Peer and Focal Firms' Effect on Capital Structure: Empirical Study of Non-Financial Sector of Pakistan

MS Thesis

Submitted by

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Registration No.

PIDE2017FMSMS05

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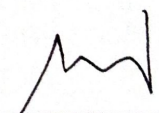## Department of Business Studies

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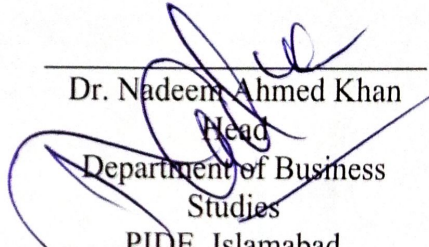
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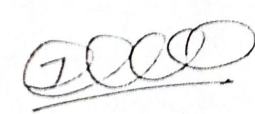
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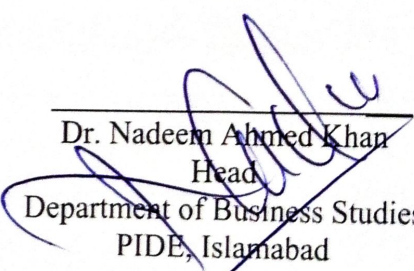
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Dedication

Dedicated from core of my heart to my beloved parents Mr. & Mrs. Muhammad Iqbal for financial

and ethical support and my respected teacher Dr. Jaleel Ahmed for technical and ethical support.

Acknowledgement

All the praises are for the Allah Almighty; the most beneficent and the most merciful; who granted

man with knowledge. All salutations are upon the Prophet (P.B.U.H.) whose teachings enlighten my

thought and thrives my ambitions.

List of abbreviation

1	Pecking order theory	POT
2	Trade-off theory	TOT
3	Capital structure	CS
4	Static Trade Off Theory	SST
5	Modigliani and Miller	MM
6	Generalized Method of Moments	GMM

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Abstract

The purpose of this study is to find the impact of peer effect and focal effect on capital structure in Pakistan. For this study, data is taken of non-financial sector of Pakistani firm. There are 313 firms are taken which comprises of 28 sectors of Pakistani firm. The sample of the study is winsorized at 5 percent. This study carries the analysis on non-financial sector of Pakistan. Relevant data for corporate capital structure extracted from published annual audited reports of the firms for the period of 2005-2015. For macro-economic variables, data were obtained from Karachi Stock Exchange (KSE). In order to achieve the purpose of this study we used Generalized Method of Moments for regression as well as to capture the endogeneity we used GMM. The results of GMM shows that there is significant and positive effect of peer firms on firm's corporate capital structure. Also, there is positive relationship between focal effect and corporate capital structure. The findings of our study show that firms mimic while taking financial decision. Focal firms also mimic while taking decision about capital structure. In the field of finance, combination of debt and equity or combination of both is referred as capital structure. Peer and focal firms play very important role in shaping corporate financial decision. The widespread corporate finance literature endorses the impact of peer firms in making firms' financial decision. Seeing its importance in the corporate world, the current study intends to comprehensively analyze the impact of peer firms as well as focal firms on corporate leverage in the contexts of Pakistan. The results of current study confirm the impact of focal and peer firm on capital structure decision in the corporate world. The findings of this study would help many stakeholders in the context of Pakistan.

Keywords: Capital structure, Peer effect, Focal effect

Chapter 1

Introduction

Firms in this era, where technology has major factor in external environment, cannot make decisions in isolation (Mark T Leary & Michael R Roberts, 2014). On the other hand, they focus on peers' action, what they are doing matters because in this way firms are better able to tackle failure risk and get a hold on superior information. Firms are eyeing on their peers through observations, surveys, social network, financial reports etc. (Zhong & Zhang, 2018).

First, the question is who are your peers? When you were small child, your teachers, your parents, usually decide who are your friends? They positioned you with those kids they met and loved. You are young now, and you are old enough to decide who your friends are and with which groups you need to spend your time. Now your mates are certain individuals of your age or around your age who have common preferences, tastes and perspectives to yours. You and your colleagues make multiple decisions throughout their everyday life and affect the actions and preferences of each other. Its human nature to follow the path of others, listen and learn from other people who are in your age group. Peers play an important role in your life, from school as well as other activities which take you away from home, you are then able to spend most of the time with your peers than your parents and siblings. You may bond close relationship with some of your peers and feel so connected to them like they are part of family. Instead your friends, other children whom you know are of your age also comes under your peers. For example, people in your town, in your grade, in your cricket or football team or in your community. They

also influence you the way they dress, behave and things they do and the attitudes they show. It is natural for people to compare themselves to their peers[1].

In this study, we choose firms (non-financial) as carrier for this study. The focus unit is called focal firms while the rest is peer firms. Moreover, peer effects prevail when firms make changes to its capital structure following industry peers adjust in their capital structure policies accordingly in the context of capital structure. Subsequently, the firm mimics the changes which are done by peer firms accordingly. (Mark T Leary & Michael R Roberts, 2014) in their study define peer effect as "Peer impact in Capital Structure arises when peer firms' securities or characteristics directly join the objective role of funding a business".

While (Myers, 1984); Patnam and Sarkar (2011) define peer effects as "Peer effects refer to the broad class of externalities that arise when a firm's own behavior is responsive to the behavior as well as the characteristics of other firms in its chosen reference group". This study aims to investigate the effect of focal and peer firms on firms CS. Leary and Roberts (2014) Pioneer the peer-effect debate on capital structure using evidence from American public companies and explain peer-effects related to learning incentive. Because managers are not sure to set an optimal capital structure for their own firms. Manski (1993) theoretically states that it is very difficult to find peer effect due to reflection problem. He stress on three effects that need to be addressed while defining peer effect. Next, the endogenous results under which the tendency of a person to behave in a way shows a difference with the actions of the community. Furthermore, social or exogenous consequences, in which the tendency of a person to behave in a manner indicates a difference with exogenous community characteristics. Secondly, contextual or

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[1]https://kidshealth.org/en/teens/peer-pressure.html

exogenous effects, in which an individual's propensity to behave in a way show a discrepancy with exogenous characteristics of the group. Thirdly, in correlated effects, an individual behave similarly in the same group because they carry same institutional characteristics or face similar individual characteristics. For example, a business that has a propensity to invest more because it sees its peers spending heavily is an endogenous impact and a business would spend more on investment irrespective of its own income because it derives any favorable externalities from the earnings of its peers is contextual influence. Because of normal, industry-specific shocks, companies within the same sector act similarly is an example of clustered impact.

In the field of finance, combination of debt and equity or combination of both is referred as capital structure (Saad, 2010). It is very important issue when we talk about corporate finance theoretically as well as empirically. In addition, past research on the capital structure stress period, country level and company-specific characteristics (Hovakimian, Hovakimian, & Tehranian, 2004; Titman & Wessels, 1988). Other studies address dummy variables, such as the De Jong, Kabir, and Nguyen (2008) report, using dummy based financial system to monitor the country's impact on capital structure and investment decision. Although conventional capital structure (CS) determinants justify the degree of up to two-thirds and the increase in company leverage Kayo and Kimura (2011), remaining determinants are examined by analyzing the effect of peer firms and climate (Mark T Leary & Michael R Roberts, 2014; Park, Yang & Yang, 2017; Rauh & Sufi, 2012). Throughout this report, we analyze the peer-firm impact on CS as well as the focal-firm impact on CS and explore how and why peer-firm effect and focal-firm effect are affected by characteristics of industry level. This is directly linked to the research by Leary and Roberts (2014) and Zhong and Zhang (2018) expanding it by the application of various strategic market considerations (Boyd, 1995). Leary and Roberts (2014) use lower-form measures of regressions

and lower-square two-stage (2SLS) regressions and suggest that individual tiny, inefficient company responses to funding policies as well as the characteristics of big, productive peer firms. In other terms, the Peer-firm impact mechanism opposes and mimics leaders' behavior. Many peer-firm impact analyses focus on actions in imitating investments and reveals related economic consequences (Bustamante & Fresard, 2017; Park et al.,2017). Those experiments, though, are restricted to examining how different firms mimic peer firms without asking why they do so. Potential theories include the Bolton and Scharfstein predation hypothesis (1990), Park et al. investment replication (2017), Devenow and Welch logical herding (1996), etc. This research shows thus the most important interpretation.

