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Existence and Prevalence of Debt Specialization Strategy across Organizations: A Pakistani Perspective

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Abstract

The focus of capital structure research has now been diverted towards understanding the discriminating features of different debt instruments and explaining why to select a specific type of debt among different options? When companies predominantly borrow from fewer debt types, it is regarded as debt specialization (DS). The existence of DS has been empirically confirmed in some of the developed countries. But, researchers are far from reaching a conclusion that DS is a global phenomenon. Therefore, this paper is aimed to extend the canvas of DS debate by proffering new evidences for the existence and relevance of DS strategy among different organizational grouping. We use panel data for 410 non-financial publically traded companies of Karachi Stock Exchange from 2009 to 2013. The results of cluster analysis, threshold and conditional debt structure has confirmed the presence of DS. Our empirical findings indicate that 67% of the organizations exclusively rely on a single type of debt. The short term debts dominate in the debt structure of Pakistani companies, followed by secured and other long term debts. Additionally, through a comparative analysis among various organizational grouping based on profitability, age, credit rating, size, leverage, growth, dividend payments, regulations and business group affiliation, we identified similar trends of DS prevailing in five of the nine selected grouping variables. The paper also suggests several implications and directions for future research.

Keywords: debt specialization, capital structure, debt instruments, organizational grouping.

1. Introduction

Capital structure puzzle dominates the corporate finance literature over the decades. Researchers devote much of their attention in understanding the traditional debt-equity menu and consider all types of debt similar (Albring et al., 2011; Dang, 2011; Denis & McKeon, 2012; Graham & Leary, 2011; Lemmon & Zender, 2010). They ignore the discriminating features attached with different types of debt instrument as amounts, covenants, maturity, accessibility and priority etc. (Johnson, 1997). Rauh and Sufi (2010) are amongst the first who highlight the heterogeneous nature of debt. They explain that organizations have different debt structure composition with similar leverage ratios, and the variation in debt composition has important implication on debt structure decisions besides changes in the level of leverage (Jandik & Makhija, 2005).

This creates interest among the financial managers on how to select a particular type of debt among different options? Either to borrow from fewer types of debt or includes multiple debts in debt structure. When organizations predominantly borrow from fewer types of debt, it is regarded as debt specialization (DS) (Li et al., 2015). DS is an emerging concept that recently catches the attention of many researchers and scholars. The existence of DS is confirmed in some of the developed countries (Giannetti, 2015; Povoa & Nakamura, 2014) especially in the context of US (Li et al., 2015; Lou & Otto, 2015; Rauh & Sufi, 2010; Tengulov, 2015). Recent cross country studies reveal that financing patterns established in the US are unable to explain capital structure decisions outside US, in developed as well as developing countries (Booth et al., 2001; Chang et al., 2014). This incongruence in financing patterns is due to cultural, economic and institutional disparities (Beattie et al., 2006; Fan et al., 2012; Joeveer, 2013). Therefore, there may be the chances of unavailability of the same debt instrument, market situations, economic policies and institutional regulations across countries. This highlights the dire need to examine DS strategy in different parts of the world, especially in the context of developing countries to establish a generalization about the concept and to know about the categories of organizations showing inclination towards DS.

That is why the question whether DS strategy existed in other parts of the world especially in the context of emerging economies has become worth investigating for the future researchers. The scholars are also interested in knowing about the different organizational categorical grouping showing tendency towards DS. The current study substantiates the need and analyze DS phenomenon in a new setting more specifically from the developing counties perspective, like Pakistan to reconfirm the existence and prevalence of DS strategy across organization. It is aimed to proffer new evidences for the relevance of DS strategy among the publicly listed companies of Pakistan, and to understand which types of organizations follow this strategy and why?

To the best of our knowledge, it is a pioneer study that utilizes extensive data population for providing the evidences on the organizational debt structure in an emerging economy. It attempts to broaden the lens of the debt structure literature and provides new understandings for the DS strategy through the comparative analysis based on organizational grouping; profitability, age, credit rating, size, leverage, growth, dividend payments, regulations and business group affiliation. This study is also unique from the

Pakistani perspective as it enhances the strategic importance of financing decisions for the organizations and presents clear picture of the patterns of corporate debt structure.

This study offers the comprehensive and in-depth analysis of the relevance and existence of DS phenomenon across organizations and contributes in the corporate finance literature in general, and debt structure studies in particular. *Firstly,* the findings of the current study ascertain a new insight to the applicability of DS strategy across organizations. Previously, its applicability is confirmed in some of the developed countries like US but now through the current study, existence of DS is affirmed in the context of emerging economies like Pakistan. This confirmation has broadened the scope of DS strategy not only from the emerging economies perspective but also provides evidences about inside organizational grouping variables. *Second,* it will enhance our understanding to the capital structure studies by specifying that the composition of debt has an important implication in designing the optimal debt contracts. *Thirdly, it presents DS strategy* as one of the cost minimization strategies to obtain optimal debt structure. It can serve as a cost reduction mechanism by minimizing the chances of financial distress, information asymmetry, agency conflicts and hurdle of accessibility to the debt market. *Fourthly,* it helps to illustrate the possible effect of business group affiliation and regulation on the priority debt structure of the organizations.

2. Literature Review

This study presents an in depth analysis of the concept of DS, started from capital structure and then explain debt structure and types of debt to establish the field for DS and link it with corporate financial strategies. The comprehensive empirical and theoretical bases for the study are discussed in the subsequent section.

2.1 Capital Structure

Corporate finance is concerned with maximizing shareholder's wealth through the acquisition and allocation of funds (Ross et al., 2013). Financing decisions go side by side with investment decisions because financing mix appropriately fulfills the investment needs of the organizations in terms of cash flows and timing. Capital structure deals with the fund acquisition side of corporate finance with the mix of debt and equity (Ehrhardt & Brigham, 2016). These sources of finance have important consequences for the organizations and affect organizational value as well as shareholder's wealth. Debt is least costly for the organizations but after sometimes, increasing the debt level also increases the financial risk and earnings volatility. That is why most of the financing decisions are based on risk-return trade off. The literature on capital structure has significantly been advanced after the voluminous work of Modigliani and Miller (1958) who postulate the irrelevance theory that claims the value of firm is independent of its capital structure and there is no concept of optimal capital structure. These propositions provide the basis for the development of modern capital structure theories (Modigliani & Miller, 1958, 1963).

