likelihoods (Myers, 2001). Clashes between stockholders and executives over payment procedures are especially extreme when a company produces cash that is free from procedures. The main issue is how to encourage the administrators to deliver cash to the stockholders as opposed to spending it at lower price of capital or possibly potentially wasting the product on company inefficiencies. According to Jensen (1986), debt can be utilized as a controlled device that commits the executives

to spend free cash amongst shareholders that simply cannot be beneficially reinvested within the firm's functions. Grossman and Hart (1982) discovered that loans can cause supervisors to function much efficiat with a lot fewer perquisites as well as make better funding judgments and so on. Where insolvency is expensive for stronger than potentially company might lose some great benefits of manage. These types of conclusions show that a high debt can be hazardous for a company, but it can also include value through getting the company to agree upon a plan.

### 2.1.5 The Re-Structuring Cost Theory

The re-structuring cost theory proposes that the ideal CS is dictated by organization cost, which emerges as an irreconcilable situation among various recipients (Jensen & Meckling, 1976):

1) Conflicts of interest between directors and partners.

2) Misalignment of stake between partners and holders of corporate obligation securities.

Bebchuk and Fried (2004) explained company cost because it is a concept of economics, which is primary expense. As soon as the primary cost employs a representative to behave on their account, as well as considering that the two persons have various passions and also the broker has more details therefore they cannot make sure their broker is obviously performing in better interests. When each individual to your connection are utility maximizer there clearly was reason to have faith in that the broker will likely not to act in finest benefits associated with investors. Although the outcomes of company cost can be found in virtually any company relationship, the term is mainly found in business contexts.

These types of ideas of appropriate financing in internal financing consequently resulted in business cost concepts. Jensen and Meckling (1976) created a significant contribution in this

period; three points were mentioned: (a) by checking expenditures by using the key, (b) the connecting expenses by using the dealer, (c) the loss which is residual. Myers (2003) showed that a few models of business theory indicated a financial hierarchy, as well as business charges of equity, which could cause a pecking order.

### 2.1.6 The Pecking Order Theory (POT)

The POT declares that organizations like to utilize internal finance (as held income or abundance quick resources) over outside funding. On the off chance that inner assets are insufficient to back investment opportunities, firms could possibly secure outer financing, and in the event that they do, they will select the outside fund source that limits extra expenses of deviated information. Keeping in mind the end goal to limit outside cost of financing, firms want to utilize obligation to begin with, at that point issuance of favored stock, and lastly issuance of regular stock. The consequences of POT are inside-created finances in the first place, trailed by obligation financing and offer financing.

In this way, Myers and Majluf (1984) responded to the trade-off model by showing POT over fund sources as an after effect of data asymmetry. At the point when financial specialists are not ready to analyse offers because of absence of data on the estimation of the firm, supervisors are thought to be educated and to take action to the greatest advantage of the investors. Myers and Majluf (1984) additionally contended that declaration of issuance of stock could be uplifting information for speculators as it uncovers the development chances of the company. \On the other hand, it might be problematic news for supervisors who try to issue overstated shares. Fascinatingly, Myers and Majluf (1984) proposed that declaration of obligation issuance has little effect on the stock.

The POT initially came from Donaldson (1961); however, since then, developments have been most conspicuously connected with Stewart et al. (1984).

Halov and Heider and Halov (2005) indicated that the standard pecking order is a specialized situation of negative choice. Dybvig and Zender (1991) revealed that they perfectly created managerial reward with compensation linked to the significance associated with a company, which might resolve undesirable alternative issues. The incentive that basic pecking order is undesirable alternative created by Myers and Myers (1984).

A pecking order could occur in almost any trade-off theory in which providing small claims is much more costly compared to issuing claims. This may be introduced not merely by selecting expenditures that harm equity but by additionally applying agency charges to equity. François and Morellec (2004) considered that sometimes even by using greater distribution which is physical of the latest equity shares. The rewards of loans may also produce orders through pecking order in (Auerbach, 1979). Commonly, it is really not complicated to produce models for equity in which internal cost is effectively mentioned (Lewellen, 2006). Such variety of theory may then also justify a announcement can be negative, these result in the making of an effort to issue reveals that traders of managerial objective or maybe that the organization needed to turn to these expensive techniques of equity financing.

A substitute for trade-off theory is the POT of Myers and Majluf (1984). This concept is dependent on two assumptions that are prominent. Myers , (1984) states that opposing choice suggests that retained earnings tend to be a lot better than loans, plus obligations is preferable to equity. The standing ended up being inspired with regards to the adverse selection model of Myers (1984). Myers (1984) characterized in this manner that “A firm is believed to adhere a pecking order

whether it favors interior to financing that is external debt to equity if exterior funding is employed."

**2.2 Corporate Financial Performance**

Barle and Means (1932) gave an explanation for the clear reverse relationship between weakness of shareholdings and gratification regarding the organization; they clarified the fact that managerial effectiveness is commonly dependent upon CS regarding the organization. The much more spread out the equity possession of a company is, you can find the higher rewards when it comes to people who own the company to ride that is free the initiatives of each and every other businesses in order to observe the organizational procedures.

The ramifications of this detachment of control and dominance have now been formalized in principal–agent design theory of Grossman and Hart (1983), which will be illustrated through Jensen and Meckling (1976). Regarding publicly retained organizations, the cornerstone of the experimental function model of Amihud and Lev (1981) it will not look quite inadequate to conquer previous measurements of the distressing dilemma of agencies.

Demsetz (1983) described the CS associated with organizations and other control with corporate looks endogenous. The product shall be modified provided a benefit could clearly be achieved through eradicating managerial ineffectiveness; the instability of the CS of companies can vary greatly, nevertheless, the volume of managerial ineffectiveness will likely not.

Even though this summation looks certified because of the presence of exchange expenses, it is often mentioned that expenses are lower for open organizations because stocks among these may be exchanged at lower costs. Relating to Demsetz (1983) these people examined the Barle and

Means (1932) proposal decreases to spell out the amount of attention of the ownership as well as all the other company dominance components.

Demsetz and Lehn (1985) they give you various indications in which their distribution amount of shareholding in which public depends upon various exogenous attributes regarding the organization. These types of attributes or properties might be linked to the possibility of managerial ineffectiveness; nevertheless, the overall performance associated with a company will not be determined by the amount of distribution regarding the equity possession structure. It might be surprising that some other researchers declared they had discovered evidence that CS should impact the efficiency associated with an organization; however, the connection vanishes if the company's efficiency is analyzed regarding the structure of a large number of control mechanisms, including fractional possession of associates, organizations, other section members, outsider panel membership and value of take control. The presentation is the fact that organizations utilize mixtures with regards to handle components to ensure that effectiveness pertaining to company costs is similarly effective in steadiness, a total outcome in keeping with Demsetz and Lehn (1985). The problem associated with endogeneity associated with control structure issue is also there.

As part of the discussion on the outcomes of control on an organization's total efficiency, Jensen (1986) stated that improving a firm's influence make it possible to steadily reduce the inefficiencies caused by the separation of control and ownership. Kaplan (1989) and Smith (1990) determined that in buyouts that are leveraged, the connections between efficiency, control and leverage are tough to unravel. Holthausen and Larcker (1993) determined the parallel motivation of company leverage, managing equity control, as well as accounting that is firm of efficiency. The above studies considered why these variables are typically endogenous.

This mixture of management's prudence through revealed profits plus the impact of these types of profits have actually within their reward contributed to a potential agency problem.

**Table 1. 1 Summary of capital structure theories**

| Theory | Connection | Causality |
|---|---|---|
| Modigliani and Miller (1963) | Positive | Debts impact on FP |
| Trade-off | Positive | Debts impact on FP |
| Pecking order | Negative | Debts impact on FP |
| FCF | Positive | Debts impact on FP |
| Signaling | Positive | Debts impact on FP |
| Agency problem | Negative | Debts impact on FP |

### 2.3 Relationship between Financial Performance and Capital Structure

Hung et al. (2002) revealed that there is an association between CS and firm's FP. Jensen (1986) through the contention of free income, predicted that higher use may upgrade the CS as a result of the motivation behind why the directors of these organizations are lesser in a position to start with ventures indicating negative NPV. San and Heng (2011) tested the result of CS on indicated monetary execution return on capital, ROA, ROE, EPS, operating margin and net margin and uncovered that the association between CS and indicated corporate execution intermediaries exists. This finding is consistent with the study of DeAngelo and Masulis (1980) that show the ideal CS exchange off model which deals with the effect of non-obligation and obligation impose shields. These analysts demanded that the duty troubles and deterioration to re-establish the expense extraordinary things about debt financing. Titman and Wessels (1988) benefited not discover at all motivation behind why there is surely a connection among non-obligation impose shield and

obligation proportions. Jensen and Meckling (1976) checked associations among a firm's CS, its performance and equity ownership and ultimately found a positive relationship.

Goyal (2013) conducted research to primarily inspect the role of CS in the banks' profitability in India listed on the national stock exchange during the period of 2008 to 2012. The researcher has employed regression analysis for testing the causal connection of ROE, ROA and earnings per share (EPS) with CS. The results of regression analysis presented substantial positive connection between profitability as measured by ROA, ROE, and EPS and short-term debt.

Ashraf, Ameen and Shahzadi (2017) explored the association between a firm's profitability and CS. The optimal CS of Pakistan's cement industry was also explored. Panel data was collected from 18 KSE listed firms during 2006 to 2015. CS was measured through LTDTA, STDTA, TDTA, interest coverage ratio and debt-to-equity ratio (DER). ROE and ROA were used to measure the firm's profitability. The study showed that STDR had a substantial positive influence on ROE and ROA but LTDR and DR showed a negative association with ROE and ROA.

Rahman, Sarker and Uddin (2019) analyzed the linkage between the profitability of manufacturing firms and CS. Secondary data was collected from 10 Dhaka Stock Exchange listed firms over the period 2013 to 2017. DER, equity ratio (ER) and DR were used to measure the CS (independent variable) of firms, and profitability (dependent variable) was measured through EPS, ROE, as well as ROA. The results discovered that DER had a significant negative association with EPS, ROE and ROA. The ER and DR had significant positive linkage with ROA, and ER also had a positive effect on ROE.

Rufus, Ozioma, Ofoegbu and Grace (2017) examined the CS effect on Nigerian construction and real estate firms' performance. Panel data was gathered from the financial statements of real estate and construction firms listed on Nigerian Stock Exchange during 2005 to 2014. Ordinary least squares (OLS) regression analysis was applied to measure the association among the dependent variable (performance) and independent variable (CS) of the study. FP was measured through ROA, ROE, return on capital employed (ROCE) and EPS, and CS was measured through liquidity ratio, STDR), LTDR and ER. The results showed that CS had a significant association with the EPS, ROCE and ROE but it had no significant association with the ROA.

Rao and Suryanarayana (2018) analyzed the effect and linkage among a firm's FP and CS. Panel data was collected from 10 companies related to different sectors listed on the Bombay Stock Exchange during 2009-2017. Stratified sampling was used to select the sample size of the study. The dependent variable (FP) was measured using ROE and the independent variable (CS) was measured by proxies that included DER, TDTA, LTDR and STDR. A correlational matrix and ANOVA model were used to conduct the analysis. The study revealed that DER, TDTA, LTDR and STDR had a significant association with ROE.

Singh and Singh (2018) studied CS impact and link with the FP of 172 firms registered on the Taiwan Stock exchange over years 2011-2016. A correlational matrix and t-test were used to conduct the analysis. The CS was measured by leverage ratio and performance was measured by profitability, shareholders' wealth maximization and capital market perception, which included the proxies ROE, ROA, SP, PER and PTB. The correlation matrix results showed that a weak significant association was found among the CS and firm's performance, while t-test results

showed that leverage ratio had an insignificant effect on the profitability, shareholders' wealth and capital market perception of the firms.

Oyedokun, Job-Olatuji and Sanyaolu (2018) stated that CS is the source of finance for every business to conduct its operations and it makes a vital contribution to business performance and financing policy. Decisions related to the CS are the main factors used to attain the objective of every business, such as shareholder's wealth maximization. They examined the association between CS and the FP of 10 manufacturing firms registered at Nigerian Stock Exchange during the period from 2007 to 2016. Log of equity (LEQ) and log of total debt (LTD) were used as the proxies of CS, and market price per share (MPS), dividend per share (DPS), EPS and ROA as the proxies of FP. In this study, balanced panel data was collected while descriptive summary and regression models were applied to conduct analysis. The results showed LEQ had an insignificant negative impact on MPS and ROA, but positive significant impact on DPS and EPS. On the other side, LTD had an insignificant association with MPS and DPS, but significant linkage with firms' EPS and ROA.

Ajibola, Wisdom and Qudus (2018) stated that CS is the main source of a firm's competitive advantage, value-addition, long-term profitability and improvement in financial operations and market share. They explored the association between the CS and business performance of Nigeria based on 10 quoted manufacturing firms. Panel data was extracted from the annual reports of firms for the duration of 2005 to 2014. Total debt ratio (TDR), STDR and LTDR were used to measure the variable CS, and ROE and ROA were used to gauge FP. The results of the study showed that TDR and LTDR had a positive significant association with the firms' ROE, but an insignificant

association with STDR and ROE. The proxies of CS (TDR, LTDR and STDR) had an insignificant negative association with ROA.

Ayuba, Bambale, Ibrahim and Sulaiman (2019) gauged optimal CS which tends to increase the firm's FP. Finance managers are always concerned about the optimal level of CS implemented by their firms that increases FP and decreases the cost of operations. Ayuba et al. (2019) measured the influence of CS, firm's size and FP on the firm's value of 27 insurance firms during 2012 to 2017. The CS was measured by TDR, LTDR and STDR and FP was measured by ROE, ROA and ROCE. The firms' sizes were measured by total assets natural logarithm; firms' value (dependent variable) was measured by Tobin's q. The outcomes showed that all independent variable proxies (TDR, LTDR, STDR, ROE and ROA) had a significant impact, but ROCE had an insignificant impact on Tobin's q. The study concluded that short-term debt was employed by insurance firms of Nigeria in their CS to attain a higher firm value.

Nenu, Vintila and Gherghina (2018) explored the effect of CS on risk and non-financial companies' performance during 2000 to 2016. They also explored the factors affecting the CS of firms in the Romanian market. They stated that the dynamic process of CS varies over time due to variables that affected the companies overall and due to the firms' future estimated profitability, optimal CS and the risk-return negotiation. LTDR, STDR and leverage were used to measure the CS and volatility of share price to measure risk. Cash ratio, depreciation, market capitalization, current liquidity ratio, quick liquidity ratio, reinvestment rate, effective tax rate, economic profitability, growth opportunity, assets tangibility and company size were used to measure firms' performance. The generalized method of moments two-step system and FE regression were applied to conduct analysis. The findings exhibited a significant positive connection between

leverage and volatility of share price and company size. This study showed the effect of various debt structures on the accounting measures of firms' performance.

Diannisa, Lukytawati and Koes (2019) examined the impact of firms' FP and CS on firms' value. Panel data was collected from the 16 agribusiness firms listed on Indonesia Stock Exchange during the years 2012 to 2016. ROE and ROA were used as the measure of FP, DER was the proxy of CS and price-to-book value (PBV) was the measure of firms' value. Growth, firm size and dividend policy were used as control variables of the study. The multiple regression model was used to conduct the analysis. The study showed that ROE, ROA and DER had a significant positive impact on PBV while control variables (growth, firm size and dividend policy) had insignificant influence on firms' value (PBV).

Vuong, Quynh Vu & Mitra (2017) analyzed the impact of CS on United Kingdom firms' FP. Panel data was gathered from 739 large firms listed on London Stock Exchange during 2006 to 2015. CS was measured by long-term debt (LTD) and short-term debt (STD). Firms' size and growth were used as control variables and FP was measured by EPS, Tobin's Q, ROE and ROA. For analysis, panel regression models were applied. The findings of the study showed that Tobin's Q, ROE and ROA had an association with LTL but no association was found with firms' STL. Firms' leverage (LTL and STL) had no significant influence on EPS. Growth and firms' size had an effect on the firms' performance (EPS, ROE and ROA), but not on Tobin's Q.

Hashim and Hassan (2017) studied the effect of CS on Malaysian firms' performance. financial statements have been used as the primary source of data collection. of 36 construction the researchers targeted publicly listed firms of Malaysia for the period 2011 to 2015. CS was measured by debt-to-assets ratio (DA) and DER and net profit margin (NPM), ROA and ROE

were used to measure the firms' performance. Regression models and correlation matrix were applied to measure the CS influence on construction firms' performance. The results revealed that DER had a substantial influence on a firm's NPM, ROA and ROE, but found that DA had an insignificant impact on NPM, ROA and ROE on the basis of a p-value.

Nassar (2016) explored CS influence on the FP of industrial firms operating in Turkey. Panel data was collected from the 136 firms during 2005-2012. To conduct analysis, multiple regression models were applied. CS was measured by DR, and FP was measured by EPS, ROE and ROA. The study showed that DR had a significant negative influence on the firms' EPS, ROE and ROA. Mouna, Jianmu, Havidz and Ali (2017) explored the impact of CS on Moroccan firms' FP. Moroccan authority of capital market of 53 firms for the duration of 2014 to 2016. DR and DER were used as the proxies of CS, and ROE and ROA as the proxies of FP. The study included the size of each firm and each firm's classification code by industry as control variables. Panel regression models were applied to conduct empirical analysis. The study found that DR and DER had a substantial negative influence on the firms' ROA. In the second model, the study found a negative influence of DER on the firms' ROE, but a positive effect of size on ROE.

Githire and Muturi (2015) analyzed the relation between CS and FP of firms during 2008-2013. Results of multiple regression revealed that equity as well as long-term debt had large and significant impact on the FP of the listed firms, whereas short-term debt had insignificant influence on their FP. This could be an outcome of direct control practiced by equity holders who made sure that resources issued are adequately employed in a technique that optimizes shareholders' wealth. Long-term debt financing was proven to have an optimistic as well as an important effect on organizations' FP. The positive impact on organizational performance was ensured by a

competitive feature in comparison to large organizations, along with the growth of credit management systems suited to small organizations in order to access long-term financing. The research utilized secondary data; a disadvantage of utilizing secondary information is that it might be obsolete based simply on how long ago the information was gathered. The information is often more general and lacks credibility.

Dimitris-Margaritis (2016) examined the connection of CS, ownership structure as well as organization with the overall performance of French industrial companies. They followed an efficiency measure of an organization's overall performance as well as model technology utilizing the directional distance function recommended by Chambers, Fāure and Grosskopf (1996). Making use of such overall performance actions, they analyzed whether more cost-effective organizations choose the attractive financial obligation in their CS. They summed up the comparative impact of performance on CS in two competitive hypotheses: the efficiency-risk and business value hypotheses. Making use of regression methods we're able to test the consequence of performance on leverage and so the empirical validity associated with two competing hypotheses throughout unique CS options. They, in addition, tested for an association between leverage and efficiency because of the Jensen and Meckling (1976) agency cost model. All through this evaluation they looked at the effect of ownership composition on capital composition and performance of the organizations. In particular, they hypothesized that targeted ownership should lead to higher organizational performance by minimizing department expenses, even though allocated equity ownership ought to be connected with additional obligations within the organization's CS.

Umar, Tanveer, Aslam and Sajid (2012) looked at the impacts of CS on associations, financial execution in Pakistan of best 100 progressive organizations in Karachi that advertised shares during time aggregate of four years from 2006 to 2009. Quick summed up slightest square relapse is used to judge the content between CS and organizations' budgetary performance. The outcomes revealed that the three elements of CS (STDTA, LTDTA, and TDTA) aggressively influenced gross wages. Taxes, ROA, EPS, net revenue on price earnings proportion and current liabilities exhibited a negative association with total assets. The findings suggest positive nexus between LTDTA and TDTA. These sorts of outcomes, for the most part, prompt the conclusion that decisions about CS are an essential determiner of money-related capacities of organizations.

Kyereboah-Coleman (2007) analyzed the influence of CS on ROE and ROA on South African microfinance institutions and found a negative association between the control level and delight methods. Zeitun and Tian (2007) revealed that expenditure is adversely related to market execution techniques value, ROE, ROA and profit which is EBIT.

San and Heng (2011) inspected the influence of CS on monetary execution intermediaries (ROC, ROA, ROE, EPS, operating edge and net margin) and divulged the closeness of association between CS and corporate execution intermediaries. This supports the findings of DeAngelo and Masulis (1980) who exhibited ideal CS exchange off model which deals with the impact of non-obligation and obligation impose protects. Yet, Titman and Wessels (1988) neglected to reveal why there is a positive connection between non-obligation charge shield and obligation proportions. Ofek (1993) verified an association between CS.

San and Heng (2011) examineds the association between CS and corporate performance before and through the financial crisis of 2007. This research was based on building and construction

organizations which might be put in place significant Board of Bursa Malaysia since 2005-2008. Almost entirely 49 building and construction organizations were classified into large, average or small capacities on the basis of paid up capital. The results demonstrated there may be a connection between performance and the structure of capital is in addition proof demonstrates that simply no liabilities concerning the variables examined. When it comes to big organizations, ROC, with DEMV in addition to EPS with LDC have a positive association. On the other hand, EPS and DC are negatively associated. OM and LDCE were positively associated with average corporations, whereas EPS was negatively associated with DC among small organizations. As a whole, the study showed substantial association between CS and FP.

Abor (2005) produced a written report on the impact of structure of capital on profit making of organizations registered through the Ghana currency markets throughout a five-year period. He discovered a considerable positive connection between STDTA and ROE and revealed that organizations which earn a lot more STD to expend within their business. This basically means that short-term debt is an essential method to obtain financing to get Ghanaian company, by presenting 85% of total debt financing. However, positive outcomes demonstrated an unfavorable relation between LDA and ROE. The regression outcome revealed a good association between DA and ROE, which measures the association between total obligations and earnings.

A written report by Gleason et al. (2005), which utilized data from retailers in 14 European countries, on the association between performance and CS, revealed that CSs vary simply because associated with improved cultural categorization of stores towards the addition of control factors that may impact CS. In addition, results demonstrated that retailer performance is not based on cultural impact.

Early analysis on the association between CS and an organization's response towards short-term financial stress disclosed that high-leverage organizations tended to be practicable than less-leverage organizations. High-leverage organizations are also more able to conduct individual activities, such as realigning assets. From then on, a company with a high risk will respond speedily in monetary terms by reducing dividends, rearranging debt and insolvency (Ofek, 1993).

Gunay (2002) suggested that profits of high-leverage organizations might be increased by either issuing equity or decreasing the debt. Having said that, it might not be possible for high- leverage organizations to decrease their debt because of their struggle to create profit by utilizing standard operations during the post-crisis stage.

An Intifadah on the West Bank in September 2000 had a negative impact on Jordanian corporate performance because most Jordanian companies did conveying to the West Bank; this was demonstrated by an estimated 20.5% fall in the Amman Stock Exchange in 2000. This indicated that the regional environment deeply influenced Jordanian organizations' performance (Zeitun & Tian, 2007).

A financial crisis could be an event that has an indirect impact on most industries, which will affect organizations' performance. Research has now been done on whether corporate investing plans are very different according to this survey-based method of measuring financial limitation. The outcome indicates that confined organizations prepared deeper cuts in technology spending, employment and capital expenses. Restricted organizations also burned off through extra income, based more intensely on personal credit lines simply they sold more assets to invest due to the fact they were afraid that banks would limit access in the foreseeable future, afterwards in their processes (Campello, 2010).

Chechet and Olayiwola's (2014) research focused on CS and profitability of listed organizations in Nigeria with the objectives of determining the connection between profitability associated with Nigerian listed organizations' equity financing and DR within their finances. The primary goal was to evaluate the connection between loans ratio and profitability. The impact expresses that the method pertaining to the association is supplementary and significant at 1% level. DR has a negative effect on earnings. On the basis of their results, they inferred that a higher debt percentage in finance mix or structure has a significantly unfavorable effect on organizations' degree of profitability. Conversely, it supports their expectations, due to the fact they supposed a primary association between profitability and DR considering that agency cost theory is premised on its preference for greater loans in financing when there are department problems.

The outcome provided validation of the conventional strategy: each debt as well as equity must be mixed accordingly to be able to boost organizational efficiency. The increase might achieve a place on top but a further increase might lead to negative consequences. Achieving their primary goal, they rejected the hypothesis that there is no substantial association between loans ratio and profitability associated with Nigerian listed organizations because the association was highly significant at 1% level. This finding suggests that organizations with a mixture of finance must guarantee that the ratio of debt financing is certainly not greater, even when they are generally experiencing agency issues. Subsequently, they attempted to determine the connection between equity financing and profitability of Nigerian indexed organizations. On the basis of the outcomes and conclusions of their research, they determined that: (a) DR impacts the degree of Nigerian organizations' earnings in a negative way and was considerably relevant; (b) equity finance influences the amount of Nigerian organizations' profitability favorably, although it was not

significantly important. On the basis of their outcomes and findings, they made two policy suggestions:

(1) For companies suffering from agency problems as well as wanting to increase financing for functions or expansions, financial obligation ratio (higher) should not be considered.

(2) In increasing finance, organizations must try to make certain that they are completely financed with equity; however, if it is difficult, debt should be a small proportion. No firm should rely only on the problem of debt financing in structuring its capital for profitability. Should that be achieved, it leads to declining performance.

Studies demonstrated inconclusive outcomes as q few studies (Taub, 1975; Roden & Lewellen, 1995; Champion, 1999; Ghosh et al., 2000; Hadlock & James, 2002; Berger & Bonaccorsi di Patti, 2006) uncovered a positive association between expansion. A few studies (Kester, 1986; Friend & Lang, 1988; Fama & French, 1998; Gleason et al., 2000; Simerly & Li, 2000; Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001; Ibrahim et al., 2009) uncovered no association between organizations' general spending and consumption. In an examination of recorded organizations in Ghana, Abor (2005) uncovered that total credits are positively related to companies' ROE, while long-term debt is in a simple technique this is surely negative with association's ROE. While examining the connection in the center CS and contentment of Jordan organizations, Zeitun and Tian (2007) discovered that obligation level is inside a methods this is absolutely negative to performance. Inside an exploration this is absolutely indistinguishable microfinance organizations in sub-Saharan Africa, Kyereboah-Coleman (2007) discovered is positively emphatically related to execution (this fundamentally implies.

Outcome of a few examinations (Myers, 2001; Eldomiaty, Choi, & Cheng, 2007) uncovers that CS is not really the more noteworthy answer for portraying choices which can be money related. Perhaps this depicts the opposite outcomes related to an insightful investigation that experimentally inspected the estimations of association in the use and association's proficiency.

Soumadi and Hayajneh (2012) examined the aftereffects of CS as to the execution relating to open Jordanian organizations situated in Amman cash markets. The examination utilized OLS as a method to consider the execution with the assistance of 76 organizations (53 modern organizations and 23 benefit partnerships) with regards to the period 2001 to 2006. The outcome of this exploration was that CS was adversely and measurably related to organization performance. Their investigation also found that there was no obvious noteworthy distinction between the effect of money-related use among high-monetary use organizations and low-budgetary use organizations on performance. The investigation also demonstrated that the final product of money related use in light of the development that there doubtlessly is no refinement among the monetary use of high development organizations and low development organizations in the execution, which it completely was adversely and factually at last.

Dessi and Robertson (2003) found that budgetary use affect positively concerning the gathered data, by methods for which they uncovered this assistance manual for that low development organizations endeavor to rely on the acquiring for making utilization of the normal development openings and putting getting cash into the productive undertakings , to such an extent that it will improve the organization execution. Margaritis and Psillaki (2010) showed, moreover, that monetary use (obligation proportion) related emphatically and essentially with organization performance (added esteem, work and capital).

Most of the above investigations demonstrated that CS was negatively related to organization performance. Chhibber and Majumdar (1997) and Ghosh et al., (2007) reported that known-level obligation (CS) was negatively related to company's performance. The final product could be the lenders which can utilize advances with respect to the organization.

Weill (2008) conducted analysis to gauge the nexus between leverage and corporate performance. “We propose two major findings to this literature by applying frontier efficiency techniques to measure performance of medium-sized firms from seven European countries. A maximum likelihood procedure is used to estimate a stochastic cost frontier and the parameters of an equation relating cost inefficiency to leverage simultaneously. We find that the relationship between leverage and corporate performance varies across countries, which tends to support the influence of institutional factors on this link. We then suggest the influence of the efficiency of the legal system and in a lesser degree of the access to bank credit on the relationship between leverage and corporate performance” (Weill, 2008).

The outcomes of Adesina, Nwidobie and Adesina’s (2015) investigation showed a positive solid connection between bank monetary execution and value at 89.4% and a positive solid connection between bank corporate performance and advances at 63.8%. The general outcome expressed that 87.5% related with difference in bank budgetary execution is really depicted through the CS (value and obligation). Thus, they argued that bank obligation has an idealistic and critical impact on the monetary general execution of banks in Nigeria. In addition, bank value expresses an idealistic and noteworthy association with bank budgetary execution, and bank obligations and value emphatically impact bank corporate performance. They exhorted a few guidelines to upgrade monetary execution of banks in Nigeria:

1. The overseeing of specified banks in Nigeria should raise value capital in financing to upgrade benefits of these banks.

2. The administration of Nigerian banks must consider usage of extra obligation inside their CS blend because this will absolutely lessen the whole cost of capital after its assessment of favorable position.

3. Speculators of cited banks in Nigeria should likewise consider CS of each mentioned bank. contributing inside every one of them on the grounds that the quality of a bank's capital blend chooses the measure of profits.

Pouraghajan, Malekian, Emamgholipour, Lotfollahpour, & Bagheri (2012) considered the influence of CS on corporate performance of 400 organizations during 2006-2010. Parameters to assess the corporate performance of organizations have a tendency to be return on ROA and profit for ROE. Their results showed a significant negative association between obligation proportion and budgetary execution of organizations, and a positive connection between organization size and ROA. The association between ROA and ROE measures using the organizations' age is surely not critical. Their study also uncovered that by diminishing obligation proportion, an organization can raise its income; thus, the amount of the organization's corporate performance measures may likewise enhance investor riches.

Abbas (2013) explored the fundamental determinants of a company's CS using the material part of Pakistan in their investigation. They found that an association's execution is significantly affected by short-term use and non-obligation assess shield.

Safarova (2010) explored perspectives that decide organizations' performance in New Zealand recorded organizations. Safarova (2010) found that size is the most important component of organization structure, and that substantial quality, corporate administration, money introduced and hazard appeared to be partially connected to an organization's working performance.

Mirza (2013) completed an exploration with respect to the determinants of corporate performance of organizations in Pakistan stock trade and found that organizations that oversaw possession system, CS, and proper hazard administration for the most part have enhanced monetary performance

Valentin (2012) examined the principle determinants of corporate money-related execution from the perspective that an organization's monetary execution is only affected by its market circumstance. He perceived hazard and advancement to be key components affecting an association's monetary performance. The measurements of the association may likewise have a positive impact on corporate performance considering that substantially bigger organizations may use this favorable position to get some monetary advantages running business relations.

Mathur and Kenyon (1997).

Mirza (2013) inspected the principle factors of FP of organizations on Pakistan Securities Exchange and revealed that organizations making suitable corporate administration parts and additionally following could be more effective for investors. Their synopsis is that organizations with very much controlled possession system, CS and best hazard administration for the most part have a greatly improved corporate performance.

Inside idea for the idea of back organizations, experts have ordered fundamental determinants of bank effectiveness and macroeconomic (outside) viewpoints (Al-Tamimi & Hasan, 2010). Internal viewpoints would be the qualities of particular banks that impact FP. These are components which are affected by the bank's internal administration and board exercises. The outside angles would be the characteristics of the economy related to the nation in which the bank works that impact over the credit supplier and impact bank performance.

Thamila and Arulvel (2013) examined the relationship between CS and monetary execution of recorded organizations managed in Colombo Securities Exchange by utilizing data from 2007 to 2011. In most 30 firms were favored for research and net profit ratio, return on capital utilized and ROE had been connected as images of corporate performance. Thamila and Arulvel (2013) found an unfavorable association between CS and organization's performance.

Saeed (2013), using different models, inspected the influence of CS on execution of Pakistani banks. Saeed (2013) examined information from banks listed on Karachi Securities Exchange for the period 2007 to 2011. Productivity was computed by ROA, ROE and EPS; fundamental determinants of CS comprised long-term debt to capital proportion, short-term debt to capital proportion and total obligation to capital proportion. Saeed (2013) reported an idealistic association between determinants of CS and pleasure for the managing an account industry.

Nirajini (2013) examined the influence of CS on the FP of registered exchanging organizations in Sri Lanka. Nirajini (2013) utilized the yearly reports in regards to the sample organizations from 2006 to 2010. Association and different models were used. Nirajini (2013) reported an idealistic association between CS and money related to performance. Furthermore, Nirajini (2013) found in relation to CS's effect on organizations' corporate performance that ROA, ROE and LTL were

related with gross profit margin (GPM), ROE, NPM, and ROA at conventional level of 0.05 and 0.10.

Chunhua and Meiyan (2013) inspected the impact of CS on organization performance utilizing organizations listed on Shanghai and Shenzhen Securities Exchange; they found a poor connection between an organization's CS and productivity.

Skopljak and Luo (2012) used information on 15 Australian deposit-taking associations for the period 2005 to 2007, to look at the effect of CS on corporate FP in Australia. Skopljak and Luo (2012) uncovered a strong connection between CS and a company's performance. He found that diminished levels of use an expansion owing debtors takes to higher benefit proficiency in this way incredible bank execution; at a nearly propelled level of use, more noteworthy obligation takes to lessened benefit productivity alongside bank performance. The impact of the choice was that there was an incredible level of obligation. Subsequently, a bank will help improve the execution of the organization by finding a CS that expands administrative rewards; however keeping up money related misery genuinely down.

Khan (2012) examined organization of CS measures utilizing a company's execution on the basis of 36 producing organizations in Pakistan listed in the Karachi stock trade for the period 2003 to 2009 using a board econometric approach, pooled OLS relapse. Khan found that use of fund surveyed by here and now obligation towards add up to resources and aggregate obligation toward add up to resources has an imperative ominous association using the organization's introduction evaluated through ROA.

Fosu (2013) inspected 257 South African recorded organizations using board information to break down the association between CS and organization execution, concentrating on the measure of industry challenge; Fosu (2013) found that monetary use affects organization performance.

He (2013) through an exploration entitled "Examination of effect from CS to corporate performance among Chinese and European recorded organizations" used information from significantly more than 1200 enlisted organizations in Germany and Sweden in addition to considerably more than 100 enrolled enterprises in China for the period 2003 to 2012. He (2013) found that structure of capital had a negative outcome on organization productivity in China, while it had a considerable dynamic impact on the two European nations preceding the financial emergency of 2008.

Salteh et al. (2012) analyzed the effect of organizations' proficiency on CS, using five execution methodologies (together with value return, resource return, per share income, value worth in the market towards the book worth of value and Tobin's Q) as target variables and four CS techniques (ly here and now obligation, add up to obligation to add up to resource and long haul obligation, and general obligation to add up to value) as isolated variable. Salteh et al. (2012) chose 28 Iranian firms during 2005-2009. The outcomes were that organization execution, evaluated by ROE and Tobin's Q, was directly identified with CS, in light of the fact that there was a poor connection between CS and ROA and EPS.