Kayo and Kimura (2011) research using three creative characteristics at the market level (munificence, complexity, and competition) and check multiple organizational determinants of the financial system. And the findings indicate that both determinants demonstrate good explanatory capacity at business level, throwing more insight on what is impossible to understand through conventional influences at the firm stage. Studying external variables like the market features in this sense will help to expose the peer-firm impact motivation. And to my best knowledge, there are no studies explore the peer-firm effect on CS, given the moderating influence of three characteristics of industry. This analysis thus distinguishes itself from other work investigating peer impact by integrating the current company-specific determinants of CS (such as company scale and M / B ratio) with other possible variables at the market level (munificence, complexity, and competition). Such creative variables exhibit different moderating effects and have significant economic and scientific repercussions.

1.1 Research Gap

There are two theoretical gaps which are addressed in this study. Next, this thesis explores the connection between peer impact and structure of resources. Second, this study also focuses on focal effect and capital structure in the context of Pakistan which previously has not done.

1.2 Research Questions

This study will deal with the following research questions

Question 1

Is there any impact of peer effect on capital structure?

Question 2

What is the effect of focal firm on the capital structure decision of the firm?

1.3 Research objective

This study comprises following research objectives

Objective 1

To analyze the impact of peers when making decisions regarding capital structure.

Objective 2

To investigate focal effect while making decision about capital structure.

No firm can live in isolation. They keep eyeing on peers while making financial decision i.e. Capital structure.

1.4 Problem statement

Peer effect firstly proposed in sociological fields, management studies and economics as well. Peer effect widely tested in adolescence, education etc. This is newly developed topic and attracted researchers in the field of finance. As peer effect is examined in developed countries like USA, China but in Pakistan there is much needed work required in this topic. There are several significant relationships which are explored already but lot of work needed to be explored. A little bit of literature in the context of Pakistan currently exists. Hence this analysis would analyze the focal and peer firm impact relationship on the CS of businesses in a detailed way. So, this research would analyze how the effect of focal and peer companies on CS in developing nations in the field of corporate finance is the same as in emerging nations like Pakistan or not.

1.5 Significance of the study

Peer effects in decision-making in developing nations have been studied over the last decade (Park et al., 2017) by taking data over American firms to analyze the peer impact relationship and the investment decision of firms. A lot of literature shows the importance of mimicking behavior while eyeing on peers to make ones' own financial decisions. Most of the literature is from developed nations but in emerging nations the literature is silent. These nations have different economic situation as well as different culture hence it's important to investigate it in emerging nations like Pakistan. Zhong and Zhang (2018) Examine peer impact in Chinese culture's capital system, also illustrated how focal companies affect Chinese firms' capital system decisions. In the background of Pakistan, however, this research would examine the focal and peer firm impact in capital structure decisions.

Moreover, this study helps:

Managers: Managers can get useful insights on the information which are beneficial for their own organization to reduce the failure risk. For example, if other firms are going to launch new product in the market, they must consider this information while launching their own product by seeing their rival because this can impact their sales level. Due to their rival's decision, their own decision molded.

Investors: Investor have keen interests in the firms' financial health. In order to mitigate risk, they seek useful information of market risk related to the industry as well as firms own risk in securities. Then they decide either to invest in this specific industry or not? Either to invest in this specific security or not?

Individual: Individual can advance by mimicking their peers and get benefits such as experiences, learning from others mischievous behavior and avoid harmful activities or events in which their peers are indulged into.

1.6 Plan of document

The first chapter discusses the description, the analysis issues, the list of challenges, the thesis purpose and the importance of the report. The comprehensive literature review, ideas, interpretation of variables and formulation of hypotheses are defined in Chapter 2. Chapter three addresses evidence and methods. The study comprises of five chapters. The third chapter of study discusses the data and methodology which further divided into sub section with the headings of data, sample size, discussion of methodology, and discussion of variables. Moreover, Chapter 4 is about results and discussion which further explored the descriptive stats, correlation and regression among the variables of study. This chapter discusses the overall results of study. In the fifth chapter, the

conclusion and future directions and limitations of study have been narrated. The references which were used in study have been placed on conclusion of analysis.

Chapter 2

Literature Review

2.1 Peer Effect

Modigliani and Miller, (1958) Explain why the company chooses optimal financial flexibility, taking ideal business conditions into consideration, by harmonizing the risks of defaults and the tax gains of debt. There is more about corporate capital structure we don't know (Myers, 1984). Key theories regarding power were discussed from the STT. Modigliani and Miller (1958) suggest that the businesses chose the best financial business capital structure and the key costs of failure in ideal industry expectations by matching debt tax dollars. Anyhow, this hypothesis shows tremendously restrictive descriptive power in the real field of corporate finance decisions. The experimental study is so limited to testing the ideal corporate capital structure in intention of the firms to have. Throughout the 1980s, few studies show that the financial decisions of the company's declarations can cause negative reactions on stock markets. Besides the negative impacts are stronger as the businesses question equity in their leverage position. Myers and Majluf (1984) change the M-M supposition of balanced knowledge and say that companies pick internal funds or slacks and then leverage, and eventually collect equity when funding is needed. Baker and Wurgler (2002) note that the company's existing debt and strategic choices are directly linked to historical capital market prices. Accordingly, they conclude that corporate capital markets reveal concerted attempts by executives to time the price by the issuing of overvalued shares, so that this impact becomes permanent. "Market Timing" reveals a miracle that companies often issue equity when it is overvalued in contrast with critical assets and prevents the issuing of equity or even repurchase stocks where it has been overlooked.

Moreover, that appears to be a major determinant of the amount of short-term corporate capital management in the acquisition costs compared to other charges and advantages relevant to the capital structure. Such theories are built on many theoretical assumptions. They ignore the environment of interaction.

Peer effect has been investigated in numerous studies and literature provides different definitions for it "Peer effect can be referred to as a certain change in an individuals' behavior that is mainly because of its peers". Economists indulged to study how peers affect financial decision making, in the past few years. Due to competitive pressures and need of information induces corporate managers to imitate their peers as these are the most compelling reasons which are highlighted by researchers (Lieberman & Asaba, 2006). Zhong and Zhang (2018) speak in the sense of Chinese firms regarding peer influence and focal company effects on capital structure decision. They states that due to information asymetry focal firm also influences capital structure decision of chinise firms. A certain change in an individuals' behavior because of its peers' can be referred to as peer effect. Peer influence is attractive because individuals' behavior is directly influenced by the actions of each other. It is human nature to follow the paths of others instead of being followed they choose to be follower through imitation. Empirical evidence also proved that peer influences individual' behavior (Clark & Lohéac, 2007). According to Patnam (2011) "Peer influences apply to the broad variety of externalities that occur when the behavior of a business is sensitive to the actions as well as the characteristics of other businesses within its chosen comparison community." Following Mark T. Leary and Michael R. Roberts (2014) and Albuquerque (2009) which define peer firms as "those in the same industry and in upper and lower size quartiles (0.75 times to 1.25 times a firm's total assets) in relation to the firm". The literature addresses crucial issues in the business environment about peer firms.

However due to the mirror image (reflection problem) it is very difficult to define peer influence technically (Manski, 1993). This question occurs either when someones's acts are the product of behavior or because of his peers' characteristics. Three effects regarding peer effect are analyzed by Manski (1993) required to be explored. These are endogenous effect, exogenous (or contextual) effect, and correlated effect. Manski (1993) stated that in the context of linear-in-mean model two problems concerning identification occurs. First is the difficulty regarding distinguishing correlated effects from real social effect (endogenous plus exogenous effects)? Secondly, even if the correlated effect does not exist the main outcome of the group and its characteristics exist in perfect collinearity because of interacting peers' synchronized behavior. Thus because of the reflection problem, the identification of exogenous effects from the endogenous effect hindered. When two individuals influence each other at the same time it much more difficult to segregate the causal effect that they have on each other (Sacerdote, 2001).

2.2 Theories of Peer Effect

According to evidence-based philosophy, businesses reveal vast volumes of details, such as their corporate plan, financial reports, projected future prospects, existing and potential spending outlays, resource contrasts and market risks, and this knowledge has a significant spillover impact on others' decision taking (Gigler, 1994; Kumar & Langberg, 2010).

Typically, information-based and rival-based theories are used to explain peer-based learning behavior (Benoit, 1984; Lieberman & Asaba, 2006), Information based theories, information imperfection is seen as the main cause of learning behavior. Managers are likely to gain fresh insights about the markets of peer firms, which will then direct their actual decisions. Managers don't have accurate knowledge on any possible decision element, and peer coaching will help them gather more valuable details and rising investment volatility.

Conlisk (1980) finds that experience or experiment is more expensive and time consuming than imitation, so firms whose information is imperfect imitate others' strategies of failure rationally. Learning activity generally serves to defuse competitors and secure competitive market positions according to the rival-based hypothesis.