A number of theories have been developed during the past several decades by relaxing some of the key assumptions of these prepositions; perfect market, no taxes, information asymmetry, transaction cost and bankruptcy cost. Consequently, various capital structure theories have been advanced that further highlight the significance of capital structure decisions for the organizations. These theories are either based on trade off decisions of risk and return or asymmetric information or market timing. These theories include

Trade-off Theory: balancing cost of financial distress and benefits of tax shield to achieve optimal capital structure (Kraus & Litzenberger, 1973); *pecking order theory*: hierarchy of financing in the presence of asymmetric information (Myers, 1984; Myers & Majluf, 1984); *market timing theory*: focuses on market timing before issuing equity (Baker &Wurgler, 2002) and debt (Butler et al., 2005); *agency cost theory*: minimizes the conflicts of interest between shareholders and management as well as between shareholders and debt holders to achieve optimal capital structure (Jensen & Meckling, 1976); and *signaling theory*: use of capital structure information to propagate their quality in the market (Ross, 1977).

2.1.1 Optimal Capital Structure

Ever since the ground breaking work of Modigliani and Miller (1958) optimal capital structure has become a subject of intense research. Optimal capital structure is one that reduces the likelihood of bankruptcy and increases the organizational value (Vernimmen et al., 2014). An optimal contract entails the issue of debt, equity, or a mix of the two (Bose & Neumann, 2015). Distinct ways of financing and countless combinations of debt and equity are available to achieve it. However, there is still no consensus in the literature whether an optimal capital structure actually exists or not? Traditional approach of capital structure believes in the presence of optimal capital structure. It explains that firm value can be increased through the judicious use of debt while net income approach and net operating income approach does not bolster this thought (Ahmadinia et al., 2012).

Capital structure theories illustrate numerous financing methods and include multitude of factors to understand the optimal capital structure. It is already well established that optimal capital structure trades off the benefits of debt and cost of bankruptcy in a way that it maximizes the organizational value (Modigliani & Miller, 1963). Ahmadinia et al. (2012) highlight the role of free cash flow considerations that helps to pursue the opportunities and enhances the shareholder value (Ahmadinia et al., 2012; Zwiebel, 1996). Faulkender and Petersen (2006) relate accessibility of funds with capital structure choices (Bamiatzi et al., 2014; Dewaelheyns & Hulle, 2010). Cross country studies show that capital structure decisions hinge not only on firm specific characteristics but also on the country's legal and market environment and macroeconomic conditions (Rajan & Zingales, 1995).

Several corporate finance studies have been led to figure out the determinants of optimal capital structure (Rajan & Zingales, 1995). Empirical evidences suggest that credit rating (Kisgen, 2006; Samreen et al., 2013), median industry leverage, tangibility, expected inflation (Frank & Goyal, 2009) are the vital determinants of capital structure choices. The corporate strategy financial flexibility (Graham & Harvey, 2001) and control issues (Harris & Raviv, 1991) also affect the capital structure choices of the organizations. Size, liquidity, profitability, non-tax debt shield, regulation, labor intensity and growth opportunities (Basu, 2015). Investment ratio and fixed asset ratio (Elsas et al, 2014) also significantly explains variations in the capital structure of the organizations.

In addition to these, many other determinants existed as volatility, uniqueness, expected stock return (Titman & Wessels, 1988) that elucidate the patterns of corporate financing towards the attainment of optimal capital structure. But, these theories and empirical results are still inconsistent and controversial. The researchers are trying to create the congruence on underlying assumptions of the optimal capital structure. The debate is not

yet over. It is in fact incomplete without discussing the debt structure and optimal capital structure cannot be achieved without achieving the optimal debt structure.

2.2 Debt Structure

Debt structure comprises of different debt instruments that organizations use for external financing. It is a substantial part of capital structure which remains less explored in the literature. Since the seminal work of Modigliani and Miller (1958), scholars like Basu (2015), Morellec et al. (2015) and Ojah and Manrique (2005) have focused their attention to understand the capital structure of the organizations by relaxing some of the assumptions of irrelevance theorem. They have tried to find out the practical implications of capital structure. In this regard, Modigliani and Miller (1963) again presented the theory of capital structure by highlighting the importance of debt.

They explain the benefits of debt in the form of the tax shield. Even though, debt may also induce some costs, in the form of bankruptcy (Pessarossi & Weill, 2013), information and monitoring (Meneghetti, 2012), agency conflicts (Povoa & Nakamura, 2014), or flotation cost (Blackwell & Kidwell, 1988). It is the challenging decision for financial managers to achieve optimal debt structure by balancing the costs and benefits of each type of debt instrument. An optimal debt structure minimizes the cost of financial distress at the time of liquidation and prevents organizations from default (Bolton & Scharfstein, 1996).

Trade-off theory implies that each organization has to adjust their capital structure gradually toward an optimal debt ratio in order to maximize its value (Kraus & Litzenberger, 1973). But, previous studies do not provide any definite criteria for the selection of optimal debt ratio because they treat all types of debt as identical (Dang, 2011; Denis & McKeon, 2012; Lemmon & Zender, 2010). They ignore the discriminating features attached with different types of debt instrument as amounts, covenants, maturity, accessibility and priority etc. (Johnson, 1997). However, with the development of financial market, a considerable and vital assortment of empirical work has presented a clearer picture for the patterns of corporate financing (Rauh & Sufi, 2010) and provide classical distinguish between different types of debt.

2.2.1 Types of Debts

Organizations have considerably increased their propensity to use debt financing over the century (Graham et al., 2015) and the increase remains stable over the years (Hanssens et al., 2016). This increase is due to the development of financial market that opens new avenue for borrowing. Previously, most of the studies are based on the classic distinction between bank loans and corporate bonds (Kale & Meneghetti, 2011; Lin et. al., 2013; Meneghetti, 2012; Morellec et al., 2015; Pessarossi & Weill, 2013; Rajan, 1992). Many scholars analyze the difference between three major sources of financing; bank debts, non-bank private debts, and public bonds (Arena, 2011; Denis & Mihov, 2003; Johnson, 1997; Kaya, 2011; Liu, 2006). Recently researchers and practitioners have devoted their attention in surpassing the traditional sources of financing and provide new evidences for various alternatives of debt financing. They have diverted the focus of debt structure studies in understanding the discriminating features of different debt instrument (Erel et al., 2012; Li et al., 2015; Tengulov, 2015) and explain the reasons for preferring a specific type of debt.

Povoa and Nakamura (2014) claim that bank loans and government subsidized debts are the most popular sources of financing among all types of organization. Bank loans are popular because they are less information sensitive (Rauh & Sufi, 2010), having greater monitoring benefits as compared to other providers of debt capital and keep proprietary information confidential (Kale & Meneghetti, 2011). Lin et al. (2013) argue that undervalued companies prefer bank loans due to monitoring benefits that help them to resolve agency conflicts among various stakeholders (Chemmanur & Fulghieri, 1994), improve their performance (Jandik & Makhija, 2005) and make efficient decisions at the time of liquidation (Ojah & Manrique, 2005).