Al-Taani (2013) examined the connection between center CS and organizations' productivity for an assortment of Jordanian fabrication organizations. The yearly money-related reports of 45 fabrication organizations listed on the Amman exchange trade were investigated for the period 2005 to 2009. They used relapse that is various on execution markers such as resource return and

benefit return alongside shorter term obligation over aggregate resource, long run obligation on add up to resources and aggregate obligation to value as CS parameters. Al-Taani (2013) found that there was a negative critical association between STDTA and LTDTA and ROA, while aggregate obligation to value is directly linked with ROA and negatively related to PM. STDTA is extensive ROA that is using PM. STDTA is huge ROA that is utilizing LTDTA is fundamental using PM. Their definitive summation is factually that CS is unquestionably not a fundamental determinant of organization performance

Uremadu (2012) revealed the hugeness of assets structure to incorporated reliability that is financial progress plus also sufficient profits plus fluidity is not compromised above all else affiliated to center concerning latest universal economic crises has led to immediate need to go about This research. Uremadu (2012) micro-utilized the economic reports of ten companies from 2002 to 2006. The time data was in fact organized in a cross-sectional way. Uremadu (2012) revealed unfavorable and considerable influence of cost of extended-phase obligation, percentages of extended-phase loans to obligation, that is complete plus proportions of brief-phase obligation to overall liability, plus rates of ready-phase obligation to complete obligation; plus resources to complete liability, on profits; plus favorable plus significant link among national exchange ability rate, proportions of longer-phase obligation to resources plus cost of quick-phase obligation, on earnings. Affiliated to whole, outcomes revealed that longer-phase obligation values contribute profits under normal OLS function, affiliated to proportions of longer-phase obligation to resources; quick-phase obligation to complete liability, plus longer-phase obligation to complete liability in originating order of degree. Within log-linear function, national exchange ability brings earnings on resources, accurately followed by proportions of longer-phase obligation to complete

liability, plus also longer-phase obligation principles placed third. It really is therefore recommended that incorporated organizations in Nigeria must try to constantly uphold a well-balanced percentage of longer-phase debts within their resources structure mix; additionally, therefore, the environment (i.e. financial including economic climate) in addition to inside the incorporated companies must always make an effort to maintain a plan of keeping a satisfactory national exchange ability for there to be continued growth in incorporated growth plus earnings affiliated to years onward.

Hovakimian, Opler and Titman (2002) found that resources' structure measures of an organization are not impacted by almost any element however affiliated to company's sector or book proportion. They declared that a company's earnings do not have a direct association with the company's targeted leverage. They still recommended that a company with diminished earnings might problem more resources so that you can set their obligation level off plus on the reverse area, an effective organization will likely not issue resources to spend within their functions plus, possibly, they might not issue obligation as a outcome of fact company is likely to be most excited about from the inside provided resources.

Coyle (2000) stated that whenever a company's unique source of finance develops resources funding, which means such an organization is monetarily weakened plus possesses a funding history that is minimal. This signifies that resources funding contains a r that is poor earnings (Efobi, 2008; Sloan, 1988) research resources structure of an organization that is small a unique earnings account to appreciate that investors mainly need maximum earnings as an outcome of company's techniques. They may require that the organization must create an increased yield that may force them to allocate their resources inside the organization. Plenty of investors are ready to

dedicate their resources, the company's value would improve because there are far more resources whenever it comes down to company to perform its activities with, therefore leading inside the market value of these company's shares to boost. On the other hand, there is a danger in this debate ly for companies that do not plan increasing their risk. This assimilation of investors' fund inside the running of these matters concerning the organization would outcome affiliated to definitely company to obtain more shareholders to be accountable plus answerable to when it comes to dividends to be offered out plus more impressive range of objectives pertaining to efficiency (Efobi, 2008). A majority of these objectives can establish the managing affiliated to organization so alert to their techniques which they might have a trend to continuously fabricate their statements that are financial match the anticipations when it comes to numerous shareholders affiliated to company's efficiency.

Eldomiaty et al. (2007) found that an organization must take into account its profits plus other aspects when choosing its resources structure. This actually is important as an outcome of fact with respect to signaling outcomes the possibility when it comes to resources structure of an organization might have concerning the opinion that is public the organization as earlier acknowledged by Eugene plus Joel (2001). Joel (2001) discovered that the general public believes that an organization issuing new resources to boost resources as an outcome of their operations is unprofitable and they underestimate such companies.

Almeida and Campello (2007) restated this debate when examining the alternative impact of external and inner funding. They decided that more companies that are effective founded more info on inner funding in comparison to they may depend on external funding. This signifies that more effective organizations might issue less external finance (obligation resources) plus they will

certainly rely more with respect to finance that is inner equity resources; while the less effective organizations might have no alternative but to depend on external finance, which differs from obligation funding to resources funding.

Myers (1984) describes that the center that is administrative implemented by an organization would depend entirely when you look at the organization's earnings plus also ability to create resources from the inside as soon as not proper, the organization would seek out outside funding as an alternative. Contrary with Almeida and Campello (2007), they even recommended that many more organizations that are effective are structured on inner funding firstly after which plus also appropriate, will be based upon obligation funding right before trying to find external funding. Usually, the earnings when it comes to company would know what kind actually of resources structure to be implemented as an outcome of fact from it. An organization that is effective needs to finance its operations from inside plus it is obligated to settle fewer obligations.

Khan (2012) and Saaedi and Mahmoodi (2011) examined the connection between CS and FP using balanced panel data. Khan (2012) applied a pooled OLS technique on 36 engineering sector companies in Pakistan. Results indicated a considerably negative association between the firms' performance measured by ROA, GPM and Tobin Q, whereas an adverse but not statistically substantial association was found between leverage and firms' FP. Saaedi and Mahmoodi (2011) used pooled dat to check how completely diverse CS components have an effect on firms' performance indicators; they found an affirmative connection between the CS and FP.

Skopljak and Luo (2012) used facts of 15 Australian deposit-taking institutions during 2005-2007 to look at the results of CS on FP in the economic area in Australia, and revealed a robust association between CS and firm's overall performance. He determined that at notably low tiers

of leverage and growth in debt results in accelerated income efficiency, hence, advanced financial institution performance; at a high stage of leverage, improved debt result in decreased income efficiency in addition to bank FP. This implies that there is a most desirable level of debt and that a financial institution can assist optimization of the performance of control and well-known bank performance by selecting a capital shape which boost managerial encouragements whilst keeping financial misery fairly less. A majority of these objectives was in fact achieved effectively. Skopljak and Luo (2012) indicated a specific excellent association between CS and organization efficiency and developed a revenue efficiency function. This is certainly effective under every other situation. The question of how CS affects the organizational efficiency of authorized deposit-taking organizations in Australia is obviously ideal for Australian banks; however, its ramifications may spread to worldwide statistics. Relative to principle of agency cost, greater obligation levels lessen the agency cost of these split-ups of management plus operated proprietorship as an outcome of fact affiliated to enhanced financial distress inside the larger obligation levels. The further financial distress pushes administration to work harder plus they function to serve the shareholders' best interests.

Berger (2006) findings are in line with the corporation charges hypothesis – better leverage or a lower share capital ratio is linked with greater profit efficiency. The impact is frugally large in addition to statistically substantial. A boom in leverage as characterized by means of a 1% factor reduction in the share capital ratio produces an expected boom in earnings efficiency of about 6 percentage points, or a benefit of about 10% level at the sample mean. This result is powerful to a number of specification changes, including one-of-a-kind measures of performance (trendy profit performance, opportunity income performance, and ROE), one-of-a kind econometric techniques

(2SLS and OLS), distinct efficacy measurement methods (distribution-free and fixed-effects), unique samples (the "ownership sample" of banks with in depth ownership statistics and the "complete sample" of banks), and the different sample periods (1990s and 1980s). Nevertheless, the statistics are not consistent with the prediction that the association between overall performance and leverage may be reversed while leverage may be very high because of the agency charges of external debt.

The end outcomes of these major hypotheses are good despite the fact that changing the variable of earnings/complete assets due inside the flexible credits/possession along area as soon as the dependent PEF that is variablereturncompetenceration) is substitute during a regular accounting size of organization efficiency ROE (yield on equity). Moreover, the Granger causality test questions whether the objective is in fact yield efficacy which moves resources structure it ensures that the administrative center structure is clearly driving return efficacy although quadratically as It really is recommended by certain past literature plus instead.

Manos (2001) tested the dividend policies of companies in the context of emerging markets. The researcher used a price minimization regression model to test the factors that have an effect on the dividend coverage in India. Manos (2001) used a sample size of 880 observations taken from listed groups on the Bombay Stock Exchange. The results were consistent with the cost minimization model. They also showed a positive impact of foreign possession and ownership dispersion upon the dividend payout. In addition, enterprise risk, growth, and insider possession suggested a negative impact on dividend levels.

Aivazian et al. (2003) argued that almost all signaling and agency value models assume separation of possession and management. They additionally assumed that finance is raised

outwardly through capital markets. However, there is very little separation of possession and management of corporations in rising markets and they additionally trust heavily on bank finance. Clear channels of communication that offer access to confidential information that is accessible to banks reduces the requirement for signaling and agency controls through dividend payments. They examined a sample of corporations from eight rising markets and compared them to 99 firms from the USA. The results showed that dividend policies in rising markets and within the USA react equally to sure variables. Their results showed that top come on equity (ROE) magnitude relation is absolutely associated with high dividend payments, that suggests a robust support for the residual theory. Additionally, high DRs tend to lower dividend payments that means that monetary constraints have a big impact on the dividend policy. Moreover, high market-to-book ratios absolutely influence dividend payments. Lastly, it had been found that in rising markets dividends are negatively associated with corporation.

### 2.4 Research Gap

This study identified a gap in the literature: the influence of CS on the FP of Pakistani listed firms. This study explored the influence of CS on firm's FP of petroleum and chemical, textile, sugar, steel, manufacturing and vehicle and food and communication industries that are listed on PSX to fill the avenue in the extant literature. NPM, ROE, ROA and EPS were used to measure the FP of firms and STDTA, LTDTA and TDTA were applied to measure the CS.

CS assumes an essential part in the financial execution of an organization. So, due to its significance, different financial analysts have directed research on CS. A large portion of the exploration on CS is with reference to developed economies; there is less research with reference to developing economies like Pakistan. The diverse division of any economy is a source of

financial aggressiveness. Therefore, CS is an essential issue since CS is a significant determinant of the FP of organizations. This study investigates the literature of capital, and the performance of corporations. This study is helpful for investors of registered firms in PSX to set up the ideal CS. Pakistan is one of the creating nations, so proficient and viable modern development will prompt the success of the nation. Thus, this examination is imperative, since it will give experimental proof on the connection between CS and organizations' performance for various sectors in Pakistan. This study provides the significance of STD and LTD across other sectors in addition to other elements, particularly, exclusive monetary conditions, company size and capital market traits, which force the mechanism between risk and CS factors. The improvement of developing capital markets likewise fluctuates across nations, which adds to the level of availability of firms, as firms become more reliant on outside assets. Moreover, the advancement of obligation changes significantly across developing markets, though STD is more noteworthy than long-term obligation usage.

This study donates to the real hypotheses of CS as the connection between leverage and CS elements is very much based on STD utilization. Moreover, the theoretical aids can be observed from a few perspectives as the study focuses on the distinctive financial conditions and firm sizes across Pakistan areas. Previous studies observed that the mechanism between leverage and firm-level elements is indirectly prejudiced by using meso-level and macro-level factors based totally on developed and developing markets. They did not investigate the indirect consequences of the industry or sector in a number of advanced or developing nations. The relationship, on the other hand, between leverage and CS factors may differ throughout sectors due to their precise behavior. Similarly, the extant literature highlighted the deviation of the behavior of a specific sector which

could range across international locations because of its numerous recognized settings. This is the poineer study of the impact of CS determinants on firms' FP across seven different sectors in Pakistan.

# Chapter 3

## Research Design and Methodology

This chapter offers a brief description of the method employed by the researcher for conducting this study. A concise explanation of all the elements of research design (comprising philosophy, approach, purpose, environment and data collection) is given hereafter. The researcher also discusses population, sample of the study and data analysis plan.

### 3.1 Research Philosophy

Research philosophy is defined as brief description of research interests and experience for the development of knowledge related to research (Saunders, Lewis, & Thornhill, 2007). Being a broader concept, research philosophy is segregated into two categories i.e. positivism and interpretivism. The positivism philosophy views the whole world as objective by focusing on facts and figures and formulating hypotheses to test the observed phenomenon (Stiles, 2003). In positivism, variables are measured using operationalization. While, interpretivism philosophy is based on the philosophy that reality is subjective in nature and humans are the main subjects of the research era. In interpretivism, an inductive approach is used and in-depth analyses are conducted to develop ideas (Walliman, 2011).The present study has employed a positivist research philosophy. The rationale behind using this philosophy is that the role of researcher is restricted to collection and interpretation of data through a deductive approach.

### 3.2 Research Approach

Research approach is defined as the procedures employed by a researcher for data collection, analysis and interpretation (Chetty et al., 2016). Research approach is a wide concept which is

segregated into two approaches: data collection and data analysis. As per data collection, the research approach is further seregated into two kinds i.e. qualitative and quantitative. Data analysis is divided into two forms: deductive and inductive. Qualitative research is defined as a research approach which is based on subjectivity for assessing the behaviors of individuals (Creswell, 2014). Data collected using this approach is usually in non-numerical form (Kothari et al., 2013). Popular qualitative data collection techniques include observation, interview, diary method, narrative and stories, and cognitive mapping (Sekaran, 2003a). Quantitative research is based on objective facts and figures for assessing the behavior and other related traits of a phenomenon (Jonker & Pennink, 2010). The prevalent techniques for quantitative data collection include questionnaire, published and annual reports, and survey. Another approach which is gaining prominence in the present research era is the mixed method research approach in which the researcher collects data using qualitative and quantitative techniques (Creswell, 2014).

The data analysis research approach can be distinguished between deductive and inductive approach (Chetty et al., 2016). The deductive research approach is based on generalization to specificity of the observed phenomenon. In this approach, research hypotheses are developed to test existing theories and the results are generalized to the overall population (Wilson, 2010). Usually, qualitative researchers employ a deductive approach in observing the phenomenon from general to particular. The inductive approach, on the other hand, is based on specific to general description of the phenomenon of interest. It is usually employed by qualitative researchers.

In the present study, the researcher used quantitative and deductive approach by focusing on testing theories and drawing results based on the data gathered.

### 3.3 Research Design

Research design is a blueprint which discusses the methods, tools and techniques employed by the researcher to address research questions (Kumar, 2011). It describes what the researcher has to do throughout the research study, such as purpose of the study, environment where the study is to be conducted, variable measurement, population and sample, methods employed by researcher for data gathering, and the data analysis techniques to be used (Adams, 2007). The researcher discusses each element of the research design and its relevance to the current study in the following subsections.

#### 3.3.1 Purpose of the Study

This element of research design specifies why the study is to be conducted by focusing on its goals and objectives. The purpose of the study is segregated into three kinds i.e. exploratory, descriptive and explanatory study. An exploratory study is carried out when little is known about the phenomenon. Such a study is known as basic or initial research which establishes the foundation for more conclusive research (Singh, 2007). Descriptive study is conducted when the researcher knows about the situation at hand but wants to describe the features of the variables of interest (Sekaran, 2003a). Such studies are conducted to check the correlation among the variables of the study (Singh, 2007). Explanatory study is one step ahead of descriptive study; the researcher wants to gauge the cause and effect connection among the variables of the study (Saunders et al., 2009).

The study conducted by this researcher is explanatory in nature. The choice of explanatory research was made because the researcher intends to examine the impact of various components of CS on the FP of firms listed on PSX.

### 3.3.2 Study Setting

The study setting is defined as the place where related data is to be gathered. Depending upon the place, a study can be conducted in a natural or artificial environment with specified degree of researcher's interference (Sekaran, 2003). The study onducted in a natural setting with minimal interference from researcher's side is considered non-contrived setting. Whereas, the study carried out under an artificial environment (controlled setting) with higher intervention by researcher is known as contrived setting. The present study is conducted under a non-contrived setting as the researcher gathered data under natural environment with no interference.

### 3.3.3 Time Horizon

Time horizon refers to the period during which data related to the study is to be collected. There are three categories of time horizon: cross-sectional, longitudinal, and before and after study. The time horizon of the study can be cross-sectional if the required data is to be collected at a specific point in time. While, in longitudinal study, data is collected at different spans of time to measure behavioral change in the data (Kumar, 2011). In a before and after study, data is gathered twice to measure any variation in data before and after the intervention is made (Kumar, 2011). The time horizon of the study is longitudinal panel as the researcher collected data from 152 firms belonging to various sectors for the period ranging from 2010 to 2019.

### 3.3.4 Unit of Analysis

Unit of analysis discusses the level of subjects from which data is to be gathered (Sekaran, 2003). Unit of analysis can include individual, group, firms, region, culture or countries (Adams, 2007). In this study, the researcher has gathered data from firms listed on PSX which indicates firm as unit of analysis.

### 3.3.5 Population

Population is defined as total number of subjects from which data related to the study is to be collected (Sekaran, 2003). The population of the present study comprised firms listed on PSX belonging to six sectors namely, textile sector, engineering industry, food and communication sector, vehicle manufacturing sector, sugar industry, petroleum and chemical sector. The choice of firms listed on PSX was made owing to developed and regulated structure of such companies. Selection of these sectors was carefully made as these are the most important sectors of PSX. The textile sector is the largest sector and is the major contributor to the exports of the country. Engineering and vehicle manufacturing represent capital intensive processes. The sugar industry is a local agricultural industry, the operations of which are seasonal in nature. Food and communication industries are primarily distribution and service-oriented industries. Lastly, petroleum and chemical industries are important industries. Thus, an attempt was made to consider firms with varying characteristics so that a good representation of different aspects of different types of industries could be made in the sample. Lastly, the Pakistani corporate sector has a limited number of companies in each segment. Considering only one segment from the industry would have resulted in a limited overview of the corporate sector in Pakistan. In order to provide appropriate representation of various industries in the study, various segments were considered to provide an appropriate size of sample to make generalizations.

### 3.3.6 Sample

Sample is defined as the sub-group of the population which is designed to represent the overall population. The sample of this study comprised 152 firms listed on PSX belonging to six different sectors. Six sectors were considered to provide for an appropriate size of the sample. In Pakistan,

stock market sectors represent only a few firms and one sector would not provide an appropriately sized sample. Thus, six sectors were considered to provide for an appropriate sample size and to make generalizations.

This study combined the manufacturing and vehicle segment of the stock market because both of these segments are small. Further, their processes are alike in the sense that both are capital intensive industries employing assembly lines and mechanized production processes. Further, this study also combined food and communication segments because essentially both of these segments are distribution and services segments having large retail operations, which makes their business processes similar. Lastly, petroleum and chemical segments were also combined because both segments are import-oriented segments and have the same production processes. These aggregations were meant to provide an appropriate number of firms within each segment to make generalized assertions.

#### 3.3.6.1 Sampling Technique

Sampling is a process of choosing a sample from the total population. Two types of sampling techniques are available which include: random sampling and non-random sampling. Under random sampling, every member of the population has equal chance of being selected or rejected. While, in non-random sampling technique, the sample is choosen based on some knowledge, expertise or convenience (Sekaran, 2003). This study has employed purposive sampling technique. The choice of purposive sampling was made because the researcher collected data based on some criteria.

#### 3.3.6.2 Sampling Criteria

Sample was selected based on following criteria:

- ✓ Only those firms are selected which are registered at PSX.
- ✓ Out of the registered firms, their data should be available from 2010 to 2019.

### 3.4 Data Collection

Secondary data refers to the data which is collected from already published and printed sources (Adams, 2007). Secondary data can be collected from various sources, such as annual reports, journal articles and databases. In order to observe the phenomenon of interest, the researcher has gathered data using secondary data sources. The present study has gathered data from annual and audited reports of selected firms listed on PSX.

### 3.5 Theoretical Structure

Theoretical structure provides the basis on which a researcher can investigate variables. In theoretical structure concept, the association among these variables can be checked. It is the basic presentation of the association obtained in the light of earlier literature. According to this analysis, CS is used as an explanatory variable and FP as an outcome variable.

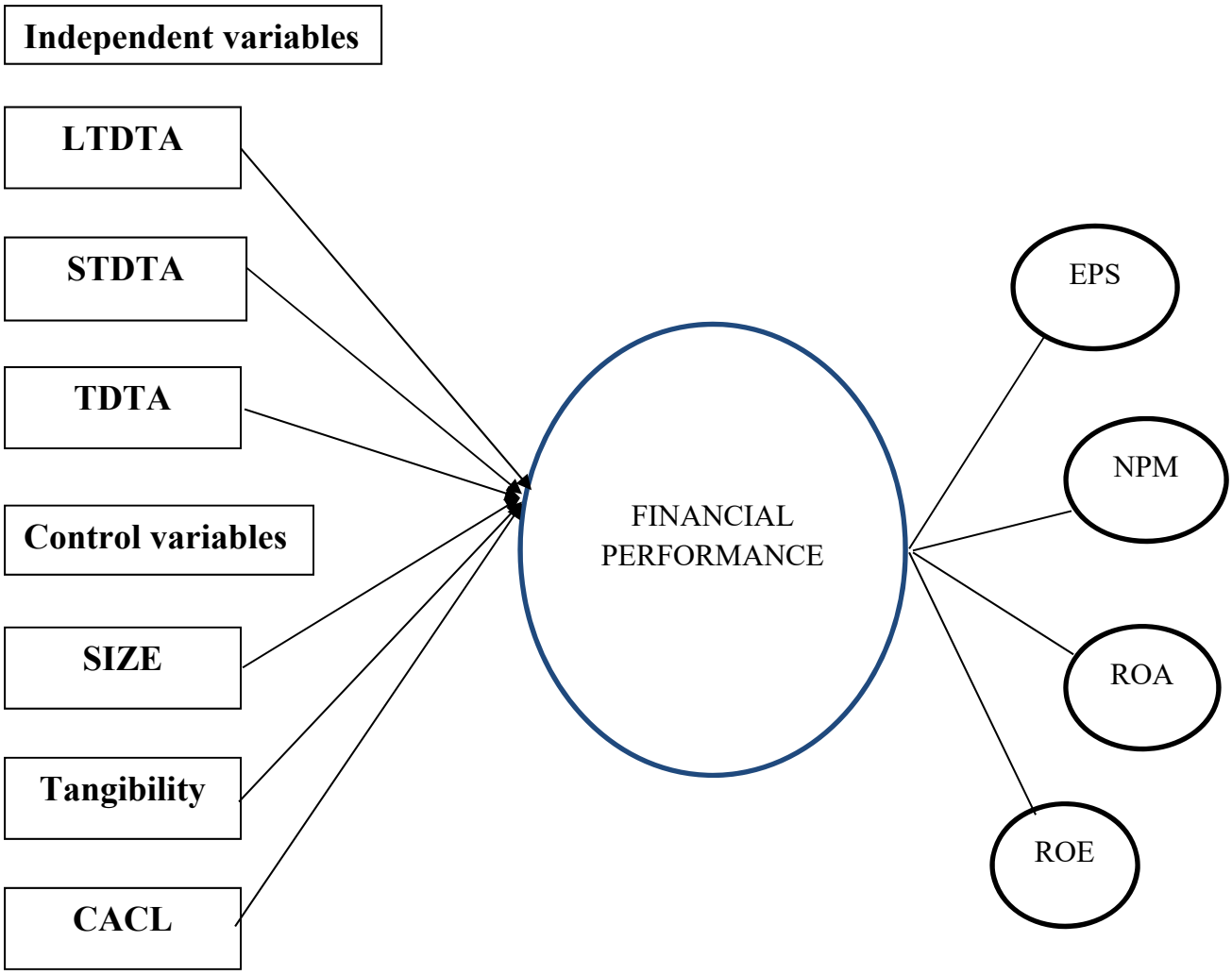
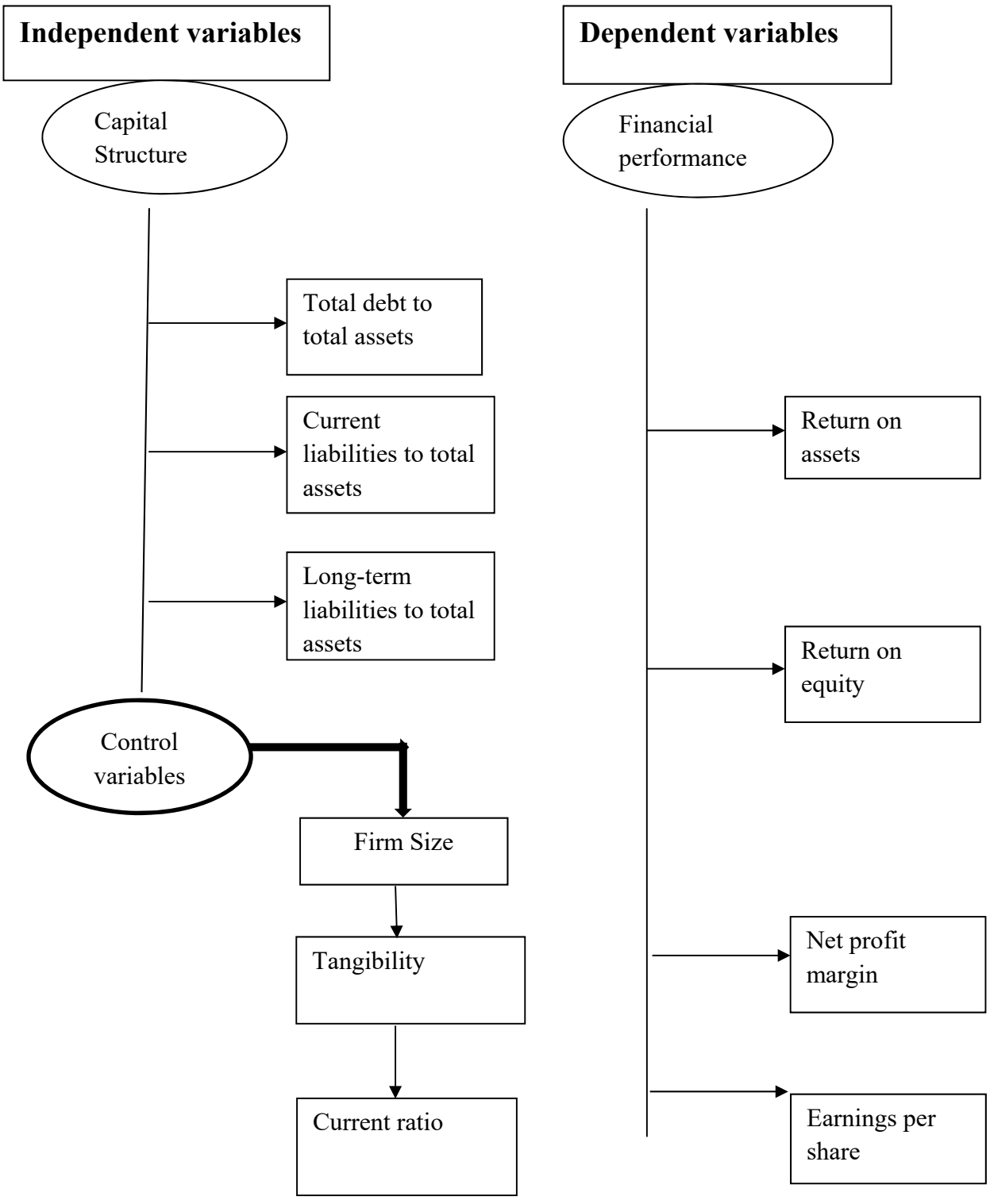



**Figure 3.1: Conceptual Framework**

Figure 3.1 depicted above shows that capital structure is the explanatory variable which is measured by the proxies of LTDTA, STDTA, and TDTA. Financial performance, which is the outcome variable of this study, has been measured by the proxies of EPS, NPM, ROA, and ROE. Besides, researcher has controlled several variables, i.e. firm' size, tangibility, and current ratio, to examine the impact of CS on FP of firms.


Independent variables
Capital Structure
Total debt to total assets
Current liabilities to total assets
Long-term liabilities to total assets
Control variables
Firm Size
Tangibility
Current ratio
Dependent variables
Financial performance
Return on assets
Return on equity
Net profit margin
Earnings per share

### 3.6 Hypotheses Development

The extensive review of literature reveals that inconclusive results. For instance, in some studies, various components of CS has positive influence on FP of firms. Whereas, some authors have found negative influence of CS on firms' FP. Thus, the mixed findings in literature become the reason for the development of non-directional hypotheses to test the relationship among the variables of study.

*$H_1$: LTDTA has an impact on EPS.*

*$H_2$: STDTA has an impact on EPS.*

*$H_3$: TDTA has an impact on EPS.*

*$H_4$: Tangibility has an impact on EPS.*

*$H_5$: Current ratio has an impact on EPS.*

*$H_6$: Firm size has an impact on EPS.*

*$H_7$: LTDTA has an impact on NPM.*

*$H_8$: STDTA has an impact on NPM.*

*$H_9$: TDTA has an impact on NPM.*

*$H_{10}$: Tangibility has an impact on NPM.*

*$H_{11}$: Current ratio has an impact on NPM.*

*$H_{12}$: Firm size has an impact on NPM.*

*$H_{13}$: LTDTA has an impact on ROA.*

*$H_{14}$: STDTA has an impact on ROA.*

*$H_{15}$: TDTA has an impact on ROA.*

*$H_{16}$: Tangibility has an impact on ROA.*

*$H_{17}$: Current ratio has an impact on ROA.*

*$H_{18}$: Firm size has an impact on ROA.*

*$H_{19}$: LTDTA has an impact on ROE.*

*$H_{20}$: STDTA has an impact on ROE.*

*$H_{21}$: TDTA has an impact on ROE.*

*$H_{22}$: Tangibility has an impact on ROE.*

*$H_{23}$: Current ratio has an impact on ROE.*

*$H_{24}$: Firm size has an impact on ROE.*

### 3.7 Operationalization of Variables

This study was conducted to check the role of CS in the FP of firms. The researcher has measured CS and FP using afore mentioned proxies.

#### 3.7.1 Independent Variables

As discussed earlier, CS is the independent variable of the study which is measured by four proxies mentioned below:

##### 3.7.1.1 TDTA

DR, as a measure of financial leverage, is well-defined as the ratio of TDTA. Total debt includes both short-term as well as long-term debts. DR can be expressed in term of percentage or in decimal places. It can be narrated as the portion of an organizations' assets that are financed through debt. A number of scholars namely, Abor (2005), Zeitun and Tian (2007) and Umar et al. (2012) have used DR as a measure of CS. The formula of DR is stated as follows:

$$Total\ debt\ to\ total\ assts = \frac{Total\ Debt}{Total\ Assets}$$

An increase in DR indicates a higher level of financial risk. The higher the proportion of DR, the more leveraged the organization is, which infers more financial risk.

#### 3.7.1.2 LTDTA

LTDTA is operationalized by the ratio of LTD of a company to its total assets. It demonstrates how much long-term debts are used against the company's total assets. A significant number of scholars have used this ratio as a measure of CS; see for instance Abor (2005), Zeitun and Tian (2007), Umar et al. (2012) and El-Sayed Ebaid (2009). The formula of this ratio is stated below:

$$Long\ term\ debt\ to\ total\ assts = \frac{Long\ Term\ Debt}{Total\ Assets}$$

This ratio demonstrates how much a company's assets are financed by debts which have to be payable in more than one year. This ratio offers a common evaluation of the FP of an organization and expresses the capability to convene financial necessities for unresolved loans. A reduction in this ratio demonstrates that organizations are less dependent on loans to develop their business.

#### 3.7.1.3 STDTA

STDTA is measured by ratio the short-term liabilities of a company by its total assets. STD are means that have to be payable within a year. This ratio is very important to measure financial health. If short-term debts are greater than cash and cash equivalents, it indicates that the company is in a poor financial position. This portion of long-term debt can be a part of short-term debts that have to be payable in a year. Umar et al. (2012) and El-Sayed Ebaid (2009) used current liabilities to total assets as CS measure. This ratio is based on following formula:

$$Short\ term\ debt\ to\ total\ assts = \frac{Short\ term\ debt}{Total\ Assets}$$

### 3.7.2 Financial Performance

The dependent variable is regarded as the variable of interest of any study. It is defined as the variable which is influenced by independent variable either in a positive or negative way (Sekeran, 2003). The dependent variable is also called the outcome variable of the study. In the present study, FP is the target variable which is measured in terms of profitability. The researcher has employed various proxies of profitability namely, ROA, ROE, EPS, and NPM.

#### 3.7.2.1 ROA

ROA can be designed by ratio of the net profit of a company by its total assets. It expresses how effectively organizations are using their assets to generate profits. The ROA proportion, regularly called the ROA, is a profit proportion that measures the net profit divided by total assets during a period. ROA measures how effectively an organization can deal with its advantages for producing benefits within a period. Abor (2005), Zeitun and Tian (2007), Umar et al. (2012), Salim and Yardar (2012) and Delcoure (2007) have used ROA as a FP measure in their studies.

$$ROA = \frac{Earning\ Available\ to\ Common\ Stockholders}{Total\ Assets}$$

#### 3.7.2.2 ROE

ROE can be calculated by dividing net profit by total stakeholder equity of an organization. It expresses how effectively organizations are using their equity to generate profits. ROE gauge the capability of an organization to create benefits from its stockholders' wealth in the firm. A significant number of researchers have used ROE as a measure of FP in their studies namely, Abor (2005), Zeitun and Tian (2007), Umar et al. (2012), El-Sayed Ebaid (2009), Salim and Yardar (2012) and Delcoure (2007). The formula of ROE is stated as follows:

$$ROE = \frac{Earning\ Available\ to\ Common\ Stockholders}{Total\ Equity}$$

#### 3.7.2.3 EPS

EPS is the ratio of earnings available to common stockholders by its number of common shares outstanding. EPS is, similarly, a count that expresses how profitable a firm is on a shareholder premise. Clearly, this computation is strongly affected by number of shares outstanding. Umar et al. (2012) and El-Sayed Ebaid (2009) have used EPS as a FP measure in their studies.

$$EPS = \frac{Earning\ Available\ to\ Common\ Stockholders}{Total\ Number\ of\ Shares\ Outstanding}$$

#### 3.7.2.4 NPM

NPM is defined as the net profit earned by an organization as percentage of its sales. It can be calculated by dividing earnings available to common stockholders by its total sales. The profit margin ratio is also referred to as the return on sale. This profitability ratio is measured through the amount of net profits earned using each rupee of revenue. In other words, the income margin ratio expresses what percentage involving sales are left after almost all expenses are rewarded by the firm. Umar et al. (2012), El-Sayed Ebaid (2009), and Correa et al. (2007) have used NPM as a FP measure in their studies.

$$Net\ Profit\ Margin = \frac{Earning\ Available\ to\ Common\ Stockholders}{Total\ Sales}$$

### 3.7.3 Control Variables

The control variable of this study included size, current ratio and asset tangibility. The rationale behind controlling these variables is to check the true influence of various factors of CS on the FP of firms.

#### 3.7.3.1 Firm Size

Size of the firm is an important variable which significantly influences its profitability. Generally, firm size is proxied by natural log of total assets. If an organization has more assets then they can earn maximum profits by utilizing these resources. Abor (2005), Zeitun and Tian (2007), Umar et al. (2012, Salim and Yardar (2012) and Delcoure (2007) have also used firm size by the proxy of log of total assets.

$$Size = LOG\ (Total\ assets)$$

#### 3.7.3.2 Tangibility

According to trade-off theory, non-current assets are an important part of debt, because such assets are provided as security to lenders for acquiring loans. In case of default, lenders can recover their amounts by the sale of such assets. Fosu (2013) recommended that non-current assets play a important role in company's right to use debt finance. The ratio of fixed assets to total assets is known as tangibility. Delcoure (2007), Frank and Goyal (2003), Zeitun and Tian (2007) and Fosu (2013) have also used tangibility control variable.

$$Tangibility = \frac{Fixed\ Assets}{Total\ Assets}$$

#### 3.7.3.3 Current Ratio

Current ratio tests the liquidity of an organization. Current ratio is also called working capital ratio. The idea behind this ratio is that whether the company's short-term assets, such as cash, marketable securities, debtors and stock are sufficient to pay off its STL, such as creditors, notes payable, accruals etc. Generally, a higher current ratio indicates higher level liquidity of an organization. Ozkan (2001), Sbeiti (2010) and Nor et al. (2011) used current ratio as a control variable in their studies.

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

### 3.8 Data Analysis Techniques

The study is conducted to analyze the role of CS in the FP of firms. Data collected from 152 firms during the period 2010 to 2019 has been analyzed using descriptive and inferential statistics. Using descriptive statistics, the researcher examined the behavior of data based on sample set. To generalize the findings of the sample to the population, inferential statistics were used. Under this analysis, the researcher performed correlation and multiple regression analyses. Under correlation analysis, the researcher checked the degree and magnitude of relationship among the variables of the study. The researcher also performed the Hausman test for the selection of appropriate model for multiple regression analysis.