Companies mimic each other in implementing new goods and systems, embracing administrative strategies and hierarchical structure, and scheduling and styles of acquisitions, while understanding behavior allows Klemperer (1992) to achieve comparative edge and to minimize investment volatility Knickerbocker (1973) Companies mimic some in an attempt to preserve their competitive roles or to neutralize rival's hostile behavior. Y. W. Chen and Chang (2012) Note that while their competitors have large capital balances, companies still appear to have substantial cash reserves. From a business competitiveness viewpoint, emulation in critical strategic actions to minimize conflict is more appropriate as companies with similar capital endowments and market positions face each other.

2.3 Peer Effect and CS

In corporate finance, Graham and Harvey (2001), 392 CFOs refer to other similar firms, when making financial decisions. It has been examined by Banerjee (1992) and others that acquisition of information is time-consuming Conlisk (1980) as well as costly too that's why managers look for the decisions of others while making their own decisions. Throughout economic philosophy, peer companies are claimed to play a significant role in influencing business choices, such as by Bertrand (1983) commodity prices, and company ads (Stigler 1968).

An increasing number of empirical studies examine the characteristics or behavior of peer firms and whether they affect a firm's behavior. Using a sample of U.S. listed firms, John and Kadyrzhanova (2010) investigate the peer effect in corporate governance. Lieberman and Asaba

(2006b) Argue that information needs, and competition pressure are two channels through which peers influence the behavior of the firm. Peer influences observed in financial judgements such as Popadak (2012), investment Patnam (2011) and Capital structure, Leary and Roberts (2014) equity dividend and seen by observational research, and results are mainly from American public corporations. For eg, Leary and Roberts (2014) offer proof that a one-standard deviation improvement in the leverage ratios of peer firms is correlated with a 10 percent increase in the leverage ratio of the company and impact greater than any other determinant. MacKay and Phillips (2005) Show that instead of industry fixed effects, industry-related factors are more relevant. The financial arrangement of the company is highly based upon its business rivals particularly in dynamic market environments. In intra-industry interdependence, the facts can also be seen in repurchase decisions Massa, Rehman and Vermaelen (2007), dividend policies Popadak (2012), and leverage options (Leary & Roberts, 2014; Kim, kang and Park, 2018).

Badoer & James, 2016; Greenwood, Hanson & Stein, 2010) Explores aspects of the debt maturity system and investigates the prefernce of peer firms to use short-term as opposed to long-term debt. We have questioned if peer influence prevails in assessing debt maturity, or herding habits clarify variability in debt maturity to some degree. There are a variety of channels through which peer effect occurred. According to the information asymmetry paradigm, short debt maturity serves as a useful tool for sending signals on the future of a business and low-quality companies prefer to mimic high-quality businesses to offer short-term debts so as not give negative signals to the sector. Quite advanced businesses take advantage of advantageous periods to file large term debts.

2.4 Hypothesis

H1: There is positive relationship between peer effect and capital structure.

H2: There is positive relationship between focal effect and capital structure.

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2.5 Capital Structure Theories

Several theories in finance describe the activities of companies regarding capital structure choices and all theories highlight the different features of the financial decisions of companies.

2.5.1 MM Theorem

Modigliani and Miller (1958) Stressed that equity itself is the self-determining for the company of its leverage. Moreover, it helps us to discover and recognize the main key points of capital structure and its associated factors. Modigliani-Miller's (MM) statement is generally the accepted capital structure theory because it offers the source concept of capital structure theory which had been used by many detectives. Agreeing to MM's report, the notions of leverage operate under the model industry conditions. Much assumptions of ideal industry such as lack of bankruptcy costs, no taxation, ideal competition, logical traders and effectiveness of the industry. Modigliani and Miller proposition states that leverage or the finances of the businesses are not relevant to its equity in perfect industries. Rendering to the TOT, leverage contains economic debt and equity by controlling the expenditures of the bankruptcy and the benefits of saving taxes.

STT enlightens that a company absorbed on Debt and Equity rate and consequently acts. The benefits and expenditures related to the financial debt assortment set the target ratio. These encompassed of financial problem costs, taxation, and expenditures of businesses. The TOT piercing out the distinction of the company to insolvency and companies' cost against tax profits related to the financial debt used. Bankruptcy cost is a cost acquired

Bankruptcy cost is a price acquired unswervingly when the likelihood of avoidance on the money of a firm is better than zero. Insolvency price is one of the bankruptcy expenditures, which implies the loss of equity when the total possessions of the company are settled.

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2.5.2 Pecking-Order Theory (POT)

POT proposed by Myers and Majluf (1984) which undertakes that the companies follow economic decision pyramid when evolving its leverage decision. Rendering to which companies must prefer to devour their resources of economic finance for equity funding. If the companies do not meet the requirement of funding, then they must go for exterior financial resources. Rendering of growing businesses would choose to use their economic capital tools for equity funding. If their funding fails to fulfill the company's criteria, they would utilize their foreign capital leverage by filing for bank loans, public financial obligations, and only using their equity funds at the last opportunity. Therefore, productive companies are less likely to go through financial leverage for new projects, because they still have the current capital in the form of allocated profits. The explanation corporations are hesitant to offer shares is because of asymmetric information between existing stockholders and management. Myers and Majluf (1984) explained that underpricing would trigger by the fewer knowledge kept by management, as well as by prospective traders focused on the expected flows of money from both current and future business capital. As these specifics of asymmetries are held in view, stockholders would find that only when it is costly would the management offer stock. Therefore, the newly paid stock may be exchanged at a discount. It would be called a treasure that is traded by currency merchants and new ones. Unless the organizations utilize their own generated services that are their allocated revenue, this issue would be avoided.

2.6 Capital Structures' Determinants

There are following directions to scrutinize the determinants of capital structure via this analysis.

2.6.1 Size

(Aryeetey, Baah-Nuakoh, Duggleby, Hettige, & Steel, 1994) stated that firms which are small in size façade huge problems when they deal with credit paralleled to firms larger in size. The correlation of company size and CS is favorable since bigger companies have greater chances of comfortably receiving bank loans relative to smaller businesses. This is a detrimental association between capital structure and company scale, according to pecking order theory, since bigger companies would quickly issue equity due to business credibility and encounter little challenge. In comparison, less productive companies that are smaller in scale using equity finance when effective bigger businesses move to bond funding. In the other side, there is a favorable connection between company size and capital structure according to trade off theory and the theory of agencies. There is a huge borrowing capacity for firms huge in size than firms small in size (Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001; Pandey, 2001; Prasad, Green, & Murinde,2007; Wiwattanakantang, 1999).

2.6.2 Tangibility

According to agency theory postulated that larger capital structure leads to underinvest or invest sub optimally. In this way, wealth thus transferred to equity holders from debt holders. This creates collateral requirement because the most secured debts can help get rid of this problem. Furthermore, tangibility of assets increases with the liquidation of the value and in time of bankruptcy decreases the probability of mispricing. Companies need to pay higher interest if they can not pay collateral, or if there is a move to issue equity rather than debt (Scott Jr, 1977; Shah, Hijazi, & Javed, 2004). And there is a positive relation between the arrangement of capital and tangibility.

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2.6.3 Profitability

Various hypotheses indicate various associations between the financial structure and productivity. For example, Trade-off theory (TOT), pecking order theory (POT) etc.

According to pecking order theory, perspective as theoretically supported by Shah et al. (2004) states that firms firstly go for internal source (equity) of financing instead of external source (debt) to fulfill the financial needs. Higher profitability means high level of retained earnings to use equity. There is a detrimental association between capital structure and profitability as higher income contributes to a higher amount of retained earnings that restricts companies to use external finance resource (debt). Giving identical findings (Hijazi & Bin Tariq, 2006). While in TOT the relationship between capital structure and profitability is favorable. During higher level of profits firms can get high levels of debt because debt tax shields helps them to save their profits.

2.6.4 Market to book ratio

Market to book ratio is a proxy for companies' growth prospects, as reported (L. Chen & Zhao 2006). POT suggested by Myers & Majluf (1984) notes that there is a strong correlation between capital structure and development. As growing firms needed larger capital to expand. This is far from internal financing to meet both hands for their investment. Hence in these situations instead count on equity they most likely to obtain debt proposed by pecking order theory. Although according to TOT proposed by Titman and Wessels (1988), there is a positive connection between opportunities for growth and debt.