If compensation of the manager is linked with the organizational performance, then they prefer bank loans on public debts (Krishnaswami et al., 1999; Meneghetti, 2012). New companies rely on bank loans for building their credit reputation. Once their reputation is established, they turn towards other types of financing (Denis & Mihov, 2003). They further explain the reasons for preferring bank loan are the collateral provision that reduces the risk of default and limit the asset substitution activities. Government owned companies tend to issue bond more preferably because they consider it less information sensitive for the regulators and their probability for approval is high (Pessarossi & Weill, 2013).

Krishnaswami et al. (1999) observe that larger and profitable companies prefer bonds while growing companies preferred private debts. Managers with high ownership stake prefer private debts on public debts because their superior ownership stake gives them authority to prefer those securities that maximizes organizational value and insulate them from external pressures of debt holders (Arena, 2011; Kaya, 2012). This also increases their efficiency at the time of liquidation and renegotiation power during the distress period (Chemmanur & Fulghieri, 1994). Smaller, riskier, growing and young companies with smaller amount of capital are more likely to utilize the private debt market (Elliott et al., 2012).

Private debt holders face lower flotation costs with traditionally designed covenants than public bonds (Denis & Mihov, 2003). Larger companies with credit rating and high asset tangibility ratio prefer corporate bonds on syndicated bank loans and on private placement debts (Kaya, 2011). Organizations prefer short term and secured debts as the primary tool to control agency cost (Alderson et al., 2014). Short term debts are effective in eliciting information asymmetry (Diamond, 1991; Flannery, 1986), monitoring management (Harris & Raviv, 1991) and agency conflicts related to underinvestment issues (Barclay & Smith, 1995). Small companies prefer short term debts because their accesses to long term debts are restricted due to larger fixed cost (Beattie et al., 2006).

All these empirical justifications explain the significance of choosing a specific type of debt. Never the less, there is still need to clarify the importance of each type of debt with more theoretical and empirical explanation. Thereby enabling financial managers effectively design their strategy. This encourages current study to include different sources of financing and explain why organization chooses a specific type of debt in their debt structure? Specifically, the study includes six types of debts, short term secured debts, short term other debts, long term secured debts, long term unsecured debts, debenture and other long term debts as a sources of debt financing. The detailed explanation of each type of debt is provided in Appendix-A.

2.2.2 Debt Structure and Financial Strategy

From the corporate strategy perspective, the financing decisions are fundamental functional decisions that support and remain consistent with the long term strategies. Corporate strategies always try to complement the traditional finance paradigms and broaden our vision towards capital structure choices (Barton & Gordon, 1987). The managers are more interested in the inputs from the functional areas of finance such as capital structure in order to design their strategies. Previously, scholars like Modigliani and Miller (1958) considered financing decisions are irrelevant in an efficient market for the firm's strategy. However, in the real world such decisions may differentially influence the firm value due to several market imperfections (Myers & Majluf, 1984).

This increases the attention of the managers towards financial strategy because it is a part of the strategy to forecast funding requirements of the organization, and devise plan of actions to acquire those funds (Bender, 2014). In other words, it is the responsibility of financial managers to design an appropriate strategy by including accurate types of debt. An accurate financial strategy is helpful for management to cope with the crisis and add value to the organizations (Ehrhardt & Brigham, 2016) while the wrong strategy increases the cost of financial distress and eventually pushes the organization towards bankruptcy (Priester & Wang, 2010). Therefore, managers adopt those financial strategies which support and are consistent to the long term corporate strategy of the companies.

The debt structure literature explicates possible causes for choosing a specific type of debt. There is still no definite criterion available in the literature that helps us choose among the different types of debt. Optimal debt structure suggests the cost minimizing strategies for the selection of debts (Bolton & Scharfstein, 1996). However, it is difficult to decide which type of debt minimizes the cost of financial distress in the presence of multiple debt instruments with distinctive characteristics i.e., risk levels, covenants, maturity, pricing, control and amount.

These differences also create information asymmetries and conflicts of interest between debt holders that cause inefficient managerial decisions. Therefore, financial managers include only those types of debt that have fewer restrictions and causes least cost to the business and must match with the tenor of the assets. Thus, this increases the concentration towards cost minimizing strategies, i.e., DS strategy because the major reason for pursuing the DS strategy is to curtail borrowing cost in the form of cost of financial distress, flotation cost, agency cost, information collection and monitoring cost, and further optimize their debt structure.

2.3 Debt Specialization

Debt structure composition has become an important phenomenon for the organizations. Companies often have different composition of debts with similar leverage ratios. The choices of debt instruments largely depend on the accessibility to the debt market (Faulkender & Petersen, 2006), accounting quality (Li et al., 2015), degree of information asymmetry, agency costs and effective legal enforcement of loan contracts (Demirguc-Kunt & Maksimovic, 1996). It also depends on the covenant attached with different debt instruments (Lou & Otto, 2015), flotation cost (Blackwell & Kidwell, 1988) and bankruptcy cost (Rajan & Zingales, 1995).

That is why, one company borrow from a single source of financing while others use the diversified types of debt in their debt structure. When companies predominantly borrow from a single type of debt, it is regarded as DS. Previous studies are the evident of the use of DS among the organizations. Results of Colla et al. (2013) confirm that 85% of the organizations utilize only one type of debt in the presence of multiple sources of financing.

Rauh and Sufi (2010) are amongst the first who point out the heterogeneity in the capital structure of the organizations. Their results empirically substantiate that 70% of organizational level observations rely on at least two types of financing, whereas 25% of the sample data do not even change their level of leverage, but they only change their composition of debt. According to Johnson (1997), 73% organizations lend from at least two types of long term debts, including bank debt, non-bank, private debt and public debt.

A study by Barclay and Smith (1995) has focused on the use of the priority structure for financing. They support the presence of DS in the capital structure by admitting that 26% organizations rely on single priority debt class while 3% utilize all available classes of loans. However, Gleason et al., (2000) suggest the use of different types of debt specifies an organizational strategy for improving performance. Povoa and Nakamura (2014) emphasize on the existence of both strands in debt structure in Brazilian companies. But, their results strongly favor the usage of extended classes of debt.

The organizations employing multiple types of debt have stable stock prices, get easy access to the debt market with better financing and investment opportunities even during the adverse liquidity shocks (Tengulov, 2015). These theoretical and empirical justifications provide possible explanation for the presence of DS. Nevertheless, the contradictory results depict that academic and practical understanding of the concept is still emerging and require further empirical investigation to explain why organizations adopt DS strategy? This can only possible if we are able to know about the organizational grouping which adopts DS strategy.