#### 3.8.1 Regression Analysis

To analyze the association among these variables multiple regression model and tests were applied: OLS and FE model. These models are used due to panel data. Panel data has the characteristics of both cross-sectional and time series. One subscript in panel data represents time period and the other subscript denotes cross-sections unit, which includes company year, CS (LTDTA), STDTA, TDTA, fixed assets to total assets (Tangibility), current assets to current liabilities (CACL), and total assets (Size). Corporate FP can be measured by using the variables ROA, ROE, EPS and NPM. CS variables are used as independent variables while, on the other hand, corporate FP is used as dependent variables.

### 3.8.2 Unit Root Test

Stationary is a very important assumption of OLS. To check this assumption, a panel unit root test (Levin–Lin–Chu) is executed. All the parameters are assessed at intercept level. Table expresses the outcomes of unit root test.

$$\Delta Y_t = C + \gamma_0 t + r_1 Y_{t-1} + \sum_{i=1}^{p-1} b_i \Delta Y_{t-1} + \mu_1$$

Hypotheses of a unit root test are:

$H_0$= Data has a unit root/time series are non-stationary.

$H_1$ = Data does not have a unit root/time series are stationary.

### 3.8.3 OLS

Hill et al.'s (2008) pooled OLS is employed to evaluate the regression models because OLS diminishes the error between the anticipated points on the line as well as authentic experimental points. According to OLS, it is presumed that organizations are homogenous as compared to CS, that is why the effect or cross-sectional impact on leverage is not significant. OLS model assumes that the intercept values that companies have tend to be similar, and coefficient slopes of dependent variables are different across organizations.

### 3.8.4 FE Model

Another econometric technique has been used to evaluate the effect of variables that vary over time. There are two approaches of econometric techniques in panel data, these techniques are FE and random effect (RE). To choose whether to apply FE model or RE model, Hausman test is conducted. In general, there are two categories of panel data estimations that can be engaged in

financial research: RE models and FE models. First of all, balanced and unbalanced panel must be drawn. Balanced panel has an equal number of observations for each cross section. While an unbalanced data have some cross-sectional elements or missing values or observations at different times to others.

$$EPS_{it} = \alpha_i + \beta_1 CACL_{it} + \beta_2 LOGTA_{it} + \beta_3 LTDTA_{it} + \beta_4 TDTA_{it} + \beta_5 STDTA_{it} + \beta_6 TANGIBILITY_{it} + \mu_i + \nu_{it}$$

$$N/P_{it} = \alpha_i + \beta_1 CACL_{it} + \beta_2 LOGTA_{it} + \beta_3 LTDTA_{it} + \beta_4 TDTA_{it} + \beta_5 STDTA_{it} + \beta_6 TANGIBILITY_{it} + \mu_i + \nu_{it}$$

$$ROA_{it} = \alpha_i + \beta_1 CACL_{it} + \beta_2 LOGTA_{it} + \beta_3 LTDTA_{it} + \beta_4 TDTA_{it} + \beta_5 STDTA_{it} + \beta_6 TANGIBILITY_{it} + \mu_i + \nu_{it}$$

$$ROE_{it} = \alpha_i + \beta_1 CACL_{it} + \beta_2 LOGTA_{it} + \beta_3 LTDTA_{it} + \beta_4 TDTA_{it} + \beta_5 STDTA_{it} + \beta_6 TANGIBILITY_{it} + \mu_i + \nu_{it}$$

Where $\mu_{it}$=$\mu_i + \nu_{it}$

EPS refers to earning per share

N/P refers to net profit margin

ROA refers to return on assets

ROE refers to return on equity

TDTA refers to total debt to total assets ratio (debt ratio)

LTDTA refers to long-term debt to total assets ratio

STDTA refers to short-term debt to total assets

CACL refers to current assets to current liability ratio

SIZE refers to the log of fixed assets

TAN refers to tangibility

μ refers to error term

i refers to subscript for firm

t refers to subscript for time

**Table 3. 1 Description of Variables used in the Analysis**

| Variables | Description | Sources |
|---|---|---|
| TDTA | Total debts/total assets | MacKay and Phillips (2005), Zou and Xiao (2006), Shah and Khan (2007), Lemmon et al. (2008), Sbeiti (2010), Mat Nor et al. (2011), Rajagopal et al., (2011), Guney et al. (2011) |
| LTLTA | Long-term debts/total assets | Rajan and Zingales (1995), Booth et al. (2001), Pandey and Chotigeat (2004), Fama and French (2002), Chen (2004), Zou and Xiao (2006), Nor et al. (2011), Rajagopal (2011) |
| STLTA | Short-term liabilities/total assets | Pandey and Chotigeat (2004), Feidakis and Rovolis (2007), Nor et al. (2011), Rajagopal (2011) |
| CACL | Current assets/current liabilities | Ozkan (2001), Deesomsak et al. (2004), Feidakis and Rovolis (2007), Sbeiti (2010), Nor et al. (2011) |
| Size | Log natural of total assets | Titman and Wessels (1988), Rajan and Zingales (1995), Wiwattanakantang (1999), |
| TANGIBILITY | Fixed assets/total assets | Feidakis and Rovolis (2007), Nor et al. (2011), Kayo and Kimura (2011). |
| N/P | Net profit/sales | Titman and Wessels (1988), Wiwattanakantang (1999), |
| EPS | Net profit/outstanding shares | Umar et al. (2012), El-Sayed Ebaid (2009) |
| ROA | Net profit/total assets | Abor (2005), Zeitun and Tian (2007), Umar et al. (2012), El-Sayed Ebaid (2009), Salim and Yardar (2012), and Delcoure (2007) |
| ROE | Net profit/total equity | Umar et al. (2012), El-Sayed Ebaid (2009), Salim and Yardar (2012), and Delcoure (2007) |

## 3.9 Dealing with Ethical Issues

Research ethics are defined as the moral standards for the researchers while conducting a study (Kumaret al., 2004). A number of ethical-related issues can be faced with regard to participants and researcher as well. The participants of the study include non-financial sectors firms listed on PSX. It is not necessary to look for permission from every firm because of the usage of published

data. Moreover, the study hopes that findings will remain unbiased from researcher's and participants' points of view.

The researcher has made best efforts while using appropriate methodology and tests for right findings of the study. The researcher has also avoided using exact words of authors without inverted commas. Additionally, the researcher has used the concepts of other scholars with proper acknowledgment. To validate the findings of the study, the researcher has collected data only from audited annual reports of the listed firms at PSX.

# Chapter 4

# Empirical Results and Discussion

This chapter briefly explains the outcomes of this present study with application of appropriate statistical techniques. The researcher has applied descriptive statistics to gauge the behavior of data gathered in the sample. After this, the researcher has checked the association between variables of the study using Pearson correlation. To choose appropriate model for multiple regression analysis, the researcher has applied Hausman test to use either FE model or random effect model. Using the appropriate model, the researcher applied multiple regression analyses technique to gauge the influence of numerous components of CS on the FP of firms.

## 4.1 Descriptive Summary

Descriptive summary is a vital statistical analysis technique which is conducted to examine the characteristics of the variables of the study based on sample data (Beins, 2012). Ruane (2005) has defined descriptive statistics as the organized and summarized way of describing data at a glance. Descriptive statistics provides information related to measures of location and measures of variability. Measures of location are comprised of mean, mode, and median (Ruane, 2005). Measures of variability comprises of standard deviation and range (minimum and maximum). Measures of location describe the central and most significant value in the data set (Ruane, 2005). Mean is regarded as the most important measure of location. It is described as the average number which represents the whole data set (Ruane, 2005).

Standard deviation is defined as the dispersion in the average score of the data set (Ruane, 2005). It describes the dispersion or variation in the data set (Saunders, Lewis, & Thornhill, 2007). The range of data can be measured in terms of difference between minimum and maximum values. Table 4.1 provides information related to mean, standard deviation and minimum and maximum scores in the data set. This table gives the descriptive statistics of the overall sample and individual sectors.

**Table 4. 1 Descriptive Analysis of Overall Sample**

| Variables | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| CACL | 1.725745 | 4.229937 | 0.001 | 138.5198 |
| EPS | 17.09683 | 54.31168 | -435.98 | 689.36 |
| SIZE | 9.249969 | 1.144904 | 3.756745 | 13.11053 |
| LTDTA | 0.214156 | 1.137307 | 0.001 | 1.34 |
| NPM | 0.29032 | 6.527774 | -237.3948 | 7.63 |
| ROA | 0.24453 | 36.82274 | -14.34 | 0.8023 |
| ROE | 0.149072 | 4.101729 | -7.432 | 2.84 |
| STDTA | 0.516267 | 0.763817 | 0.00109 | 2.37 |
| TANG | 0.522969 | 0.423872 | 0.00584 | 0.85 |
| TDTA | 0.730423 | 3.774296 | 0.00109 | 1.49 |

Table 4.1 presents the descriptive summary of the overall sample which consists of mean, standard deviation, minimum and maximum values in the data set. The mean score of CACL is 1.72 which shows that average current assets are 1.72 times greater than current liabilities which show the

liquidity position of firms. The dispersion in the data set is 4.22. The minimum and maximum value of CACL ranges from .001 to 138.51 . The average score of EPS is 17.096 which shows that shareholders are earning enough returns on their investment. The variance in the data set is 54.311. The lowest and highest values range from -435.98 to 689.36. Size has average score of 9.2499. The variation in the score of Size across means is 1.148. The range of the data set is between 3.75 and 13.11.

The mean score of LTDTA is 0.2141 which shows that the average portion of LTL is 22% out of total assets. The mean score indicates that current liabilities constitute the major portion of total liabilities. The value of LTDTA is 1.1373 dispersed across its mean value. The minimum score of LTDTA is .001 which indicates that some companies have no long-term liability. The average score of NPM is 0.290 which shows that the firms included in the sample are earning only 29% net profit as a percentage of sales. The value of NPM is 6.5277 deviated from its average score. The lowest and highest scores of this NPM range from -237.39 to 7.63. The mean score of ROA is 0.2445 which indicates that firms included in the sample are earning 24% on the utilization of their assets. The value of standard deviation is 6.52. The lowest and highest values are -14.34 and .8023, respectively.

The average score of ROE is 0.1490 which indicates that on average shareholders are earning 15% return on their investment. The value of standard deviation is 4.10. The lowest and highest scores of ROE range from -7.43 to 2.84. The average score of STDTA is 0.5162 which indicates that the portion of STL to total assets is 52% only. The value of standard deviation is 0.7638. The lowest score of STDTA is .00109. The highest score of STDTA is 2.37.

The mean score of TANG is 0.52 which shows that 52% assets of the firms included in overall sample have tangible assets. The variation in the data set across its average value is 0.42. The lowest and highest values fall in the range of 0.00584 to 0.85. The mean score of TDTA is 0.7304 which indicates that 73% assets are financed by total liabilities. The standard deviation is 3.77 and the lowest and highest scores of TDTA are 0.00109 and 1.49, correspondingly.

### 4.1.1 Sector-Wise Descriptive Statistics

In this section of descriptive statistics, each individual sector is discussed in detail. The descriptive statistics of each sector are shown separately owing to differences in sectorial domain.

**Table 4. 2 Descriptive Analysis of Petroleum and Chemicals Sector**

| Variables | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| CACL | 1.786338 | 2.075084 | 0.011 | 2.416434 |
| EPS | 17.13686 | 23.12004 | -108.7 | 100.61 |
| SIZE | 8.560866 | 1.329826 | 3.756745 | 10.76245 |
| LTDTA | 0.160459 | 0.471885 | 0.0001 | 1.34 |
| NPM | 0.198460 | 0.904782 | -10.31 | 0.48 |
| ROA | 0.198440 | 3.410301 | -.63 | 0.75 |
| ROE | 0.109545 | 6.852344 | -2.37 | 0.79 |
| STDTA | 0.505171 | 0.363125 | 0.03 | 1.64 |
| TANG | 0.428686 | 0.351014 | 0.005 | 0.84 |
| TDTA | 0.660570 | 0.303107 | 0.08 | 1.7 |

Table 4.2 provides the descriptive summary of the firms included in petroleum sector. The mean score of CACL is 1.78 which shows that average current assets are 1.78 times greater than current liabilities which show the liquidity position of firms. The dispersion in the data set is 2.075. The minimum and maximum value of CACL ranges from 0.011 to .41. The average score of EPS is 17.13 which shows that shareholders are earning enough returns on their investment. The variance in the data set is 23.12. The lowest and highest values range from -108.7 to 100.61. Size has average score of 8.56. The variation in the score of size across mean is 1.32. The range of the data set falls from 3.75 to 10.76.

The mean score of LTDTA is 0.160 which shows that the average portion of LTL is 16% out of total assets. The mean score indicates that current liabilities constitute the major portion of total liabilities. The value of LTDTA is 0.47 dispersed across its mean value. The minimum score of LTDTA is 0.0001 which indicates that some companies have no long-term liability. The maximum score, however, is 1.34 which indicates that the highest portion of LTL out of total liabilities. The average score of NPM is 0.198, which shows that the firms included in the sample are earning only 19.8% net profit as a percentage of sales. The value of NPM is .9047% deviated from its mean score. The minimum and maximum score of this NPM ranges from -10.31 to 0.48. The mean score of ROA is 0.1984 which indicates that firms included in the sample are earning 19.8% on the utilization of their assets. The value of standard deviation is 3.41. The smallest and largest values are -0.63 and 0.75, in same order.

The average score of ROE is 0.109545 which indicates that on average shareholders are earning 10.95% return on their investment. The dispersion in sampled data across its avaerge score is 6.85. The lowest and highest scores of ROE range from -2.37 to 0.79. The average score of STDTA is

0.50 which indicates that the portion of STL to total assets is 50%. The value of standard deviation is 0.36. The minimum score of STDTA is 0.03. The maximum score of STDTA is 1.64. The mean score of tangibility is 0.42 which shows that 42% assets of the firms included in overall sample have tangible assets. The variation in sampled data across its average value is 0.35. The minimum and maximum values fall in the range of 0.005 to .84. The mean score of TDTA is 0.66 which indicates that 66% assets are financed by total liabilities. The score of standard deviation is 0.30. The smallest and largest values of TDTA are 0.08 and 1.7, correspondingly.

**Table 4. 3 Descriptive Analysis of Textile Sector Firms**

| Variables | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| CACL | 1.208015 | 1.064901 | 0.00211 | 8.92 |
| EPS | 9.542125 | 48.52146 | -435.98 | 920.15 |
| SIZE | 9.111195 | 1.094303 | 4.037108 | 11.25327 |
| LTDTA | 0.199255 | 0.229425 | 0 | 2.706385 |
| NPM | 0.11156 | 1.487967 | -25.19 | 3.354448 |
| ROA | 0.195170 | 0.6457 | -10.06 | 2.526878 |
| ROE | 0.287010 | 1.089965 | -17.34 | 3.56 |
| STDTA | 0.53648 | 0.723239 | 0.00069 | 1.258862 |
| TANG | 0.559162 | 0.316162 | 0.000333 | 0.94321 |
| TDTA | 0.735734 | 0.773211 | 0.003149 | 1.496478 |

Table 4.3 shows the descriptive summary of the textile sector firms of Pakistan. The results show that average ROA in the textile sector is 0.195 which shows that textile sector firms are earning 19.5% returns by the utilization of their assets. The ROA indicates that textile sector firms are

utilizing their assets efficiently and effectively. Standard deviation is 0.6457 which indicates dispersion in the data set across its mean value. The lowest and highest values of ROA are –10.06 and 2.52 respectively. The mean ROE of textile sector firms is 0.29 which indicates that shareholders are earning 29% return on their investment made in such firms. The value of standard deviation shows that 109% values in the data set deviate from its mean. The lowest score of ROE is -173.4 which indicates negative return earned by shareholders in some firms. While, the highest score of ROE in the data set is 356%.

The average score on NPM is 0.1156 which indicates that firms included in the sample are earning 11.56% positive return on their sale. The value of standard deviation is 1.4879. The lowest and highest values are -25.19 and 3.35, respectively. The mean score of EPS is 9.5421 which shows that shareholders are earning Rs. 9.54 on their each share. The score of EPS is 48.52 deviated from its mean. The minimum value of EPS is -435 which indicates negative returns suffered by stockholders on their investment. The maximum score of EPS is 920 which shows the highest per share return earned by shareholders on their investment.

The average score of LTDTA is 0.199 which shows that long-terms liabilities constitute 20% of the total assets. The value of this indicator is 0.2294 dispersed across its average score. The lowest and highest values of LTDTA range from 0.00 to 2.70. The mean score of STDTA is 0.5364 which shows short-term or current liabilities constitute only 54% of total assets on average in the textile sector firms registered at PSX. The variation in the data set across its mean is observed by standard deviation which is 0.7232. The lowest and highest value of STDTA are 0.00069 and 1.25, correspondingly. The average score of TDTA is 0.7357 which shows 73% of the total assets of

textile sector firms are financed by total liabilities. The dispersion in the data set across its mean is observed as 0.7732. The lowest and highest values range from 0.0031 to 1.49.

The descriptive statistics of control variables show that average CACL, measure of current ratio, is 1.20 which is in the range of 2 and 1. This indicates that textile sector firms are able to pay their STL by current assets. The value of CACL is 1.064 deviated from its mean. The minimum score of CACL is 0.0211 and maximum score is 8.92. Size has mean score of 9.11. The variation in the score of size across mean is 1.09. The range of the data set falls from 4.03 to 11.25. The mean score of TANG is 0.5591 which indicates that 56% assets of textile sector firms are in tangible form. The minimum and maximum values fall in the range between 0.00031 and 0.94.

**Table 4. 4 Descriptive Statistics of Sugar Sector**

| Variables | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| CACL | 0.96093 | 0.793958 | 0.03464 | 5.484482 |
| EPS | 2.783571 | 15.55451 | -72.24 | 57.08 |
| SIZE | 9.683012 | 0.361745 | 9.037216 | 10.82741 |
| LTDTA | 0.171114 | 0.146125 | 0.0001 | 0.813466 |
| NPM | 0.041914 | 0.591908 | -1.94958 | 0.2876 |
| ROA | 0.018515 | 0.146982 | -0.7865 | 0.552412 |
| ROE | 0.27448 | 1.249899 | -0.826353 | 2.84 |
| STDTA | 0.476424 | 0.561395 | 0.040482 | 0.756 |
| TANG | 0.578877 | 0.209484 | 0.007942 | 0.960187 |
| TDTA | 0.647538 | 0.248357 | 0.019457 | 1.209696 |

Table 4.4 reports the descriptive summary of the sugar sector firms of Pakistan. The results show that average ROA in the sugar sector is 0.0186 which shows that sugar sector firms are only earning 1.86% on their assets. The low ROA indicates that sugar sector firms are not utilizing their assets efficiently and effectively. Standard deviation is 0.1469 which indicates dispersion in the data set across its averafe value. The lowest and highest values of ROA are -0.7865 and 0.5524, respectively. The mean ROE of sugar sector firms is 0.2744 which indicates that shareholders are earning 27% return on their investment made in such firms. The value of standard deviation shows that 1.2498 values in the data set deviate from its mean. The lowest score of ROE is -0.82 which indicates negative return suffered by shareholders in some firms. While, the highest score of ROE in the data set is 2.84.

The average score on NPM is 0.0419 which indicates that firms included in the sample are earning only 4.19% return on their sale. In simple words, it is plausible to say that after deduction of expenses from the revenue, only 4% profit remains. This shows that sugar firms have to pay huge expenses which become the reason for such low NPM. Standard deviation of NPM is 0.59. The lowest and highest values are -1.94 and .2876, respectively. The mean score of EPS is Rs. 2.78 which shows that shareholders are earning Rs. 2.78 on each share. The score of EPS is 15.55 deviated from its mean. The minimum value of EPS is -72.24. The maximum score of EPS is 57.08 which shows the highest per share return earned by shareholders on their investment.

The average score of LTDTA is 0.17 which shows that long-terms liabilities constitute 17% of the total assets. The value of this indicator is 0.1461 dispersed across its average score. The lowest and highest values of LTDTA range from 0.0001 to 0.8134. The mean score of STDTA is 0.47 which shows short-term or current liabilities constitute only 47% of total assets on average in the sugar sector firms registered at PSX. The variation in the data set across its mean is observed by

standard deviation which is 0.5613. The lowest and highest value of STDTA are 0.040 and 0.75 correspondingly. The average score of TDTA is 0.6475 which shows 64.75% of the total assets of sugar sector firms are financed by total liabilities. The dispersion in the data set across its mean is observed as 0.2483. The lowest and highest values range from 0.0194 to 1.20.

The descriptive statistics of control variables show that average CACL, measure of current ratio, is 0.960 which is in the range of 2 and 1. This indicates that sugar sector firms are not able to pay their STD by current assets. The value of CACL is 0.79 deviated from its mean. The minimum score of CACL is 0.0346 and maximum score is 5.48. Size has mean score of 9.68. The variation in the score of size across mean is 0.3617. The range of the data set falls from 9.03 to 10.82. The mean score of tangibility is 0.57 which indicates that 57% assets of sugar sector firms are in tangible form. The minimum and maximum values fall in the range between 0.0079 and 0.96.

**Table 4. 5 Descriptive Statistics of Engineering Sector Firms**

| Variables | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| CACL | 1.24098 | 0.751564 | 0.001 | 4.8764 |
| EPS | 2.429506 | 7.250531 | -20.83 | 19.34 |
| SIZE | 9.490758 | 0.518215 | 8.447203 | 10.51496 |
| LTDTA | 0.19351 | 0.242183 | 0.00001 | 0.875291 |
| NPM | 0.01448 | 0.22421 | -1.180715 | 0.543319 |
| ROA | 0.05810 | 0.148069 | -0.999861 | 0.175372 |
| ROE | 0.01679 | 0.291248 | -1.468585 | 0.503177 |
| STDTA | 0.38409 | 0.20763 | 0.051027 | 0.8107 |
| TANG | 0.515848 | 0.294192 | 0.051 | 0.997399 |
| TDTA | 0.577101 | 0.21655 | 0.000357 | 0.928812 |

Table 4.5 shows the descriptive summary of steel mills listed on PSX. The average score of ROA is 5.8% which indicates that firms belonging to steel industry are not utilizing their assets efficiently and effectively. The value of standard deviation is 0.148. The lowest score of ROA is -0.999 and highest score is 0.17. The average score of ROE is 0.0167 which shows that shareholders belonging to steel sector are earning positive returns on their investment. The value of standard deviation is 0.2912. The minimum and maximum values ranges from -1.46 and 0.503. NPM has an average score of 0.014 for steel mills. The deviation in sampled data across its mean value is 0.222. The minimum and maximum values are -1.18 and 0.54, in that order. The mean score of EPS in steel sector is Rs. 2.42 which shows per share amount earned by shareholders. The score of EPS is 7.25 dispersed across its average value. The smallest score of EPS is -20.83 and the largest score is 19.34.

The descriptive statistics of independent variables shows the behavior of variables. The mean score of LTDTA is 0.193 which indicates that LTL are only 19.3% of total assets. Standard deviation of LTDTA is 0.24. The minimum and maximum scores of this indicator are 0.0001 and 0.875, respectively. STDTA has an average score of 0.38 which indicates that STD are 38% of total assets. The score of STDTA is 0.207 deviated from its mean value. The minimum score of STDTA is 0.0510 and maximum score is 0.810. The mean score of TDTA is 0.58 which indicates that out of total assets, 58% of them are financed by total liabilities. The score of standard deviation is 0.21. The smallest and largest values of TDTA are 0.00357 and 0.92.

The average score of CACL is 1.24 which falls in the range of 2 and 1 which indicates that steel industry has ability to current liabilities. The value of CACL is 0.75 dispersed across its mean. The smallest and largest values of CACL are 0.001 to 4.86. The sizehas an average score of 9.49, with

a standard deviation of 0.5182. The smallest and largest values are 8.44 and 10.51, in that order. The mean score of tangibility is 0.51 which indicates that only 51% of the total assets physically exist. The standard deviation of TANG is 0.29. Smallest and largest scores are 0.05 and 0.99.

**Table 4. 6 Descriptive Statistics of Manufacturing and Vehicle Sector**

| Variables | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| CACL | 1.961563 | 1.53888 | 0.0222 | 10.56 |
| EPS | 30.42624 | 59.48676 | -70.42 | 689.36 |
| SIZE | 9.68465 | 0.954942 | 6.452093 | 11.26808 |
| LTDTA | 0.137664 | 0.214659 | 0 | 1.39069 |
| NPM | 0.051027 | 0.138398 | -0.7294 | 0.8698 |
| ROA | 0.085638 | 0.572189 | -6.4261 | 7.1 |
| ROE | 0.604099 | 5.585723 | -6.2543 | 9.4 |
| STDTA | 0.397517 | 0.253842 | 0.048081 | 0.7395 |
| TANG | 0.409566 | 0.240029 | 0.005028 | 0.72 |
| TDTA | 0.535181 | 0.322659 | 0.098 | 3.6095 |

Table 4.6 shows the descriptive statistics of the vehicle sector firms of Pakistan. The results show that average ROA in the vehicle sector is 0.085; which shows that manufacturing and vehicle sector firms are earning 8.65% by utilizating of assets. Standard deviation of ROA is 0.5721. The smallest and largest values of ROA are -6.42 and 7.1, respectively. The mean ROE of manufacturing and vehicle sector firms is 0.60 which indicates that shareholders are earning 60% return on their investment made in such firms. The value of standard deviation shows that 5.58

values in the data set deviate from its mean. The lowest score of ROE is -6.25 which indicates negative return suffered by shareholders in some firms. While, the highest score of ROE in the data set is 9.4.

The average score on NPM is 0.0510 which indicates that firms included in the sample are earning only 5.1% return on their sale. In simple words, it is plausible to say that after deduction of expenses from the revenue, only 5.1% profit remains. The value of standard deviation is 0.1383. The minimum and maximum values are -0.73 and .87, respectively. The mean score of EPS is Rs. 30.42 which shows that shareholders are earning Rs. 30.42 on each share. The score of EPS is 59.48 deviated from its mean. The minimum value of EPS is -70 which indicates negative returns. The maximum score of EPS is 689 which shows the highest per share return earned by shareholders on their investment.

The average score of LTDTA is 0.1376 which shows that long-terms liabilities constitute 13.76% of the total assets. The value of this indicator is 0.2146 dispersed across its mean score. The smallest and largest values of LTDTA are 0 and 1.39. The mean score of STDTA is 0.39 which shows short-term or current liabilities constitute only 39% of total assets on average in the manufacturing and vehicle sector firms registered at PSX. The variation in the data set across its mean is observed by standard deviation which is 0.2538. The smallest and largest values of STDTA are 0.048081 and 0.7395 individually. The average score of TDTA is 0.53 which shows 53% of the total assets of manufacturing and vehicle sector firms are financed by total liabilities. The dispersion in the data set across its mean is observed as 0.32. The lowest and highest values range from 0.098 to 3.6095.

The descriptive statistics of control variables show that average CACL, measure of current ratio, is 1.96 which is in the range of 2 and 1. This indicates that manufacturing and vehicle sector firms are able to pay their STL by current assets. The value of CACL is 1.53 deviated from its mean. The minimum score of CACL is 0.02 and maximum score is 10.56. Size has average score of 9.68. The variation in the score of size across mean is 0.95. The range of the data set falls from 6.45 to 11.26. The mean score of TANG is 0.41 which indicates that 41% assets of vehicle sector firms are in tangible form. The minimum and maximum values fall in the range between 0.05 and 0.72.

**Table 4. 7 Descriptive Statistics of Food and Communication Sector**

| Variables | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| CACL | 3.595744 | 11.6812 | 0.1033 | 138.5198 |
| EPS | 37.1061 | 95.92411 | -64.05 | 516.62 |
| SIZE | 9.525922 | 1.354127 | 6.198467 | 13.11053 |
| LTDTA | 0.188042 | 0.20875 | 0 | 0.911589 |
| NPM | 0.01207 | 0.627908 | -4.851761 | 2.628087 |
| ROA | 0.058174 | 0.24817 | -2.548021 | 0.808464 |
| ROE | 0.039314 | 1.173946 | -12.533 | 3.710092 |
| STDTA | 0.384226 | 0.289582 | 0.000109 | 1.4281 |
| TANG | 0.524741 | 0.233777 | 0.000584 | 0.9083 |
| TDTA | 0.572268 | 0.425661 | 0.007218 | 2.0389 |

Table 4.7 shows the descriptive summary of Food and Communication sector firms listed on PSX. The average score of ROA is 5.8% which indicates that firms belonging to food and

communication sector are utilizing their assets effectively. Standard deviation of ROA is 0.2418. The smallest score of ROA is -2.548 and largest score is 0.8054. The mean score of ROE is 3.9% which shows that shareholders belonging to food and communication sector firms are earning only 4% returns on their investment. The value of standard deviation is 1.173. The smallest and largest values ranges from -12.533 and 3.71. NPM has an average score of 0.012 for food and communication sector. The dispersion in the data set across its mean value is 0.63. The smallest and largest values are -4.85 and 2.63, respectively. The average EPS score of food and communication sector is Rs. 37.1061, which shows per share amount earned by shareholders. The standard deviation of EPS is 95.92. The smallest score of EPS is -64.05 and the largest score is 516.62.

The average score of LTDTA is 0.19 which indicates that LTL are only 19% of total assets. Standard deviation of LTDTA is 0.20. The lowest and highest scores of this indicator are 0.00 and 0.91 respectively. STDTA has an average score of 0.39 which indicates that STL are 39% of total assets. The score of STDTA is 0.29 deviated from its mean value. The smallest score of STDTA is 0.0001 and largest score is 1.43. The mean score of TDTA is 0.57 which indicates that out of total assets, 57% of them are financed by total liabilities. The score of standard deviation is 0.42 which indicates dispersion in the data set. The minimum and maximum values of TDTA falls in the range of 0.007 and 2.04, respectively.

The average score of CACL is 3.59 which is above of 2 and 1. This indicates that food and communication sector are at good liquidity position. The value of CACL is 11.62 dispersed across its mean. The smallest and largest values of CACL are 0.1033 and 138.51 correspondingly. The size has an average score of 9.52 with a standard deviation of 1.35. The smallest and largest values

are 6.19 and 13.11 correspondingly. The mean score of tangibility is 0.52 which indicates that 52% of the total assets physically exist. Standard deviation of TANG is 0.23. The smallest and largest scores are 0.0005 and 0.9083 respectively.

### 4.2 Panel Unit Root Test

In order to gauge the stationarity of panel data, the researcher performed Levin–Lin–Chu test. The hypotheses of this test are stated as follows:

$H_0$: Panel contains unit root.

$H_1$: Panel does not contain unit root.

**Table 4. 8 Results of Panel Unit Root Test of Overall Sample**

| Variables | T-Stat @ level | T-Stat @ 1st Difference | Remarks |
|---|---|---|---|
| EPS | (10.616)*** | - | Stationary |
| NPM | (18.766)*** | - | Stationary |
| ROA | (34.4468)*** | - | Stationary |
| ROE | (39.1276)*** | - | Stationary |
| LTDTA | (27.0299)*** | - | Stationary |
| STDTA | (35.8901)*** | - | Stationary |
| TDTA | (53.4739)*** | - | Stationary |
| CACL | (19.741)*** | - | Stationary |
| Size | (8.46100)*** | - | Stationary |
| Tangibility | (12.17)*** | - | Stationary |

***,**, and * denotes significance at 1%, 5% and 10% levels

The findings of panel unit root test, presented in Table 4.8, show that all variables are stationary at level, which recommends to the researcher to use various inferential statistics techniques including correlation and multiple regression analyses.

**Table 4. 9 Results of Panel Unit Root Test of Petroleum and Chemicals Sector**

| Variables | T-Stat @ level | T-Stat @ 1st Difference | Remarks |
|---|---|---|---|
| EPS | (1.999249**) | - | Stationary |
| NPM | (2.66766)*** | - | Stationary |
| ROA | (37.7669)*** | - | Stationary |
| ROE | (22.042)*** | - | Stationary |
| LTDTA | (5.51876)*** | - | Stationary |
| STDTA | (2.60035)*** | - | Stationary |
| TDTA | (3.06073)*** | - | Stationary |
| CACL | (4.48451)*** | - | Stationary |
| Size | (4.71103)*** | - | Stationary |
| Tangibility | (2.71178)*** | - | Stationary |

***,**, and * denotes significance at 1%, 5% and 10% levels

The findings of panel unit root test of firms belonging to petroleum sector (see Table 4.9) show that all variables are stationary at level, which recommends the researcher to use various inferential statistics techniques including correlation and multiple regression analyses.

**Table 4. 10 Results of Panel Unit Root Test of Textile Sector**

| Variables | T-Stat @ level | T-Stat @ 1st Difference | Remarks |
|---|---|---|---|
| EPS | (9.76716)*** | - | Stationary |
| NPM | (191.44)*** | - | Stationary |
| ROA | (12.6377)*** | - | Stationary |
| ROE | (17.4779)*** | - | Stationary |
| LTDTA | (3.62334)*** | - | Stationary |
| STDTA | (37.9818)*** | - | Stationary |
| TDTA | (2.42806)** | - | Stationary |
| CACL | (148.349)*** | - | Stationary |
| Size | (11.1795)*** | - | Stationary |
| Tangibility | (12.5807)*** | - | Stationary |

***,**, and * denotes significance at 1%, 5% and 10% levels

The findings of panel unit root test of textile sector firms show that all variables are stationary at level (see Table 4.10), which recommends the researcher to use various inferential statistics techniques including correlation and multiple regression analyses.

**Table 4. 11 Results of Panel Unit Root Test of Sugar Sector**

| Variables | T-Stat @ level | T-Stat @ 1st Difference | Remarks |
|---|---|---|---|
| EPS | (3.53444)*** | - | Stationary |
| NPM | (3.45117)*** | - | Stationary |
| ROA | (4.65888)*** | - | Stationary |
| ROE | (5.75038)*** | - | Stationary |
| LTDTA | (2.54556)** | - | Stationary |
| STDTA | (5.67298)*** | - | Stationary |
| TDTA | (5.57805)*** | - | Stationary |
| CACL | (5.06518)*** | - | Stationary |
| Size | (8.09917)*** | - | Stationary |
| Tangibility | (5.16811)*** | - | Stationary |

***,**, and * denotes significance at 1%, 5% and 10% levels

The findings of panel unit root test of sugar sector show that all variables are stationary at level (see Table 4.11). These findings suggest that the researcher use various inferential statistics techniques including correlation and multiple regression analyses.

**Table 4. 12 Results of Panel Unit Root Test of Engineering Sector**

| Variables | T-Stat @ level | T-Stat @ 1st Difference | Remarks |
|---|---|---|---|
| EPS | (2.66758)*** | - | Stationary |
| NPM | 2.46455** | - | Stationary |
| ROA | (4.9582)*** | - | Stationary |
| ROE | 2.14354** | - | Stationary |
| LTDTA | (2.85785)** | - | Stationary |
| STDTA | (4.05952)*** | - | Stationary |
| TDTA | (3.41493)*** | - | Stationary |
| CACL | (9.85409)*** | - | Stationary |
| Size | (2.37577)** | - | Stationary |
| Tangibility | (2.36821)** | - | Stationary |

***,**, and * denotes significance at 1%, 5% and 10% levels

The findings of panel unit root test of steel sector show that all variables are stationary at level (see Table 4.12). These findings have recommended the researcher to use various inferential statistics techniques including correlation and multiple regression analyses.

**Table 4. 13 Results of Panel Unit Root Test of Manufacturing and Vehicle Sector**

| Variables | T-Stat @ level | T-Stat @ 1st Difference | Remarks |
|---|---|---|---|
| EPS | (3.25482)*** | - | Stationary |
| NPM | (5.51509)*** | - | Stationary |
| ROA | (5.1676)*** | - | Stationary |
| ROE | (33.0436)*** | - | Stationary |
| LTDTA | (27.4597)*** | - | Stationary |
| STDTA | (3.94713)*** | - | Stationary |
| TDTA | (4.50109)*** | - | Stationary |
| CACL | (18.7563)*** | - | Stationary |
| Size | (6.3793)*** | - | Stationary |
| Tangibility | (4.40893)*** | | Stationary |

***,**, and * denotes significance at 1%, 5% and 10% levels

The findings of panel unit root test of vehicle sector show that all variables are stationary at level (see Table 4.13). These findings suggest that the researcher use various inferential statistics techniques including correlation and multiple regression analyses.