2.7 Macro-economic variables

Latest past researchers have eplored the effect of such external influences on orgnaizational-decision-making (corporate capital strucutre). These scholars have formed a general consensus that the funding decisions of companies are influenced not only by internal but also by external influences. There are some macro-economic considerations that have an effect on corporate financial decision-making. Numerous previous reports have verified the crucial role of macro-economic influences in deciding corporate capital structure. (Bas, Muradoglu & Phylaktis, 2009; Eldomiaty & Tarek, 2007; Giannetti, 2003). Among several macro-economic factors, two key indicators were chosen: the interest rate and the performance of the stock market. The results of the above studies have shown that there is a significant relationship between the macro-economic factors mentioned above and the financial decision of firms. These macro-economic factors have therefore been considered. Empirical evidence provided by the investigators confirms the impact of the interest rate on the financial decisions of firms (Bokpin, 2009; Drobetz, Pensa & Wanzenried, 2007; Henderson, Jegadeesh &Weisbach, 2006; Tokuoka, 2012; Henderson, Jegadeesh & Weisbach, 2006; Tokuoka, 2012; Wang & Yu, 2007). It is therefore confirmed that rising or falling interest rates can change the financial decisions relating to corporate leverage. As regards the stock market, the market timing theory provides theoretical justification as to when and why firms adjust/change their financial decisions as per market situation. Past literature on stock market revealed significant consequences for company managers to adjust their financial management decisions. (Akerlof & Shiller, 2009; Kim, Morley & Nelson, 2004; Stock & Watson, 2003; Zhang, 2006). Their underlying strategic justification confirms that business managers have optimised the strategy of leverage with respect to success of the stock market.

2.7.1 Interest Rate

In recent years, scholars have also attempted to examine the interaction between external influences and their effect on corporate financial decisions. A general opinion formed by scholars in this regard emphasized that both internal and external considerations have an impact on decision-making on corporate finance. Researchers have recently empirically established that interest rates influence the financial decisions of companies (Bas, Muradoglu & phylaktis, 2009; Eldomiaty & Tarek, 2007). The sudden rise or fall in interest rate has an impact on the financial decision of firms on the capital structure. More specifically, empiric studies have confirmed the significant link between the macro-economic factors and the corporate capital structure (Bokpin, 2009; Dincergok & Yalciner, 2011; Mokhovia & Zinecker, 2014). In particular, interest rate fluctuations have an impact on corporate leverage decisions. Many researchers identify negative association between capital structure and interest rate (Drobetz, Pensa & Wanzenried, 2007; Graham & Harvey, 2001; Henderson, Jegadesh & Weisbach, 2006). On the other hand, Bokpin (2009) found a positive connection between them. These studies have confirmed a significant positive as well as negative relationship between corporate leverage decision and interest rates. On the one hand, it argues that even in periods of high interest rates, firms rely on debt financing, and on the other hand, it has also been confirmed that when interest rates become high, firms may not like to rely on long-term debt. In addition, companies may raise their financial leverage to benefit from the security of the tax shield or, at the same time, may opt to reduce the amount of financial leverage at high interest rates to reduce the cost of bankruptcy (Brealy & Myers, 2002; Myers, 1984). Thus, mixed data compels them to believe that interest rate patterns decide the borrowing decisions of companies. Normally companies tend to borrow funds during times of reduced interest rates. However, in Pakistan, commercial banks are the key source of debt finance, so companies will be able to borrow at higher interest rates depending on the need and

urgency criteria. Similarly, business capital structure has demonstrated that macro-economic conditions have a significant impact on corporate dividend strategy (Gertler & Hubbard, 1993; Hackbart, Miao & Morellec, 2006).

2.7.2 Stock Market Return
The stock market return is another macro-economic aspect that influences the company's financial policies. Market timing theory has been fully discussed as to when and why the pattern of financial policies is adapted to the market situation. The stock market boom or recession has an impact on the capital structure. Numerous past empirical studies have shown that changes in financial policies are mainly due to stock market volatility (Akerlof & Shiller, 2009; Ang et al., 2006; Bekaert & Wu, 2000; Kim, Morley & Nelson, 2004; Stock & Watson, 2003; Wu, 2001; Zhang, 2006). The theoretical rationale is that in the context of market timing theory, companies have an ideal capital structure. The role of the stock market in meeting corporate finance requirements is important. In countries where capital markets are developed, they may serve two functions, not only minimize the cost of funding, but also allow companies access to borrowing funds. In addition, it increases the consistency of the information available, improves the management and regulation of companies, while at the same time helping to minimize risk, making it possible for them to collect funds (Rehman, 2016). In a related way, Demirguc-Kunt and Maksimovic (1996) found a favorable association between the growth of the stock market and the corporate leverage that represents the development of the stock market, contributing to a rise in firm leverage. On the other, Sett and Sarkhel (2010) talked about negative connection between them. Baker and Wurgler (2002) have highlighted the relevance of market timing in relation to corporate leverage decisions. According to them, companies think it better to issue shares at the prime time of the market, as the capital cost at that time is minimal. In addition companies think it best to issue shares when buyers' appetite for buying equity is strong and,

lastly, when the stock value of the company's equity is high. In their almost 69-year (1928-1997) investigation, they found that the share of new equity is higher while the total valuation of the capital market is high (Baker & Wurgler, 2000). Market return is more result oriented and required rate of return is mathematical or subjective way of calculation. Hence, we rely on market return majorly as it has more significance than required rate of return.

Figure 1: Peer Firm Model for Capital Structure

Independent Variables

Peer firm characteristics

| Capital Structure |

| Size |

| Tangibility |

| Profitability |

| Market to Book Ratio |

Dependent variable

| Capital Structure |

Macro-economic variable

| Stock market return |

| Interest Rate |
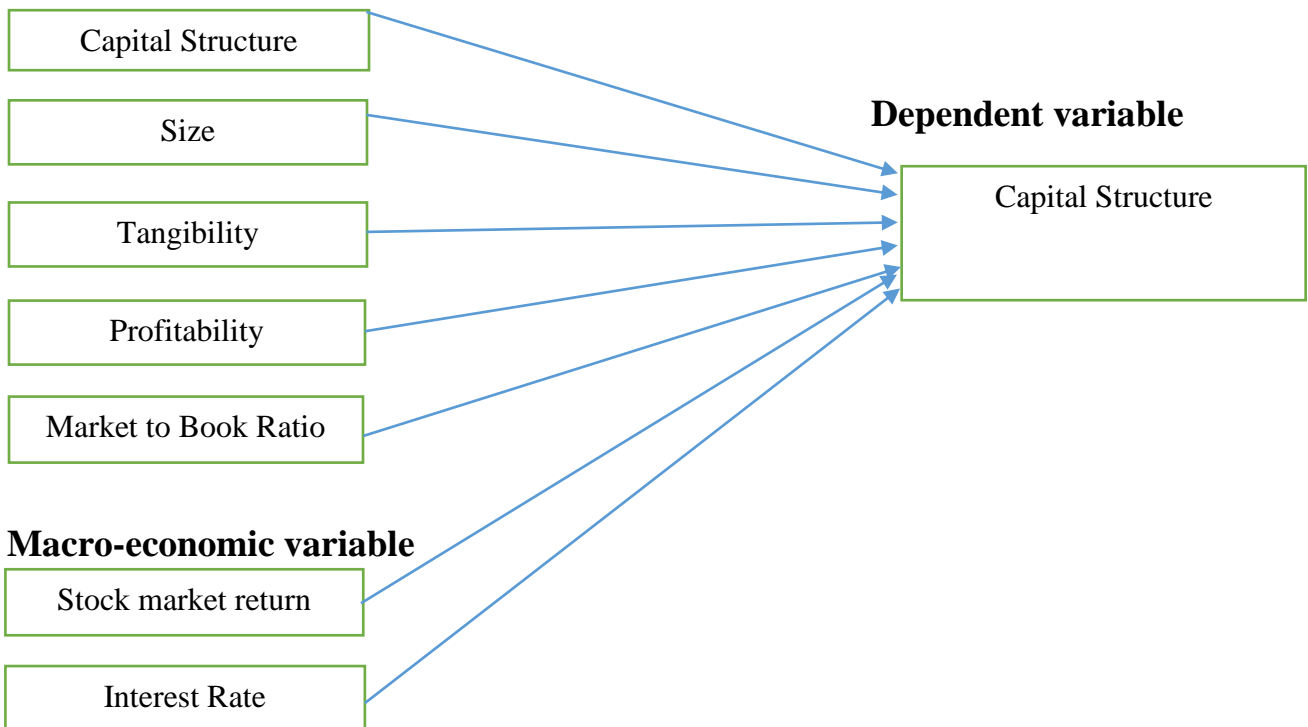
Figure 2: Focal Firm Model for Capital Structure