3. Methodology

3.1 Data Collection and Sample Description

Data is collected from annual reports, websites of the joint stock companies, and balance sheet analysis reports by State Bank of Pakistan, analysis reports of Karachi Stock Exchange and Business Recorder (newspaper). The information about credit rating comes from credit rating reports published by the Pakistan credit rating agency and Japan credit rating-vital information services. Empirical studies include financial institutions, railroads, trucking, airlines, telecommunications, gas and electric utilities in regulated industries (Graham et al., 2015). In this study, we include mineral products, fuel and energy, information, communication and transport, petroleum products, electrical machinery and products industries as regulatory industries. These industries are governed by regulatory authorities like Pakistan Telecommunication Authority, Pakistan Electronic Media Regulatory Authority, National Electric Power Regulatory Authority, Oil and Gas Regulatory Authority in Pakistan.

This study includes all Pakistani companies remain listed at Karachi Stock Exchange during the period of 2009 to 2013. We remove financial companies including banks, insurance, investment and other financial institutions and end up with 2050 company-

year observations. We also perform other sets of sample selection rules and exclude (1) companies with missing or zero year values for total debts and total assets; (2) Leverage outside the unit interval (Lemmon et al., 2008; Li et al., 2015); (3) Further, we employ stem and leave method to identify and eliminate the extreme values from the data. Finally, 2001 company-year observations are available for the analysis.

We followed the 12 industrial groupings used by State Bank of Pakistan. Of the 410 companies in the final sample, 40% are from textile industry; 13% from sugar and food; 11% from chemicals and pharmaceuticals, and less than each from other nine industries.

3.2 Measurement

The degree of DS across various organizations is computed with the help of the Herfindahl-Hirschman Index (HHI) for all types of debt available in the debt structure of the organizations (Colla et al., 2013; Hanssens et al., 2016). It is calculated as follows:

$$SS_{i,t} = \left(\frac{SSD_{i,t}}{TD_{i,t}}\right)^2 + \left(\frac{OSD_{i,t}}{TD_{i,t}}\right)^2 + \left(\frac{LSD_{i,t}}{TD_{i,t}}\right)^2 + \left(\frac{LUND_{i,t}}{TD_{i,t}}\right)^2 + \left(\frac{DEB_{i,t}}{TD_{i,t}}\right)^2 + \left(\frac{OLD_{i,t}}{TD_{i,t}}\right)^2$$

Where $SS_{i,t}$ is the sum of squared debt type ratios for organization 'i' in year 't'; while SSD, OSD, LSD, LUND, DEB and OLD refer to short term secured debts, short term other debts, long term secured debts, long term unsecured debts, debenture, and other long term debts, respectively; and TD indicates total debt. Next, we obtain

$$,_t = \frac{SS_{i,t} - 1/6}{1 - 1/6}$$

DS ranges from zero to one. If an organization uses only one type of debt, then the value of HHI is "1" while "0" is the indication that company employs all debt types in an equal proportion (Li et al., 2015). Higher value of HHI is the indication of greater degree of DS.

This study includes nine organizational grouping variables based on profitability, age, credit rating, size, leverage, growth, dividend payments, regulations and business group affiliation. These variables remain consistent and essential in capital structure literature from a large number of variables tested in emerging economies (Booth et al., 2001; Chang et al., 2014; Frank & Goyal, 2009). We also include some new grouping variables: regulation and business group affiliation that are rarely used in the capital structure studies. The measurement of these variables are explained in Table 1.

Table 1: Measurement of Organizational Categorical Grouping

Variables	Measures	References
a) Profitability	Profit Before Depreciation and Interest/Net Sale	Povoa and Nakamura (2014)
b) Age	Time in years since the company announces its first IPO	Colla et al. (2013)
c) Credit Rating	"1" if company is rated by Pakistan credit rating or JCR-VIS rating agencies in any year under study, "0"otherwise	Samreen et al. (2013)
d) Size	Logarithm of Total Assets	Dewaelheyns and Hulle (2010)
e) Leverage	Long Term Debt/Book Value of Assets	Albring et al. (2011)
f) Growth	Market Value of Equity/Book Value of Equity	Povoa and Nakamura (2014)
g) Dividend Payers	"1" if company pays either cash or stock dividends, "0" otherwise.	Lemmon et al. (2008)
h) Regulation	"1" if the company is in a regulated industry and "0" otherwise	Albring et al. (2011)
i) Business Group Affiliation	"1" if a company is group affiliated, "0" if it is unaffiliated.	Bamiatzi et al. (2014)

4. Results

4.1 Descriptive Statistics for Debt Types

Table 2 demonstrates the descriptive statistics for the six debt types included in the study. These statistics includes means, standard deviations, percentiles and percentage of observations with positive usage for each debt instrument among the Pakistani organizations. First, results indicate that almost all the organizations rely on other short term debts for financing. The sample mean (median) ratio for other short term debts to total debts is 0.424 (0.336). The percentile results also validate this view as in 95th percentile the value of other short term debt is 1.000. Second, more than three fourth of the companies use short term debts for financing. This demonstrates that short term debts are the most popular source of financing among the Pakistani companies. Third, in case of long term debts, about 75% of the organizations use other long term debts. This debt is considered to be less important than short term debts but remains the most popular type of loan among long term debts. Fourth, more than 60% of the companies employ long term secured loans with mean and (median) value is 0.130 (0.044), while about 36% uses unsecured long term debts. Finally, very few organizations (less than 5%) prefer debentures for financing. Further, the values of standard deviation prove the authenticity of the results; therefore, results can be generalized to the whole sample.

Table 2: Descriptive Statistics for Debt Types

Types of Debts	Mean	Percentile							SD	Obs. with positive usage (%)
		10th	25th	50th	75th	90th	95th	99th		
Short Term Secured Debts	0.267	0.000	0.021	0.236	0.450	0.601	0.683	0.805	0.235	79.21
Short Term Other Debts	0.424	0.125	0.196	0.336	0.622	0.924	1.000	1.000	0.282	99.95
Long Term Secured Debts	0.130	0.000	0.000	0.044	0.200	0.413	0.525	0.753	0.181	60.97
Long Term Unsecured Debts	0.081	0.000	0.000	0.000	0.067	0.316	0.470	0.918	0.180	36.18
Debenture	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.292	0.043	4.70
Other Long Term Debts	0.092	0.000	0.000	0.043	0.130	0.251	0.354	0.616	0.129	74.91