**Table 4. 14 Results of Panel Unit Root Test of Food and Communication Sector**

| Variables | T-Stat @ level | T-Stat @ 1st Difference | Remarks |
|---|---|---|---|
| EPS | (3.67353)*** | - | Stationary |
| NPM | (2.38319)** | - | Stationary |
| ROA | (8.62664)*** | - | Stationary |
| ROE | (9.54463)*** | - | Stationary |
| LTDTA | (3.40693)*** | - | Stationary |
| STDTA | (5.33428)*** | - | Stationary |
| TDTA | 18.434*** | - | Stationary |
| CACL | (10.94)*** | - | Stationary |
| Size | (6.74718)*** | - | Stationary |
| Tangibility | (4.10061)*** | - | Stationary |

***,**, and * denotes significance at 1%, 5% and 10% levels

The findings of panel unit root test of firms belonging to food and communication sector show that all variables are stationary at level (see Table 4.14). These findings suggest that the researcher use various inferential statistics techniques including correlation and multiple regression analyses.

### 4.3 Correlation Analysis

Correlation abalysis is an inferential statistical technique which is employed to gauge the association between pairs of variables (Jackson & Bartek, 2009). Correlation analysis not only gauges the extent and magnitude of connections between variables of a study but also the direction of such relationships. The magnitude of relationship can be checked using the level of significance. The relationship between two variables is said to be significant if the *p*-value is lesser than 0.01, 0.05 or 0.10. The direction of relationship can be either positive or negative, which is shown by correlation coefficient (VanderStoep & Johnston, 2008). In case of positive correlation, an increase in one variable causes an increase in another variable. Whereas, a negative association exists when both variables move in opposite directions; for instance, one unit increase in a variable result in a decrease in the another variable.

The relationship between variables is denoted by *correlation coefficient* , which is regarded as a defined measure of r (Walliman, 2006). The score of correlation coefficient (*r*) ranges from -1 to +1 which designates the power of relationship among variables. A value of *r* near to 1 indicates strong degree of association between variables. Conversely, a value of *r* near to 0 indicates a weak association between the variables.

The researcher has carried out bivariate correlation analysis to check the association among various components of CS and organization's FP. It provides a quantitative assessment of linear association between variables of the study. The researcher has provided the relationships in the form of a correlation matrix. For the ease of reader's understanding, the researcher has provided a correlation matrix of the overall sample and of each sector separately.

**Table 4. 15 Correlation Matrix of Overall Sample**

| Variables | EPS | NPM | ROA | ROE | LTDTA | STDTA | TDTA | CACL | SIZE | TANGIBILITY |
|---|---|---|---|---|---|---|---|---|---|---|
| EPS | 1.00000 | | | | | | | | | |
| | ----- | | | | | | | | | |
| NPM | 0.06683 | 1.00000 | | | | | | | | |
| ***ρ*-value** | 0.00910 | ----- | | | | | | | | |
| ROA | 0.12072 | 0.73401 | 1.00000 | | | | | | | |
| ***ρ*-value** | 0.00001 | 0.00010 | ----- | | | | | | | |
| ROE | 0.03433 | 0.24864 | 0.25913 | 1.00000 | | | | | | |
| ***ρ*-value** | 0.18100 | 0.00010 | 0.00010 | ----- | | | | | | |
| LTDTA | -0.11201 | -0.05586 | -0.06155 | -0.02823 | 1.00000 | | | | | |
| ***ρ*-value** | 0.00001 | 0.02940 | 0.01640 | 0.27150 | ----- | | | | | |
| STDTA | -0.06025 | -0.09332 | -0.05392 | -0.32553 | 0.07964 | 1.00000 | | | | |
| ***ρ*-value** | 0.01880 | 0.00030 | 0.03560 | 0.02046 | 0.00190 | ----- | | | | |
| TDTA | -0.09300 | -0.10423 | -0.07013 | -0.03932 | 0.41119 | 0.94140 | 1.00000 | | | |
| ***ρ*-value** | 0.00030 | 0.00001 | 0.00620 | 0.02550 | 0.00001 | 0.00001 | ----- | | | |
| CACL | 0.02777 | 0.04545 | 0.02003 | 0.48410 | -0.08139 | -0.11886 | -0.13623 | 1.00000 | | |
| ***ρ*-value** | 0.27920 | 0.07650 | 0.43510 | 0.00850 | 0.00150 | 0.00010 | 0.00010 | ----- | | |
| SIZE | 0.15821 | 0.03630 | 0.01882 | 0.04046 | -0.00607 | -0.14162 | -0.13156 | -0.02681 | 1.00000 | |
| ***ρ*-value** | 0.00001 | 0.15720 | 0.46340 | 0.11490 | 0.81300 | 0.00010 | 0.00010 | 0.29620 | ----- | |
| TANGIBILITY | -0.18895 | -0.06279 | -0.01125 | -0.03839 | 0.27761 | 0.05167 | 0.14118 | -0.14758 | -0.00114 | 1.00000 |
| ***ρ*-value** | 0.00001 | 0.01440 | 0.66130 | 0.13470 | 0.00010 | 0.04400 | 0.00010 | 0.00010 | 0.96450 | ----- |

Table 4.15 provides results of correlation analysis of overall sample. The researcher has employed Pearson correlation due to quantitative nature of data gathered. There is a substantial negative connection between STDTA and EPS as evident by the value of r which is -0.060. There is a substantial adverse connection between LTDTA and EPS as evident by r which is -0.11201. The connection between firms' size and EPS is substantial and direct with r of 0.159. This implies that increase in size of firms can increase EPS by 0.159 times; the r is significant at 1% level. A negative but significant relationship between tangibility and EPS at 1% level with r of -0.189 which implies 18.9% change in EPS because of tangibility. There is a substantial as well as direct association between NPM, ROA and ROE. The value r between NPM and ROA is 0.7340, which is significant at 1% level and with ROE is 0.24864 significant at 1% level. The association between NPM and LTDTA is negative as well as significant at 5% level, which is shown by r of -0.056. The negative coefficient value implies that one unit increase in LTDTA can favorably change NPM by -0.056 times. There are substantial negative associations of NPM with STDTA and TDTA at 1% level. There is a substantial and adverse connection between tangibility and NPM as evident by the value of r which is 0.062.

There is a substantial adverse relationship between ROA and ROE at 1% level. There is substantial adverse association between LTDTA, STDTA and TDTA with ROA at 5% level. The study has found positive significant correlation between CACL and ROE as evident by the value of r which is 0.4841. There is a negative substantial relationship between ROE and STDTA as evident by the value of r which is -0.3255.. There is a substantial direct connection between LTDTA and TDTA at 1% level. This implies that an increase in one unit of LTDTA will likely increase TDTA by 0.41119 times. There is a substantial as well as direct relationship between STDTA and TDTA.

The connection between STDTA and TDTA is substantial at 1% level. This study has found subtantial negative association between LTDTA and CACL at 1% level. This connection implies one unit increase in LTDTA can decrease CACL by 0.0813 times. The relationship between LTDTA and tangibility is substantial and direct.

There is a subtantial positive association between STDTA and tangibility as evident by the value of r which is 0.0516. There is a substantial negative correlation between TDTA and CACL at 1% level. The negative r infers that one unit rise in TDTA can decrease CACL by 0.1362 times. This study has found a positive subtantial relationship between TDTA and tangibility. The value of r between TDTA and tangibility is 0.1411. The relationship between CACL and Tangibility is found subtantial and adverse at 1% level as evident by r is -0.1478; significant at 5% level. The researcher also found a subtantial relationship between debt variables and firms' FP variables.

**Table 4. 16 Correlation Matrix of Petroleum and Chemicals Sector**

| Variables | EPS | NPM | ROA | ROE | LTDTA | STDTA | TDTA | CACL | SIZE | TANGIBILITY |
|---|---|---|---|---|---|---|---|---|---|---|
| EPS | 1.0000 | | | | | | | | | |
| | ----- | | | | | | | | | |
| NPM | 0.1257 | 1.0000 | | | | | | | | |
| ***ρ*-value** | 0.0627 | ----- | | | | | | | | |
| ROA | 0.1879 | 0.8483 | 1.0000 | | | | | | | |
| ***ρ*-value** | 0.0052 | 0.0000 | ----- | | | | | | | |
| ROE | 0.3729 | 0.2105 | 0.2814 | 1.0000 | | | | | | |
| ***ρ*-value** | 0.0000 | 0.0017 | 0.0000 | ----- | | | | | | |
| LTDTA | -0.2887 | 0.4908 | -0.3118 | 0.2184 | 1.0000 | | | | | |
| ***ρ*-value** | 0.0470 | 0.0180 | 0.0086 | 0.0396 | ----- | | | | | |
| STDTA | -0.5923 | -0.1711 | -0.4388 | -0.1382 | -0.0506 | 1.0000 | | | | |
| ***ρ*-value** | 0.0172 | 0.0110 | 0.0052 | 0.0405 | 0.4552 | ----- | | | | |
| TDTA | -0.4981 | -0.2263 | -0.4592 | -0.3847 | 0.3375 | 0.9230 | 1.0000 | | | |
| ***ρ*-value** | 0.0147 | 0.0315 | 0.0050 | 0.0211 | 0.0000 | 0.0000 | ----- | | | |
| CACL | 0.0442 | 0.3191 | 0.1349 | 0.1742 | 0.0334 | -0.4761 | -0.4359 | 1.0000 | | |
| ***ρ*-value** | 0.5142 | 0.0000 | 0.0412 | 0.0096 | 0.6224 | 0.0000 | 0.0000 | ----- | | |
| SIZE | 0.0164 | 0.1029 | 0.5207 | 0.1277 | 0.1679 | -0.2450 | -0.1662 | 0.0848 | 1.0000 | |
| ***ρ*-value** | 0.8092 | 0.1280 | 0.0044 | 0.0587 | 0.0126 | 0.0002 | 0.0136 | 0.2102 | ----- | |
| TANGIBILITY | -0.0918 | 0.0404 | -0.0519 | -0.0887 | 0.3403 | -0.0929 | 0.0435 | -0.1368 | 0.1445 | 1.0000 |
| ***ρ*-value** | 0.1749 | 0.5515 | 0.4435 | 0.1902 | 0.0000 | 0.1699 | 0.5206 | 0.0426 | 0.0321 | ----- |

Table 4.16 provides results of correlation analysis of petroleum and chemicals sector sample. The researcher has employed Pearson correlation due to quantitative nature of data gathered. There is a subtantial adverse nexus between STDTA and EPS. The r is -0.5923, which is significant at 1% level. There is a subtantial adverse relationship between LTDTA and EPS. The value of r is -0.2887. The relationship between TDTA and EPS is found to be subtantial and negative with r of -0.4981. This implies that increase in TDTA of firms can decrease EPS by 0.4981 times at 1% level. subtantial relationship between ROA, ROE and EPS at 1% level. The value of r implies 0.3729 change in EPS because of ROE. There nexus of NPM with ROA and ROE. The value of r between NPM and ROA is 0.8483, which is significant at 1% level and with ROE is 0.2105 significant at 1% level. The association between NPM and LTDTA is positive as well as substantial at 5% level, which is shown by r of 0.4908. The positive coefficient value implies that one unit increase in LTDTA can favorably change NPM by 0.49 times. There is substantial negative association of NPM with STDTA and TDTA at 5% level. There is a subtantial direct connection between CACL and NPM as evident by r which is 0.3191 at 1% level.

There is a substantial adverse relationship between ROA and ROE at 1% level. There is a negative association between LTDTA, STDTA and TDTA with ROA subtantial at 1% level of significance. The study has found positive subtantial correlation between CACL and Size with ROA. The value of r is 0.1349 at 5% level. The study has found direct subtantial correlation between CACL and ROE as evident by r is 0.1742 at 1% level. There is a adverse subtantial relationship between ROE and STDTA as evident by r of -0.1382 at 5% level. There is a adverse subtantial connection between TDTA and LTDTA with ROE that is significant at 5% level. There is a subtantial positive relationship between LTDTA and TDTA at 1% level. This implies that an increase of one unit of

LTDTA will be likely to increase TDTA by 0.3375 times. There is a subtantial as well as direct relationship between STDTA and TDTA. The value of r implies that one unit increase in STDTA can favorably change TDTA by 0.92 times. The relationship between STDTA and TDTA is significant at 1% level. This study has found subtantial association between LTDTA and size at 1% level. This relationship implies one unit increase in LTDTA will bring a change in size by 0.1679 times. The connection between LTDTA and Tangibility is subtantial and positive at 1% level. The value of r is 0.343 which implies change in Tangibility because of LTDTA.

There is a subtantial positive association between STDTA and TDTA as evident by r which is 0.9230 at 1% level. There is a subtantial adverse association between TDTA and CACL at 1% level. This study has found a positive and significant relationship between STDTA and Size. The value of r is -0.24, significant at 1% level. The relationship between CACL and Tangibility is subtantial and negative at 5% level. The value of r is -0.1368 which is significant at 5% level. The researcher also found a subtantial relationship between debt variables and firms' FP variables.

**Table 4. 17 Correlation Matrix of Textile Sector**

| Variables | EPS | NPM | ROA | ROE | LTDTA | STDTA | TDTA | CACL | SIZE | TANGIBILITY |
|---|---|---|---|---|---|---|---|---|---|---|
| EPS | 1.0000 | | | | | | | | | |
| | ----- | | | | | | | | | |
| NPM | 0.0476 | 1.0000 | | | | | | | | |
| ***ρ*-value** | 0.2260 | ----- | | | | | | | | |
| ROA | 0.1032 | 0.8604 | 1.0000 | | | | | | | |
| ***ρ*-value** | 0.0085 | 0.0000 | ----- | | | | | | | |
| ROE | 0.0663 | 0.8814 | 0.8407 | 1.0000 | | | | | | |
| ***ρ*-value** | 0.0913 | 0.0000 | 0.0000 | ----- | | | | | | |
| LTDTA | -0.1275 | -0.3738 | -0.2581 | -0.2716 | 1.0000 | | | | | |
| ***ρ*-value** | 0.0128 | 0.0341 | 0.0414 | 0.0489 | ----- | | | | | |
| STDTA | -0.5818 | -0.4391 | -0.2599 | -0.4567 | 0.1233 | 1.0000 | | | | |
| ***ρ*-value** | 0.0138 | 0.0264 | 0.0127 | 0.0245 | 0.0016 | ----- | | | | |
| TDTA | -0.5967 | -0.2314 | -0.1753 | -0.3505 | 0.5101 | 0.9165 | 1.0000 | | | |
| ***ρ*-value** | 0.0347 | 0.0176 | 0.0449 | 0.0198 | 0.0000 | 0.0000 | ----- | | | |
| CACL | 0.0900 | 0.0773 | 0.3693 | 0.3735 | -0.1285 | -0.3296 | -0.3375 | 1.0000 | | |
| ***ρ*-value** | 0.0217 | 0.0489 | 0.0276 | 0.0342 | 0.0010 | 0.0000 | 0.0000 | ----- | | |
| SIZE | 0.0736 | 0.0424 | 0.0130 | -0.0062 | -0.1019 | -0.0024 | -0.0431 | 0.0871 | 1.0000 | |
| ***ρ*-value** | 0.0406 | 0.2803 | 0.7411 | 0.8737 | 0.0094 | 0.9518 | 0.2722 | 0.0264 | ----- | |
| TANGIBILITY | -0.0969 | -0.0470 | 0.0880 | -0.0020 | 0.0609 | 0.0563 | 0.0734 | -0.2028 | -0.1309 | 1.0000 |
| ***ρ*-value** | 0.0135 | 0.2318 | 0.0248 | 0.9604 | 0.1208 | 0.1513 | 0.0615 | 0.0000 | 0.0008 | ----- |

Table 4.17 provides results of correlation analysis of textile sector sample. The researcher has employed Pearson correlation due to quantitative nature of data gathered. There is a direct subtantial connection between EPS and ROA at 1% level. There is a subtantial adverse relationship between STDTA and EPS. The r, denoted by *r*, is -0.5818, which is significant at 1% level. There is a subtantial adverse relationship between LTDTA and EPS as evident by r is -0.1275 at 5% level. The negative value of r infers that one unit increase in LTDTA can tend to decrease EPS by 0.12 times. The relationship between TDTA and EPS is found to be subtantial and negative with r of -0.59. This implies that increase in TDTA of firms can decrease EPS by 0.5981 times; the r is significant at 5% level. The researcher has found positive and subtantial relationship between ROA and EPS at 1% level. The value of r implies 0.1032 change in EPS because of ROA. There is a subtantial as well as positive association between NPM, ROA and ROE. The value of r between NPM and ROA is 0.8604 at 1% level and with ROE is 0.8814, significant at 1% level. The connection between NPM and LTDTA is negative as well as significant at 5% level, which is shown by r of -0.3738. The negative coefficient value implies that one unit increase in LTDTA can change NPM by -0.37 times. There is a negative association of NPM with STDTA and TDTA that is significant at 5% level. There is a subtantial direct association between CACL and NPM as evident by r is 0.0773 significant at 1% level.

There is a substantial adverse relationship between ROA and ROE at 1% level. There is a negative association between LTDTA, STDTA and TDTA with ROA that at 5% level of significance. The value of r implies that one unit increase in TDTA can decrease ROA by -0.1753 times. The study has found positive subtantial correlation between CACL and Tangibility with ROA. The value of r is 0.3693 which is significant at 5% level. The study has found positive subtantial correlation

between CACL and ROE. The value of r is 0.3735 which is significant at 5% level. There is a adverse subtantial relationship between ROE and STDTA. The r between ROE and STDTA is -0.4567 which is subtantial at 5% level. The value of r implies that one unit increase in STDTA can decrease ROE by -0.4567 times. There is a negative subtantial relationship between TDTA and LTDTA with ROE that is significant at 5% level. There is a subtantial positive relationship between LTDTA and TDTA at 1% level. This implies that an increase in one unit of LTDTA will be likely to increase TDTA by 0.51 times. There is a subtantial as well as direct relationship between STDTA and TDTA. The value of r implies that one unit increase in STDTA can favorably change TDTA by 0.92 times. The relationship between STDTA and TDTA is significant at 1% level. This study has found a subtantial but negative association between LTDTA and size at 1% level. This relationship implies that a one unit increase in LTDTA will bring a change in size of -0.1019 times.

There is a subtantial negative correlation between TDTA and CACL at 1% level. The nexus between CACL and Tangibility is subtantial and negative at 1% level as evident by r which is -0.2028. The researcher also found a significant relationship between debt variables and firms' FP variables.

**Table 4. 18 Correlation Matrix of Sugar Sector**

| Variables | EPS | NPM | ROA | ROE | LTDTA | STDTA | TDTA | CACL | SIZE | TANGIBILITY |
|---|---|---|---|---|---|---|---|---|---|---|
| EPS | 1.0000 | | | | | | | | | |
| ***ρ*-value** | ----- | | | | | | | | | |
| NPM | 0.5236 | 1.0000 | | | | | | | | |
| ***ρ*-value** | 0.0000 | ----- | | | | | | | | |
| ROA | 0.5536 | 0.4533 | 1.0000 | | | | | | | |
| ***ρ*-value** | 0.0000 | 0.0000 | ----- | | | | | | | |
| ROE | 0.4317 | 0.4563 | 0.4506 | 1.0000 | | | | | | |
| ***ρ*-value** | 0.0000 | 0.0000 | 0.0000 | ----- | | | | | | |
| LTDTA | -0.2405 | -0.3869 | -0.1799 | -0.1864 | 1.0000 | | | | | |
| ***ρ*-value** | 0.0114 | 0.0000 | 0.0460 | 0.0297 | ----- | | | | | |
| STDTA | -0.0958 | -0.1802 | -0.2092 | -0.3545 | -0.0355 | 1.0000 | | | | |
| ***ρ*-value** | 0.3193 | 0.0596 | 0.0283 | 0.0047 | 0.7128 | ----- | | | | |
| TDTA | -0.2236 | -0.3810 | -0.2799 | -0.1852 | 0.5741 | 0.7979 | 1.0000 | | | |
| ***ρ*-value** | 0.0189 | 0.0000 | 0.0031 | 0.0374 | 0.0000 | 0.0000 | ----- | | | |
| CACL | 0.2745 | 0.2749 | 0.3618 | 0.1614 | -0.2074 | -0.4234 | -0.4720 | 1.0000 | | |
| ***ρ*-value** | 0.0037 | 0.0037 | 0.0001 | 0.0920 | 0.0297 | 0.0000 | 0.0000 | ----- | | |
| SIZE | 0.3375 | 0.1197 | 0.1474 | 0.0828 | -0.2022 | -0.0970 | -0.2015 | -0.02908 | 1.0000 | |
| ***ρ*-value** | 0.0003 | 0.2130 | 0.1243 | 0.3897 | 0.0341 | 0.3132 | 0.0348 | 0.763 | ----- | |
| TANGIBILITY | -0.3502 | -0.3185 | -0.2228 | -0.1454 | 0.2752 | -0.1275 | 0.0615 | -0.44285 | -0.0266 | 1.0000 |
| ***ρ*-value** | 0.0002 | 0.0007 | 0.0193 | 0.1296 | 0.0036 | 0.1843 | 0.5234 | 0.0000 | 0.7827 | ----- |

Table 4.18 provides results of correlation analysis of sugar sector sample. The researcher has employed Pearson correlation due to quantitative nature of data gathered. There is direct and subtantial nexus between ROA, NPM and ROE with EPS at 1% level. There is a subtantial adverse nexus between LTDTA and EPS. The r, denoted by *r*, is -0.2405, which is significant at 1% level. There is a subtantial adverse relationship between TDTA and EPS as the value of r is -0.2236. The negative value of r infers that one unit increase in TDTA can tend to decrease EPS by 0.22 times. The nexus between CACL and EPS is subtantial and direct with r of 0.2745. This implies that an increase in CACL of firms can increase EPS by 0.2745 times; the r is significant at 1% level. The researcher has found a positive and subtantial relationship between Size and EPS at 1% level. The value of r implies 0.3375 change in EPS because of Size. The researcher has found a negative and subtantial relationship between Tangibility and EPS at 1% level. There is a subtantial as well as positive association between NPM and ROA and ROE. The value of r between NPM and ROA is 0.4533, which is significant at 1% level and with ROE it is 0.4563 significant at 1% level. The association between NPM and LTDTA is negative as well as significant at 1% level, which is shown by r of -0.3869. The negative coefficient value implies that one unit increase in LTDTA can change NPM by -0.3869 times. There is a negative association of NPM with STDTA and TDTA that is significant at 5% level and 1% significance level. There is a subtantial positive association between CACL and NPM as r is 0.2749.

There is a substantial negative relationship between ROA and ROE at 1% level. There is a negative association between LTDTA, STDTA and TDTA with ROA at 5% level of significance. Negative r infers that one unit increase in TDTA can decrease ROA by -0.2799 times. The study has found positive subtantial correlation between CACL and ROA at 1% level. There is a adverse subtantial

relationship between ROE and STDTA. The r between ROE and STDTA is -0.3545 significant at 5% level. The value of r infers that one unit rise in STDTA can decrease ROE by -0.3545 times. There is a adverse subtantial nexus between TDTA and LTDTA with ROE that is significant at 5% level. There is a subtantial positive relationship between LTDTA and TDTA at 1% level. This implies that an increase in one unit of LTDTA would be likely to increase TDTA by 0.5741 times. There is a subtantial as well as direct relationship between STDTA and TDTA. The value of r implies that one unit increase in STDTA can favorably change TDTA by 0.79 times. The relationship between STDTA and TDTA is significant at 1% level. This study has found a subtantial but negative association between LTDTA and size at 1% level. This relationship implies one unit increase in LTDTA will bring a change in size by -0.2022 times.

There is a subtantial negative connection between TDTA and CACL at 5% level. The negative r implies that one unit increase in TDTA can decrease CACL by -0.4720 times. The nexus between CACL and Tangibility is subtantial and negative at 1% level as value of r is -0.4428. The researcher also found a subtantial relationship between debt variables and firms' FP variables.

**Table 4. 19 Correlation Matrix of Engineering Sector**

| Variables | EPS | NPM | ROA | ROE | LTDTA | STDTA | TDTA | CACL | SIZE | TANGIBILITY |
|---|---|---|---|---|---|---|---|---|---|---|
| EPS | 1.0000 | | | | | | | | | |
| NPM | 0.5939 | 1.0000 | | | | | | | | |
| ***ρ*-value** | 0.0000 | ----- | | | | | | | | |
| ROA | 0.5018 | 0.5866 | 1.0000 | | | | | | | |
| ***ρ*-value** | 0.0000 | 0.0000 | ----- | | | | | | | |
| ROE | 0.7748 | 0.7229 | 0.5101 | 1.0000 | | | | | | |
| ***ρ*-value** | 0.0000 | 0.0000 | 0.0000 | ----- | | | | | | |
| LTDTA | -0.3176 | 0.5811 | -0.3533 | -0.5742 | 1.0000 | | | | | |
| ***ρ*-value** | 0.0332 | 0.0063 | 0.0472 | 0.0149 | ----- | | | | | |
| STDTA | -0.4081 | -0.3894 | -0.2750 | -0.5696 | -0.5585 | 1.0000 | | | | |
| ***ρ*-value** | 0.0221 | 0.0009 | 0.0212 | 0.0019 | 0.0000 | ----- | | | | |
| TDTA | -0.2774 | -0.3127 | -0.3075 | -0.3502 | 0.5911 | 0.3389 | 1.0000 | | | |
| ***ρ*-value** | 0.0201 | 0.0084 | 0.0096 | 0.0030 | 0.0000 | 0.0041 | ----- | | | |
| CACL | 0.2347 | 0.4455 | 0.3686 | 0.2884 | -0.2213 | -0.1677 | -0.4141 | 1.0000 | | |
| ***ρ*-value** | 0.0505 | 0.0233 | 0.0017 | 0.0155 | 0.0656 | 0.1652 | 0.0004 | ----- | | |
| SIZE | 0.2061 | 0.2711 | 0.1719 | 0.2277 | 0.2661 | -0.3192 | -0.0086 | -0.1857 | 1.0000 | |
| ***ρ*-value** | 0.0869 | 0.0232 | 0.1548 | 0.0580 | 0.0260 | 0.0071 | 0.9435 | 0.1238 | ----- | |
| TANGIBILITY | -0.1826 | 0.0134 | -0.2422 | -0.1384 | 0.5818 | -0.4094 | 0.2619 | -0.5505 | 0.4062 | 1.0000 |
| ***ρ*-value** | 0.1302 | 0.9126 | 0.0434 | 0.2533 | 0.0000 | 0.0004 | 0.0285 | 0.0000 | 0.0005 | ----- |

Table 4.19 provides results of correlation analysis of engineering sector sample. The researcher has employed Pearson correlation due to quantitative nature of data gathered. There is a girect subtantial nexus between ROA, NPM, ROE with EPS significant at 1% level. There is a subtantial adverse relationship between LTDTA and EPS. The r is -0.3176, significant at 5% level. The negative value of r implies that one unit increase in LTDTA can tend to decrease EPS by 0.3176 times. There is a subtantial negative relationship between STDTA and TDTA and EPS. The r of TDTA is -0.2274, significant at 5% level. The negative value of r infers that one unit increase in TDTA can tend to decrease EPS by 0.23 times. The nexus between CACL and EPS is subtantial and positive with r of 0.2347. This implies that increase in CACL of firms can increase EPS by 0.2347 times; the r is significant at 5% level. The researcher has found positive and subtantial relationship between Size and EPS at 1% level. The value of r implies 0.3375 change in EPS because of Size. There is a subtantial as well as positive association between NPM and ROA and ROE. The value of r between NPM and ROA is 0.5866, which is significant at 1% level and with ROE it is 0.7229, significant at 1% level. The nexus between NPM and LTDTA is direct as well as significant at 1% level, which is shown by r of 0.5811. The negative coefficient value implies that one unit increase in LTDTA can change NPM by 0.5811 times. There is a negative association of NPM with STDTA and TDTA that is significant at 1% significance level. There is a subtantial direct nexus between CACL and NPM as the value of r is 0.4455.

There is a significant negative relationship between ROA and ROE at 1% level. There is a negative association between LTDTA and STDTA with ROA that is substantial at 5% level. The value of r infers that one unit increase in TDTA can decrease ROA by -0.3075 times. The study has found positive subtantial correlation between CACL and ROA. The value of r is 0.3686; significant at

1% level. There is a adverse subtantial relationship between ROE and STDTA. The r between ROE and STDTA is -0.5696 at 1% level. The value of r infers that one unit increase in STDTA can decrease ROE by -0.5696 times. There is a negative subtantial relationship between TDTA and LTDTA with ROE that is significant at 5% level. There is a subtantial positive relationship between LTDTA and TDTA at 1% level. This implies that an increase in one unit of LTDTA will likely increase TDTA by 0.5911 times. There is a subtantial as well as direct relationship between STDTA and TDTA. The value of r implies that one unit increase in STDTA can favorably change TDTA by 0.3389 times. The relationship between STDTA and TDTA is significant at 1% level. This study has found a subtantial but positive association between LTDTA and size at 1% level. This relationship implies one unit increase in LTDTA will bring a change in size by 0.2661 times.

There is a subtantial adverse nexus between TDTA and CACL at 1% level. The relationship between CACL and Tangibility is subtantial and adverse at 1% level as evident by r which is -0.5505. The researcher also found a subtantial relationship between debt variables and firms' FP variables.

**Table 4. 20 Correlation Matrix of Manufacturing and Vehicles Sector**

| Variables | EPS | NPM | ROA | ROE | LTDTA | STDTA | TDTA | CACL | SIZE | TANGIBILITY |
|---|---|---|---|---|---|---|---|---|---|---|
| EPS | 1.0000 | | | | | | | | | |
| NPM | 0.4251 | 1.0000 | | | | | | | | |
| ***ρ*-value** | 0.0000 | ----- | | | | | | | | |
| ROA | 0.1195 | 0.2117 | 1.0000 | | | | | | | |
| ***ρ*-value** | 0.0385 | 0.0002 | ----- | | | | | | | |
| ROE | -0.0145 | 0.0287 | 0.1190 | 1.0000 | | | | | | |
| ***ρ*-value** | 0.8030 | 0.6203 | 0.0394 | ----- | | | | | | |
| LTDTA | -0.2360 | -0.4025 | -0.1620 | -0.3636 | 1.0000 | | | | | |
| ***ρ*-value** | 0.0000 | 0.0000 | 0.0049 | 0.0331 | ----- | | | | | |
| STDTA | 0.4360 | -0.2647 | -0.5110 | -0.4964 | -0.0588 | 1.0000 | | | | |
| ***ρ*-value** | 0.0252 | 0.0000 | 0.0015 | 0.0409 | 0.3103 | ----- | | | | |
| TDTA | -0.1227 | -0.4760 | -0.1164 | -0.4751 | 0.6190 | 0.7476 | 1.0000 | | | |
| ***ρ*-value** | 0.0337 | 0.0000 | 0.0439 | 0.0412 | 0.0000 | 0.0000 | ----- | | | |
| CACL | 0.1062 | 0.1404 | -0.0594 | -0.0076 | -0.0726 | -0.4832 | -0.4285 | 1.0000 | | |
| ***ρ*-value** | 0.0661 | 0.0149 | 0.3050 | 0.8955 | 0.2100 | 0.0000 | 0.0000 | ----- | | |
| SIZE | 0.1719 | 0.2316 | 0.0839 | 0.0614 | 0.0130 | -0.0929 | -0.0645 | -0.2029 | 1.0000 | |
| ***ρ*-value** | 0.0028 | 0.0001 | 0.1472 | 0.2888 | 0.8227 | 0.1082 | 0.2657 | 0.0004 | ----- | |
| TANGIBILITY | -0.4184 | -0.1419 | -0.1325 | -0.0435 | 0.4030 | -0.2880 | 0.0415 | -0.2855 | 0.0455 | 1.0000 |
| ***ρ*-value** | 0.0000 | 0.0139 | 0.0217 | 0.4527 | 0.0000 | 0.0000 | 0.4736 | 0.0000 | 0.4320 | ----- |

Table 4.20 provides results of correlation analysis of manufacturing and vehicles sample. The researcher has employed Pearson correlation due to quantitative nature of data gathered. There are positive subtantial relationships between NPM and ROA with EPS, which are subtantial at 1% level and 5% level, respectively. There is a subtantial negative relationship between LTDTA and EPS. The r, denoted by *r*, is -0.2360, which is significant at 1% level. The adverse value of r implies that one unit increase in LTDTA can tend to reduce EPS by 0.2360 times. There is a subtantial adverse relationship between TDTA and EPS. The r of STDTA is 0.4360, which is significant at 5% level. The nexus between firms' Size and EPS is subtantial and positive with r of 0.1719. This implies that increase in Size of firms can increase EPS by 0.17 times; the r is significant at 1% level. The researcher found a negative and subtantial nexus between Tangibility and EPS at 1% level which mplies -0.4184 change in EPS because of Tangibility. There is a subtantial as well as positive association between NPM and ROA. The value of r between NPM and ROA is 0.2117, significant at 1% level. The nexus between NPM and LTDTA is negative as well as subtantial at 1% level, which is shown by r of -0.4025. The negative coefficient value implies that one unit increase in LTDTA can change NPM by -0.4025 times. There is a negative association of NPM with STDTA and TDTA that is subtantial at 1% significance level. There is a subtantial positive association between CACL and NPM. The value of r is 0.1404 which is significant at 5% level. Size and Tangibility have a subtantial relationship with NPM at 1% level of significance.

There is a subtantial adverse relationship between ROA and ROE at 5% level. There is a adverse nexus between LTDTA and STDTA with ROA that is significant at 5% level of significance. The value of r of TDTA implies that one unit increase in TDTA can decrease ROA by -0.1164 times.

There is a negative subtantial relationship between ROE and STDTA. The r between ROE and STDTA is -0.4964 which is significant at 5% level. There is a adverse subtantial nexus between TDTA and LTDTA with ROE that is significant at 5% level. There is a subtantial positive relationship between LTDTA and TDTA at 1% level. This implies that an increase in one unit of LTDTA will likely increase TDTA by 0.62 times. There is a subtantial as well as direct relationship between STDTA and TDTA. The value of r implies that one unit increase in STDTA can favorably change TDTA by 0.7476 times. The relationship between STDTA and TDTA is significant at 1% level. This study has found subtantial but positive association between LTDTA and Tangibility at 1% level. This relationship implies one unit increase in LTDTA will bring a change in Tangibility by 0.4030 times.

There is a substantial adverse nexus between TDTA and CACL at 1% level. The nexus between CACL and Tangibility is subtantial and negative at 1% level. The value of r is -0.2855; significant at 1% level. The researcher also found a subtantial relationship between debt variables and firms' FP variables.