Independent Variable

Focal firm characteristics

| Capital Structure |

| Size |

| Tangibility |

| Profitability |

| Market to Book Ratio |

Dependent Variable

| Capital Structure |

Macro-economic variable

| Stock market return |

| Interest Rate |
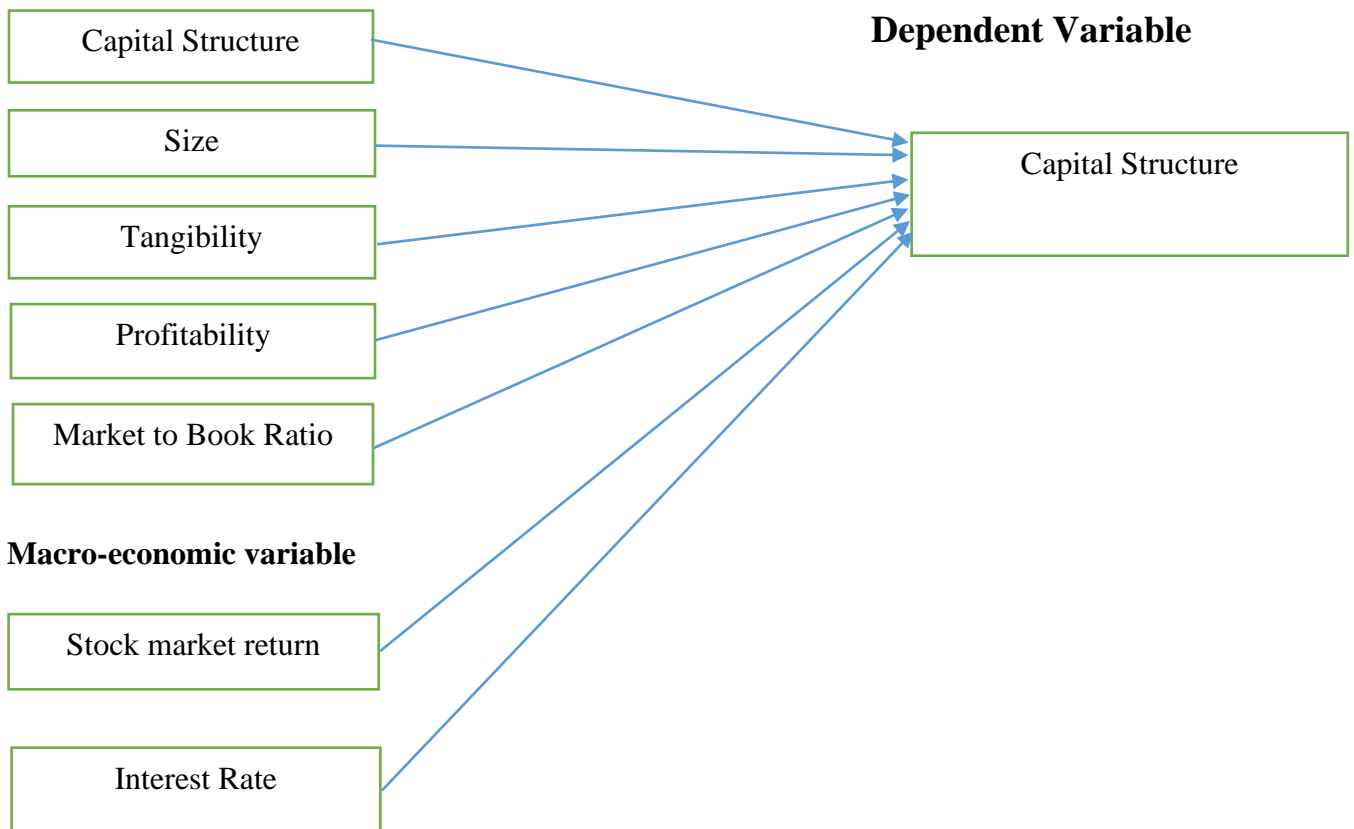
Chapter 3

Methodology

3.1 Data Description

This study carries the analysis on non-financial sector of Pakistan. Relevant statistics for the organizational capital framework for the 2005-2015 period derived from valid internal audited accounts of the firms. For macro-economic variables, data were obtained from Karachi Stock Exchange (KSE). The current study excluded public entities due to government restrictions as well as due to data privacy issues guidelines related to financial sector. The same studies which were conducted in developed countries also used non-financial sector as a sample for investigation. Hence maintaining the stream, we also used non-financial sector for our study. Because of the separate existence and legislative structure, we cannot use the financial and non-financial industries together. If we use only financial sector, we may require different treatment thus we exclude it from our study. However, the study required non-missing data during analysis of each firm annually for uniformity. We choose sectors which are defined by Pakistan Standard Industrial Classification (PSIC) Revised 4, 2010 code, depicted in our sample containing financial sector.

Our sample consists of 28 sectors (excluding the financial sector) listed on KSE from the 2005-2015 period. Out of 28, six sectors excluded. Moreover, some sectors were also excluded from sample due to fewer number of firms. For example, tobacco sector consists of just three firms. Remaining 22 sector were the part of our study. Total 313 firms were considered whose data were available for analysis.

3.2 Econometric Models

Equation for Peer Firm Model for Capital Structure

$$CS_{j,i,t} = \beta_0 + J PeerCS_{-j,i,t} + \beta_1 PeerTang_{-j,i,t} + \beta_2 PeerMBR_{-j,i,t} + \beta_3 PeerProf_{-j,i,t}$$
$$+ \beta_4 Peersize_{-j,i,t} + Year\ Fixed\ Effect_t + Industry\ Fixed\ Effect_j$$
$$+ \varepsilon_{it} \qquad\qquad eq.1$$

Equation for Focal Firm Model for Capital Structure

$$CS_{j,i,t} = \beta_0 + \beta_1 CS_{t-1} + \beta_2 Tang_{t-1} + \beta_3 MBR_{t-1} + \beta_4 Prof_{t-1} + \beta_5 Size_{t-1}$$
$$+ Year\ Fixed\ Effect_t + Industry\ Fixed\ Effect_j + \varepsilon_{it} \qquad\qquad eq.2$$

Combine model

$$CS_{j,i,t} = \beta_0 + \beta_1 PeerCS_{-j,i,t} + \beta_2 CS_{t-1} + \beta_3 MBR_{t-1} + \beta_4 Prof_{t-1} + \beta_5 Tang_{t-1} + \beta_6 Size_{t-1}$$
$$+ \beta_7 PeerMBR_{-j,i,t-1} + \beta_8 PeerProf_{-j,i,t-1} + \beta_9 PeerTang_{-j,i,t-1}$$
$$+ \beta_{10} PeerSize_{-j,i,t-1} + \beta_{11} MR_{-1} + \beta_{12} IR_{-1} + Year\ Fixed\ Effect_t$$
$$+ Industry\ Fixed\ Effect_j + \varepsilon_{it} \qquad\qquad eq.3$$

General Equation

$$CS_{jit} = K + LPeerCS_{-ijt} + \sum_{\alpha} Peer\ Controls_{-ijt} + \sum_{m} Controls_{jit} + \varepsilon_{jit} \qquad\qquad eq.4$$

Equation designates that focal firms' capital structure $(CS_{j,i,t})$ is the linear function of peers'

capital structure $(PeerCS_{-j,i,t} = CS_{-j,i,t})$, peers' characteristics

$(PeerControls_{-j,i,t} = Contros_{-j,i,t})$ and focal firms own characteristics $(Controls_{-j,i,t})$ as

well as time and corporate fixed effects. Subscripts j, -j, i, t represents focal firm, peer firms,

industry and year. Following the scheming method of peer measures by Moffiet, peer capital

structure $(CS_{-j,i,t})$ and characteristics $(Controls_{-j,i,t})$ are measured as the average of all firms,

without the firm j, within an industry-year. Macro-economic data is time series data and firm

data is panel data. Panel data contains cross sectional as well as time series data properties and

macro-economic data is time series data, we can use both together for analysis. Whereas the

figure 3 define variable and their measurement in Appendix.

3.2.1 Lag Values

The value of k is the time gap being considered and is called the lag. A lag 1 autocorrelation (i.e., k =1 in the above) is the correlation between values that are one time period apart. More generally, a lag k autocorrelation is the correlation between values that are k time periods apart.

3.3 Generalized Method of Moments (GMM)

The Generalized Methods of Moments (GMM) is a popular approach for calculating parameters in mathematical models, in econometrics and statistics. Such moment conditions are functions of the parameters of the model and the results and their expectation is zero at the true values of the parameters.

Furthermore, GMM model with suitable instruments rank best suits when there exists the problem of endogeneity. This model has been widely used in the previous studies to treat the endogeneity (Leary & Robert, 2014; Anwar & Akhtar, 2018).