4.2 Evidence of Debt Specialization

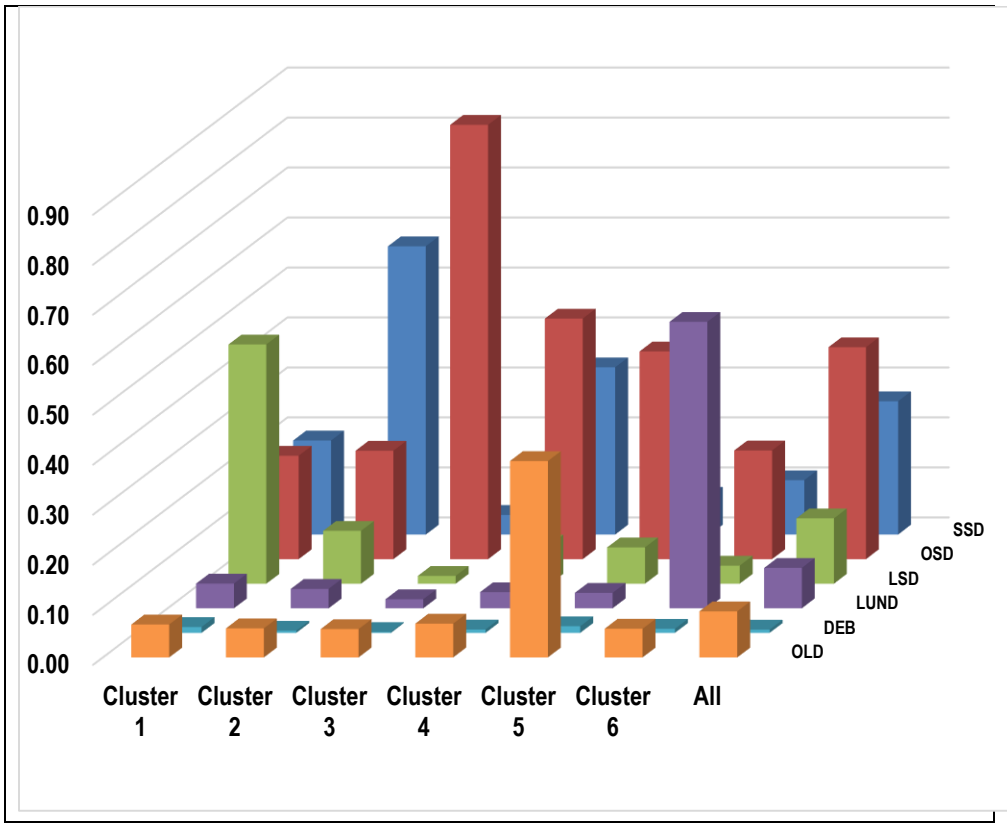
The present study provides three types of evidence for the existence of DS on the basis of cluster analysis, thresholds analysis and conditional debt structure.

4.2.1 Cluster Analysis

The first evidence for the presence of DS comes from the cluster analysis. It is a grouping technique which identifies the groups having similar characteristics within the group but different from other groups. It is a multivariate method, use to determine the unknown structure within the data and depends on the minimization of the variance within clusters (in terms of the Euclidian distance of the company-year observations from the center of its own cluster) and the maximization of the variance between the clusters (in terms of the Euclidian distance of the company-year observations from the center of other clusters). Although both cluster analysis and discriminant analysis are concerned with classification of objects (or cases) into categories. The discriminant analysis is based on the known number of classes while in cluster analysis objects or classes are unknown (Norusis, 2012). Cluster analysis is somewhat exploratory that is why considered better than discriminant analysis. Cluster analysis takes a data set and looks for the "best" cluster solution or grouping of the object or cases based on their data. The goal of it is to identify the actual groups as researcher don't know who or what belongs in which group and even don't have any information about the number of groups.

Based on above deliberations, we go for employing cluster analysis technique. Our main purpose is to check the existence of DS across organizations. We are unaware of the patterns and even do not exactly know about the numbers of clusters indicating the inclination towards DS. That is why cluster analysis technique is appropriate for our study. For the evaluation of cluster analysis, we use STATA command of cluster k means to define the clusters for all six debt types concurrently and then run k means command for up to 15 clusters. We finally get six clusters by using the stopping rule based on the Calinski / Harabasz index. The results of cluster analysis are demonstrated in graphical form (Figure 1) as well as in tabulation form (Table 3).

Figure 1 plots company-year observations, grouped according to the preferences of the companies for each debt instrument. The mean debt ratios are used for each of the cluster whereas total debt ratio is included for comparison purpose only. The cluster results present that DS take place in three clusters, (Cluster 2, Cluster 3 and Cluster 6). It identifies that in Cluster 2, companies specialize in short term secured debts, other short term debts are preferred in Cluster 3, and long term unsecured debts are favored by the organizations in Cluster 6. In contrast, Cluster 1, Cluster 4 and Cluster 5 provide evidences for the company's reliance on at least two types of debt.



SSD =Short Term Secured,**OSD** = Short Term Other, **LSD** = Long Term Secured, **LUND** = Long Term Unsecured, **DEB** = Debenture, **OLD** = Other Long Term Debts

Figure 1: The Distribution of Debt Types within a Cluster

Table 3: Cluster Analysis for Debt Specialization

Cluster	Debt Types						HHI	Organizational Characteristics						Obs.
	SSD	OSD	LSD	LUND	DEB	OLD		Size	Age	Leverage	Growth	AT	EV	
1	0.188	0.207	0.478	0.049	0.012	0.066	0.426	3.305	26.168	0.194	0.857	0.708	0.097	315
	[0.175]	[0.193]	[0.448]	[0.000]	[0.000]	[0.038]	[0.363]	[3.350]	[22]	[0.135]	[0.485]	[0.758]	[0.062]	
2	0.577	0.217	0.106	0.039	0.004	0.058	0.385	3.397	26.753	0.210	0.970	0.703	0.089	526
	[0.561]	[0.209]	[0.087]	[0.000]	[0.000]	[0.035]	[0.312]	[3.426]	[23]	[0.152]	[0.614]	[0.756]	[0.054]	
3	0.039	0.869	0.016	0.018	0.002	0.057	0.414	3.284	25.696	0.185	0.894	0.684	0.088	437
	[0.000]	[0.895]	[0.000]	[0.000]	[0.000]	[0.009]	[0.346]	[3.244]	[22]	[0.132]	[0.532]	[0.738]	[0.059]	
4	0.335	0.481	0.078	0.032	0.007	0.068	0.407	3.370	26.853	0.186	1.214	0.683	0.095	360
	[0.336]	[0.488]	[0.038]	[0.000]	[0.000]	[0.049]	[0.338]	[3.381]	[22]	[0.120]	[0.669]	[0.736]	[0.062]	
5	0.076	0.415	0.073	0.031	0.013	0.392	0.394	3.309	26.239	0.208	1.067	0.713	0.083	188
	[0.032]	[0.418]	[0.020]	[0.000]	[0.000]	[0.3615]	[0.323]	[3.382]	[22]	[0.161]	[0.575]	[0.752]	[0.059]	
6	0.109	0.217	0.036	0.573	0.008	0.057	0.360	3.385	26.949	0.205	0.908	0.709	0.106	175
	[0.048]	[0.198]	[0.000]	[0.511]	[0.000]	[0.016]	[0.298]	[3.403]	[21]	[0.171]	[0.642]	[0.767]	[0.059]	
All	0.267	0.424	0.130	0.081	0.006	0.092	0.400	3.344	26.417	0.197	0.983	0.697	0.092	2001
	[0.236]	[0.336]	[0.044]	[0.000]	[0.000]	[0.043]	[0.331]	[3.365]	[22]	[0.139]	[0.581]	[0.748]	[0.059]	