**Table 4. 21 Correlation Matrix of Food and Communication Sector**

| Variables | EPS | NPM | ROA | ROE | LTDTA | STDTA | TDTA | CACL | SIZE | TANGIBILITY |
|---|---|---|---|---|---|---|---|---|---|---|
| EPS | 1.0000 | | | | | | | | | |
| | ----- | | | | | | | | | |
| NPM | 0.1076 | 1.0000 | | | | | | | | |
| ***ρ*-value** | 0.1625 | ----- | | | | | | | | |
| ROA | 0.2331 | 0.6860 | 1.0000 | | | | | | | |
| ***ρ*-value** | 0.0022 | 0.0000 | ----- | | | | | | | |
| ROE | 0.1760 | 0.2890 | 0.3377 | 1.0000 | | | | | | |
| ***ρ*-value** | 0.0217 | 0.0001 | 0.0000 | ----- | | | | | | |
| LTDTA | -0.1420 | -0.4191 | -0.2734 | -0.0081 | 1.0000 | | | | | |
| ***ρ*-value** | 0.0447 | 0.0022 | 0.0003 | 0.9169 | ----- | | | | | |
| STDTA | -0.4352 | -0.2393 | -0.2276 | 0.3424 | 0.4446 | 1.0000 | | | | |
| ***ρ*-value** | 0.0388 | 0.0017 | 0.0028 | 0.0026 | 0.0000 | ----- | | | | |
| TDTA | -0.1616 | -0.2212 | -0.2889 | 0.2449 | 0.7929 | 0.8984 | 1.0000 | | | |
| ***ρ*-value** | 0.0353 | 0.0037 | 0.0001 | 0.0070 | 0.0000 | 0.0000 | ----- | | | |
| CACL | -0.0468 | 0.1076 | 0.2693 | -0.0016 | -0.1748 | -0.2546 | -0.2589 | 1.0000 | | |
| ***ρ*-value** | 0.5449 | 0.1624 | 0.0274 | 0.9831 | 0.0226 | 0.0008 | 0.0007 | ----- | | |
| SIZE | 0.3052 | 0.0009 | -0.0896 | 0.4594 | 0.2604 | 0.1933 | 0.2592 | -0.1213 | 1.0000 | |
| ***ρ*-value** | 0.0001 | 0.9907 | 0.2453 | 0.0021 | 0.0006 | 0.0115 | 0.0006 | 0.1152 | ----- | |
| TANGIBILITY | -0.1976 | -0.1188 | -0.2819 | -0.1001 | 0.4262 | 0.2193 | 0.3582 | -0.3018 | 0.1671 | 1.0000 |
| ***ρ*-value** | 0.0098 | 0.1227 | 0.0002 | 0.1942 | 0.0000 | 0.0041 | 0.0000 | 0.0001 | 0.0294 | ----- |

Table 4.21 provides results of correlation analysis of food and communication sample. The researcher has employed Pearson correlation due to quantitative nature of data gathered. There is a positive subtantial nexus between ROA and ROE with EPS significant at 1% level and 5% level, respectively. There is a subtantial negative nexus between LTDTA and EPS. The r, denoted by *r*, is -0.1420; significant at 5% level. There is a subtantial negative relationship between TDTA and EPS. The r of STDTA is 0.4352, significant at 5% level. The negative value of r infers that one unit increase in STDTA can tend to decrease EPS by 0.44 times. The relationship between Tangibility and EPS is found to be subtantial and negative with r of -0.1976. This implies that increase in Tangibility of firms can decrease EPS by 0.20 times; the r is subtantial at 1% level. There is a subtantial direct association between NPM, ROA and ROE. at 1% level. The association between NPM and LTDTA is negative as well as significant at 1% level, which is shown by r of -0.4191. The negative coefficient value implies that one unit increase in LTDTA can change NPM by -0.4191 times. There is a negative association of NPM with STDTA and TDTA at 1% significance level. The value of r of STDTA is -0.2393 and this nexus is significant at 1% level.

There is a subtantial adverse relationship between ROA and ROE at 5% level. There is a negative association between LTDTA and STDTA with ROA at 1% level of significance. There is a negative subtantial relationship between ROE and STDTA. The r between ROE and STDTA is -0.3424; significant at 1% level. The value of r infers that one unit increase in STDTA can decrease ROE by -0.34244 times. There is a negative substantial relationship between TDTA with ROE that is significant at 1% level. There is a subtantial positive relationship between LTDTA and TDTA at 1% level. This implies that an increase in one unit of LTDTA will be likely to increase TDTA by 0.79 times. There is a subtantial as well as direct relationship between STDTA and TDTA. The value of r implies that one unit increase in STDTA can favorably change TDTA by 0.8984 times. The relationship between STDTA and TDTA is significant at 1% level. This study has found

subtantial but positive association between LTDTA and Tangibility at 1% level. This relationship implies one unit increase in LTDTA will bring a change in Tangibility by 0.4262 times.

There is a subtantial adverse nexus between TDTA and CACL at 1% level. The adverse r implies that a unit increase in TDTA can decrease CACL by -0.2589 times. The nexus between CACL and Tangibility is subtantial and negative at 1% level. The value of r is -0.3018; significant at 1% level.

## 4.4 Pooled OLS and FE Analysis Based on Balanced Panel Data

### 4.4.1 Hausman Test

The Hausman test is used for the selection of appropriate model between FE model and REM (see Table 4.22): there are two hypotheses:

$$\mathbf{H_0} = \text{Random effect}$$

$$\mathbf{H_A} = \text{Fixed effect}$$

**Table 4. 22 Selection of Appropriate Model**

| Models | Null Hypothesis | Test | Test Statistics |
|---|---|---|---|
| **Model 1 (EPS)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 22.3435**<br>**prob. 0.0010** |
| **Model 2 (NPM)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 12.4890**<br>**prob. 0.0202** |
| **Model 3 (ROA)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 26.04**<br>**prob. 0.00001** |
| **Model 4 (ROE)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 97.04**<br>**prob. 0.00001** |

#### 4.4.1.1 Model 1 (EPS)

The Hausman test was applied for the selection of appropriate model; the results of Hausman test were as follows:

Chibar$^2$ (01) = 22.3435

Probability = 0.0010

The first model of the study shows that the value of probability is 0.0010; so, the researcher rejected $H_0$, which means that the FE model is appropriate for conclusive results by using the EPS as a dependent variable.

#### 4.4.1.2 Model 2 (NPM)

The purpose of the Hausman test is to determine whether either the FE model is good or the random effect model is appropriate for regression analysis. The results of Hausman test were as follows:

$Chibar^2 (01) = 12.4890$

Probability = 0.0202

The second model of the study shows that the value of probability is 0.0202; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the NPM as a dependent variable.

#### 4.4.1.3 Model 3 (ROA)

The purpose of the Hausman test is to determine whether either the FE model is good or the random effect model is appropriate for regression analysis. The results of the Hausman test were as follows:

$Chibar^2 (01) = 26.04$

Probability = 0.0001

The third model of the study shows that the value of probability is 0.0001; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROA as a dependent variable.

#### 4.4.1.4 Model 4 (ROE)

The purpose of the Hausman test is to determine whether either the FE model is good or the random effect model is appropriate for regression analysis. The results of the Hausman test were as follows:

$Chibar^2$ (01) = 97.004

Probability = 0.0000

The fourth model of the study shows that the value of probability is 0.0000; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROE as a dependent variable.

As discussed in an earlier section, the following equation checks the association among organization-level CS and FP variables by using both pooled OLS and FE analysis on balanced panel data.

### 4.5 Multiple Regression Analysis

Regression analysis is conducted to check the cause and effect nexus among the variables (Kothari et al., 2013). The analysis predicts statistical relationships based on defined criteria. Regression analysis can be broadly categorized into two types i.e. simple regression and multiple regression analysis (Frost, 2017). Simple regression analysis is performed when there is only one outcome variable and one explanatory variable in a study. Whereas, in multiple regression analysis, there is more than one explanatory variable and an outcome variable (Walliman, 2006). The present study has used the multiple regression analysis technique to check the causal relationships among various components of CS and FP of firms. Based on the number of dependent variables, the researcher has developed four models of multiple regression analysis (see Table 4.23).

**Table 4. 23 Summary of Regression Models**

| Model | Dependent Variable | Independent Variable | Control Variables |
|---|---|---|---|
| **1** | ROA | LTDTA, STDTA, TDTA | Size, CACL, Tangibility |
| **2** | ROE | LTDTA, STDTA, TDTA | Size, CACL, Tangibility |
| **3** | NPM | LTDTA, STDTA, TDTA | Size, CACL, Tangibility |
| **4** | EPS | LTDTA, STDTA, TDTA | Size, CACL, Tangibility |

The researcher has developed separate regression model for overall sample and each sector.

### 4.5.1 Results of Multiple Regression Analysis based on Overall Sample

This section provides the findings of multiple regression analysis of overall sample.

**Table 4. 24 Results of Multiple Regression Analysis of Overall Sample**

| Dep_var | Independent Variables | Balanced OLS | | Balanced FE | |
|---|---|---|---|---|---|
| | | **Coefficient** | **T_stat** | **Coefficient** | **T_stat** |
| **EPS** | LTDTA | 0.133637 | 0.111573 | 0.163229 | 0.169838 |
| | STDTA | -2.746424 | (2.497868)** | -0.923395 | (2.55382)*** |
| | TDTA | 0.926498 | 2.195704** | 0.225233 | 2.642766*** |
| | CACL | 0.09068 | 0.278029 | -0.075444 | -0.263821 |
| | Size | 7.247021 | 6.031088*** | 0.848222 | 0.496511 |
| | Tangibility | -23.01704 | (6.156303)*** | -4.65049 | (1.845389)** |
| | Constant | -37.3765 | (3.241401)*** | 12.08258 | 0.75324 |
| | Adj. *R* Square | 0.50262 | | 0.509811 | |
| | *F* Statistics | 0.00000 | | 0.00000 | |
| **NPM** | LTDTA | 0.029592 | 0.200978 | 0.052399 | 0.343706 |
| | STDTA | -0.527496 | (2.340275)** | -0.593061 | (2.242389)** |
| | TDTA | -0.03647 | (2.703089)*** | -0.053377 | (2.960277)*** |
| | CACL | 0.015047 | 0.375287 | 0.008404 | 0.185262 |
| | Size | 0.12496 | 0.845955 | 0.013178 | 0.04863 |
| | Tangibility | 0.691477 | 1.804492* | 1.066509 | 1.901721** |
| | Constant | -1.539897 | -1.086344 | -0.64869 | -0.25494 |
| | Adj. *R* Square | 0.36477 | | 0.446181 | |
| | *F* Statistics | 0.031372 | | 0.000211 | |
| **ROA** | LTDTA | 0.318079 | 0.38191 | 0.1691 | 0.191493 |
| | STDTA | -0.265874 | (2.208534)** | -0.132604 | (2.08655)** |
| | TDTA | -0.118874 | (2.405147)** | -0.081828 | (2.25415)** |
| | CACL | 0.069213 | 0.305184 | 0.013385 | 0.05094 |
| | Size | -0.549547 | -0.657712 | 0.120846 | 0.076988 |
| | Tangibility | 2.395886 | 1.921577** | 1.744935 | 1.537161* |
| | Constant | 2.926442 | 0.36498 | -2.903148 | -0.196976 |
| | Adj. *R* Square | 0.36599 | | 0.59718 | |
| | *F* Statistics | 0.059428 | | 0.018385 | |
| **ROE** | LTDTA | 0.26683 | 2.88635*** | -0.036093 | (2.38521)** |
| | STDTA | -0.18176 | (2.284361)** | -0.094957 | (2.584186)*** |
| | TDTA | -0.008262 | -0.253678 | -0.007172 | -0.209952 |
| | CACL | 0.00525 | 0.208547 | -0.009287 | -0.33313 |
| | Size | 0.113139 | 1.419923* | -0.198273 | (1.690476)* |
| | Tangibility | 0.057227 | 0.198313 | 0.401505 | 1.164889 |
| | Constant | -0.893405 | -1.003841 | 1.851381 | 1.183878 |
| | Adj. *R* Square | 0.48043 | | 0.393153 | |
| | *F* Statistics | 0.050927 | | 0.000000 | |

***, **, and * refer to significance at 1%, 5% and 10%, respectively.

## I. Interpretation: Impact of CS on EPS

Table 4.24 provides the results of multiple regression analysis based on overall sample of the study. Table 4.25 shows separate models for each outcome variable of the study. Under model 1, the researcher has gauged the role of various components of CS in FP of the firms measured in terms of EPS. The findings of balanced OLS model show that there is a subtantial but negative influence of STDTA on the EPS at 5% level of significance. The findings imply that one unit increase in STDTA will reduce EPS by -2.74 times. The researcher has also found a positive impact of TDTA on EPS of firms at 5% level of significance. The size and tangibility, as control variables, have a subtantial impact on the EPS of firms at 1% level. CACL has no impact on EPS of firms at any level of significance. *R* square is 0.50 which indicates the explanatory power of the model. The score of *F* statistics shows significance at 1% level.

Under balanced FE model, the findings shows that there is a subtantial adverse influence of STDTA on EPS of firms. The coefficient value of STDTA is -0.9233 which designates that every unit increase in STDTA will in reverse affect EPS by .92 times. TDTA has a positive impact on EPS at 5% level of significance with a regression coefficient of 0.2252. Out of all the control variables, only Tangibility has subtantial impact on the EPS of firms. The rest of the variables have no impact on EPS at given levels of significance. The value of adjusted *R* square shows that independent variables can explain 51% of variation in outcome variable (EPS). The value of *F* statistics shows that the overall model is valid at 1% level.

## II. Interpretation: Impact of CS on NPM

The findings of NPM under balanced OLS model demonstrate subtantial and adverse influence of STDTA on NPM of firms. The coefficient value of STDTA infers that one time increase in STDTA will reduce NPM by 0.0.527 times. The coefficient value of this variable is significant at 5% level. The influence of TDTA is subtantial and negative on the NPM of firms at 1% level, which shows that increase in TDTA will inversely affect NPM by 0.036 times. There is a subtantial as well as positive impact of TDTA on the FP of firms measured in terms of NPM. Tangibility has a positive

impact on NPM at 10% significance level. It implies that every unit increase in Tangibility will affect NPM by 0.69 times. The researcher could not find any impact of CACL, size and tangibility on the NPM of firms. The score of adjusted *R* square implies variation explained by various components of CS is 36%. The value of *F* statistics confirms about the validity of model at 5% level.

The results of NPM under balanced FE model show that there is a subtantial negative impact of STDTA on NPM of firms with coefficient value of -0.593. This implies that increase in STDTA can reduce NPM by 0.593 times. Under this model, the control variable tangibility has subtantial impact on NPM of firms. The findings of the study suggest that the rest of the variables (CACL and size) have no influence on NPM of firms. The value of adjusted *R* square shows that the explanatory power of this model is 45%. *F* statistics confirms about the validity of model at 1% level.

### III. Interpretation: Impact of CS on ROA

Table 4.24 reports findings of multiple regression analysis of overall sample using balanced OLS and FE models. Under balanced OLS using ROA as outcome variable, the findings show subtantial negative impact of STDTA and negative influence of TDTA on ROA of firms at 5% level. Coefficient value of STDTA is -0.2658 which is significant at 5% level. Out of the control variables, only tangibility has significant and positive role in ROA. The value of adjusted *R* square shows that various components of CS are able to explain 37% variation is ROA. *F* statistics confirms about the validity of model at 1% level.

The findings of ROA under balanced FE model shows that there is negative influence of STDTA and TDTA on the ROA of firms, which is subtantial at 5% level. The beta coefficient value of STDTA is -0.1326, which implies that one unit change in STDTA can cause -0.1326 times

variation in ROA. However, the researcher could not find any impact of LTDTA on the performance of firms at given level of significance. Tangibility, as control variable, has a subtantial negative impact on the FP of firms, measured in terms of ROA. The explanatory power of the model is 60%. *F* statistics score confirms about the validity of model at 1% level.

## IV. Interpretation: Impact of CS on ROE

The findings of ROE under balanced OLS model show that there is a substantial and direct impact of LTDTA on the ROE of firms. The coefficient value of LTDTA demonstrates that one unit increase in LTDTA will tend to increase ROE by 0.26 times. The coefficient value of this variable is significant at 1% level while the coefficient value of STDTA is significant at 5% level of significance. There is a substantial direct influence of size on the FP of firms measured in terms of ROE. This implies that one unit increase in size can directly change ROE by 0.113 assuming all variables constant. However, the researcher could not find any impact of CACL, Tangibility and TDTA on the ROE of firms. The score of adjusted *R* square implies that predictive accuracy of the model is 48%. *F* statistics confirms about the validity of model at 5% level of significance.

The results of ROE under balanced FE model show substantial adverse influence of LTDTA and STDTA on ROE of firms with coefficient value of -0.036 and -0.0949, respectively. This implies that increase in LTDTA can reduce ROE by 0.03 times. Under this model, the control variable size has significant impact on ROE of firms. The findings of the study suggest that the rest of the variables (TDTA, CACL and Tangibility) have no influence on the ROE of firms. The value of adjusted *R* square represents predictive power of model which is 39%. *F* statistics confirms about the validity of model at 1% level.

### 4.5.2 Results of Multiple Regression Analysis of Petroleum Sector

**Table 4. 25 Selection of Appropriate Model (Petroleum Sector)**

| Models | Null Hypothesis | Test | Test Statistics |
|---|---|---|---|
| **Model 1 (EPS)** | $H_{0}$= Random effect<br>$H_{A}$= Fixed effect | Hausman Test | **$X_2$ = 13.900243**<br>**prob. 0.025** |
| **Model 2 (NPM)** | $H_{0}$= Random effect<br>$H_{A}$= Fixed effect | Hausman Test | **$X_2$ = 7.35433**<br>**prob. 0.0552** |
| **Model 3 (ROA)** | $H_{0}$= Random effect<br>$H_{A}$= Fixed effect | Hausman Test | **$X_2$ = 11.82**<br>**prob. 0.023** |
| **Model 4 (ROE)** | $H_{0}$= Random effect<br>$H_{A}$= Fixed effect | Hausman Test | **$X_2$ = 12.88**<br>**prob. 0.0354** |

#### 4.5.2.1 Model 1 (EPS)

The Hausman test was applied for the selection of the appropriate model; the results of Hausman test were as follows.

Chibar$^2$ (01) = 13.900

Probability = 0.025

The first model of the study shows that the value of probability is 0.025; so, the researcher rejected $H_0$, which means that the FE model is appropriate for conclusive results by using the EPS as a dependent variable.

#### 4.5.2.2 Model 2 (NPM)

The purpose of Hausman test is to differentiate whether the FE model is good or the random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

Chibar$^2$ (01) = 7.35

Probability = 0.0552

The second model of the study shows that the value of probability is 0.0502; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the NPM as a dependent variable.

#### 4.5.2.3 Model 3 (ROA)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 11.82

Probability = 0.023

The third model of the study shows that the value of probability is 0.023; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by employing the ROA as outcome variable.

#### 4.5.2.4 Model 4 (ROE)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 12.88

Probability = 0.053

The fourth model of the study shows that the value of probability is 0.023; so, researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROE as a dependent variable.

As discussed in earlier section, the following equation checks the associations among organization-level CS and FP variables by using both pooled OLS and FE analysis on balanced panel data.

**Table 4. 26 Results of Multiple Regression Analysis of Petroleum and Chemicals Sector**

| Dep_var | Independent Variables | Balanced OLS | | Balanced FE | |
|---|---|---|---|---|---|
| | | Coefficient | T_stat | Coefficient | T_stat |
| **EPS** | LTDTA | -1.773298 | (1.803259)* | -2.283707 | (2.49616)** |
| | STDTA | -4.943442 | (2.329781)** | -0.726517 | (2.5383)** |
| | TDTA | -3.108481 | -1.445565 | -1.096391 | -0.17333 |
| | CACL | -0.220239 | (2.263959)** | 0.219744 | 0.29017 |
| | Size | -0.011892 | -0.00967 | -3.115939 | (1.54242)* |
| | Tangibility | -6.867608 | -1.495629 | 0.828319 | 0.205897 |
| | Constant | 25.14911 | 2.366952** | 44.42959 | 2.500334** |
| | Adj. *R* Square | 0.21606 | | 0.501355 | |
| | *F* Statistics | 0.050334 | | 0.0001 | |
| **NPM** | LTDTA | -0.084833 | -0.750109 | -0.095714 | -0.845995 |
| | STDTA | -0.498751 | (2.508661)** | -0.496419 | (2.396909)** |
| | TDTA | -1.11684 | (4.797092)*** | -1.088421 | (4.362533)*** |
| | CACL | -0.004074 | -0.146304 | -0.002139 | -0.071617 |
| | Size | -0.051051 | -1.243981 | -0.144783 | (1.817042)* |
| | Tangibility | -0.426164 | (2.781115)*** | -0.230488 | -1.45256 |
| | Constant | 1.555958 | 3.832037*** | 2.255237 | 3.217738*** |
| | Adj. *R* Square | 0.288533 | | 0.493459 | |
| | *F* Statistics | 0.0001 | | 0.00001 | |
| **ROA** | LTDTA | -0.012813 | -0.025659 | -0.018889 | (2.035436)* |
| | STDTA | -0.51369 | (2.58517)** | -0.448379 | (-2.595187)** |
| | TDTA | -0.999707 | (2.972486)** | -0.368489 | -0.313488 |
| | CACL | 0.002591 | 0.021073 | -0.023369 | -0.166058 |
| | Size | 0.065915 | 0.363763 | -0.216733 | -0.577334 |
| | Tangibility | 0.604033 | 1.892743* | 0.762355 | 2.51976** |
| | Constant | -0.186171 | (2.103841)* | 1.816306 | 0.55005 |
| | Adj. *R* Square | 0.236392 | | 0.208579 | |
| | *F* Statistics | 0.025581 | | 0.008195 | |
| **ROE** | LTDTA | 0.115929 | 0.815372 | 0.146649 | 0.13464 |
| | STDTA | -0.977491 | (2.553377)** | -0.700696 | (2.514279)** |
| | TDTA | -1.942211 | (2.93893)** | -0.604187 | (2.251546)** |
| | CACL | -0.003415 | -0.013804 | -0.028909 | -0.100533 |
| | Size | 0.066168 | 0.18147 | -0.53337 | -0.695312 |
| | Tangibility | 1.191018 | 2.874804** | 1.505154 | 2.985304** |
| | Constant | 0.13669 | 0.03789 | 4.264381 | 0.632001 |
| | Adj. *R* Square | 0.20816 | | 0.181503 | |
| | *F* Statistics | 0.006345 | | 0.04 | |

***, **, and * refer to significance at 1%, 5% and 10%, respectively.

## I. Interpretation: Impact of CS on EPS

Table 4.26 provides the results of analysis of petroleum sector. There are separate models for each outcome variable of the study. Model 1 shows the impact of various components of CS on the FP of the firms measured in terms of EPS. The findings of balanced OLS model show that there is a significant but negative impact of LTDTA on EPS and STDTA has a positive impact on EPS at 10% and 5% level of significance, respectively. The findings imply that one unit increase in LTDTA will reduce EPS by 1.77 times and one unit increase in STDTA will reduce the EPS by 4.94 times. CACL also has an impact on EPS of firms at 5% level of significance. Size, TDTA and Tangibility do not have any impact on EPS. The *R* square value is 0.21 which indicates the explanatory power of the model. The score of *F* statistics shows significance at 5% level which implies that model is of good fit.

Under balanced FE model, the findings show that LTDTA and STDTA have negative significant impact on FP measured in term of EPS. LTDTA has significant negative influence on EPS with beta coefficient of -2.49. STDTA has a negative influence on EPS with a coefficient value of -0.726. There is no significant impact of remaining explanatory variable (CACL) at given levels of significance on FP of the firms measured in terms of EPS. The size, as control variable, has direct and substantial role in EPS at 10% level. Tangibility has no significant influence on EPS. The value of adjusted *R* square is 0.50 which indicates that explanatory variables can describe 50% change in outcome variable (EPS). *F* statistics confirms about the validity of model at 1% level.

## II. Interpretation: Impact of CS on NPM

The findings of NPM under balanced OLS model show that there is a negative and significant impact of STDTA and TDTA on the NPM of firms at 5% and 1% level of significance, respectively. The coefficient value of STDTA shows that every unit increase in STDTA will tend

to reduce NPM by 0.0.498 times. The coefficient value of TDTA shows that every unit increase in TDTA will tend to reduce NPM by 1.12 times. The researcher has not found any impact of LTDTA and CACL on FP of firms measured in terms of NPM at any conventional level of significance. Tangibility, as control variable, has significant negative impact on NPM at 1% level. Size has no significant influence on FP measured in terms of NPM. The score of adjusted *R* square implies that predictive accuracy of the model is 29%. The value of *F* statistics reports that this model is valid at 1% level.

Under balanced FE model, the findings show that STDTA has significant but negative impact on NPM of firms at 5% level. The coefficient value of STDTA is 0.496 which implies that increase in STDTA can reduce NPM by 0.496 times. TDTA has negative and significant impact on FP measured in terms of NPM and coefficient value of TDTA is -1.08 which implies that increase in TDTA can reduce NPM by 1.08 times. Size has negative relationship at 10% significance level and CACL has no significant impact on NPM. Control variable tangibility has no influence on NPM. Adjusted *R* square is 49% which shows the predictive accuraccy of this model. *F* statistics confirms about the validity of model at 1% level.

### III. Interpretation: Impact of CS on ROA

The findings of ROA under balanced OLS demonstrates that STDTA has a negative and substantial role in FP at 5% level. The coefficient of STDTA is -0.5136 which confirms that by one time increase in STADA, ROA decreases -0.5136 times. TDTA has a negative impact on ROA at 5% level of significance. The rest of explanatory variables (Size, LTDTA and CACL) have no significant impact on the ROA of firm. Tangibility, as control variable, has favorable role in ROA at 10% level. The value of adjusted *R* square represents the variation in outcome variable because

of explanatory variables which is 24%. *F* statistics confirms about the validity of model at 1% level.

The results of ROA under balanced FE model show that there is negative and substantial effect of STDTA on the ROA of firms at 5% level. The beta coefficient value of STDTA is -0.44, which implies that one time change in STDTA can cause 0.44 times reduction in ROA. The researcher also found an impact of remaining explanatory variable, LTDTA, on the FP of firms at 10% level of significance. TDTA, Size and tangibility, as control variables, have no substantial impact on the FP of firms, measured in terms of ROA. Tangibility, as control variable, has positive influence on ROA at 5% level. The predictive accuracy of the independent variable is 21%. *F* statistics confirms about the validity of model at 1% level.

## IV. Interpretation: Impact of CS on ROE

Table 4.27 reports outcomes of multiple regression analysis of petroleum and vehicle sector using balanced OLS and FE models. The findings of ROE under balanced OLS model shows that there is a significant and negative impact of STDTA and TDTA on the ROE of firms at 5% level of significance. The coefficient value of STDTA shows that every unit increase in STDTA will tend to reduce NPM by -0.977 times and coefficient value of TDTA shows that every unit increase in TDTA will tend to reduce NPM by 1.94 times. The remaining variables (LTDTA and CACL) have no significance influence on the FP of firms measured in terms of ROE. Tangibility, a control variable, has a positive and significant impact on ROE of firms at 5% level of significance. However, the researcher could not find any impact of size on the ROE of firms. The score of adjusted *R* square implies that the explanatory power of the model is 21%. The value of *F* statistics shows that this model is a good fit at 1% level of significance.

The findings of ROE under balanced FE model shows substantial negative role of STDTA on ROE of firms with coefficient value of -0.70 significant at 5% level. The researcher also found an impact of TDTA, explanatory variable, on the FP of firms at 5% level of significance. The findings of the study suggest that rest of the variables (CACL and Size) have no influence on ROE of firms. Under this model, the control variable, Tangibility, has a significant impact on FP measured in terms of ROE at 5% level. The value of adjusted *R* square is .18 which shows that the predictive accuracy of this model is 18%. *F* statistics confirms about the validity of model at 5% level.

### 4.5.3 Results of Multiple Regression Analysis of Textile Sector

**Table 4. 27 Selection of Appropriate Model (Textile Sector)**

| Models | Null Hypothesis | Test | Test Statistics |
|---|---|---|---|
| **Model 1 (EPS)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 12.28**<br>**prob. 0.045** |
| **Model 2 (NPM)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 24.35**<br>**prob. 0.0235** |
| **Model 3 (ROA)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 21.956371**<br>**prob. 0.0012** |
| **Model 4 (ROE)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 44.29**<br>**prob. 0.0000** |

#### 4.5.3.1 Model 1 (EPS)

The Hausman test was applied for the selection of appropriate model; the results of Hausman test were as follows.

$Chibar^2 (01) = 12.28$

Probability = 0.045

The first model of the study shows that the value of probability is 0.045; so, researcher rejected $H_0$, which means that the FE model is appropriate for conclusive results by using the EPS as a dependent variable.

#### 4.5.3.2 Model 2 (NPM)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 24.35

Probability = 0.0235

The second model of the study shows that the value of probability is 0.0235; so, researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the NPM as a dependent variable.

#### 4.5.3.3 Model 3 (ROA)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 21.95

Probability = 0.0012

The third model of the study shows that the value of probability is 0.0012; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROA as a dependent variable.

#### 4.5.3.4 Model 4 (ROE)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 44.29

Probability = 0.0000

The fourth model of the study shows that the value of probability is 0.0000; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROE as a dependent variable.

As discussed in earlier section, the following equation checks the association among organization-level CS and FP variables by using both pooled OLS and FE analysis on balanced panel data.

**Table 4. 28 Results of Multiple Regression Analysis of Textile Sector**

| Dep_var | Independent Variables | Balanced OLS | | Balanced FE | |
|---|---|---|---|---|---|
| | | **Coefficient** | **T_stat** | **Coefficient** | **T_stat** |
| **EPS** | LTDTA | -3.11436 | (2.698345)** | -12.33212 | (2.532467)** |
| | STDTA | -0.700145 | -0.263695 | -0.866889 | -1.316133 |
| | TDTA | -0.819084 | (2.430928)** | 0.481096 | 1.175081 |
| | CACL | 1.318771 | 1.045048 | -0.16329 | (2.412589)** |
| | Size | 1.999679 | 2.522055** | 0.832014 | 0.329129 |
| | Tangibility | -7.765867 | (1.740034)* | -3.028517 | -0.604407 |
| | Constant | -3.980466 | -0.230973 | 6.80909 | 0.284181 |
| | Adj. *R* Square | 0.134863 | | 0.168837 | |
| | *F* Statistics | 0.018766 | | 0.00083 | |
| **NPM** | LTDTA | -0.319925 | -0.642518 | -0.504746 | -0.853056 |
| | STDTA | -0.341962 | (2.522263)** | -0.377543 | (2.153572)** |
| | TDTA | 0.285407 | 1.64644* | 0.224038 | 1.75306* |
| | CACL | -0.204292 | (2.541938)** | -0.197372 | (2.128667)** |
| | Size | 0.10092 | 0.889154 | 0.024535 | 0.151815 |
| | Tangibility | 0.223193 | 0.785225 | 0.246738 | 0.770233 |
| | Constant | -0.963557 | -0.877914 | -0.178166 | -0.11631 |
| | Adj. *R* Square | 0.37721 | | 0.266054 | |
| | *F* Statistics | 0.003254 | | 0.001271 | |
| **ROA** | LTDTA | 5.043357 | 0.553029 | 2.762486 | 0.24705 |
| | STDTA | -0.11934 | (2.538533)** | -0.119522 | (2.536076)** |
| | TDTA | -0.232125 | (2.73113)** | -0.147309 | (2.44371)** |
| | CACL | 0.726057 | 0.493259 | 0.301976 | 0.172335 |
| | Size | -1.516162 | (2.729352)** | 0.324246 | 2.126164** |
| | Tangibility | 4.463927 | 0.857477 | 2.509745 | 0.414567 |
| | Constant | 7.296759 | 0.362991 | -7.390497 | -0.255297 |
| | Adj. *R* Square | 0.31645 | | 0.498943 | |
| | *F* Statistics | 0.012836 | | 0.020560 | |
| **ROE** | LTDTA | 1.095704 | 4.246573*** | 1.588815 | 5.208266*** |
| | STDTA | -0.186144 | (2.124314)** | -0.232624 | (2.573725)*** |
| | TDTA | 0.044103 | 0.490971 | 0.063758 | 0.703952 |
| | CACL | 0.004159 | 0.099868 | -0.145061 | (3.034505)*** |
| | Size | -0.115325 | (1.960797)** | -0.240821 | (2.890219)*** |
| | Tangibility | 0.368393 | 2.50112** | 0.497509 | 3.012324*** |
| | Constant | 0.734128 | 1.290787 | 1.904441 | 2.411429** |
| | Adj. *R* Square | 0.64147 | | 0.213501 | |
| | *F* Statistics | 0.00001 | | 0.00001 | |

***, **, and * refer to significance at 1%, 5% and 10%, respectively.

## I. Interpretation: Impact of CS on EPS

Table 4.28 presents the result of regression analysis of CS on FP of textile sector measured by EPS. Out of explanatory variables, Tangibility has negative as well as significant impact on EPS at 10% level. The coefficient value of Tangibility is -7.76 which indicates that one time increase in Tangibility causes -7.74 times negative change in EPS. Debt variables LTDTA and TDTA have an impact at 5% and 10% level of significance. Long-term and Total debt have negative impact on EPS. The findings of analysis show that size, as control variable, has positive impact on EPS at 5% level of significance. However, CACL has no effect on EPS of textile sector. Adjusted *R* square value confirms that explanatory variables are able to explain 14% variation in dependent variable. *F* statistics confirms about the validity of model at 1% level.

Under FE model, the results indicate that of the explanatory variables, LTDTA has significant effect on outcome variable at 5% significance level with EPS. CACL has a significant but negative impact on EPS at 5% level. succiently, it is clearly evident from these outcomes, CS has significant impact on the FP of firms measured in term of EPS. The researcher found that control variables, size and tangibility, have no role in EPS of firms. Value of adjusted *R* square is 0.17 which indicates that predictive accuracy of independent variables is 17%. *F* statistics confirms about the validity of model at 1% level.

## II. Interpretation: Impact of CS on NPM

The findings of NPM under balanced OLS model show that STDTA has a negative as well as significant impact on NPM at 5% level and its coefficient value is -0.3419 which implies that by every one unit rise in STDTA, NPM will reduce by 0.3419 unit. TDTA has a positive impact on NPM at 10% level of significance. It implies that one time increase in TDTA causes 0.2854 time

increase in NPM. The researcher found negative and significant impact of CACL on FP measured by CACL. However, there is no impact of LTDTA, Size and Tangibility on NPM of textile sector. Adjusted *R* square value is 0.37 which implies that explanatory variable can describe 37% change in outcome variable. *F* statistics confirms about the validity of model at 1% level.

In balanced FE model, the results of regression analysis show substantial positive impact of TDTA on NPM of firms at 10% level of significance while the STDTA has negative impact on NPM at 5% level. The beta coefficient of STDTA is -0.1195. The value of beta coefficient indicates that by one time increase in TDTA, NPM will favorably alter by 0.224 unit. CACL has negative as well as significant effect on NPM of textile sector at 5% level. The rest of the independent variables, LTDTA, have no impact on FP of textile sector measured in terms of NPM. Out of all the control variables, firms' size as well as tangibility have no impact on NPM of firms at any level. The value of adjusted *R* square is significant at 0.21 and *F* statistics confirms about the validity of model at 1% level.

### III. Interpretation: Impact of CS on ROA

Table 4.28 provides the findings of multiple regression analysis of textile sector under balanced OLS and FE models. The results of balanced OLS model shows that out of explanatory variables, TDTA and STDTA have a negative and significant impact on ROA of firms at 5% level. The coefficient value of STDTA is 0.1193 which implies that one time rise in STDTA causes 0.1193 times change in ROA. Other explanatory variables, CACL, have no significant effect on FP of firms measured by ROA. Size, as a control variable, has a negative as well as significant impact on NPM of textile sector. However, the researcher could not find impact of tangibility on ROA of firms. The score of adjusted *R* square is 0.32 which demonstrates variation in ROA because of

explanatory variables can describe 32% change in outcome variable. The *F* statistics value is significant at 5% level, so, model is of good fit.

The results of analysis in balanced FE model indicate that LTDTA and TDTA have an impact at 5% significance level on ROA of firms. Out of all the control variables, size has positive and significant impact on FP of textile sector measured in terms of ROA. The other control variable, tangibility, has no effect on ROA of firms at any significance level. The score of adjusted *R* square demonstrates that 49% predictive power of this model. The value of *F* statistics is significant at 5% level; therefore, it can be inferred that model is a good fit.

## IV. Interpretation: Impact of CS on ROE

The findings of ROE under balanced OLS model indicate that LTDTA and STDTA have significant impact on ROE of firms at 5% level of significance. The beta value of these explanatory variables shows that when LTDTA increases by one unit, ROE also increases by 0.1.09 unit and with one unit increase in STDTA, ROE reduces by 0.186 unit. The outcomes show that remaining explanatory variables have no role in FP measured by ROE. Size, as a control variable, has a negative influence on ROE at 5% level of significance. Tangibility, the second control variable, has a positive as well as significant effect on ROE at 5% level. The value of adjusted *R* square shows that explanatory power of independent variables is 64%. *F* statistics score represents that model is valid at 1% level.