Generalized method of moments (GMM) is an instrumental variables procedure which provides computationally suitable method of getting consistent parameter estimates. This method has been used and applied in various areas of economics (Biddle 1984) as well as in finance (Brown & Gibbons 1985; Rotenberg 1984). In empirical finance it was first introduced by Hensen (1982) who presented its basic statistical theory. Later Hensen and Singleton (1982, 1983) specified its estimation through empirical analysis.

The estimation of GMM is based on moment conditions of population and offers the estimation of parameters based on information inferred from supporting financial model. There are certain properties of GMM estimators that these should be consistent, asymptotically normal as well as efficient enough not utilizing any sort of additional information other than contained in the

moment conditions. To test whether fixed effect model is appropriate or random effect, we have further applied the Hausman test.

3.4 Cross Section Selection

This study investigates the impact on corporate capital structure of focal and peer firms using regression analysis. For study, we must pick between impact models as well as pool regression and random effect models or set effect models. This study carries two appropriate regression model, for selection we conduct two following tests.

1. Redundant fixed effect-likelihood ratio
2. Hausman test

Redundant fixed effect-likelihood Ratio

Selection was rendered by using redundant constant impact-likelihood ratio between the pool regression and the fixed effect model. In comparison to alternative hypothesis that fixed effects are not redundant, we tested null hypothesis that fixed effects are redundant. Rejecting the null hypothesis that is fixed effects is being signaled redundantly to us to proceed with fixed effect.

Hausman Test

We conducted Hausman test to check below listed hypothesis in order to determine whether either a fixed effect or a random effect was efficient for current study:

H_0: *Random effect is constant, and they are successful.*

H_1: *Fixed effects are consistence and efficient.*

Use of model random effects or model fixed effects depends entirely on the ρ-value. The significant ρ-value at 1% rejected null hypothesis thus fixed effect model was considered good for the analysis.

3.5 Treatment of Reverse Causality and Endogeneity

Capital structure (as dependent variable) of a firm was an endogenous outcome of average of capital structure of an industry or the average of characteristics of peer firms. Since change in capital structure of a firm also change average capital structure as well as average of characteristics of peer firms. Moreover, there are numerous factors such uncertainty, ambiguity, time pressure, competitive pressure, the regulatory framework etc. in which the company operates that may affect the proposed relationship.

As far as the characteristics of our sample as well variables of interest are concerned, the independent variable was endogenous as actions and characteristics of the firm to determine peer effect was not exogenous having reverse causality or unobserved heterogeneity which may affect both peer effect (IV) and corporate capital structure (DV). Endogeneity needs to be addressed seriously or else biased as well inconsistent parameters estimates might be produced which can dangerously mislead hypothesis testing.

Numerous estimation techniques are available to capture endogeneity such as, maximum likelihood (ML), 2SLS/3SLS and generalized methods of moments (GMM). Other than GMM utilizing these estimation techniques to investigate peer effect on corporate capital structure has certain stumbling blocks. Econometricians now switched from maximum likelihood to generalized method of moments because ML violated regularity conditions as well time consuming consequently unattractive (Hall, 2005). Despite maximum likelihood usefulness, its application as well as implementation is not easy in rational expectations perspective (Tauchen, 1986). In the presence of exogenous regressors 2SLS method is not consistent (Lee, 2007) moreover, utilizing 2SLS do not serve to test joint significance of all exogenous regressors (Kelejian & Prucha 1998). Despite this fact that 2SLS is computationally simpler still it is less

satisfactory in some of its statistical properties. It can be used when simultaneous equations are to be used. Moreover, if one uses complete set of available instruments and error terms are homoscedastic even then 2SLS is not asymptotically efficient. In such contexts, GMM is a convenient method to get asymptotically efficient. In such contexts, GMM is a convenient method to get asymptotically efficient estimators (Bond, 2002).

Additionally, issue of endogeneity can be well addressed using dynamic panel model as it allows utilizing internally generated instruments. The crucial benefit of this is that it is quite important to ensure the instrumental factors cannot be associated with error length. In the similar vein, Roodman (2009) argued that instrumental variables can serve as valid instrument. Hence, it is decided to use dynamic panel model. Thus, to set aside issue of dynamic panel bias (Baum, 2006; Roodman, 2008). For this and above-mentioned reasons, the current study utilized GMM estimation technique. As GMM allow researchers to solve problems like serial correlation, heteroscedasticity as well as endogeneity (Leitao, 2010).

Table 1 Variables of Study and their measurement

Sr no.	Ratio	Measurement	Source
1	Capital structure (book)	Total Debt/Total Asset	(Mark T Leary & Michael R Roberts, 2014)
2	Tangibility	Net PPE/Total Assets	(Mark T Leary & Michael R Roberts, 2014)
3	Profitability	EBITDA/Total Assets	(Zhong & Zhang, 2018)
4	Size	Natural logarithm of book asset	(Zhong & Zhang, 2018)
5	Market to Book Ratio	Market value of asset / Total Book Assets. (By multiplying the market price per share of the firm with the number of outstanding shares, we get market value of asset)	(Mark T Leary & Michael R Roberts, 2014)

Source: following variables and their calculation were driven from previous empirical studies conducted in the respective area of research.

Chapter 4

Results and Discussion

For this study, we used GMM for data analysis. To check relation and direction among variable correlation analysis was estimated as well as descriptive statistics calculated. To check the impact of peer effect on corporate capital structure, we used GMM.

4.1 Descriptive Statistics

The survey for our analysis is comprised of 313 companies with data from periods 2005-2015. Firms which are in the same industry and in upper and lower size quartiles (0.75 times to 1.25 times a firm's total assets are peer firms and reset of the firms are focal firms (Leary & Roberts, 2014). Data is winsorized at the 5% level. The concise capital structure statistics are given in Table 4.1.

Table 4.1 Descriptive Statistics of CS for focal firm

	LEV	MBR	PROF	SIZE	TANG	MR	IR
Mean	0.5773	1.0603	0.0448	14.771	0.4566	0.0494	0.0789
Median	0.6018	0.8669	0.0276	14.706	0.4559	0.0443	0.0810
Maximum	0.9346	4.1320	0.3286	18.382	0.9146	0.1670	0.1080
Minimum	0.1240	0.4186	-0.1726	11.440	0.0270	-0.0596	0.0480
Std. Dev.	0.2058	0.6939	0.1071	1.6240	0.2313	0.0744	0.0202
Skewness	-0.3683	2.9441	0.5715	0.1411	0.0103	-0.0530	-0.2255
Kurtosis	2.3934	12.370	3.4477	2.6347	2.2147	1.7648	1.7556
Jarque-Bera	118.77	15972.4	196.57	27.862	80.479	200.41	228.47
Probability	0.0000	0.0000	0.0000	0.000001	0.0000	0.0000	0.0000
Sum	1807.1	3318.8	140.52	46234.17	1429.3	154.77	246.95
Sum Sq. Dev.	132.56	1506.9	35.904	8253.219	167.45	17.341	1.2766

Observations	3130	3130	3130	3130	3130	3130	3130

Table 4.2 Descriptive Statistics for peer firms

	LEV	PLEV	PMBR	PPROF	PSIZE	PTANG	MR	IR
Mean	0.5773	-0.0909	-0.0697	0.0030	-2.1564	-0.0749	0.0494	0.0789
Median	0.6018	-0.0672	-0.0334	0.0005	-0.8090	-0.0483	0.0443	0.0810
Maximum	0.9346	0.4011	1.5708	0.2156	2.4695	0.3778	0.1670	0.1080
Minimum	0.1240	-0.7612	-1.8065	0.2372	-14.709	-0.7127	-0.0596	0.0480
Std. Dev.	0.2058	0.2622	0.6063	0.0971	4.3541	0.2540	0.0744	0.0202
Skewness	-0.3683	-0.5965	-0.1319	0.1442	-1.9533	-0.5785	-0.0530	-0.2255
Kurtosis	2.3934	3.3286	4.7296	3.2011	5.8122	3.0438	1.7648	1.7556
Jarque-Bera	118.77	199.73	399.23	16.129	3021.9	174.87	200.41	228.47
Probability	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000
Sum	1807.1	-284.74	218.30	9.5467	-6749.7	-234.66	154.77	246.95
Sum Sq. Dev.	132.56	215.24	1150.3	29.511	59321.28	201.91	17.341	1.2766
Observations	3130	3130	3130	3130	3130	3130	3130	3130

Lev=Leverage, PLev = Peer firm leverage, MBR= Market to book ratio, PROF= Profitability, TANG= Tangibility, PMBR= Peer Market to book ratio, PPROF= Peer Profitability, PTANG= Peer Tangibility, MR= Stock market return and IR= Interest rate

There are two distinct categories: the focal firm functions and the peer-firm related features.

The business capital structure averages 0.5773 and the peer company capital structure average 0.5773, respectively.