SSD =Short Term Secured;**OSD** = Short Term Other; **LSD** = Long Term Secured; **LUND** = Long Term Unsecured; **DEB** = Debenture; **OLD** = Other Long Term Debts
HHI = Herfindahl-Hirschman Index; **AT** = Asset Tangibility ((Tangible Fixed Assets + Inventory)/ Total Assets); **EV** = Earnings Volatility (Standard Deviation of Profit Before Tax and Depreciation/ Average Assets

Table 3 shows cluster mean and median ratios (in square brackets) for various debt types in the six identified clusters. It also illustrates the results of traditional organizational determinants (size, age, leverage, growth, asset tangibility and earnings volatility), again we include total debts in this analysis for comparison purpose only. The outcomes of cluster analysis show that companies in Cluster 2 predominantly rely on short term secured debts with cluster mean (median) ratio, 0.577 (0.561).

Cluster 3 includes the companies having almost similar size, age and earnings volatility, rely on other short term debts. These companies maintain low leverage ratio, growth and asset tangibility and their mean (median) values are 0.869 (0.895). The mean value of size and age for companies in either of the clusters is almost same. Companies in Cluster 6; mostly rely on long term unsecured debts having mean (median) values 0.573 (0.511). These companies are different from the companies present in Cluster 2 and Cluster 3 in terms of earnings volatility. Cluster 4 and Cluster 5 mainly rely on two types of debts. Cluster 4 rely on other short term debts 0.481 (0.488) and on short term secured debts 0.335 (0.336). Cluster 5 representing just 9% of the total company-year observations prefer either other short term debts 0.415 (0.418) or other long term debts 0.392 (0.3615). The differences between Cluster 4 and Cluster 5 are that in Cluster 4 the leverage and asset tangibility ratios are low whereas the growth opportunities and earnings volatility are high. Finally, companies in Cluster 1, employ mix of long term secured debts 0.478 (0.448), other short term debts 0.207 (0.193) and short term secured debts 0.188 (0.175). These companies have lowest growth ratio in our sample.

To sum up, the findings of the cluster analysis suggests that 67% of the Pakistani companies predominantly borrow from one source of financing against the results of Colla et al. (2013) who found 85% of the Unites States companies rely on one type of debt. This evidence further suggests that DS is a widespread phenomenon among listed companies of Pakistan.

4.2.2 Thresholds Analysis

Thresholds analysis provides us second proof for the presence of DS. It is computed as the fraction of company-year observations in the sample that acquires a substantial amount of debt from a particular source of financing. We use the wide range of thresholds from 10% to 90% to highlight the preference of the companies for a specific type of debt.

The results of thresholds analysis (Table 4) indicate that a company becomes a significant user for a particular type of debt only when its share of company-year observations for that type of debt is at or above the specific level of threshold. For example, "10%" level of threshold means company borrows 10% or more debt from a particular type of debt. Other threshold levels are also defined similarly. "Total" column represents the share of company-year observations that rely on at least one type of loan more than a specific threshold level. If the companies obtain loan from all six sources of financing in an equal proportion, then the total in 10% column will be "6" while in 20% or any other column it will be "0". However, if the companies use concentrated debt structure (based on a single debt type), then the total will be "1". The row "Total" provides us the complete information about the significant users for all the loan types.

The evidence provided in Table 4 confirms a general tendency toward DS. These outcomes indicate that almost 13% of our company-year observations predominantly rely on single type of loan, and 23% (97%) attain more than 60% (30%) loan from one type of debt while, 5% (13%) obtain more than 90% (70%) of their loans from single source of financing.

Table 4: Thresholds Analysis

Type of Debt	Thresholds								
	10%	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
Short Term Secured Debts	0.289	0.234	0.185	0.136	0.088	0.044	0.018	0.005	0.002
Short Term Other Debts	0.251	0.201	0.150	0.115	0.090	0.071	0.054	0.038	0.029
Long Term Secured Debts	0.390	0.246	0.154	0.102	0.059	0.027	0.014	0.006	0.002
Long Term Unsecured Debts	0.317	0.206	0.166	0.102	0.073	0.053	0.039	0.027	0.019
Debenture	0.442	0.284	0.200	0.042	0.021	0.011	0.000	0.000	0.000
Other Long Term Debts	0.512	0.251	0.116	0.056	0.034	0.019	0.007	0.003	0.002
Total	**2.200**	**1.423**	**0.970**	**0.553**	**0.365**	**0.225**	**0.131**	**0.079**	**0.053**

4.2.3 Conditional Debt Structure

Another way to validate the existence of DS is the use of conditional debt structure. Under this method, we execute the condition that the usage of a specific type of loan must exceed to 30% or 50% of the total loan. Here, significant users for a particular type of loan mean those companies that satisfy these conditions (obtain more than 30% or 50% debt from one debt type). We then compute mean and median (in square brackets) debt ratios for all debt types for the subset of observations that follow these condition. Table 5 and Table 6show the results of these analyses.

Table 5: Conditional Debt Structure for > 30%

Condition	1	2	3	4	5	6
1. Short Term Secured Debts>30%	**0.505**	0.278	0.111	0.044	0.003	0.060
	[0.485]	[0.245]	[0.076]	[0.000]	[0.000]	[0.037]
2. Short Term Other Debts>30%	0.182	**0.615**	0.065	0.041	0.002	0.095
	[0.127]	[0.565]	[0.000]	[0.000]	[0.000]	[0.044]
3. Long Term Secured Debts>30%	0.195	0.210	**0.478**	0.047	0.008	0.062
	[0.174]	[0.190]	[0.447]	[0.000]	[0.000]	[0.032]
4. Long Term Unsecured Debts>30%	0.113	0.235	0.063	**0.529**	0.003	0.057
	[0.050]	[0.204]	[0.000]	[0.449]	[0.000]	[0.011]
5. Debenture>30%	0.153	0.190	0.177	0.023	**0.353**	0.103
	[0.107]	[0.196]	[0.142]	[0.001]	[0.319]	[0.085]
6. Other Long Term Debts>30%	0.081	0.393	0.045	0.027	0.005	**0.449**
	[0.008]	[0.373]	[0.001]	[0.001]	[0.001]	[0.407]

In Table 5, we execute the condition that the usage of a specific type of loan must be greater than 30%. The main diagonal indicates that conditional mean usage for a specific type of loan upon which we impose the condition is between 35% and 62%. These results further explain that the substantial users of a short term secured debts also borrow other short term debts (27.8%); alternatively, the borrowers of other short term debts also include short term secured debts (18.2%) in their debt structure.