In balanced FE model, the results provide evidence of negative and significant effect of STDTA and CACL on ROE of firms at 1% level. The values of beta coefficient of these variables show that by one time increase in STDTA, ROE of firms will change by 0.023 times and by one unit increase in CACL, ROE will reduce by 0.14 times. The findings also indicate that there is a positive influence of LTDTA on firms' ROE at 1% level. Firms' size and tangibility have a substantial

effect on ROE of the textile sector. Value of adjusted *R* square is 0.21 which indicates that predictive accuracy of independent variables is 21%. *F* statistics confirms about the validity of model at 1% level.

### 4.5.4 Results of Multiple Regression Analysis of Sugar Sector

**Table 4. 29 Selection of Appropriate Model (Sugar Sector)**

| Models | Null Hypothesis | Test | Test Statistics |
|---|---|---|---|
| **Model 1 (EPS)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 13.84**<br>**prob. 0.05** |
| **Model 2 (NPM)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 11.32**<br>**prob. 0.0452** |
| **Model 3 (ROA)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 9.54**<br>**prob. 0.05** |
| **Model 4 (ROE)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 9.86**<br>**prob. 0.0465** |

#### 4.5.4.1 Model 1 (EPS)

The Hausman test was applied for the selection of appropriate model; the results of Hausman test were as follows.

$Chibar^2$ (01) = 13.84

Probability = 0.05

The first model of the study shows that the value of probability is 0.05; so, the researcher rejected $H_0$, which means that the FE model is appropriate for conclusive results by using the EPS as a dependent variable.

#### 4.5.4.2 Model 2 (NPM)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 11.32

Probability = 0.0452

The second model of the study shows that the value of probability is 0.0452; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the NPM as a dependent variable.

#### 4.5.4.3 Model 3 (ROA)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 9.54

Probability = 0.05

The third model of the study shows that the value of probability is 0.05; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROA as a dependent variable.

#### 4.5.4.4 Model 4 (ROE)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 9.86

Probability = 0.0465

The fourth model of the study shows that the value of probability is 0.0465; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROE as a dependent variable.

As discussed in an earlier section, the following equation checks the association among organization-level CS and FP variables by using both pooled OLS and FE analysis on balanced panel data.

**Table 4. 30 Results of Multiple Regression Analysis of Sugar Sector**

| Dep_var | Independent Variables | Balanced OLS | | Balanced FE | |
|---|---|---|---|---|---|
| | | Coefficient | T_stat | Coefficient | T_stat |
| **EPS** | LTDTA | -6.488485 | (2.59692)*** | -17.31693 | (2.43239)** |
| | STDTA | -0.365624 | -0.148054 | -1.40036 | -0.6566 |
| | TDTA | -2.286965 | -0.332674 | -8.036918 | (2.257384)** |
| | CACL | 2.666331 | 1.222399 | 6.055388 | 2.099226** |
| | Size | 13.5084 | 3.539408*** | 4.658314 | 0.573228 |
| | Tangibility | -19.40156 | (2.579179)** | -11.36383 | -1.451108 |
| | Constant | -116.7457 | (2.976209)** | -33.29698 | -0.403237 |
| | Adj. *R* Square | 0.258146 | | 0.546572 | |
| | *F* Statistics | 0.000022 | | 0.00001 | |
| **NPM** | LTDTA | -0.060421 | -0.128905 | -0.557296 | -0.871221 |
| | STDTA | -0.111377 | (2.045894)** | -0.094433 | (2.33683)** |
| | TDTA | -0.514863 | (1.736824)* | -0.355998 | (2.252636)** |
| | CACL | -0.063772 | (1.87800)* | 0.007468 | 0.048928 |
| | Size | -0.093854 | -0.570276 | -0.039593 | -0.09208 |
| | Tangibility | 0.019622 | 0.06049 | 0.11192 | 0.270106 |
| | Constant | 1.361033 | 0.80463 | 0.699038 | 0.159995 |
| | Adj. *R* Square | 0.47396 | | 0.123387 | |
| | *F* Statistics | 0.03139 | | 0.0262127 | |
| **ROA** | LTDTA | -0.005878 | -0.053516 | -0.005878 | -0.052263 |
| | STDTA | -0.018242 | (2.73103)*** | -0.018242 | (2.71392)*** |
| | TDTA | -0.094257 | (2.3569)** | -0.094257 | (2.32514)** |
| | CACL | 0.041544 | 1.884871* | 0.041544 | 1.940754* |
| | Size | 0.038739 | 1.90451** | 0.038739 | 0.980999 |
| | Tangibility | -0.034439 | -0.453083 | -0.034439 | -0.442478 |
| | Constant | -0.312511 | -0.788434 | -0.312511 | -0.76998 |
| | Adj. *R* Square | 0.1517 | | 0.2517 | |
| | *F* Statistics | 0.008347 | | 0.004347 | |
| **ROE** | LTDTA | -1.93097 | (2.96111)*** | -2.13097 | (2.918667)*** |
| | STDTA | -0.039542 | -0.176766 | -0.041542 | -0.17294 |
| | TDTA | 0.920278 | 2.47785** | 0.910278 | 2.445862** |
| | CACL | 0.068996 | 0.3492 | 0.068996 | 0.341642 |
| | Size | 0.227046 | 0.656738 | 0.217046 | 0.642523 |
| | Tangibility | 1.090938 | 1.8010* | 1.190938 | 1.86636* |
| | Constant | -2.80344 | -0.78898 | -2.80344 | -0.771903 |
| | Adj. *R* Square | 0.57292 | | 0.54230 | |
| | *F* Statistics | 0.01858 | | 0.0132 | |

***, **, and * refer to significance at 1%, 5% and 10%, respectively.

## I. Interpretation: Impact of CS on EPS

Table 4.30 provides the outcomes of multiple regression analysis of sugarcane sector. There are separate models for each outcome variable of the study. Model 1 shows the impact of various components of CS on the FP of the firms measured in terms of EPS. The findings of balanced OLS model confirms substantial but adverse role of LTDTA in EPS at 1% level of significance. The findings imply that increase in LTDTA will reduce EPS by 6.488 times. The researcher did not find any impact of STDTA and TDTA on EPS of firms at any conventional levels of significance. CACL has no impact on EPS of firms at any level of significance. Size and tangibility, as control variables, have significant impact on the EPS of firms at 1% and 5% level of significance, respectively. Adjusted *R* square is 0.26 which indicates the explanatory power of the model. The score of *F* statistics shows significance at 1% level which implies that model is of good fit.

Under balanced FE model, the results confirm substantial and adverse impact of LTDTA and TDTA at 5% significance on FP of the firms measured in terms of EPS. Size and tangibility, as control variables, have no substantial role in the EPS at any level of significance. CACL has a positive impact on EPS in fixed effect model at 5% level of significance. Value of adjusted *R* square is 0.55 which indicates that predictive accuracy of independent variables is 55%. *F* statistics confirms about the validity of model at 1% level.

## II. Interpretation: Impact of CS on NPM

The findings of NPM under balanced OLS model show that there is a negative impact of STDTA on the NPM of firms at 1% level of significance. The coefficient value of STDTA shows that every unit increase in STDTA will tend to reduce NPM by 0.11 times. TDTA has a negative impact on EPS at 10% level of significance. The researcher has not found any impact of LTDTA on FP of firms measured in terms of NPM at any conventional level of significance. There is a significant

as well as negative impact of CACL on NPM at 10% level of significance. This implies that one unit increase in CACL can reduce NPM by 0.06 times. Value of adjusted *R* square is 0.47 which indicates that predictive accuracy of independent variables is 47%. *F* statistics confirms about the validity of model at 5% level.

The results of NPM under balanced FE model demonstrates substantial adverse influence of TDTA and STDTA on NPM of firms at 5% level, respectively. The coefficient value of STDTA is -0.093 which infers that increase in STDTA can reduce NPM by 0.093 times, and the coefficient value of TDTA is -0.356 which implies that one unit increase in STDTA can decrease NPM by 0.356 times. LTDTA has no impact on FP measured in terms of NPM. Under this model, the control variable Tangibility has no significant impact on NPM of firms. Value of adjusted *R* square is 0.12 which indicates that predictive accuracy of independent variables is 12%. *F* statistics confirms about the validity of model at 5% level.

### III. Interpretation: Impact of CS on ROA

Table 4.30 reports outcomes of sugar sector using balanced OLS and FE models. Under balanced OLS using ROA as outcome variable, the findings show that STDTA and TDTA have negative impact on EPS at 1% and 5% level, respectively. CACL has direct and substantial influence on the ROA of firms at 10% level. The beta of STDTA is 0.018 which implies that increase in STDTA will decrease ROA by 0.018 times. The beta coefficient value of CACL is 0.041 which implies that increase in CACL will increase ROA by 0.41 times. The rest of the variables, LTDTA, has no impact on ROA. Size has a positive impact on ROA at 5% level of significance. Tangibility, out of the control variables, has significant influence on ROA. Value of adjusted *R* square is 0.15 which indicates that predictive accuracy of independent variables is 15%. *F* statistics confirms about the validity of model at 1% level.

The findings of ROA under balanced FE model shows that there is positive influence of CACL on the ROA of firms at 10% level. The beta coefficient value of CACL is 0.041, that implies change in CACL can cause 0.036 times change in ROA. However, the researcher also found an impact of STDTA and TDTA on the FP of firms at 1% and 5% levels of significance. Size and tangibility, as control variables, have no substantial role in firms' FP, measured in terms of ROA. The explanatory power of the model is 25%. The score of *F* statistics show that this model is of good fit at 1% level of significance. Value of adjusted *R* square is 0.25 which indicates that predictive accuracy of independent variables is 25%. *F* statistics confirms about the validity of model at 1% level.

## IV. Interpretation: Impact of CS on ROE

The findings of ROE under balanced OLS model show substantial and negative influence of LTDTA and TDTA on the ROE of firms. The beta of LTDTA shows that on average one time increase in LTDTA will tend to reduce ROE by -1.93 times but the overall impact of debt is a bit lower than LTD. The coefficient value of TDTA variable is significant at 5% level. The rest of variables (STDTA and CACL) have no influence on the FP of firms measured in terms of ROE. Tangibility, another control variable, has a positive and significant impact on ROA of firms at 10% level of significance. However, the researcher has not found any impact of size on the ROE of firms. Value of adjusted *R* square is 0.57 which indicates that predictive accuracy of independent variables is 57%. *F* statistics confirms about the validity of model at 5% level.

The results of ROE under balanced FE model shows that there is a significant negative impact of LTDTA and TDTA on ROE of firms with coefficient value of LTDTA at -2.130. This implies that one unit increase in LTDTA can reduce ROE by 2.130 times. The findings of the study suggest that the rest of the variables, CACL, has no influence on ROE of firms. Under this model, the

control variable, Tangibility, has a substantial role in ROE of firms at 10% level. The value of adjusted *R* square shows that predictive accuracy of this model is 54%. Value of adjusted *R* square is 0.17 which indicates that predictive accuracy of independent variables is 17%. *F* statistics confirms about the validity of model at 5% level.

### 4.5.5 Results of Multiple Regression Analysis of Engineering Sector

**Table 4. 31 Selection of Appropriate Model**

| Models | Null Hypothesis | Test | Test Statistics |
|---|---|---|---|
| **Model 1 (EPS)** | $H_{0}$= Random effect<br>$H_{A}$= Fixed effect | Hausman Test | **$X_2$ = 14.002**<br>**prob. 0.0202** |
| **Model 2 (NPM)** | $H_{0}$= Random effect<br>$H_{A}$= Fixed effect | Hausman Test | **$X_2$ = 11.7418**<br>**prob. 0.0152** |
| **Model 3 (ROA)** | $H_{0}$= Random effect<br>$H_{A}$= Fixed effect | Hausman Test | **$X_2$ = 15.56**<br>**prob. 0.0112** |
| **Model 4 (ROE)** | $H_{0}$= Random effect<br>$H_{A}$= Fixed effect | Hausman Test | **$X_2$ = 58.19**<br>**prob. 0.0000** |

#### 4.5.5.1 Model 1 (EPS)

The Hausman test was applied for the selection of an appropriate model; the results of Hausman test were as follows:

$Chibar^2$ (01) = 14.002

Probability = 0.02

The first model of the study shows that the value of probability is 0.02; so, the researcher rejected $H_0$, which means that the FE model is appropriate for conclusive results by using the EPS as a dependent variable.

#### 4.5.5.2 Model 2 (NPM)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 11.74

Probability = 0.0152

The second model of the study shows that the value of probability is 0.0152; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the NPM as a dependent variable.

#### 4.5.5.3 Model 3 (ROA)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 15.56

Probability = 0.0112

The third model of the study shows that the value of probability is 0.0112; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROA as a dependent variable.

#### 4.5.5.4 Model 4 (ROE)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2 (01) = 58.19$

Probability = 0.0001

The fourth model of the study shows that the value of probability is 0.0001; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROE as a dependent variable.

As discussed in an earlier section, the following equation checks the association among organization-level CS and FP variables by using both pooled OLS and FE analysis on balanced panel data.

**Table 4. 32 Results of Multiple Regression Analysis of Engineering Sector**

| Dep_var | Independent Variables | Balanced OLS | | Balanced FE | |
|---|---|---|---|---|---|
| | | Coefficient | T_stat | Coefficient | T_stat |
| **EPS** | LTDTA | -8.973665 | (2.759173)*** | -6.543443 | (2.57116)*** |
| | STDTA | -13.77261 | (2.185278)** | -9.769429 | (2.326864)** |
| | TDTA | 4.407651 | 0.373675 | 4.355317 | 0.352797 |
| | CACL | -0.014233 | -0.009795 | 0.468681 | 0.321087 |
| | Size | 4.217187 | 2.274596** | -5.574771 | -1.139411 |
| | Tangibility | -8.256697 | -1.967013 | -14.56025 | (1.681073)* |
| | Constant | -28.83517 | -1.53164 | 64.77266 | 1.354252 |
| | Adj. *R* Square | 0.180553 | | 0.351182 | |
| | *F* Statistics | 0.04412 | | 0.008525 | |
| **NPM** | LTDTA | -0.05124 | -0.145681 | 0.182413 | 0.522886 |
| | STDTA | -0.439493 | (2.271092)** | -0.331002 | (2.175637)** |
| | TDTA | -0.112545 | -0.320653 | -0.448691 | (2.193568)** |
| | CACL | -0.010505 | (1.642961)* | -0.046555 | -1.047379 |
| | Size | 0.096308 | 1.745687* | 0.269459 | 1.808593* |
| | Tangibility | -0.143743 | -1.150823 | -0.562125 | (2.131306)** |
| | Constant | -0.597667 | -1.066877 | -1.873331 | -1.286227 |
| | Adj. *R* Square | 0.241232 | | 0.370838 | |
| | *F* Statistics | 0.006421 | | 0.004522 | |
| **ROA** | LTDTA | -0.135468 | -0.599477 | -0.136548 | -0.57795 |
| | STDTA | -0.388996 | (2.751109)*** | -0.588996 | (2.388226)** |
| | TDTA | 0.108148 | 0.479589 | 0.205148 | 0.462366 |
| | CACL | 0.006953 | 0.25029 | 0.020653 | 0.241302 |
| | Size | 0.075701 | 2.135735** | 0.057570 | 2.05904** |
| | Tangibility | -0.243092 | (3.029249)*** | -0.235920 | (2.920468)** |
| | Constant | -0.487898 | -1.355587 | -0.256893 | -1.306907 |
| | Adj. *R* Square | 0.281872 | | 0.381872 | |
| | *F* Statistics | 0.001493 | | 0.004593 | |
| **ROE** | LTDTA | -0.43478 | -0.933289 | -0.288425 | -0.931949 |
| | STDTA | -0.397056 | (2.867023)*** | -0.339554 | (2.865779)*** |
| | TDTA | 0.059152 | 0.127242 | -0.230507 | 0.127059 |
| | CACL | 0.053508 | 0.934321 | 0.023729 | 0.93298 |
| | Size | 0.175291 | 2.398918** | 0.206347 | 2.395476** |
| | Tangibility | -0.135778 | -0.820739 | -0.364638 | -0.819561 |
| | Constant | -1.474292 | (1.986979)* | -1.497272 | (1.984128)* |
| | Adj. *R* Square | 0.211168 | | 0.31211 | |
| | *F* Statistics | 0.017337 | | 0.013337 | |

***, **, and * refer to significance at 1%, 5% and 10%, respectively.

## I. Interpretation: Impact of CS on EPS

Table 4.32 contains the results of analysis of engineering sector. Model 1 shows the impact of various components of CS on EPS. The results of balanced OLS model show that there is a significant but negative impact of LTDTA on FP measured in terms of EPS at 1% level. The coefficient of variable is -8.97 which implies that increase in LTDTA will cause 8.97 times reduction in EPS. There is a significant negative impact of STDTA on EPS at 5% level of significance with beta coefficient -13.722. The researcher could not find an impact of remaining explanatory variable (TDTA) at any significance level. Size has a positive impact with a 5% significance level. The control variables (CACL and Tangibility) tend to have no role in EPS. Adjusted *R* square is 0.18 which indicates that predictive accuracy of explanatory variables is 18%. *F* statistics confirms about the validity of model at 5% level.

Under balanced FE model, the outcomes confirm that Tangibility has a negative and substantial influence on FP measured in term of EPS. The coefficient value of Tangibility is -14.56 which implies that by one unit increase in Tangibility, EPS will decrease by -14.56 times. LTDTA and STDTA have a significant impact on EPS at 1% significance level while STDTA has a substantial impact at 5% level. The beta of LTDTA is -6.54 which implies that with a one unit increase in LTDTA, EPS will decrease by -6.54 times. The findings of the study suggest that size and CACL, as control variables, have no significant impact on the EPS at any level of significance. Adjusted *R* square is 0.35 which indicates that predictive accuracy of explanatory variables is 35%. *F* statistics confirms about the validity of model at 1% level.

## II. Interpretation: Impact of CS on NPM

Table 4.32 shows consequences of engineering sector using balanced OLS and FE models. Under balanced OLS using NPM as dependent variable, the findings show a significant as well as negative impact of STDTA on the NPM of firms at 5% level of significance. The beta coefficient value of STDTA is -0.4394. The findings suggests that the rest of the explanatory variables have no influence on outcome variable at any level of significance. Out of all of the control variables, size is found to have a significant and positive influence on NPM whereas CACL has a negative and significant influence on NPM. The value of adjusted *R* square shows that various components of CS can explain 24% variation of NPM. *F* statistics confirms about the validity of model at 1% level.

Under balanced FE model the results of analysis show that there is a negative influence of STDTA on the NPM of firms at 5% level. The beta coefficient of STDTA is -0.331, which implies that one time increase in STDTA can cause 0.331 times variation in NPM. The impact of TDTA is negative as well as significant at 5% level with beta coefficient of -0.44. Tangibility, as a control variable, has a significant and negative impact on the FP of firms, measured in terms of NPM at 5% level, but the researcher could find no impact of CACL on NPM. The value of adjusted *R* square shows that various components of CS can explain 37% variation of NPM. *F* statistics confirms about the validity of model at 1% level.

## III. Interpretation: Impact of CS on ROA

The findings of ROA under balanced OLS model confirms about adverse role of STDTA on ROA at 1% level. This implies that CS exerts influence on the FP of the engineering sector. Tangibility, as a control variable, has a negative as well as substantial influence on ROA at 1% level. The researcher could not find any impact of CACL on the ROA of firms. Size has a positive and

significant impact on ROA. The value of adjusted *R* square shows that various components of CS can explain 28% variation of ROA. *F* statistics expanis that this model is valid.

The results of ROA under balanced FE model show that there is a significant impact of STDTA, Size and Tangibility on ROA of firms. The impact of control variable, CACL, has no influence on FP measured in terms of ROA. The value of adjusted *R* square shows that various components of CS can explain 28% variation of ROA. *F* statistics confirms about the validity of model at 1% level.

## IV. Interpretation: Impact of CS on ROE

The findings of ROE under balanced OLS model show substantial and adverse role of STDTA in ROE of firms. The beta of STDTA shows that on average increase in STDTA will tend to reduce ROE by -0.39 times at 1% level. There is a substantial direct influence of Size on the FP of firms measured in terms of ROE at 5% level. However, tangibility, which is another control variable, has no influence on outcome variable. The value of adjusted *R* square shows that various components of CS can explain 21% variation of NPM. *F* statistics confirms about the validity of model at 5% level.

Under balanced FE model, the outcomes of analysis confirms substantial role of explanatory variable, STDTA, at 1% level of significance. This indicates that the short-term component of CS has an influence on the FP of the engineering sector measured in terms of ROE. Size has a positive impact at 5% level of significance. The findings of analysis indicate that the control variables, CACL and tangibility, have no significant impact on ROE of firms. The value of adjusted *R* square shows that various components of CS can explain 31% variation of NPM. *F* statistics confirms about the validity of model at 5% level.

### 4.5.6 Results of Multiple Regression Analysis of Manufacturing and Vehicles Sector

**Table 4. 33 Selection of Appropriate Model**

| Models | Null Hypothesis | Test | Test Statistics |
|---|---|---|---|
| **Model 1 (EPS)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 14.73**<br>**prob. 0.0125** |
| **Model 2 (NPM)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 12.36**<br>**prob. 0.0452** |
| **Model 3 (ROA)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 15.3565**<br>**prob. 0.0312** |
| **Model 4 (ROE)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 43.30**<br>**prob. 0.0000** |

#### 4.5.6.1 Model 1 (EPS)

The Hausman test was applied for the selection of appropriate model; the results of Hausman test were as follows.

Chibar$^2$ (01) = 14.73

Probability = 0.0125

The first model of the study shows that the value of probability is 0.0125; so, the researcher rejected $H_0$, which means that the FE model is appropriate for conclusive results by using the EPS as a dependent variable.

#### 4.5.6.2 Model 2 (NPM)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

Chibar$^2$ (01) = 15.35

Probability = 0.0312

The second model of the study shows that the value of probability is 0.0312; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the NPM as a dependent variable.

#### 4.5.6.3 Model 3 (ROA)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 15.56

Probability = 0.0112

The third model of the study shows that the value of probability is 0.0112; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROA as a dependent variable.

#### 4.5.6.4 Model 4 (ROE)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 43.30

Probability = 0.000

The fourth model of the study shows that the value of probability is 0.0000; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROE as a dependent variable.

As discussed in an earlier section, the following equation checks the association among organization-level CS and FP variables by using both pooled OLS and FE analysis on balanced panel data.

**Table 4. 34 Results of Multiple Regression Analysis of Vehicle and Manufacturing Sector**

| Dep_var | Independent Variables | Balanced OLS | | Balanced FE | |
|---|---|---|---|---|---|
| | | Coefficient | T_stat | Coefficient | T_stat |
| **EPS** | LTDTA | -0.096734 | -0.077901 | 0.560176 | 0.49276 |
| | STDTA | -15.2261 | (2.630708)*** | -16.2591 | (2.669637)*** |
| | TDTA | -4.762879 | -0.308431 | -5.679781 | -0.329905 |
| | CACL | -1.07115 | -0.377783 | -1.049522 | -0.335668 |
| | Size | 11.27464 | 3.264854*** | 10.7776 | 2.280902** |
| | Tangibility | -111.6528 | (6.301747)*** | -86.47231 | (3.89736)*** |
| | Constant | -22.48611 | -0.542838 | -27.34468 | -0.523474 |
| | Adj. *R* Square | 0.216516 | | 0.382445 | |
| | *F* Statistics | 0.0001 | | 0.00029 | |
| **NPM** | LTDTA | -0.041243 | -0.13619 | 0.005538 | 0.017466 |
| | STDTA | -24.57693 | (4.174389)*** | -17.43621 | (2.439253)** |
| | TDTA | -0.406566 | (1.707955)* | -0.158453 | -0.929231 |
| | CACL | -1.396437 | (2.019476)** | -0.06722 | -0.069506 |
| | Size | 0.326842 | 0.388083 | -1.528793 | -0.836317 |
| | Tangibility | -4.7331 | -1.095374 | 15.57815 | 1.976972** |
| | Constant | 10.50604 | 1.03997 | 14.57608 | 0.772854 |
| | Adj. *R* Square | 0.245199 | | 0.235476 | |
| | *F* Statistics | 0.0002 | | 0.000093 | |
| **ROA** | LTDTA | 0.182832 | 9.401045*** | 0.132388 | 7.345067*** |
| | STDTA | -0.008187 | -0.021654 | 0.297865 | 0.733069 |
| | TDTA | -0.454957 | (1.881121)* | 0.190911 | 2.419583** |
| | CACL | -0.077108 | (1.736392)* | -0.098043 | (1.783457)* |
| | Size | 0.063057 | 1.165876 | -0.061695 | -0.593732 |
| | Tangibility | -0.576772 | (2.078515)** | -0.199403 | -0.445182 |
| | Constant | 0.12684 | 0.19551 | 0.792743 | 0.739452 |
| | Adj. *R* Square | 0.263744 | | 0.484086 | |
| | *F* Statistics | 0.0001 | | 0.00001 | |
| **ROE** | LTDTA | 0.232463 | 2.538097** | -0.069937 | (2.457541)** |
| | STDTA | -2.794077 | (1.950919)** | -1.690502 | (1.890586)* |
| | TDTA | 0.015708 | 0.008357 | 1.184171 | 0.453165 |
| | CACL | -0.323019 | -0.93602 | -0.258952 | -0.555444 |
| | Size | 0.144262 | 0.343224 | 0.040231 | 0.045654 |
| | Tangibility | -4.169758 | (1.933603)* | -3.915871 | (1.830879)* |
| | Constant | 2.806706 | 0.556696 | 2.64915 | 0.291379 |
| | Adj. *R* Square | 0.26295 | | 0.187463 | |
| | *F* Statistics | 0.02484 | | 0.008323 | |

***, **, and * refer to significance at 1%, 5% and 10%, respectively.

### I. Interpretation: Impact of CS on EPS

Table 4.34 shows outcomes of the vehicle sector using balanced OLS and FE models. Out of the explanatory variables, STDTA has a negative and significant impact on EPS of firms at 1% level. Size, as a control variable, has a positive and significant impact on EPS, while tangibility has a negative as well as significant impact on EPS of firms at 1% level. The value of adjusted *R* square shows that variation in EPS is 22%. *F* statistics confirms about the validity of model at 1% level.

The findings of EPS under model show that there is a negative impact of STDTA on EPS of firms at 1% level. The coefficient value of STDTA is -16.251, which indicates that one unit change in STDTA can cause 16.251 times decrease in EPS. The control variable Size has a relationship at 5% level of significance; the control variable Tangibility has an impact on FP of firms measured in terms of EPS at 1% level of significance. The value of adjusted *R* square shows that various components of CS can explain 38% variation of NPM. *F* statistics confirms about the validity of model at 1% level.

### II. Interpretation: Impact of CS on NPM

Under balanced OLS model, the outcomes confirm a negative and substantial effect of STDTA on FP of firms measured in terms of NPM. It implies that if STDTA is increase by one unit, NPM will decrease by 24.57 units. TDTA has a negative impact on firms' performance variables at 10% level. Out of all the control variables, CACL has a negative impact on NPM at 5% level of significance. The beta coefficient of this variable is -1.39 which indicates that one unit increase in CACL causes 1.39 times change in NPM. However, the researcher could not find any impact of Size and Tangibility on NPM. The value of adjusted *R* square shows that various components of CS can explain 24% variation of NPM. *F* statistics confirms about the validity of model at 1% level.

The findings of balanced FE model show that STDTA has a negative impact on firms' performance variables at 5% level of significance. Size, as a control variable, has no impact on FP measured at any level of significance, while Tangibility has a positive impact on NPM at 5% level of significance. Adjusted *R* square is 24% which shows the predictive accuracy of the model applied. *F* statistics confirms about the validity of model at 1% level.

### III. Interpretation: Impact of CS on ROA

The findings indicate that there is a direct and substantial impact of LTDTA on ROA with a beta value 0.1828, and there is a significant as well as negative impact of CACL on the FP of firms measured in terms of ROA. The beta coefficient of LTDTA and CACL are substantial at 1% and 10% level, in that order. This designates that increase in LTDTA, ROA will favorably change by 0.1828. Overall, total debt has a adverse influence on ROA at 10% level. The control variable Tangibility has a adverse role in ROA at 5% level. The value of adjusted *R* square is 0.26 which indicates that predictive accuracy of the independent variables is 26%. *F* statistics confirms about the validity of model at 1% level.

Under balanced FE model, the outcomes explain that LTDTA has a direct and substantial effect on ROA of firms at 1% level. Beta coefficient is 0.13 which implies that increase in LTDTA causes 0.13 times variation in ROA of firms. The findings show that TDTA has a positive impact on FP measured in terms of ROA at 5% significance level, while CACL has a negative and significant effect on ROA. However, there is no impact of STDTA on ROA of firms at any level. The other variables, Tangibility and Size, have no substantial influence on ROA of firms. The score of adjusted *R* square is 0.48 that implies that predictive accuracy of model. *F* statistics confirms about the validity of model at 1% level.

## IV. Interpretation: Impact of CS on ROE

The findings of ROE under balanced OLS model show that there is an influence of independent variable LTDTA on FP of firms measured with regard to ROE at 5% level of significance. STDTA has a negative relationship with highest coefficient value. Out of control variables, Tangibility has a negative as well as significant impact on ROE of firms at 10% level. However, the findings show that there is no significant impact of Tangibility on ROE. The score of adjusted *R* square is 0.26 that implies that predictive accuracy of model. *F* statistics confirms about the validity of model at 5% level.

The findings of ROE under balanced FE model show that there is a substantial adverse influence of LTDTA on ROE of firms at 5% level. The beta is -0.069 which indicates that with increase in LTDTA, ROE will reduce by 0.069 times. By fixing the effect, the researcher found that STDTA has a negative impact at 10% significance level. Under this model, the control variable, Tangibility, has a significant impact on FP measured in terms of ROE at 10% level. The score of adjusted *R* square is 0.19 that implies that predictive accuracy of model. *F* statistics confirms about the validity of model at 1% level.

### 4.5.7 Results of Multiple Regression Analysis of Communication and Food Sector

**Table 4. 35 Selection of Appropriate Model**

| Models | Null Hypothesis | Test | Test Statistics |
|---|---|---|---|
| **Model 1 (EPS)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 26.45**<br>**prob. 0.0002** |
| **Model 2 (NPM)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 13.80**<br>**prob. 0.0352** |
| **Model 3 (ROA)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 15.17**<br>**prob. 0.0190** |
| **Model 4 (ROE)** | $H_0$= Random effect<br>$H_A$= Fixed effect | Hausman Test | **$X_2$ = 17.77**<br>**prob. 0.0098** |

#### 4.5.7.1 Model 1 (EPS)

The Hausman test was applied for the selection of an appropriate model; the results of Hausman test were as follows.

Chibar$^2$ (01) = 26.45

Probability = 0.0002

The first model of the study shows that the value of probability is 0.0002; so, the researcher rejected $H_0$, which means that the FE model is appropriate for conclusive results by using the EPS as a dependent variable.

#### 4.5.7.2 Model 2 (NPM)

The purpose of Hausman test is to differentiate whether the FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

Chibar$^2$ (01) = 17.80

Probability = 0.0352

The second model of the study shows that the value of probability is 0.0352; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the NPM as a dependent variable.

#### 4.5.7.3 Model 3 (ROA)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 15.17

Probability = 0.0190

The third model of the study shows that the value of probability is 0.0190; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROA as a dependent variable.

#### 4.5.7.4 Model 4 (ROE)

The purpose of Hausman test is to differentiate whether FE model is good or random effect model is appropriate for regression analysis; the results of Hausman test were as follows.

$Chibar^2$ (01) = 17.77

Probability = 0.0098

The fourth model of the study shows that the value of probability is 0.0098; so, the researcher rejected $H_0$, which means that the FE model is appropriate for regression analysis to acquire the conclusive results of the study by using the ROE as a dependent variable.

As discussed in an earlier section, the following equation checks the association among organization-level CS and FP variables by using both pooled OLS and FE analysis on balanced panel data.

**Table 4. 36 Results of Multiple Regression Analysis of Food and Communication Sector**

| Dep_var | Independent Variables | Balanced OLS | | Balanced FE | |
|---|---|---|---|---|---|
| | | Coefficient | T_stat | Coefficient | T_stat |
| **EPS** | LTDTA | 10.21937 | 0.335648 | -107.085 | (6.472724)*** |
| | STDTA | -23.04443 | 2.221724** | 2.815495 | 0.248228 |
| | TDTA | 2.357269 | 2.326943** | 0.254386 | 2.298536** |
| | CACL | -0.516493 | -0.843494 | -0.09215 | -0.330383 |
| | Size | 23.80308 | 4.26438*** | -0.637013 | -0.141998 |
| | Tangibility | -52.77699 | (2.250981)** | -3.067908 | -0.217778 |
| | Constant | -151.602 | (2.909775)** | 67.24426 | 1.83663* |
| | Adj. *R* Square | 0.156138 | | 0.874863 | |
| | *F* Statistics | 0.000094 | | 0.0001 | |
| **NPM** | LTDTA | 0.029033 | 0.05692 | -0.111964 | -0.200109 |
| | STDTA | -1.288273 | (4.076902)*** | -1.35819 | (3.771064)*** |
| | TDTA | -0.01328 | (2.347133)** | -0.011869 | (2.43122)** |
| | CACL | 0.001451 | 0.141467 | -0.000685 | -0.066035 |
| | Size | 0.097043 | 1.037771 | 0.055761 | 0.483411 |
| | Tangibility | 0.277131 | 0.70555 | 0.232909 | 0.515376 |
| | Constant | -0.597612 | -0.684682 | -0.111927 | -0.10174 |
| | Adj. *R* Square | 0.305108 | | 0.698382 | |
| | *F* Statistics | 0.005479 | | 0.008974 | |
| **ROA** | LTDTA | -1.111113 | (2.986851)** | -0.746333 | (2.985874)** |
| | STDTA | -0.668648 | (2.901348)** | -0.326768 | (2.9004)** |
| | TDTA | 0.006762 | 0.38199 | 0.016479 | 0.381865 |
| | CACL | -0.004971 | -0.664408 | -0.007801 | -0.66419 |
| | Size | 0.104065 | 1.825891* | 0.363699 | 2.689809*** |
| | Tangibility | -0.062213 | -0.217171 | -0.107009 | -0.2171 |
| | Constant | -0.452384 | -0.710651 | -3.123273 | -0.710419 |
| | Adj. *R* Square | 0.125117 | | 0.210479 | |
| | *F* Statistics | 0.001186 | | 0.02186 | |
| **ROE** | LTDTA | -0.805161 | (2.353661)** | -0.913594 | (2.20615)** |
| | STDTA | -0.231965 | -0.629501 | -0.007426 | -0.0143 |
| | TDTA | 0.028782 | 1.016832 | 0.042645 | 1.093106 |
| | CACL | -0.005112 | -0.427338 | -0.007835 | -0.613533 |
| | Size | 0.152723 | 1.600533* | 0.298652 | 1.554087* |
| | Tangibility | -0.522116 | -1.139885 | -0.568965 | -0.882165 |
| | Constant | -0.877769 | -0.862386 | -2.318633 | -1.15728 |
| | Adj. *R* Square | 0.36218 | | 0.215049 | |
| | *F* Statistics | 0.013583 | | 0.01863 | |

***, **, and * refer to significance at 1%, 5% and 10%, respectively.

## I. Interpretation: Impact of CS on EPS

Table 4.36 presents the results of multiple regression analysis of CS on FP of food and communication sector. The results confirms substantial adverse influence of STDTA on EPS of firms. The coefficient of STDTA is significant at 5% level of significance. TDTA has a positive and significant effect at 5% level of significance. The beta coefficient of STDTA is -23.044 which implies that one unit increase in STDTA causes -23.044 negative change in EPS. The control variable, Size, has significant and positive effect on EPS; Tangibility has a negative as well as significant effect on FP measured in terms of EPS. Adjusted *R* square shows that the predictive accuracy of independent variables is 16%. The value of *F* statistics is less than 0.01; so, it can be concluded that the model is of good fit.