The mean market-to-book ratio (MBR) for focal company characteristics is 1.0603, the productivity (prof) is 0.0448, the tangibility (Tang) is 0.4566 and the size is 14.771.

The mean market-to-book ratio (PTANG) for peer-specific characteristics is -0.0697, the productivity (PPROF) is 0.0030, the tangibility (PTANG is -0.0749 and the size (PSIZE) is -2.1564. The mean used in the analysis is 0.0494 and 0.0789 respectively for macroeconomic variables stock market return (MR) and interest rate (IR).

4.2 Unit root Test

Table 4.3 Unit root test

Panel unit root test	Levin, Lin & Chu t*	Im, Pesaran and Shin W-stat	Levin, Lin & Chu t*	Im, Pesaran and Shin W-stat
LEV	-22.7264	-5.34268	0.0000	0.0000
LEV			0.0000	0.0000
MBR	-171.830	-19.4497	0.0000	0.0000
PROF	-25.4236	-13.2184	0.0000	0.0000
SIZE	-61.1437	-8.73524	0.0000	0.0000
TANG	-18.1941	-6.03011	0.0000	0.0000
MR	3.04369	6.41330	0.0000	0.0000
IR	-65.8150	-46.3257	0.0000	0.0000

we use unit root test to check stationarity so that either we can use panel and time series data for analysis. Before considering possible cointegration between these series, their orders of integration are examined using unit root test. The results show that all series are non-stationary at levels and stationery at first differnces.

4.3 Correlation Analysis

The study of the association reveals the connection and the course of the connection among variables.

Table 4.4 Correlation analysis for focal firms

	LEV	MBR	PROF	SIZE	TANG	MR	IR
LEV	1						
MBR	-0.1077	1					
PROF	-0.4265	0.4144	1				
SIZE	0.0259	0.0768	0.2255	1			
TANG	0.1982	0.1520	-0.2544	-0.0459	1		
MR	0.1263	-0.0992	-0.0253	-0.0865	0.0198	1	

IR	0.0264	0.0106	-0.0343	-0.0035	0.0147	0.0272	1

Table 4.5 Correlation analysis for peer firms

	LEV	PLEV	PMBR	PPROF	PTANG	PSIZE
LEV	1					
PLEV	-0.7050	1				
PMBR	-0.1449	0.3828	1			
PPROF	0.3511	-0.2300	0.2484	1		
PTANG	-0.1866	0.5502	0.2477	-0.1028	1	
PSIZE	-0.0995	0.6836	0.4428	0.0902	0.6256	1

Lev=Leverage, (-1) = Lag value, PLev = Peer firm leverage, LEV = Leverage, TANG= Tangibility, MB= Market to book ratio, PRO= Profitability, SIZE= Size, PTANG= Peer Tangibility, PMB= Peer Market to book ratio, PPRO= Peer Profitability, PSIZE= Peer Size, MR= Stock return (market) and IR=Interest rate

4.4 Correlation Analysis

Table 4.3 and Table 4.4 shows an analysis of the correlation. The company's leverage (LEV) is negatively correlated with the peer business scale (PLEV) that is -0.7050. The leverage of the firm (LEV) is negatively correlated with the average of peer firm leverage (PLEV) that is -0. 7050.The current leverage of the Firm (LEV-1) which is 0.856. Though the value of correlation is too high in this case but to address the issue of multicollinearity the current study used the formula:

$VIF = 1/(1-R2)$

Table 4.4 illustrates the study of associations. The company's leverage (LEV) is adversely associated with the peer group leverage level (PLEV) of -0.7050. Likewise, the company's actual leverage (LEV) also has a favorable connection with the company's lag amount of leverage (LEV-1) of 0.856.

Though the value of correlation is too high in this case but to address the issue of multicollinearity the current study used the formula:

VIF= 1/ (1-R2)

VIF= 1/ (1- 0.8464)

VIF= 1/ 0.1536

VIF = 6.5104

The value of VIF is 6.5104 which is less than 10. Hence, this value is not causing multi collinearity having no impact on others. The correlation coefficient of the present leverage valuation with the valuation of tangibility, market to book ratio (MBR) and size value is positively associated with the focal firm unique variables, which is 0.187, 0.113 and the value of VIF is 6.5104 which is less than 10.

Hence, this value is not causing multicollinearity having no impact on others. Relating to focal firm specific factors, the correlation coefficient of current value of leverage with the value of profitability 0.3511 which is positively correlated. Relating to peer firm specific characteristics the current value of leverage with the value of peer tangibility -0.1866, value of peer size is -0.0995, market to book ratio (MBR) is -0.1449, peer leverage -0.7050 are negatively correlated.

With respect to macroeconomic considerations, the equity price return correlation (MR) with the current leverage value is positively associated with 0.1263 and the interest rate (IR) with the current leverage value (LEV) is also positively correlated, which is 0.0264.

The stock market return (MR) with peer leverage (PLEV) is positively correlated. The valuation of the tangibility of firms (TANG), the importance of the market to book ratio of the firm and the valuation of the productivity of the business provide a good association with the return on the capital exchange with the importance of 0.1263.

Empirical Results of the GMM (fixed effect) for Capital Structure

Table 4.6 Empirical Results of the GMM for Capital Structure for peer firms

Variables	Coefficient	Standard Error	t-Statistics	Prob.
C	0.316451	0.007874	40.18722	0.0000
LEV (-1)	0.345412	0.010103	34.18896	0.0000
PLEV	-0.676264	0.011717	-57.71522	0.0000
PMBR	-0.008141	0.002941	-2.767756	0.0057
PPROF	0.070963	0.018311	3.875472	0.0001
PSIZE	0.024088	0.000620	38.83667	0.0000
PTANG	0.029660	0.007900	3.754270	0.0002
MR	0.656542	0.075635	8.680360	0.0000
IR	0.040748	0.020313	2.006053	0.0449
R-Square	0.846413			
J-Statistic	1.11E-22			

Table 4.7 Empirical Results of the GMM for Capital Structure for focal firms

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000242	0.024361	0.009924	0.9921
LEV (-1)	0.708882	0.011700	60.58827	0.0000
MBR	0.031237	0.003579	8.727777	0.0000
PROF	-0.469007	0.025421	-18.44948	0.0000
SIZE	0.006891	0.001427	4.830197	0.0000
TANG	0.033705	0.010034	3.359052	0.0008
MR	0.478218	0.112215	4.261636	0.0000
IR	0.017027	0.029930	0.568891	0.5695
R-Square	0.667365			
J-Statistic	1.33E-21			

Prob.	0.4325			

Market to book ratio, PRO= Profitability, TANG= Tangibility, SIZE= Size, PMBR= Peer Market to book ratio, PPRO= Peer Profitability, PTANG= Peer Tangibility, PSIZE= Peer Size, MR= Stock market return and IR= Interest rate. Moreover, * significance at a 10% level (two-tailed test), ** significance at a 5% level (two-tailed test), and *** significance at a 1% level (two-tailed test).

Empirical Results of the GMM (fixed effect) for Capital Structure

Tables 4.5 and 4.6 demonstrate peer companies' effect on corporate capital structure. The coefficient of PLEV is 0.-6762 which is significant at 1% level (0.0000) which depicts that firms' corporate capital structure policy is significantly influenced by those of its peers. This finding of the study confirms that firm leverage policy is set keeping in view peer firms' leverage policy. Furthermore, the results reveal that the PLEV coefficient (0.8860) is greater than the coefficients of any other business common or peer sector specific characteristics.

Moreover, results reveal that the coefficient of PLEV (0.8860) is higher than any other firm specific or peer firm specific characteristics' coefficients. This further supports this version that behavior (actions)of peers matters a lot as compared to characteristics while setting optimal capital structure for them.

Relating to firm specific factors, it can be apparently seen that the lag value of firm leverage (LEV-1) and value of firm's profitability (PROF) are highly significant at 1percent (0.0000) with the values of 0.7088 and -0.4690 respectively. The positive connection with lag value of firm's leverage (LEV-1) indicates that firm's current leverage policy is set keeping in view its previous policy. This result affirm that firms' make their financial policy consistent (to large extent) with past practice of them. Whereas, the negative relation with the value of firm's profitability depicts that firms utilize their internal resources on priority basis to meet financial needs of them. As the

higher the profitability of firms, lesser is the probability of acquiring debts. This finding is consistent with the theme of pecking order theory.