Table 6: Conditional Debt Structure for > 50%

Condition	1	2	3	4	5	6
1. Short Term Secured Debts>50%	**0.620**	0.224	0.087	0.025	0.004	0.040
	[0.598]	[0.210]	[0.060]	[0.000]	[0.000]	[0.024]
2. Short Term Other Debts>50%	0.107	**0.767**	0.027	0.019	0.002	0.078
	[0.011]	[0.745]	[0.000]	[0.000]	[0.000]	[0.024]
3. Long Term Secured Debts>50%	0.122	0.174	**0.625**	0.026	0.000	0.052
	[0.113]	[0.152]	[0.584]	[0.000]	[0.000]	[0.029]
4. Long Term Unsecured Debts>50%	0.245	0.272	0.117	**0.289**	0.004	0.073
	[0.221]	[0.227]	[0.05]	[0.192]	[0.000]	[0.034]
5. Debenture>50%	0.091	0.090	0.125	0.111	**0.537**	0.046
	[0.070]	[0.085]	[0.063]	[0.118]	[0.504]	[0.018]
6. Other Long Term Debts>50%	0.236	0.391	0.124	0.060	0.007	**0.182**
	[0.208]	[0.327]	[0.055]	[0.000]	[0.000]	[0.139]

This again reaffirms our results that short term debts are the most popular source of financing among the Pakistani companies. The companies which obtain long term unsecured debts also prefer other short term debts (21.0%). The substantial users of debentures are not high so they obtain loans from multiple sources. The use of debenture is very low in Pakistan (approximately 5%). In Table 6, we impose the condition that the usage of a specific type of loan must be greater than 50%. The results of conditional debt structure explain that the main diagonal for mean (median) values for each debt type ranges between 18% and 77%. This range is larger as compared to the range describe in Table 5. The Table 6 further explains that significant users of short term secured debts also obtain loan from other short term debts (22.4%); alternatively, the significant users of other short term debts are also the users of short term secured debts (10.7%). Companies that are substantial user of long term secured debts are also the user of other short term debts (17.4%); however, significant users of long term unsecured debts also use other short term debts (27.2%) and short term secured debts (24.5%).

In short, the outcomes presented in Table 5 and Table 6 emphasize that not many companies use other types of debt beyond the one upon which we condition, and moreover, it confirms that short term debts are equally popular among Pakistani listed companies. To conclude, the results of cluster analysis, threshold analysis and conditional debt structure reaffirm the existence of DS phenomenon among the Pakistani listed companies i.e., 67% of the companies predominantly rely on one type of debt. The short term debts dominate in the debt structure of public limited companies, followed by secured long term and other long term debts.

4.3 Applicability of Debt Specialization Strategy across Organizations

As we know that our study is intended to check the prevalence of DS strategy across organization. For this purpose, we conduct a comparative analysis of organizational grouping to examine the relevance of DS strategy. Table 7 presents descriptive statistics for the relation between debt specialization (measured by HHI) and organizational grouping variables. We split overall data of organizational grouping on the basis of variable types; five out of nine variables are continuous while four of them are categorical. The continuous variables are categorized by following the way of Gonzalez (2014) who sorts the grouping variables on the basis of quartiles (upper and lower). Non-profitable, new, small, low leverage and low growth companies as those that fall in the smallest quartile i.e., 1st quartile while profitable, old, large, high growth, and high leveraged companies are belonging to the largest quartile i.e., 4th quartile of the data (Gonzalez, 2014). Whereas, credit rating, dividend payments, regulations and business group affiliation are the categorical variables with value "1" for rated, dividend paying, regulatory and group affiliated companies or "0" otherwise.

Table 7: Applicability of Debt Specializations Strategy across Organizations

Variables	Category	N	Mean	SD	t-test	Wilcoxon test
a) Profitability	Non-Profitable	776	0.399	0.238	-0.253	-0.358
	Profitable	321	0.406	0.235		
b) Age	New	419	0.403	0.235	-2.212*	-1.813
	Old	476	0.440	0.262		
c) Credit Rating	Unrated	1668	0.410	0.238	0.196	0.162
	Rated	333	0.370	0.222		
d) Size	Small	499	0.520	0.297	7.546**	-6.989**
	Large	512	0.392	0.239		
e) Leverage	Low	447	0.536	0.278	12.344**	-11.864**
	High	446	0.333	0.208		
f) Growth	Low	486	0.407	0.259	-1.808	-1.662
	High	489	0.438	0.272		
g) Dividend Payments	Not Paying	703	0.389	0.260	-1.674	-2.711**
	Paying	1178	0.408	0.247		
h) Regulation	Non-Regulated	1703	0.390	0.248	-3.966**	-4.275**
	Regulated	298	0.458	0.273		
i) Business Group Affiliation	Affiliated	913	0.431	0.264	4.934**	-4.979**
	Unaffiliated	1088	0.375	0.240		

*p < 0.05, **p < 0.01

The first column describes the categories for organizational grouping variables, next columns explain the number of observations belongs to each category, mean and standard deviation results respectively. While last two columns present test statistics of the t-test and Wilcoxon test of the differences in debt specialization between the different grouping variables. We use t-test and Wilcoxon test in competitive analysis. Wilcoxon test is a nonparametric alternative to the repeated measures t-test, but instead of comparing means Wilcoxon converts scores into the ranks and then compares them (Pallant, 2013).

Wilcoxon test follow the certain assumptions like the dependent variable is of continuous in nature. The observations of independent variables must be counted only once, they cannot appear in more than one category and data from one subject cannot influence the data from another (Pallant, 2013). All these assumptions are considerably fulfilled in case of the current study as our dependent variable, HHI is also of continuous in nature and all the observations and data belong to one category do not appear in other category. The findings of t-test and Wilcoxon test are further explained in Table 7.

The comparison results reveal that although the degree of specialization varies across different subsamples, but still DS is a common phenomenon among publicly traded companies of Pakistan. Table 7 provides a comprehensive view of the cross-sectional differences in specialization. The empirical findings reveal that with regard to DS grouping variables based on size, leverage, regulations and business group affiliation are of significant importance. The empirical findings reveal that there is a significant difference among the grouping variables based on size, leverage, regulations and business group affiliation with regard to DS. Specifically, DS strategy is more prevalent to the small, low leverage, regulated and group affiliated companies. However, there is no significant difference in the profitability, age, credit rating, growth opportunities and dividend payments of the organizations which involve in DS. All types of organizations: new or old, non-profitable or profitable, rated or unrated, having high growth opportunities or low, and either pay dividends or not, follow this strategy. These results specify that debt specialization is a universal phenomenon among all publicly traded companies of Pakistan irrespective of age, profitability, growth opportunities, dividend payments and credit rating. These companies may adopt this strategy as a cost minimization mechanism to avoid their bankruptcy cost, agency conflicts, information asymmetry and also due to good market reputation.