Under balanced FE model, the outcomes confirm that LTDTA has a negative influence on the FP of food and communication sector at 1% level of significance. There is a positive and significant impact of TDTA on EPS at 5% level. The beta is 0.2543 which implies that with one unit increase in TDTA, EPS will vary by 0.2543 times. The researcher could not find any significant impact on other explanatory as well as control variables. Adjusted *R* square is 0.87 which indicates 87% variation in outcome variable. *F* statistics confirms about the validity of model at 1% level.

## II. Interpretation: Impact of CS on NPM

The outcomes of NPM in balanced OLS model show that there is a negative and significant impact of STDTA and TDTA on FP of food and communication sector measured in terms of NPM. It implies that if STDTA increases by one unit, NPM decreases by 1.28 units. The other explanatory variable TDTA has a significant relationship at 5% level of significance. The value of coefficient shows negative direction but the impact is very small. However, the researcher could not find a significant impact of Tangibility and Size on NPM of food and communication sector. Adjusted *R*

square value indicates that independent variables have 31% explanatory power. The score of adjusted *R* square is 0.48 that implies that predictive accuracy of model. *F* statistics confirms about the validity of model at 1% level.

Under FE model, the results of NPM provide evidence of negative and significant effect of STDTA on NPM of food and communication sector. The beta coefficient of STDTA is -1.35 which shows that with one unit change in STDTA, NPM will change by -1.35. The rest of the variables have no significant influence on NPM of firms. TDTA shows negative relationship like in OLS at 5% level of significance. Size and Tangibility, other control variables, have no impact on NPM. Adjusted *R* square is 0.69, which shows that predictive accuracy of independent variables is 69%. The score of adjusted *R* square is 0.48 that implies that predictive accuracy of model. *F* statistics confirms about the validity of model at 1% level.

### III. Interpretation: Impact of CS on ROA

Table 4.31 presents the outcomes of food and communication sector under balanced OLS and FE model. In balanced OLS model, the results show that there is a negative and significant impact of STDTA and TDTA on NPM at 5% level. The remaining explanatory variable (LTDTA) has no influence on ROA of firms at any level. Out of all control variables, Size has positive as well as significant effect on FP of food and communication sector measured in terms of ROA. However, the researcher could not find any influence of Tangibility on ROA. Adjusted *R* square is 13% variation and *F* statistics confirms about the validity of model at 1% level.

The results of multiple regression analysis of ROA in FE model indicate that there is a negative effect of STDTA on FP of firms. The coefficient value is significant at 5% level. It implies that when STDTA increases by one unit, ROA decreases by 0.6367 units. There is a negative as well as significant impact of LTDTA on ROA of firms at 5% level. The other explanatory variable

CACL has no impact on ROA at any level of significance. LTDTA has a substantial influence on ROA at 5% level of significance. The findings of analysis show Tangibility, as a control variable, has no influence on ROA of food and communication sector. Size as a control variable has a positive and significant impact at 1% level of significance. The adjusted *R* square value is 0.21 which implies that the explanatory power of independent variables is 21%. The value of *F* statistics is 0.021; thus the model is valid at 5% level of significance.

## IV. Interpretation: Impact of CS on ROE

The findings of analysis of ROE in OLS model show that there is a negative as well as significant impact of LTDTA on ROA of food and communication sector at 5% level. The beta coefficient of LTDTA indicates that one unit increase in LTDTA causes -0.8051 times decrease in ROE. TDTA has no significant impact at any level of significance. The results of analysis show out of the control variables, there is a positive impact of Size on ROA of firms at 10% level of significance. However, there is no impact of Tangibility on ROA. Adjusted *R* square value shows that explanatory variables can describe 36% change in outcome variable. and *F* statistics confirms about the validity of model at 1% level.

The results from FE model indicate that there is a negative impact of LTDTA on ROE of food and communication sector at 5% level of significance. The beta coefficient of LTDTA indicates that with rise in LTDTA, ROA will reduce by 0.913 times. CACL and Tangibility have no influence on the FP of firms measured in terms of ROE. The researcher found that control variable, Size, has an impact on ROE of firms at 10% level. The score of adjusted *R* square shows that independent variables can explain 22% variation in dependent variable. *F* statistics value is significant at 5%; so, it can be concluded that the model is of good fit.

### 4.6 Multicollinearity Test Results of Complete Data

**Table 4. 37 Multicollinearity Results**

| Variables | Variance Inflation Factor (VIF) | 1/VIF |
|---|---|---|
| TDTA | 1.370 | 0.730 |
| STDTA | 1.059 | 0.944 |
| TANGIBILITY | 1.356 | 0.737 |
| CACL | 1.028 | 0.973 |
| SIZE | 1.022 | 0.978 |
| LTDTA | 1.002 | 0.998 |
| Mean value of VIF | 1.14 | |

According to multicollinearity test, Table 4.37 shows the results of VIF. The researcher sees that the value of VIF in all variables was less than 5 so there is no problem of multicollinearity in the given data. The average value of VIF is 1.14, which is good for our data because it is less than the value of 10 and the value of 5, which indicates there is no problem in our independent variables.

**Table 4. 38 Combined Sector-Wise Analysis of Firms' Performance and CS Variables**

| | | OVERALL PANEL | | | | PETROLEUM SECTOR | | | | TEXTILE SECTOR | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DEP. VAR** | IND. VAR | OLS | | FE | | OLS | | FE | | OLS | | FE | |
| | | Coeff. | T_stat | Coeff. | T_stat | Coeff | T_stat | Coeff | T_stat | Coeff. | T_stat | Coeff | T_stat |
| **EPS** | LTDTA | 0.1336 | 0.1116 | 0.1632 | 0.1698 | -1.7733 | (1.8032)* | 0.1632 | 0.1698 | -3.1144 | (2.698)** | -12.3321 | (2.5324)** |
| | STDTA | -2.7464 | (2.4978)** | -0.9234 | (2.553)*** | -4.9434 | (2.3297)** | -0.9234 | (2.553)*** | -0.7001 | -0.2637 | -0.8669 | -1.3161 |
| | TDTA | 0.9265 | 2.195704** | 0.2252 | 2.642766*** | -3.1085 | -1.4456 | 0.2252 | 2.642766*** | -0.8191 | (2.430928)** | 0.4811 | 1.1751 |
| **NPM** | LTDTA | 0.0296 | 0.2010 | 0.0524 | 0.3437 | 0.0296 | 0.2010 | 0.0524 | 0.3437 | -0.3199 | -0.6425 | -0.5047 | -0.8531 |
| | STDTA | -0.5275 | (2.340275)** | -0.5931 | (2.242389)** | -0.5275 | (2.340275)** | -0.5931 | (2.242389)** | -0.3420 | (2.522263)** | -0.3775 | (2.153572)** |
| | TDTA | -0.0365 | (2.703089)*** | -0.0534 | (2.960277)*** | -0.0365 | (2.703089)*** | -0.0534 | (2.960277)*** | 0.2854 | 1.64644* | 0.2240 | 1.75306* |
| **ROA** | LTDTA | 0.3181 | 0.3819 | 0.1691 | 0.1915 | 0.3181 | 0.3819 | 0.1691 | 0.1915 | 5.0434 | 0.5530 | 2.7625 | 0.2471 |
| | STDTA | -0.2659 | (2.208534)** | -0.1326 | (2.08655)** | -0.2659 | (2.208534)** | -0.1326 | (2.08655)** | -0.1193 | (2.538533)** | -0.1195 | (2.536076)** |
| | TDTA | -0.1189 | (2.405147)** | -0.0818 | (2.25415)** | -0.1189 | (2.405147)** | -0.0818 | (2.25415)** | -0.2321 | (2.73113)** | -0.1473 | (2.44371)** |
| **ROE** | LTDTA | 0.2668 | 2.88635*** | -0.0361 | (2.38521)** | 0.2668 | 2.88635*** | -0.0361 | (2.38521)** | 1.0957 | 4.246573*** | 1.5888 | 5.208266*** |
| | STDTA | -0.1818 | (2.284361)** | -0.0950 | (2.584186)*** | -0.1818 | (2.284361)** | -0.0950 | (2.584186)*** | -0.1861 | (2.124314)** | -0.2326 | (2.573725)*** |
| | TDTA | -0.0083 | -0.2537 | -0.0072 | -0.2100 | -0.0083 | -0.2537 | -0.0072 | -0.2100 | 0.0441 | 0.4910 | 0.0638 | 0.7040 |

### 4.7 Summary of Estimation and Results

This study mainly acknowledges that CS has an impact that varies across sectors due to the nature or behavior of each sector. Although the proportion of debt financing is similar, each sector adopts different financing patterns, slowly focusing on long-term debt financing. The impact of sector characteristics on firm performance can be observed through the changes of sign and magnitude of the explanatory variables' coefficients across sectors. Overall, Pakistani firms used a short-term debt to finance their resources.

The researcher has checked the impact of various components of CS on the FP of the firms measured in terms of EPS. In OLS, all debt variables were negatively associated with firm performance variables which confirms trade-off theory. In FE model, the same situation arises but LTDTA has a positive relationship with ROA which favors POT. In the petroleum sector, STDTA is the most significant variable, which implies that petroleum sector firms use short-term debts. Short-term debts have a negative impact on FP variables which is in line with trade-off theory, on the other hand, in the petroleum sector, LTDR has significant impact on ROE. In the textile sector, debt also has a negative relationship with EPS which supports trade-off theory; the most significant variable for EPS is long-term debt, while for NPM and ROA the most significant variable is short-term debt. Total debt has a greater impact on NPM, ROA and ROE. In the sugar sector, short-term debt again has a high coefficient value and significance level, which implies that sugar sector firms use short-term debts which is in line with POT, while in FE model the higher coefficient value is associated with long-term debt. The value of coefficient shows the strength of short-term debts in overall panel analysis. The same results are shown in FE model. Overall, the results show that there is a negative relationship between firms' profitability and debts which favors trade off theory which states that excess dependence on debt is not favorable for firms' FP. In the engineering sector, STDR highest the coefficient value and the most significant relationship with ROA, ROE

and NPM, while the LTDR has the most significant association with EPS. In manufacturing and vehicle sector, STDR has the most significant relationship and higher coefficient value with EPS and NPM, while with ROA and ROE, LTDR has the most significant relationship. In food and communication sector, again STDR has the most significant impact on all firms' performance variables except ROE, where long-term debt has the most significant impact.

The findings of balanced OLS model show that there is a significant and negative influence of STDTA on the EPS at 5% level of significance which supports trade-off theory. The findings imply that one unit increase in STDTA can reduce EPS by 2.74 times. The researcher also found a positive impact of TDTA on EPS of firms at 5% level of significance which is in favor of POT. Under balanced FE model, the findings shows that there is a significant negative impact of STDTA on EPS of firms while total debt has positive relation at 1% level which is in line with POT. Short-term debts have a negative relationship with EPS and NPM which is in favor of trade-off theory. The findings of NPM under balanced OLS model show that there is a substantial and adverse role of STDTA in NPM of firms. The coefficient value of STDTA shows that every unit increase in STDTA will tend to decrease NPM by 0.06 times. The coefficient value of this variable is significant at 5% level. The impact of TDTA is found substantial and negative on the NPM of firms at 1% level, which shows that an increase in TDTA will inversely affect NPM. There is a significant as well as negative impact of TDTA on FP which is in line with trade-off theory.

Sheik and Wang (2013) conducted an examination in Pakistan by utilizing 240 manufacturing firms listed on PSX and they found the same converse relationship in their study. Analysis indicated that this negative relationship is due to agency issues which exist in the association. The outcomes strengthen the findings of the past investigations of Xin (2014), Khan (2012), and Awais et al. (2018). Yet, a few specialists found a positive relationship between firm worth and long-term

debts as found in this study's results in overall sample; these analysts are Salim and Yadav (2012), Adesina et al. (2015) and Ebrati et al. (2013).

Short-term debts have a significant relationship in almost all sectors in FE model and some researchers found a positive relationship (Ebrati et al., 2013) and some researchers found a negative relationship like Al-Tally (2014) and Abor (2005).

**Table 4. 39 Combined Sector-Wise Analysis of Firms' Performance and CS Variables**

| | | SUGAR SECTOR | | | | ENGINEERING SECTOR | | | | MANUFACTURING & VEH. SECTOR | | | | COMM. & FOOD SECTOR | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DEP. VAR** | IND. VAR | OLS | | FE | | OLS | | FE | | OLS | | FE | | OLS | | FE | |
| | | **Coeff.** | **T_stat** | **Coeff.** | **T_stat** | **Coeff.** | **T_stat** | **Coeff.** | **T_stat** | **Coeff.** | **T_stat** | **Coeff.** | **T_stat** | **Coeff.** | **T_stat** | **Coeff.** | **T_stat** |
| **EPS** | LTDTA | -6.488 | (2.59)*** | -17.31 | (2.43)** | -8.974 | (2.75)*** | -6.543 | (2.57)*** | -0.097 | -0.078 | 0.560 | 0.493 | 10.219 | 0.336 | -107.08 | (6.47)*** |
| | STDTA | -0.366 | -0.148 | -1.400 | -0.657 | -13.77 | (2.18)** | -9.769 | (2.32)** | -15.22 | (2.63)*** | -16.25 | (2.66)*** | -23.04 | 2.22** | 2.815 | 0.248 |
| | TDTA | -2.287 | -0.333 | -8.037 | (2.25)** | 4.408 | 0.374 | 4.355 | 0.353 | -4.763 | -0.308 | -5.680 | -0.330 | 2.357 | 2.32** | 0.254 | 2.29** |
| **NPM** | LTDTA | -0.060 | -0.129 | -0.557 | -0.871 | -0.051 | -0.146 | 0.182 | 0.523 | -0.041 | -0.136 | 0.006 | 0.017 | 0.029 | 0.057 | -0.112 | -0.200 |
| | STDTA | -0.111 | (2.045)** | -0.094 | (2.33)** | -0.439 | (2.27)** | -0.331 | (2.17)** | -24.57 | (4.17)*** | -17.43 | (2.43)** | -1.288 | (4.07)*** | -1.358 | (3.77)*** |
| | TDTA | -0.515 | (1.736)* | -0.356 | (2.25)** | -0.113 | -0.321 | -0.449 | (2.19)** | -0.407 | (1.70)* | -0.158 | -0.929 | -0.013 | (2.34)** | -0.012 | (2.43)** |
| **ROA** | LTDTA | -0.006 | -0.054 | -0.006 | -0.052 | -0.135 | -0.599 | -0.135 | -0.578 | 0.183 | 9.40*** | 0.132 | 7.34*** | -1.111 | (2.98)** | -0.746 | (2.98)** |
| | STDTA | -0.018 | (2.73)*** | -0.018 | (2.71)*** | -0.389 | (2.75)*** | -0.389 | (2.38)** | -0.008 | -0.022 | 0.298 | 0.733 | -0.669 | (2.90)** | -0.327 | (2.90)** |
| | TDTA | -0.094 | (2.35)** | -0.094 | (2.32)** | 0.108 | 0.480 | 0.108 | 0.462 | -0.455 | (1.88)* | 0.191 | 2.41** | 0.007 | 0.382 | 0.016 | 0.382 |
| **ROE** | LTDTA | -1.931 | (2.96)*** | -2.131 | (2.91)*** | -0.435 | -0.933 | -0.288 | -0.932 | 0.232 | 2.53** | -0.070 | (2.45)** | -0.805 | (2.35)** | -0.914 | (2.20)** |
| | STDTA | -0.040 | -0.177 | -0.042 | -0.173 | -0.397 | (2.86)*** | -0.340 | (2.86)*** | -2.794 | -0.951 | -1.691 | -0.491 | -0.232 | -0.623 | -0.007 | -0.014 |
| | TDTA | 0.920 | 2.477** | 0.910 | 2.44** | 0.059 | 0.127 | -0.231 | 0.127 | 0.016 | 0.008 | 1.184 | 0.453 | 0.029 | 1.017 | 0.043 | 1.093 |

The results of NPM under balanced FE model show that there is a significant negative impact of TDTA and STDTA on NPM of firms with coefficient value of -0.5930. This implies that one unit increase in STDTA can reduce NPM by 0.593 times. These findings support trade off theory which states that excess dependence of debt negatively influence profitability of firms measured in terms of NPM.

The findings show a significant positive impact of STDTA and a negative impact of TDTA on the ROA of firms. The beta coefficient value of STDTA is 0.2611 which is significant at 5% level. The positive coefficient value of STDTA supports POT. Out of the control variables, only Tangibility is found to have a significant and positive influence on ROA. The findings of ROA under balanced FE model show that there is a positive influence of STDTA and TDTA on the ROA of firms, which is significant at 5% level. The beta coefficient value of STDTA is -0.13.

The findings of ROE under balanced OLS model show that there is a significant and positive impact of LTDTA and negative impact of TDTA on the ROE of firms. The coefficient value of LTDTA is significant at 1% level which supports POT which states that debt should be preferred over equity due to tax shield. The negative coefficient value of TDTA is significant at 5% level of significance; which confirms trade off theory. The results of ROE under balanced FE model show that there is a significant negative impact of LTDTA and TDTA on ROE of firms.

A constructive symbol for Size be of the same opinion with the results of Shen et al., (2012) who reveals a constructive statistically insignificant indication in the case of German, French as well as Italian firms except for UK's while Twairesh (2014) for Saudi Arabian firms. These results are in agreement with the works of Khan (2012) and Toraman, Kilic and Reis (2013) and the outcomes confirm the expectations of POT. These outcomes reveal that more profitable organizations utilized less short-term debts in assets financing. Larger firms have the benefit of amount of

capabilities, such as economies of scale, which may manipulate FP (Frank & Goyal, 2003; Ramaswamy, 2001; Jermias, 2008). This is why the Size variable was introduced.

The positive statistically considerable connection between long-term debt and ROE is in compliance with one of the suitable outlook of the research in line with signaling and agency theories as well as in compliance with a number of previous studies (Holz, 2002a; Warokka et al., 2011; Margaritis & Psillaki, 2010). These results reveal that long-term loans enhance profits for shareholders in both the short run and long run. However, long-term debt is completely connected to ROE and supports POT. The outcome is also constant with the results of Mathur and Mathur (2000), Gleason et al. (2000), Zeitun and Tian (2007), Krishnan and Moyer (1997) and Tzelepis and Skuras (2004). These outcomes are in compliance with the POT which describes that profitable firms should use their retained earnings for investment. Consequently, a negative association can be developed amongst debt level and performance variables. According to the results of different researchers like Jensen and Meckling (1976), CS has an impact on performance. Many researchers have conducted a study on Asian firms. Chhibber and Majumdar (1997) working in India, found a negative relationship between FP and CS which is in compliance with trade-off theory. Chiang, Chang et al., (2002) found, on the basis of profit margin, a negative connection between CS and FP. El-Sayed Ebaid (2009) found that performance has a negligible effect on CS; which is in line with trade-off theory. A majority of the previous studies found that there is a negative relationship between CS and FP (Rajan & Zingales, 1995; Titman & Wessels, 1988; Fama & French, 2002; Baker & Wurgler, 2002).

**Table 4.40 Summary of Hypotheses**

Based on the results of overall sample, the outcomes of hypotheses are presented in Table 4.40.

| Hypothesis | Statement | Decision |
|---|---|---|
| H1 | LTDTA has an impact on EPS. | Not Confirmed |
| H2 | STDTA has an impact on EPS. | Confirmed |
| H3 | TDTA has an impact on EPS. | Confirmed |
| H4 | Tangibility has an impact on EPS. | Confirmed |
| H5 | Current ratio has an impact on EPS. | Not Confirmed |
| H6 | Firm size has an impact on EPS. | Not Confirmed |
| H7 | LTDTA has an impact on NPM. | Not Confirmed |
| H8 | STDTA has an impact on NPM. | Confirmed |
| H9 | TDTA has an impact on NPM. | Confirmed |
| H10 | Tangibility has an impact on NPM. | Confirmed |
| H11 | Current ratio has an impact on NPM. | Not Confirmed |
| H12 | Firm size has an impact on NPM. | Not Confirmed |
| H13 | LTDTA has an impact on ROA. | Not Confirmed |
| H14 | STDTA has an impact on ROA. | Confirmed |
| H15 | TDTA has an impact on ROA. | Confirmed |
| H16 | Tangibility has an impact on ROA. | Not Confirmed |
| H17 | Current ratio has an impact on ROA. | Not Confirmed |
| H18 | Firm size has an impact on ROA. | Confirmed |
| H19 | LTDTA has an impact on ROE. | Confirmed |
| H20 | STDTA has an impact on ROE. | Confirmed |
| H21 | TDTA has an impact on ROE. | Not Confirmed |
| H22 | Tangibility has an impact on ROE. | Not Confirmed |
| H23 | Current ratio has an impact on ROE. | Not Confirmed |
| H24 | Firm size has an impact on ROE. | Confirmed |

The findings of overall sample show that there is significant influence of STDTA on firms' FP measured in terms of ROA, ROE, EPS, and NPM. However, the effect of LTDTA is significant

only in case of ROE model. These findings show that Pakistani firms mostly rely on short erm debt to fulfill their financing needs. TDTA has substantial influence on FP of MFIs measured in terms of NPM, EPS, and ROA. Succiently, the overall findings suggest that various components of CS substantially contribute towards financial performance of non-financial sector firms. These findings imply that firms should develop optimal CS to boost corporate FP.

# Chapter 5

# Conclusion and Recommendations

This chapter validates the results of the study in light of existing literature, which is followed by conclusion. Implications for academics, practitioners, policy makers and societal points of view have also been discussed briefly. Moreover, limitations and future directions have been briefly elaborated.

## 5.1 Discussion

The findings of pooled OLS reveals that all proxies of CS make a significant contribution to the FP of firms measured in terms of EPS. The results of FE model highlight that all dimensions of CS except LTDTA make a negative contribution to EPS of firms. The negative coefficient values imply that excess reliance on short-term debt financing increases cost of capital, which in turn reduces EPS of firms. These results are in agreement with the studies of Khan (2012) and Toraman et al. (2013) and the outcomes confirm the expectations of POT. The result reveals that more profitable companies utilized less short-term debts in assets financing.

The findings of NPM under FE model show that there is a substantial and negative impact of STDTA and TDTA on NPM of firms, while LTDTA has a positive impact which is consistent with Chiang et al. (2002). Thus, excess use of debt financing either with short-term or long-term debt is not favorable for firms' NPM. ROA is positively affected by LTDTA, which implies that financing from long-term sources, such as bonds and debentures, involves less cost that short-term sources of debt. Larger firms benefit from long-term financing (see for instance, Frank & Goyal, 2003; Jermias, 2008; Ramaswamy, 2001). The results of the study confirm that the rest of the variables (TDTA) have no influence on ROE of firms. The outcome is also constant with the results of Mathur and Mathur (2000). These outcomes are in compliance with the POT which describes that profitable firms should use their retained earnings for investment.

The results of ROE under balanced FE model show that there is a substantial negative influence of LTDTA and STDTA on ROE of firms. The results imply that long-term debt is in compliance with signaling and agency theories and consistent with extant studies (Holza, 2002; Margaritis & Psillaki, 2010; Warokka et al., 2011). However, TDTA has no influence on ROE of firms, which is in agreement with Mathur and Mathur (2000). These outcomes are in compliance with the POT which describes that profitable firms should use their retained earnings for investment instead of external financing. Overall, the results show a negative relationship between CS and FP variables which supports trade-off theory. These results are consistent with the studies of Akintoye (2008), Tzelepis and Skuras (2004), Rao et al. (2007), Pratomo and Ismail (2006), Margaritis and Psillaki (2007) and Zeitun and Tian (2007). A majority of the previous studies finds that there is a negative relationship between CS and FP (Baker & Wurgler, 2002; Fama & French, 2002; Rajan & Zingales, 1995; Titman & Wessels, 1988).

**5.2 Conclusion**

Optimal CS is crucial for the profitability of firms belonging to non-financial sectors. For this, the management of firms needs to choose a CS that is consistent with shareholders' wealth maximization. A review of extant literature reveals that majority of the studies have been conducted in developed and emerging economies of the world, such as China, UK and Turkey. However, a dearth of empirical evidence is found with reference to developing countries, especially in the context of Pakistan. Of these studies, majority of the scholars investigated the effect of CS on the performance of firms in Pakistan without considering a comprehensive sample and differences across industrial sectors. Thus, to fill the identified gap, this study aims to provide deep insight about the connection between CS and performance of firms, by comparing six sectors. This study is focused on highlighting the differences across industrial sectors regarding the effect of CS on the performance of firms. CS has been operationalized by LTDTA, STDTA and TDTA. FP is measured in terms of profitability using the proxies of EPS, NPM, ROA and ROE. To gauge

the role of CS in FP, this study has controlled firms' specific characteristics, such as current ratio, size and tangibility. This study has collected data from annual audited reports of 152 firms listed on PSX during the period of 2010 to 2019.

To analyze the data gathered, descriptive and inferential techniques were chosen. Under descriptive statistics, various characteristics of variables have been analyzed, such as mean, standard deviation, and minimum and maximum values. Stationery of the panel data has been gauged by Levin-Lin-chu test. Under inferential statistics, correlation and multiple regression analysis have been applied. The findings show that LTDTA has a significant positive impact on all firms' performance variables which supports POT. Sector-wise regression analysis reveals that LTDTA has a positive role in the FP of firms except in petroleum and sugar sectors, which implies that long-term debt should be preferred over short-term debt because of reduced cost of financing. STDTA has a significant negative impact on the FP of firms among all sectors. The negative impact of STDTA implies that short-term financing involves a higher cost of financing, which puts unfavorable influence on firms' profitability and is in line with trade-off theory. TDTA also has a negative impact on the FP of firms among all sectors except in textile sector and food and communication sector, which implies that equity financing is preferable over debt financing. These findings validate trade-off theory and recommend internal financing (retained earnings) over external financing.

This study mainly acknowledges that CS has an impact that varies across sectors due to behavior of each industry. Depiste substantial proportion of debt financing, each sector adopts diverse financing patterns, slowly focusing on long-term sources of debt financing. The impact of sector –wise features on firm performance can be observed through the changes of sign and level of the explanatory variables' coefficients across sectors. Overall, Pakistani firms used short-term debt to finance their operations.

## 5.3. Implications of the Study

### 5.3.1 Theoretical Implications

This study aims to develop a deep understanding of optimal CS in non-financial sector firms of Pakistan. A theoretical review deals with various theories related to CS, such as Modigliani and Miller's irrelevance theory and POT. In the light of the theoretical review, the researcher has developed a conceptual framework which depicts the connection between CS and FP of firms.

Initially, some important aspects of CS have been discussed with reference to FP of firms, such as LTDTA, STDTA and TDTA. Extant literature reveals dearth of empirical evidence with reference to Pakistan. Of these studies, a majority of scholars investigated the effect of CS on the performance of firms in Pakistan without considering a comprehensive sample and sectoral differences. To fill the identified gap, the present study aims to add a novel contribution in extant knowledge by providing a comprehensive overview of the state of CS of Pakistani firms. This study also provides insights into the optimal CS that a firm should develop in order to maximize its profits.

Most previous research considered total debt or only long-term debt as proxy of the CS. This study has considered both long-term debt and short-term debt separately to provide implications for both short-term and long-term dynamics of the CS. Theoretically, all the theories of CS do not differentiate between long-term and short-term debt. This study has provided clear evidence that long-term debt should be preferred to short-term debt, when appropriate. It has been shown that an increase in long-term debt is associated with positive corporate performance, while an increase in short-term debt is associated with negative corporate performance. Thus, this study proposes that existing theories on CS should be modified to account for this difference, whereby debt should be broken down into long-term and short-term debt and their implications should be separately framed within an overall conceptualization of CS theories.

This study also contributes to the literature stream of agency cost theory, where the theory proposes that an increase in debt puts performance pressure on the management of firms and thus an increase in debt is associated with negative corporate performance. This study provides evidence consistent with agency cost explanations of CS. However, it should be noted debt is not good for corporate performance. An increase in short-term debt could force management to manage short-term debt in the short run and ignore the long-term performance goals of the firm. Thus, this study contributes to the theory by providing evidence that a clear distinction should be made between debts considering their maturity structure, where certain types of debt might be beneficial for the firm and vice versa. A theoretical paradigm of the CS should consider this differentiation in the maturity structure of financing choices.

Further, results provided in this research add to the body of literature on the impact of CS on corporate performance in developing economies, more specifically in Pakistan. Developing countries like Pakistan face a dearth of knowledge and evidence on almost all avenues of research. This study contributes to the theory and evidence by filling the gap in Pakistan.

### 5.3.2 Practical Implications

This thesis aims to add some practical contributions not only for practitioners but for policy makers as well. From the viewpoint of practitioners, this study highlights the relevance of the debt and maturity structure of debt to the performance of the corporate sector in Pakistan. This study has found that different maturity structures of debt might have different implications for different aspects of firms' performance in different segments of the corporate sector of Pakistan. A generalized view suggests that an increase in long-term debt is beneficial for the corporate sector of Pakistan. On the other hand, corporate firms in Pakistan should avoid excess utilization of short-term debt as it hinders the performance of corporations. Higher long-term debt seems to improve corporate performance, but a sense of optimality should be considered in this regard. A higher but an appropriate amount of long-term debt could be beneficial for corporations. Further, excess

short-term debt should be used cautiously as short-term debt management is very time consuming and also invites more risk to the business. This study recommends to adopt a conservative policy of working capital management where short-term assets are also financed with long-term financing sources as evidence from the study indicates that long-term debt should be preferred to short-term debt.

For policy makers, this study provides directions for revamping the corporate sector of Pakistan, particularly those sectors that have higher economic and export significance. For example, the textile sector has more economic and export significance and this sector is suffering from performance issues. The government can provide long-term debts to the textile sector at preferential rates to revamp the sector and sustain its performance. Thus, by altering money supply and credit policies, policy makers could help to improve the performance of the corporate sector of Pakistan. The government has direct influence on interest rates and debt allocation of financial sector and the State Bank of Pakistan could design specific policies on the provision of debt to support performance of the corporate segments that have poor performance.

**5.4 Limitations**

There are some limitations observed despite the best efforts of the researcher. This study has collected data from only 152 firms out of 575 listed firms at PSX and non-listed firms were ignored. Thus, the findings may not be generalizable to non-listed firms because of the non-availability of financial data. Moreover, due to focus on developing economies like Pakistan, the findings may not be generalizable to developed and emerging economies of the world. Another limitation is the prime focus on accounting-based measures (such as ROE and ROA) of FP; thus, a market-based perspective (measured by Tobin Q) and its inter-relationship with CS of firms was ignored. This study has ignored macroeconomic factors (e.g., GDP growth and inflation rate) and their association with FP. Further, this study did not consider the influence of equity on firms' performance, where equity is also part of the CS..

### 5.5 Future Research Directions

Keeping in view the insufficiencies highlighted in the preceding section, this study offers some recommendations for potential researchers. This study has focused on the role of CS on FP. Potential researchers are suggested to add moderators such as firms' size and age, and FCFs in the relationship between CS and FP. This study has measured CS in terms of LTDTA, STDTA and TDTA, it is recommended that potential scholars should add more proxies of CS such as DER and short-term debt to TDR. FP is measured in terms of accounting-based performance, potential scholars are recommended to explore other aspects, such as market performance and efficiency. An increase in sample size, by increasing number of firms and time period, may resolve the issue of generalizability. The relationship between CS and FP can be assessed in the presence of some control variables, such as age, sales diversity, tax, cost of capital, risk and share of foreign investment. Further, this study only considered book value of debt and relative CS. Future research could also be conducted by using market value of debt and equity to provide for the implications. Future studies can group firms on the basis of size, such as small and large firms, and then gauge the nexus between CS and FP. The present study is limited to firms listed on PSX, potential scholars are recommended to extend the analysis by adding more countries in the sample. Moreover, this study has examined unidirectional relationship between CS and firms' FP; it is recommended to investigate bidirectional relationships. Moreover, potential scholars may segregate firms on the basis of leverage, such as high and low leveraged firms. Difference in difference can be employed to examine any difference in the FP of high and low leveraged firms based on CS.

**References:**

Abbas, A., Bashir, Z., Manzoor, S., & Akram, M. N. (2013). Determinants of firm's financial performance: An empirical study on textile sector of Pakistan. *Business and Economic Research*, *3*(2), 76-88. https://doi.org/10.5296/ber.v3i2.3958

Abbas, M. (2013). Determinants of organization's financial performance: An empirical analysis on textile sector of Pakistan. *Business and Economic Research, 3*(2), 77-82.

Abeywardhana, D. K. Y. (2016). Impact of capital structure on firm performance: Evidence from manufacturing sector SMEs in UK. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2816499

Abor, J. (2005). The effect of capital structure on profitability: An empirical analysis of listed organizations in Ghana. *The Journal of Risk Finance*, *6*(5), 438-445.

Adams, J. (Ed.). (2007). *Research methods for graduate business and social science students*. New Delhi, India: Response.

Adesina, J. B., Nwidobie, B. M., & Adesina, O. O. (2015). Capital structure and financial performance in Nigeria. *International Journal of Business and Social Research*, *5*(02), 21-31.

Ahmed, F., & Siddiqui, D. A. (2019). Impact of Debt Financing on Performance: Evidence from Textile Sector of Pakistan. *SSRN Electronic Journal*. Retrieved from https://doi.org/10.2139/ssrn.3384213

Aivazian, V., Booth, L., & Cleary, S. (2003). Do emerging market firms follow different dividend policies from US firms? *Journal of Financial research*, *26*(3), 371-387.

Ajibola A., Wisdom O., & Qudus, O. L. (2018). Capital structure and financial performance of listed manufacturing firms in Nigeria. *Journal of Research in International Business and Management*, 5(1), 81-89.

Akhtar, A., Bakhsh, A., Ali, M. & Kousar, S. (2019). Impact of capital structure on the performance of Textile sector in Pakistan: Examining the Moderating Effect of Liquidity. *Journal of Accounting and Finance in Emerging Economies*, *5*(1), 1–12. Retrieved from https://doi.org/10.26710/jafee.v5i1.718

Akintoye, I. R. (2008). Effect of capital structure on firms' performance: The Nigerian experience. *European Journal of Economics, Finance and Administrative Sciences*, *10*(1), 233-243.

Akintoye, A., Beck, M., & Hardcastle, C. (Eds.). (2008). *Public-private partnerships: Managing risks and opportunities*. John Wiley & Sons.

Almeida, H., & Campello, M. (2007). Financial constraints, asset tangibility, and corporate investment. *The Review of Financial Studies*, *20*(5), 1429-1460.

Al-Taani, K. (2013). The relationship between capital structure and firm performance: Evidence from Jordan. *Journal of Finance and Accounting*, *1*(3), 41-45.

Amihud, Y., & Lev, B. (1981). Risk reduction as a managerial motive for conglomerate mergers. *The Bell Journal of Economics*, 605-617.

Ang, J. S. (1991). Small business uniqueness and the theory of financial management. *Journal of small business finance*, *1*(1), 1-13.

Antoniou, A., Guney, Y., & Paudyal, K. (2008). The determinants of capital structure: Capital market-oriented versus bank-oriented institutions. *Journal of Financial and Quantitative Analysis*, *2*(1), 59-92.

Ashraf, M., Ameen, A., & Shahzadi, K. (2017). The impact of capital structure on firm's profitability: A case of cement industry of Pakistan. *International Journal of Business and Social Science*, 8(4), 140-147.

Auerbach, A. J. (1979). Wealth maximization and the cost of capital. *The Quarterly Journal of Economics*, *93*(3), 433-446.

Avcı, E. (2016). Capital structure and firm performance: an application on manufacturing industry. *İktisadi ve İdari Bilimler Dergisi, 38*(1), 15-30. Retrieved fromhttps://doi.org/10.14780/iibd.81334

Ayuba, H., Bambale, A. J., Ibrahim, M.A., & Sulaiman, S. A. (2019). Effects of financial performance, capital structure and firm size on firms' value of insurance companies in Nigeria. *Journal of Finance, Accounting and Management*, 10(1), 57-74.

Balakrishnan, S., & Fox, I. (1993). Asset specificity, firm heterogeneity and capital structure. *Strategic Management Journal*, *14*(1), 3-16.

Basit, A., & Hassan, Z. (2017). Impact of capital structure on firms' performance: A study on Karachi Stock Exchange (KSE) listed firms in Pakistan. *International Journal of Management, Accounting and Economics, 4*(2), 118-135.