Relating to firm specific factors, the results of the study revealed significant connection between leverage policy and value of market to book ratio of firms (MBR) which is significant at 1 percent (0.0312). The coefficient value is 0.0312, which shows that change in the value of market to book ratio by 1 unit brings 0.0312 units in firms' leverage. This is the indication that higher market value of shares than the book value of shares allows firms to get more loan at easy terms from the market. In addition to this, firms' leverage connection with the value of firm's size found significant at 1 percent. The value (0.0068) shows firms' who are large meet their financial requirements with the debts. The firm specific factor value of interest rate showed no impact in determining firms' leverage policy. As it revealed insignificant connection which can be because of the reason that firm can borrow without or with low collaterals. Furthermore, availability of high free cash flow allows firms to utilize their internal resources to avail investment of high free cash allow firms to utilize their internal resources to avail investment opportunities rather than to finance through leverage. Additionally, mature firms with less growth opportunities depends lesser on leverage although the portion of tangible assets gets higher with respect to total assets (Deesomsak, paudyal and pescetto, 2004) causing insignificant impact on firms' leverage policy. The current study is consistent with witwattanakantang (1999). Concerning peer firm specific factors, the results showed no impact of the value of peers' profitability as well as the value of peers' tangibility. Their insignificance indicates that firms do not consider peers profitability and tangibility while devising their own capital structure. Moreover, the value of market to book ratio of peers' and the value of peer's size are significant at 1 percent. The coefficient values are 0.0709 and 0.0240 respectively. To address correlated effects stock market return and interest rate were used the coefficient of stock market return is

0.6565 which is significant having no impact. While the coefficient of interest rate is 0.0407 which is significant at 5 percent. This reveals that increase and decrease in the interest rate inversely affect the corporate leverage policy. Increase in cost of debt restricts firms to utilize equity while decrease in rate of interest can compel them to acquire more debts.

H1: There is positive relationship between peer effect and capital structure.

H2: There is positive relationship between focal effect and capital structure.

The results of current study confirmed the significant impact of peer group on corporate leverage policy of the firm. Thus, hypothesis

H1: There is positive relationship between peer effect and capital structure.

H2: There is positive relationship between focal effect and capital structure are accepted

Chapter 5

Conclusion and Recommendations

5.1 Conclusion

A certain change in an individuals' behavior majorly because of its peers is called peer effect. Discovering and compliant this observable fact from corporate seems very important in corporate world. Generally corporate financial decisions unswervingly effect the development of an economy thus keeping in view its importance peers' role cannot be ignored. As corporate financial policy decisions depend upon the actions of peer firms. In shaping the corporate financial policies peer firms play very important role. Hence past literature shows evidence such that peer firms' actions matters a lot in determining financial policies for firms (Bradshaw et al., 2010; Chen & Ma, 2017; Foucault &Fresard, 2014; Leary & Roberts, 2014; Tom & Walter, 2011).

Theoretically it is tough to find out peer effect due to reflection problem moreover several literatures of corporate finance endorsed the significant role of peer effect (Manski 1993). Due to endogeneity, it is tough to find out whether peer's behavior or characteristics enlighten to change firms' actions or decisions. Who imitates whom is the matter of great concern besides the problems associated with peer identification as well selection? This bound researchers of different fields of economics and finance to empirically investigate the impact of peer group on corporate finance decisions. The current study inspired from the work of, Leary and Roberts (2014).To address the problem of endogeneity, this study used generalized method of moments

instead of equity shocks. This thesis almost used the same methodology as well as peer group instead of using equity shocks to address endogeneity. The current study supports major part of hypotheses with the findings. This confirms the impact of peer firms on corporate capital structure. This signifies peer firms' capital structure policy is set keeping in view other firm leverage policy.

These results are consistent with the findings of past studies Leary& Roberts, (2014) where researchers addressed and explored this connection from different perspectives. The current study results signify that in the context of Pakistan corporate managers' do not make decisions pertaining to leverage and investment policy in separation. They rely on the information and decisions of their peer group.

5.2 Theoretical and Practical Implications

5.2.1 Theoretical Implications

Just a few experiments empirically analyze the peer firm's position in taking judgments on corporate CS. The results of the current study add to the established peer impact literature as well as the centered firm impact on CS in the Pakistan sector where there is a shortage of awareness and comprehension of this phenomenon. This study facilitates industrial management to enhance positive impact of mimicking behavior at the same time reducing its negative impact for overall growth and expansion of Pakistan economy. Moreover, the current study delivers important implications for Pakistan industry. The main point of this study is that its existence in present in developed countries as well as emerging country like Pakistan which means focal and peer effect is present in developed countries like china and in emerging country like Pakistan. Therefore, managers of corporate sector can adopt a universal approach in handling issues confronted by them. Moreover, corporate managers of Pakistan can get advantage associated with best prevailed practices which are being followed by others in the world.

5.2.2 Practical Implications

The current study highlighted the underlying objective of mimicking behavior of Pakistani small sized firms. These firms' set their financial policies keeping in view the decisions and actions of their peers' which brought favorable outcomes for them in terms of financial performance. These results can help corporate managers in understanding whom it is beneficial to imitate and which decisions and/or actions to imitate to get favorable results. Furthermore, the useful results of the current study laid the foundations for corporate managers in understanding underlying mechanism of this mimicking behavior in the context of Pakistan. This can assist them in practically advancing their operations to cash associated benefits. Investors: Investor have keen interests in the firms' financial health. In order to mitigate risk, they seek useful information of market risk related to the industry as well as firms own risk in securities. Then they decide either to invest in this specific industry or not? Either to invest in this specific security or not?

Individual: Individual can advance by mimicking their peers and get benefits such as experiences, learning from others mischievous behavior and avoid harmful activities or events in which their peers are indulged into.

5.3 Limitations & Future Directions

5.3.1 Limitations

Instead, fruitful findings there is also present some limitations as well. There is issue of generalizability. This study used data of non-financial sector of Pakistani firms and the results of the study could not be generalized for financial sector of Pakistan. This study is used specifically for Pakistani context and could not be used for Non-Pakistani contexts. Moreover, non-financial sector of Pakistan was taken to explore focal and peer firm effect as seeing the convenience of data availability, but the data is present for little span of time. Moreover, other sectors including

financial need to consider because of its different nature data and seeing data availability on convenience. This study encountered data related issues such as data was missing values. Those year of time span was excluded.

In addition to this, the current study relied on secondary data to inspect the behavior of peer firms. Determining today's behavior based on past information seems irrational. Since, the study did not intend to measure past trend of peer effect on corporate financial policies of Pakistan.

5.4 Future Directions

• To deal with the issue of generalizability, the scope of study needs to be widened. For example, future researchers' by integrating other sectors' including financial sector of Pakistan can lengthily analyze peer effect and doing so would make the study more worth full. In addition to this, researchers can conduct comparative analysis of studies conducted in developed countries and emerging countries to explore the resemblances and changes in relation to role of peer group to get more useful insights.

• The behavioral component could be dealt more properly by utilizingprimary data; the future researchers' can enrich their studies by using bothprimary as well as secondary data. In short, for greater review&sympatheticof peers' behavior the use of primary data could be more helpful. Doing this will enable them in taking real differences that might be left by relying on only secondary data.

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Appendix
Figure 3

Variables	Measurements	
$CS_{j,i,t}$	Focal firms' capital structure for a current year measured as the ratio of total debt over total book assets. Where subscripts j,i,t parallels to firm, industry and year, respectively.	
$PeerCS_{-j,i,t}$	Capital structure of peer firms, excluding firm j, from industry i, at year t.	
CS	Firm Capital Structure	
$Tang$	Firm tangibility of current year, measured as net of plant, property and equipment divided by total assets.	
MBR	Firm market to book ratio of current year, market value of assets to book value of assets.	
$Prof$	Firm profitability of current year, calculated as earnings before interest, tax, depreciation, and amortization divided by total assets.	
$Size$	Firm size of current year measured as log of total assets.	
$PeerTang_{-j,i,t}$	current year average tangibility of peer firms, excluding firm j, from industry i, at year t, measured as net of property, plant and equipment divided by total assets.	
$PeerMBR_{-j,i,t}$	current year average market to book ratio excluding firm j, from industry i, at year t, measured as market value of assets to book value of assets.	

$PeerProf_{-j,i,t}$	Current year average profitability of peer firms excluding firm j, from industry i, at year t, calculated as earnings before interest, tax, depreciation, and amortization divided over total assets.	
$PeerSize_{-j,i,t}$	Current year average size of peer firms excluding firm j, from industry i, at year t, log of total assets.	
MR	Stock Market Index of the current year	
IR	Interest Rate of the current year	
$Year\ Fixed\ Effect_t$	Year fixed effects (if fixed effects model were used)	
$Industry\ Fixed\ Effect_j$	Firm-year specific error term that is assumed to be measured to be correlated within firms and heteroskedastic.	