Baron, J. (2000). *Thinking and deciding*. Cambridge University Press.

Bebchuk, L., & Fried, J. (2004). *Pay without Performance* (Vol. 29). Cambridge, MA: Harvard University Press.

Beins, B. C. (2012). *APA style simplified: Writing in psychology, education, nursing, and sociology*. John Wiley & Sons.

Berger, A. (2006). Capital structure and organization performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance,* 30, 1065-1102.

Berger, A. N., & Di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance*, *30*(4), 1065-1102.

Bokhari, I. H., Suleman, A., Ghumman, I. J., & Hafeez, M. H. (2019). Corporate governance, dividend policy, capital structure and firm financial performance with moderating role of political instability. *Pakistan Journal of Social Sciences*, *39*(1), 109–126.

Bontis, N., Keow, W. C. C., & Richardson, S. (2000). Intellectual capital and business performance in Malaysian industries. *Journal of Intellectual Capital*, *1*(1), 85-100.

Barle, A., & Means, G. (1932). The Modern Corporation and private Property. *Journal of Finance*, *54*(2), 66-77.

Booth, L., Aivazian, V., Demirguc-Kunt, A., & Maksimovic, V. (2001). Capital structure in developing countries. *The Journal of Finance*, *56*(1), 87-130.

Baker, M., & Wurgler, J. (2002). Market timing and capital structure. *The Journal of Finance*, *57*(1), 1-32.

Campello, M. G. (2010). The real effects of financial constraints: Evidence from a financial crisis. *Journal of Economic,* 97(3), 470-487.

Chaganti, R., & Damanpour, F. (1991). Institutional ownership, capital structure, and firm performance. *Strategic Management Journal*, *12*(7), 479–491. https://doi.org/10.1002/smj.4250120702

Chakraborty, I. (2010). Capital structure in an emerging stock market: The case of India. *Research in International Business and Finance*, *24*(3), 295-314.

Chambers, R. G., Fāure, R., & Grosskopf, S. (1996). Productivity growth in APEC countries. *Pacific Economic Review*, *1*(3), 181-190.

Champion, V. L. (1999). Revised susceptibility, benefits, and barriers scale for mammography screening. *Research in nursing & health*, *22*(4), 341-348.

Chen, X., Grzegorczyk, T. M., Wu, B. I., Pacheco Jr, J., & Kong, J. A. (2004). Robust method to retrieve the constitutive effective parameters of metamaterials. *Physical review*, *70*(1), 166-178.

Chetty, P. (2016, October 12). Importance of research approach in a research. *Knowledge Tank*. https://www.projectguru.in/publications/selecting-research-approach-business-studies/

Chetty, R., & Szeidl, A. (2016). Consumption commitments and habit formation. *Econometrica*, *84*(2), 855-890.

Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., ... & Cutler, D. (2016). The association between income and life expectancy in the United States, 2001-2014. *Jama*, *315*(16), 1750-1766.

Chechet, I. L., & Olayiwola, A. B. (2014). Capital structure and profitability of Nigerian quoted firms: The agency cost theory perspective. *American International Journal of Social Science*, *3*(1), 139-158.

Chhibber, P. K., & Majumdar, S. K. (1997). *Foreign ownership and profitability: property rights, strategic control and corporate performance in Indian industry*. The William Davidson institute. Working paper 64.

Chinaemerem, O. C., & Anthony, O. (2012). Impact of Capital Structure on the Financial Performance of Nigerian Firms. *Oman Chapter of Arabian Journal of Business and Management Review*, *1*(12), 43–61. https://doi.org/10.12816/0002231

Chunhua, W., & Meiyan, S. (2013). Relationship between capital structure and performance: Evidence based on information technology industry. In *2nd International Conference on Advances in Computer Science and Engineering, CSE*.330-334.

Corrêa, H. L., Ellram, L. M., Scavarda, A. J., & Cooper, M. C. (2007). An operations management view of the services and goods offering mix. *International Journal of Operations & Production Management*.

Coyle, B. (2000). *Corporate finance: Capital structuring*. Canterbury, Kent: Chartered Institute of Bankers.

Creswell, J. W. (2014). *A concise introduction to mixed methods research*. SAGE publications.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. California: Sage.

Dada, A. O., & Ghazali, Z. B. (2016). The impact of capital structure on firm performance: Empirical evidence from Nigeria. *IOSR Journal of Economics and Finance*, *7*(4), 23–30. https://doi.org/10.9790/5933-0704032330

DeAngelo, H., & Masulis, R. W. (1980). Optimal capital structure under corporate and personal taxation. *Journal of Financial Economics*, *8*(1), 3-29.

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

Detthamrong, U., Chancharat, N., & Vithessonthi, C. (2017). Corporate governance, capital structure and firm performance: Evidence from Thailand. *Research in International Business and Finance*, *42*, 689–709. https://doi.org/10.1016/j.ribaf.2017.07.011

Donaldson, G. (1961). Corporate debt capacity: A study of corporate debt policy and the determination of corporate debt capacity (Harvard Graduate School of Business Administration, Boston). *Edition Addison Wesley Longman*.

Demsetz, H. (1983). The structure of ownership and the theory of the firm. *The Journal of Law and Economics*, *26*(2), 375-390

Dessí, R., & Robertson, D. (2003). Debt, incentives and performance: Evidence from UK panel data. *The Economic Journal*, *113*(49), 903-919.

Demsetz, H., & Lehn, K. (1985). The structure of corporate ownership: Causes and consequences. *Journal of Political Economy*, *93*(6), 1155-1177.

Diannisa, S. R. Y., Lukytawati, A., & Koes, P. (2019). Impact of capital structure and firm financial performance on firm value: Evidence of agribusiness firms in Indonesia Stock Exchange. *RJOAS*, 1(85), 445-451.

Dybvig, P. H., & Zender, J. F. (1991). Capital structure and dividend irrelevance with asymmetric information. *The Review of Financial Studies*, *4*(1), 201-219.

Ebrati, M. R., Emadi, F., Balasang, R. S., & Safari, G. (2013). The impact of capital structure on firm performance: Evidence from Tehran Stock Exchange. *Australian Journal of Basic and Applied Sciences*, *7*(4), 1-8.

Efobi, R. (2008). The Impact of CS on Corporate Profitability in Nigeria (*Unpublished thesis, Department of Accountancy), Ota, Ogun State*.

Eldomiaty, T. I., Choi, C. J., & Cheng, P. (2007). Determinants of financial signaling theory and systematic risk classes in Egypt: Implications for revenue management. *International Journal of Revenue Management*, 1(2), 154-176.

El-Sayed, I. E. (2009). The impact of capital-structure choice on organization performance: Empirical evidence from Egypt. *The Journal of Risk Finance*, 10(5), 477-487.

Fama, E. F., & French, K. R. (1998). Taxes, financing decisions, and firm value. *The Journal of Finance*, *53*(3), 819-843.

Feidakis, A., & Rovolis, A. (2007). Capital structure choice in European Union: Evidence from the construction industry. *Applied Financial Economics*, *17*(12), 989-1002.

Flannery, M. J., & Rangan, K. P. (2006). Partial adjustment toward target capital structures. *Journal of financial economics*, *79*(3), 469-506.

François, P., & Morellec, E. (2004). Capital structure and asset prices: Some effects of bankruptcy procedures. *The Journal of Business*, *77*(2), 387-411.

Frank, M. Z., & Goyal, V. K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics*, *67*(2), 217-248.

Friend, I., & Lang, L. H. (1988). An empirical test of the impact of managerial self-interest on corporate capital structure. *The Journal of Finance*, *43*(2), 271-281.

Frost, J. (2017). Choosing the correct type of regression analysis. Retrieved May 20, 2018, from http://statisticsbyjim.com/regression/choosing-regression-analysis/

Fosu, S. (2013). Capital structure, product market competition and organization performance: Evidence from South Africa. *The Quarterly Review of Economics and Finance*, 53(2), 140-151.

Ghosh, D. K. (1992). Optimum capital structure redefined. *Financial Review*, *27*(3), 411-429.

Githire, C., & Muturi, W. (2015). Effects of capital structure on financial performance of firms in Kenya: Evidence from firms listed at the Nairobi Securities Exchange. *International Journal of Economics, Commerce and Management*, *3*(4), 1-10.

Gleason, K. C., Rosenthal, L., & Wiggins III, R. A. (2005). Backing into being public: An exploratory analysis of reverse takeovers. *Journal of Corporate Finance*, *12*(1), 54-79.

Gleason, K. C., Knowles Mathur, L., & Mathur, I. (2000). The Inter-association among culture, capital structure, and performance: Evidence from European Retailers. *Journal of Business Research,* 50(2), 185-191.

Goyal, P., Rahman, Z., & Kazmi, A. A. (2013). Corporate sustainability performance and firm performance research: Literature review and future research agenda. *Management Decision*, 51(2), 361-379.

Grossman, S. J., & Hart, O. D. (1982). Corporate financial structure and managerial incentives. In *The Economics of Information and Uncertainty* (pp. 107-140). University of Chicago Press.

Grossman, S. J., & Hart, O. D. (1983). Implicit contracts under asymmetric information. *The Quarterly Journal of Economics*, 1(2), 123-156.

Gruber, M. J., & Warner, J. B. (1977). Bankruptcy costs: Some evidence. *The Journal of Finance*, *32*(2), 337-347.

Günay, S. G. (2002). The impact of recent economic crisis on the capital structure of Turkish corporations and the test of static trade-off theory: Implications for corporate governance system. VI. in *International Conference in Economics, Economic Research Center/METU, Ankara, Turkey*.

Gupta, P., Srivastava, A., & Sharma, D. (2014). Capital structure and financial performance: Evidence from India. *International Research Journal*, 2(6), 112-126.

Hadlock, C. J., & James, C. M. (2002). Do banks provide financial slack? *The Journal of Finance*, *57*(3), 1383-1419.

Hashim, S., & Hassan, H. H. (2017). The impact of capital structure on financial performance of Malaysian public listed construction firms. *International Journal of Advanced Research and Publications*, 1(3), 195-206.

Hassan Al-Tamimi, H. A. (2010). Factors influencing performance of the UAE Islamic and conventional national banks. *Global Journal of Business Research*, *4*(2), 1-9.

He, T. (2013). The Comparison of impact CS to corporate performance among Chinese and European listed organizations (*Master's Thesis, Jonkoping International Business School).*

Halov, N., & Heider, F. (2005). Capital structure, risk and asymmetric information. *Quarterly Journal of Finance, 1(*4), 767-809.

Holmes, S., & Kent, P. (1991). An empirical analysis of the financial structure of small and large Australian manufacturing enterprises. *Journal of small business finance*, *1*(2), 141-154.

Holthausen, R. W., & Larcker, D. (1993). Boards of directors, ownership structure and CEO compensation. *Unpublished manuscript (Wharton School, University of Pennsylvania, Philadelphia, PA)*.

Holz, C. A. (2002a). The impact of the liability-asset ratio on profitability in China's industrial state-owned enterprises. *China Economic Review, 13*, 1-26.

Holz, C. A. (2002b). Long live China's state-owned enterprises: Deflating the myth of poor financial performance. *Journal of Asian Economics*, *13*(4), 493-529.

Hossain, A., Khan, A. A. Y., & Khalid, M. S. (2019). An Empirical Analysis of Capital Structure and Firm's Financial Performance in a Developing Country. *Global Journal of Management and Business Research, 19*(3), 9-16.

Hung, D., & Nichani, M. (2002). Differentiating between communities of practices (COPs) and quasi-communities: can COPs exist online? *International Journal on e-learning*, *1*(3), 23-29.

Hovakimian, A., Opler, T., & Titman, S. (2002). The capital structure choice: New evidence for a dynamic tradeoff model. *Journal of Applied Corporate Finance*, *15*(1), 24-30.

Islam, S. Z., & Khandaker, S. (2015). Firm leverage decisions: Does industry matter? *The North American Journal of Economics and Finance, 31*, 94-107.

Javed, T, Younas, W. and Imran, M (2014). Impact of capital structure on firm's performance. *International Journal of Academic Research in Economics & Management Sciences*, *3*(5), 28-52. Retrieved from http://hrmars.com/hrmars_papers/Impact_of_ Capital_Structure_on_Firm_Performance_Evidence_from_Pakistani_Firms.pdf

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

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

Jermias, J. (2008). The relative influence of competitive intensity and business strategy on the relationship between financial leverage and performance. *The British Accounting Review*, *40*(1), 71-86.

Jiahui, M. (2015). Relationship between capital structure and firm performance, evidence from growth enterprise market in China. *Management Science and Engineering*, *9*(1), 45-49.

Jonker, J., & Pennink, B. (2010). *The essence of research methodology: A concise guide for master and PhD students in management science*. Springer Science & Business Media.

Kanwal, M., Shahzad, S. J. H., Rehman, M. U, & Zakaria, M. (2017). Impact of capital structure on performance of non-financial listed companies in Pakistan. *Pakistan Business Review,* 339-353.

Kaplan, S. (1989). The effects of management buyouts on operating performance and value. *Journal of financial economics*, *24*(2), 217-254.

Khan. A.G. (2012). The association of capital structure decision with organization performance: An analysis of the engineering sector of Pakistan. *International Journal of Accounting and Financial Reporting,* 2(1), 305-360.

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

Kester, W. C. (1986). Capital and ownership structure: A comparison of United States and Japanese manufacturing corporations. *Financial Management*, *1*(2), 5-16.

Kochhar, R., & Hitt, M. A. (1998). Linking corporate strategy to capital structure: Diversification strategy, type and source of financing. *Strategic Management Journal*, *19*(6), 601-610.

Kothari, C. R. (2013). *Research methodology: Methods and techniques* (second Ed.). New Delhi, India: New Age International Publishers.X

Kraus, A., & Litzenberger, R. H. (1973). A state-preference model of optimal financial leverage. *The Journal of Finance*, *28*(4), 911-922.

Kremp, E., & Phillippon, T. (2008). Changing patterns of firm ownership and financing: Evidence from SMEs in France. *Paris: Banque de France*.

Krishnan, V. S., & Moyer, R. C. (1997). Performance, capital structure and home country: An analysis of Asian corporations. *Global Finance Journal*, *8*(1), 129-143.

Kumar, R. (2011). *Research methodology: A step by step guide for beginners* (3rd ed.). New Delhi, India: SAGE.

Kyereboah-Coleman, A. (2007). The impact of capital structure on the performance of microfinance institutions. *The Journal of Risk Finance*, 8(1), 56-71.

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

Lewellen, K. (2006). Financing decisions when managers are risk averse. *Journal of Financial Economics*, *82*(3), 551-589.

Lewellen, J., & Nagel, S. (2006). The conditional CAPM does not explain asset-pricing anomalies. *Journal of Financial Economics*, *82*(2), 289-314.

Li, K., Niskanen, J., & Niskanen, M. (2018). Capital structure and firm performance in European SMEs: Does credit risk make a difference? *Managerial Finance*, 45(5), 582-601.

Li, H., Meng, L., Wang, Q., & Zhou, L. A. (2008). Political connections, financing and firm performance: Evidence from Chinese private firms. *Journal of Development Economics*, *87*(2), 283-299.

Liu, M. H., Margaritis, D., & Tourani-Rad, A. (2008). Monetary policy transparency and pass-through of retail interest rates. *Journal of Banking & Finance*, *32*(4), 501-511.

MacKay, P., & Phillips, G. M. (2005). How does industry affect firm financial structure? *The Review of Financial Studies*, *18*(4), 1433-1466.

Mackie-Mason, J. K. (1990). Do taxes affect corporate financing decisions? *The Journal of Finance*, *45*(5), 1471-1493.

Mahmud, M., & Qayyum, A. (2003). The relationship between economic growth and capital structure of listed companies: Evidence of Japan, Malaysia, and Pakistan. *The Pakistan Development Review*, *3*(2), 727-750.

Manos, R. (2001). *Capital structure and dividend policy: Evidence from emerging markets* (Doctoral dissertation, University of Birmingham).

Margaritis, D., & Psillaki, M. (2010). Capital structure, equity ownership and firm performance. *Journal of Banking & Finance*, *34*(3), 621–632. https://doi.org/10.1016/j.jbankfin.2009.08.023

Maroof, Z., Affandi, H., Ahmed, S., & Ahmad, B. (2017). Impact of leverage or debt management on stock returns: Empirical evidence from fuel & energy & textile sector of Pakistan. *Academic Research International, 8*(1), 111-119.

Masnoon, M., & Anwar, F. (2012). Capital structure determinants of KSE listed pharmaceutical companies, *GMJACS*, *2*(1), 66-81.

Masulis, R. W. (1983). The impact of capital structure change on organization value: Some estimates. *The Journal of Finance*, 38(1), 107-126.

Mathur, L. K., & Mathur, I. (2000). An analysis of the wealth effects of green marketing strategies. *Journal of Business Research*, *50*(2), 193-200.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2004). Emotional intelligence: Theory, findings, and implications. *Psychological inquiry*, *15*(3), 197-215.

Mehmood, R., Hunjra, A. I., & Chani, M. I. (2019). The impact of corporate diversification and financial structure on firm performance: Evidence from South Asian Countries. *Journal of Risk and Financial Management*, *12*(1), 49.

McConnell, J. J., & Servaes, H. (1995). Equity ownership and the two faces of debt. *Journal of Financial Economics*, *39*(1), 131-157.

Merton, R. C. (1977). An analytic derivation of the cost of deposit insurance and loan guarantees an application of modern option pricing theory. *Journal of banking & finance*, *1*(1), 3-11.

Mouna, A., Jianmu, Y., Havidz, S. A. H., & Ali, H. (2017). The impact of capital structure on firms' performance in Morocco. *International Journal of Application or Innovation in Engineering & Management*, 6(10), 11-16.

Mujahid, M., & Akhtar, K. (2014). Impact of capital structure on firms' financial performance and shareholders wealth: Textile sector of Pakistan. *International Journal of Learning and Development*, *4*(2), 27-33.

Mathur, S. S., & Kenyon, A. (1997). Our strategy is what we sell. *Long Range Planning*, *30*(3), 455-458.

Mirza, S. A. (2013). Determinants of financial performance of an organization: Case of Pakistani Stock Market. *Journal of Economics and International Finance, 5*, 43-52.

Miller, M. H. (1977). Debt and taxes. *The Journal of Finance*, *32*(2), 261-275.

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

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

Muritala, T. A. (2018). An empirical analysis of capital structure on firms' performance in Nigeria. *IJAME*.

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

Myers, S. C. (1984). The capital structure puzzle. *The Journal of Finance*, *39*(3), 574-592.

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

Naseem, M. A., Lin, J., Rehman, R. U., Ahmad, M. I., & Ali, R. (2019). Does capital structure mediate the link between CEO characteristics and firm performance? *Management Decision*.58(1), 164-181.

Nassar S. (2016). The impact of capital structure on financial performance of the firms: Evidence from Borsa Istanbul. *Journal of Business & Financial Affairs*, 5(2), 1-4.

Nawaz, A., Ali, R., & Naseem, M. A. (2011). relationship between capital structure and firms' performance: A case of textile sector in Pakistan. *Global Business and Management Research: An International Journal*, *3*(3-4), 270-275.

Nenu, E. A., Vintila, G., & Gherghina, S. C. (2018). The Impact of capital structure on risk and firm performance: Empirical evidence for the Bucharest stock exchange listed companies. *International Journal of Financial Studies*, 6(41), 1-29.

Nguyen, T. H., & Nguyen, H. A. (2020). Capital structure and firm performance of non-financial listed companies: Cross-sector empirical evidences from Vietnam. *Accounting*, 137–150. Retrieved from https://doi.org/10.5267/j.ac.2019.11.002

Nirajini, A. a. (2013). Impact of capital structure on financial performance of the listed trading companies in Sri Lanka. *International Journal of Scientific Research Publications,* 3, 1-9.

Nor, M. K. M. (2011). *Modelling rate dependent behaviour of orthotropic metals* (Doctoral dissertation, Cranfield University).

Nouri, B.A., Bagheri, F. and Fathi, A. (2016). Comparison of working capital management, capital structure and real investment policies among active and bankrupt firms in Tehran Stock Exchange. *International Business and Management, 13*(1), 8-15.

Ofek, E. (1993). Capital structure and organization response to poor performance: An empirical analysis. *Journal of Financial Economics, 34*, 3-30.

Oyedokun, G.E., Job-Olatuji, K.A., & Sanyaolu, W.A. (2018). Capital structure and firm financial performance. *Accounting & Taxation Review*, 2(1), 56-71.

Ozkan, A. (2001). Determinants of capital structure and adjustment to long run target: Evidence from UK company panel data. *Journal of business finance & accounting*, *28*(1-2), 175-198.

Pandey, G. (2001). *Remembering partition: Violence, nationalism and history in India* (Vol. 7). Cambridge University Press.

Pandey, K. D., & Sahu, T. N. (2017). An empirical analysis on capital structure, ownership structure and firm performance: Evidence from India. *Indian Journal of Commerce & Management Studies*, *8*(2), 63–72. Retrieved from https://doi.org/10.18843/ijcms/v8i2/09

Pouraghajan, A., Malekian, E., Emamgholipour, M., Lotfollahpour, V., & Bagheri, M. M. (2012). The relationship between capital structure and firm performance evaluation measures: Evidence from the Tehran Stock Exchange. *International Journal of Business and Commerce*, *1*(9), 166-181.

Rahman, A., Sarker, S. I., & Uddin, J. (2019). The Impact of capital structure on the profitability of publicly traded manufacturing firms in Bangladesh. *Applied Economics and Finance*, 6(2), 1-5.

Rajan, R. G., & Zingales, L. (2003). The great reversals: The politics of financial development in the twentieth century. *Journal of Financial Economics*, 69(1), 5-50.

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

Rajeswer Rao, B., & Suryanarayana, A. (2018). Capital structure and firms' financial performance: A study of selected companies listed on the Bombay Stock Exchange. *Journal of Advance Management Research*, 6(4), 215-225.

Ramaswamy, K. (2001). Organizational ownership, competitive intensity, and firm performance: An empirical study of the Indian manufacturing sector. *Strategic Management Journal*, *22*(10), 989-998.

Ross, S. A. (1977). The determination of financial structure: the incentive-signalling approach. *The Bell Journal of Economics*, 2(3), 23-40.

Ross, T. (1996). Indices for performance evaluation of predictive models in food microbiology. *Journal of Applied Bacteriology*, *81*(5), 501-508.

Roden, D. M., & Lewellen, W. G. (1995). Corporate capital structure decisions: Evidence from leveraged buyouts. *Financial Management*, *2*(1). 76-87.

Ruane, J. M. (2005). *Essentials of research methods: A guide to social science research*. Malden, MA: Blackwell Pub.

Rufus., Ozioma A., Ofoegbu., & Grace N. (2017). Impact of capital structure on financial performance of construction and real estate quoted companies in Nigeria. *International Journal of Scientific Research and Management*, 5(9), 7163-7176.

Sachdeva, N. (2019). Factors affecting the profitability of selected public limited textile mills – A study of textile hub of India (Surat). *International Journal of Research in Engineering, Science and Management*, *2*(12), 586–591.

Saeed, M. M. (2013). Impact of capital structure on banking performance: A case analysis of Pakistan. *Interdisciplinary Journal of Contemporary Research in Business, 4*(10), 393-403.

Saeed, R. B. A., & Badar, R. (2013). Impact of capital structure on performance empirical evidence from sugar sector of Pakistan. *European Journal of Business and Management*, *5*(5), 78–86.

Saeedi, A., & Mahmoodi, I. (2011). Capital structure and firm performance: Evidence from Iranian companies. *International Research Journal of Finance and Economics*, *70*, 20-29.

Safarova, Y. (2010). *Factors that determine organization performance of New Zealand listed companies* (Doctoral dissertation, Auckland University of Technology).

Salim, M., & Yardar, R. (2012). Capital structure and organization performance: Evidence from Malaysian listed companies. *Procedia, Social and Behavioral Science*, *65*, 156-166.

Salteh, H. M., Ghanavati, E., Khanqah, V. T., & Khosroshahi, M. A. (2012). Capital structure and firm performance; Evidence from Tehran Stock Exchange. *International Proceedings of Economics Development & Research*, *43*(1), 225-230.

San, O. T., Theng, L. L., & Heng, T. B. (2011). A comparison on efficiency of domestic and foreign banks in Malaysia: A DEA approach. *Business Management Dynamics*, *1*(4), 33-49.

San, O. T., & Heng, T. B. (2011). Capital structure and corporate performance of Malaysian construction sector. *International Journal of Humanities and Social Science*, *1*(2), 28-36.

Saputra, T., Achsani, N. A., & Anggraeni, L. (2015). The effect of capital structure on firm performance: Empirical evidence from the Indonesian financial industry. *International Journal of Business and Management Invention*, *4*(8), 57–66.

Sattar, A. R. (2020). Impact of liquidity on profitability: A case of comparison in textile sector in Pakistan between 2014 and 2015. *European Online Journal of Natural and Social Sciences*, *9*(1), 13–19.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5. Ed). Harlow, E: Financial Times Prentice Hall.

Sbeiti, W. (2010). The determinants of CS: evidence from the GCC countries. *International Research Journal of Finance and Economics*, *47*(2), 56-82.

Sekaran, U., & Bougie, R. (2003). Research Methods for Business, A Skill Building Approach, John Willey & Sons. *Inc. New York*.

Shah, A., & Khan, S. (2007). Determinants of capital structure: Evidence from Pakistani panel data. *International Review of Business Research Papers*, *3*(4), 265-282.

Sheikh, N. A., & Wang, Z. (2013). The impact of capital structure on performance. *International Journal of commerce and Management*, 23(4), 354-368.

Shyam-Sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order models of CS 1. *Journal of Financial Economics*, *51*(2), 219-244.

Siddik, M., Kabiraj, S., & Joghee, S. (2017). Impacts of capital structure on performance of banks in a developing economy: Evidence from Bangladesh. *International Journal of Financial Studies*, *5*(2), 13-26

Simerly, R. L., & Li, M. (2000). Environmental dynamism, capital structure and performance: A theoretical integration and an empirical test. *Strategic Management Journal*, *21*(1), 31-49.

Singh, K. (2007). *Quantitative social research methods*. Los Angeles: Sage.

Singh, S., & Singh, A. (2018). Study on the relationship of firm's performance with capital structure-evidence from Taiwan. *International Journal of Economics and Financial Issues*, 8(3), 307-314.

Skopljak, V., & Luo, R. (2012). Capital structure and firm performance in the financial sector: Evidence from Australia. *Asian Journal of Finance & Accounting*, *4*(1), 278-298.

Smith, A. J. (1990). Corporate ownership structure and performance: The case of management buyouts. *Journal of Financial Economics*, *27*(1), 143-164.

Soumadi, M. M., & Hayajneh, O. S. (2015). Capital structure and corporate performance: empirical analysis on the public Jordanian shareholdings organizations listed in Amman Stock Market. *Research Journal of Finance and Accounting*, 6(4), 1-9.

Stiles, J. (2003). A philosophical justification for a realist approach to strategic alliance research. *Qualitative Market Research: An International Journal*, *6*(4), 263–271. Retrieved from https://doi.org/10.1108/13522750310495346

Taub, A. J. (1975). Determinants of the firm's capital structure. *The Review of Economics and Statistics*, *2*(1), 410-416.

Thamila, K and Arulvel, K.K. (2013), The impact of the capital structure and financial performance: An analysis of the listed companies traded in Colombo stock exchange, *Merit Research Journal of Accounting, Auditing, Economics and Finance*, *1*(5), 106-117.

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

Toraman, C., Kilic, Y., & Reis, S. G. (2013). The effects of capital structure decisions on firm performance: Evidence from Turkey. *International Conference on Economic and Social Studies, 1*(1), 10-11.

Twairesh, A. E. M. (2014). The impact of capital structure on firm's performance evidence from Saudi Arabia. *Journal of Applied Finance and Banking*, *4*(2), 183-188.

Tzelepis, D., & Skuras, D. (2004). The effects of regional capital subsidies on firm performance: An empirical study. *Journal of Small Business and Enterprise Development*.11(1), 121-129.

Umar, M., Tanveer, Z., Aslam, S., & Sajid, M. (2012). Impact of capital structure on organizations financial performance: Evidence from Pakistan. *Research Journal of Finance and Accounting*, 3(9), 1-12.

Uremadu, S. O. (2012a). Bank capital structure, liquidity and profitability: Evidence from the Nigerian banking system. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *2*(1), 98-113.

Uremadu, S. O. (2012b). The Impact of capital structure and liquidity on corporate returns in Nigeria: Evidence from manufacturing organizations. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 2*(3), 1-16.

Valentin, C. (2012). Determinants of corporate financial performance. Retrieved from http://www.dafi.asce.ro/revista/6/costea valentin.pdf

Vanderstoep, S. W., & Johnson, D. D. (2008). *Research methods for everyday life: Blending qualitative and quantitative approaches* (Vol. 32). John Wiley & Sons.

Varaiya, N., Kerin, R. A., & Weeks, D. (1987). The relationship between growth, profitability, and firm value. *Strategic Management Journal*, *8*(5), 487-497.

Vătavu, S. (2015). The impact of capital structure on financial performance in Romanian listed companies. *Procedia Economics and Finance*, *32*, 1314-1322.

Vuong, N. B., Quynh Vu, T. T., & Mitra, P. (2017). Impact of capital structure on firm's financial performance: Evidence from United Kingdom. *Journal of Finance & Economics Research*, 2(1), 16-29.

Walliman, N. (2006). *Social research methods*. London, England: SAGE.

Weill, L. (2008). Leverage and corporate performance: Does institutional environment matter? *Small Business Economics,* 30, 251–265.

Wippern, R. F. (1966). Financial structure and the value of the firm. *The Journal of Finance*, *21*(4), 615-633.

Wald, J. K. (1999). How organization characteristics affect capital structure: An international comparison, *Journal of Financial Research, 22*(2), 161–187.

Yusuf, S. I., Mwakubo, S. M., & Mwakachola, S. N. (2019). The effect of capital structure gearing levels on financial performance of public and private sector firms in Kenya's coastal counties. *International Journal of Economics and Finance*, *11*(3), 99-126.

Zaheer, Z., Saeed, A., & Mir, A. S. (2011). Determinants of capital structure: International Journal of Academic Research, 3(5), 38-43.

Zeitun, R., & Tian, G. G. (2007). Capital structure and corporate performance: Evidence from Jordan. *Australasian Accounting Business and Finance Journal,* 1, 40-53.

# Appendix

| S.No. | Name of Companies |
|---|---|
| **ENGINEERING SECTOR** | |
| 1 | Dost Steels |
| 2 | ADOS Pakistan |
| 3 | Bolan Castings Limited |
| 4 | Descon Oxychem Limited |
| 5 | Crescent Steel & Allied |
| 6 | Mughal Iron & Steel |
| 7 | Aisha Steel Mills Limited |
| **MANUFACTURING AND VEHICLES SECTOR** | |
| 1 | Atlas Honda |
| 2 | Pak Suzuki Motor |
| 3 | Millat Tractors Ltd |
| 4 | Hinopak Motors Ltd |
| 5 | Indus Motor Company Ltd |
| 6 | Atlas Battery Ltd |
| 7 | General Tyres |
| 8 | EXIDE Pakistan Ltd |
| 9 | Pakistan Cables Ltd |
| 10 | Engro Fertilizers Limited |
| 11 | Fauji Fertilizers Company Ltd |
| 12 | Sonofi Aventis |
| 13 | Packages Pakistan Limited |
| 14 | Century Paper & Board Limited |
| 15 | Bata Pakistan Limited |
| 16 | INDUS Motor Company Limited |
| 17 | Baluchistan Wheels Limited |
| 18 | Ghandhara industries limited |
| 19 | Data Agro |
| 20 | Cresent Jute Mills Limited |
| 21 | Sohail Jute |
| 22 | Shabbir Tiles and Ceramics Limited |
| 23 | Tariq Glass Industries Limited |
| 24 | Balochistan Glass |
| 25 | Ferozsons Laboratories Limited |
| 26 | Highnoon Laboratories Limited |
| 27 | Wyeth Pakistan Limited |
| 28 | GlaxoSmithKline Pakistan Ltd |
| 29 | Searle Pakistan Ltd |
| 30 | About pharmacy |
| **FOOD AND COMMUNICATION SECTOR** | |
| 1 | NESTLE Pakistan |
| 2 | Rafhan Maiz Products |
| 3 | Quice Foods |
| 4 | Unilever |
| 5 | Mitchels Pakistan |
| 6 | Clover |
| 7 | Engro Foods |
| 8 | Goodluck |
| 9 | Tri Pack |
| 10 | Eco Pak |
| 11 | Siemens |
| 12 | Emco industries |
| 13 | PIA |
| 14 | PTCL |
| 15 | World Call |
| 16 | Arif Habib Corp. |
| 17 | System Limited |
| **PETROLEUM AND CHEMICALS SECTOR** | |
| 1 | National Refinery Limited |
| 2 | Attock Refinery Limited |
| 3 | Pakistan Refinery |
| 4 | Pakistan Tobacco |
| 5 | Pakistan State Oil |
| 6 | Shell Pakistan |
| 7 | OGDC |
| 8 | PPL |
| 9 | Pakistan pvc Limited |
| 10 | Ittehad Chemicals Limited |
| 11 | Sardar Chemical |
| 12 | Sitar Chemical Industries |
| 13 | Wahnobel Chemical Limited |
| 14 | Biafo Chemicals |
| 15 | ICI Chemicals |
| 16 | Punjab Oil Mills |
| 17 | Bergers Paints |
| 18 | Buxley Paints |
| 19 | Huffaz Chemicals |
| 20 | Attock Petroleum |
| 21 | Lotte Oil |
| 22 | Pakistan Oil Fields |

**SUGAR SECTOR**

1 Mehran Sugar Mills Limited
2 JDW Sugar Mills Limited
3 Shahmurad Sugar Mills
4 Shakarganj Mills Limited
5 Baba Farid (Sugar)
6 Faran (Sugar)
7 Sakrand Sugar Mills Limited
8 Adam Sugar Mills
9 Haseeb Waqas Sugar Mill
10 Al Habib Sugar
11 Noon Sugar Mills

**TEXTILE SECTOR**

1 Din Textile
2 Shehzad Textile Ltd
3 Rubi Textile
4 Samin Textile Ltd
5 Faisal Spinning
6 Crescent Textile
7 Jubilee Spinning & Weaving
8 Kohinoor Mills Limited
9 Paramount Spinning
10 Suraj Cotton Mills Limited
11 Ibrahim Fibres Limited
12 Bannu Woollen Mills Limited
13 Zahid Jee Textile
14 Al-Abid Silk Mills Limited
15 Rupali Polyester Limited
16 N.P.Spinning
17 Indus Dyeing
18 Salley Textile
19 Salfi Textile
20 Gull Ahmad Textile
21 Sunrays Textile
22 Dewan Farooque Spinning
23 Mukhtar Textile
24 J.K. Spinning Mills
25 Island Textile
26 Zephyr Textile
27 Ali Asghar
28 Ellahi Cotton
29 Allah Wasaya
30 Sapphire Textile
31 Yousaf Weaving Mills
32 Tata Textile Mills
33 Shadab Textile
34 Maqbool Textile
35 Idrees Textile
36 Hira Textile
37 Sana Industries Ltd
38 Gadoon Textile
39 Kohinoor Textile Mills
40 Khyber Textile Mills
41 Reliance Weaving Mills
42 Mohammad Farooq Textile Mills
43 ICC Textiles Limited
44 Shahtaj Textile Limited
45 Prosperity Weaving Mills LTD
46 Nagina Cotton Mills Limited
47 Nazir Cotton Mills Limited
48 Asim Textile Limited
49 Cresent Fibre Limited Company
50 Ahmed Hassan Textile Mills Limited
51 Nishat Mills Limited
52 Amtex Limited
53 Fazal Cloth Mill Ltd.
54 Sargodha Spinning Mills
55 Kohinor Spinning Mills Limited
56 Pak Synthetic
57 Dewan Salman
58 Kohat Textile
59 Taha Spinning Mills Ltd.
60 Husein Industries Limited
61 Azgard Nine Limited
62 Resham Textile
63 Mohammad Ismail Mills
64 Olympia
65 Ghazi Fabrics