5. Discussion

In the quest to extend the ongoing debate on why firms adopt DS strategy, we brought in new evidence to add to the critical mass. There are three main findings of the current study. Firstly, the findings of cluster analysis, threshold analysis and conditional debt structure empirically confirm the existence of DS strategy across organizations. These results validate that 67% of the companies predominantly rely on one type of debt. While Colla et al. (2013) found the presence of DS among 85% of the organizations. The short term debts again dominate, followed by secured long term and other long term debts. The usage of long term debts remains lower than the short term debts may be due to the strict covenants levied by the financial institutions (Gertner & Scharfstein, 1991; Li et al., 2015). Specially, the bond market of Pakistan is not well functioning that is why very few organizations (less than 5%) use debentures for borrowing purpose.

Secondly, the results in Table 2 reveal that almost all the Pakistani organizations (more than three fourth) must include short term debts in their debt structure. These debts constitute relatively high proportion of total debts and remain the main source of financing for the managers. This may be due to the lower cost of short term debts or because of underdevelopment of long term debt market in emerging economies (Alipour et al., 2015). Fan et al. (2012) claim companies existed in the corrupt countries with week legal system use more debts especially short term debts. Whereas, amongst the long term debts, about 75% of the organizations use other long term debts for financing. This debt

is considered to be less important than short term debts but remains popular among the long term debts.

Lastly, another important finding of the present study is that it ascertains DS as a widespread phenomenon among all types of public limited companies irrespective of their profitability, age, credit rating, growth and dividend payments. In this way, it not only validates the findings of Colla et al. (2013) but also provides new evidences for the applicability of this strategy. However, the degree of specialization is highest among small, low leveraged, regulated and group affiliated companies. The potential economic and financial advantages related to the usage of few debt types for small and low leveraged organizations are to minimize bankruptcy cost, monitoring costs, limited ingress to the debt market (Povoa & Nakamura, 2014) and poor accounting quality (Li et al., 2015). Whereas regulated and group affiliated organizations employ it to reduce their operational risk, economize flotation costs (Tengulov, 2015) and due to good reputation. These findings broaden the scope of the study and provide new dimensions for research.

5.1 Implications

The findings of the current study make important theoretical implications in the field of corporate finance. Firstly, it purposes the strategy perspective as a framework for the debt structure choices. Secondly, it enriches our understanding to the capital structure studies and optimal contracting literature by specifying that the composition of debt and heterogeneity in debt structure has an important implication in designing the optimal debt contracts. Thirdly, it extends the canvas of DS debate by empirically investigating this strategy in the emerging economies and provides new evidences for the applicability of it.

In consonance with the theoretical implications, our study also provides assistance to the practitioners and policy makers. This study provides assistance to the practitioners in understanding why companies follow DS strategy. It helps them to incorporate with the reasons and also identifies the area where academic recommendations are still not fully implemented. Moreover, it enables them to appropriately design their optimal debt structure by analyzing the cost and benefit attached to each type of debt. Financial managers still face difficulty in selecting a desirable combination of debt and equity to obtain optimal capital structure (Donkor & Duffey, 2013). But, optimal capital structure cannot be achieved without obtaining the optimal debt structure (Kayo & Kimura, 2011). Therefore, this study has explained a new and still unexplored mechanism that will help the managers to decide their optimal debt structure by selecting an appropriate type of debt which cope with the crisis and add value to the organizations.

The verdicts of the study reveal that the policy makers should focus their attention in developing the domestic bond market in Pakistan. The substantial user of debentures (bonds) are not high in Pakistan, approximately 5% companies tend to prefer debentures for financing. This highlights the need to develop a well-functioning domestic debt market that provides alternative and cheap sources of financing to the public limited companies of Pakistan.

5.2 Limitations and Research Directions

Although this study makes several important contributions to the existing literature of debt structure but still it possesses certain limitations, which are necessary to be acknowledged. These limitations open new avenues for future researchers to explore the concept of DS in some new settings with a unique data set and find out more implications

for the practitioners and scholars. *First*, this study uses the data of 410 non-financial publically traded companies for the period of 2009-2013 with 2001 company-year observations. Although, this data is sufficient to provide information about the antecedents of DS but still we feel this panel data is based on relatively shorter time series because of the unavailability of data before the specified period of time. Due to this limitation, our analysis focuses on the cross-sectional heterogeneity in DS, rather than on its dynamic evolution over time just like Colla et al. (2013). Going forward, future researchers would take advantage from the longer time series and examine the persistence of specialization over time.

Second, it validates the existence of DS by employing six unique types of debt; short term secured debts, short term other debts, long term secured debts, long term unsecured debts, debenture, and other long term debts. But, these types of debt are more generic as compared to the prior studies (Lou & Otto, 2015; Rauh & Sufi, 2010). State Bank of Pakistan started categorizing debts from 2009 before that period debts are divided into two broader categories i.e., short term debts and long term debts. Going forward to the future researches to use more specific types of debt to analyze the impact of identified factors and provide some new insight to the DS strategy.

Third, although, this study provides a significant evidence for the prevalence of DS strategy across organizations but still we are unable to find the empirical evidences in the support of the differences in profitability, age, credit rating, growth and dividend payments. This provides new directions to the scholars and practitioners to further explore this phenomenon in the new settings and provide further empirical evidences in the support of purposed variables.

Fourthly, although this paper suggests several theoretical explanations for the existence and relevance of DS strategy across organizations. But still we need to empirically test the proposed reasons of DS and provide firm opinion about the strategy. Lastly, the future researchers must focus their attention in finding out the predictors (organizational and non-organizational) of DS in order to explain why DS takes place? Because without identifying the relevant predictors, we are unable to explain the reasons of DS.

5.3 Conclusion

The findings provide evidences for the existence and prevalence of DS across organizations on the basis of cluster analysis, thresholds analysis, conditional debt structure and comparative analysis. Altogether, this study advocates four broad conclusions: First, to understand the role of DS in designing corporate financial strategy, it is important to consider the composition and type of debt. Second, the time series and cross sectional analysis reveal that 67% of the sample companies predominantly borrow from one type of debt. Short term debts remain the most dominant type of debt among all, followed by secured and other long term debts. Third, it ascertains DS as a widespread phenomenon among all types of public limited companies irrespective of their profitability, age, credit rating, growth opportunities and dividend payments. However, the degree of specialization is highest among small, low leveraged, regulated and group affiliated companies. Forth, the potential explanation for employing DS strategy is to: economize default risk, monitoring costs, operational risk, flotation costs and limited ingress to the debt market.

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APPENDIX-A

This table illustrates how State Bank of Pakistan calculates each debt type (in millions of rupees) for non-financial companies for the fiscal year ended on December 31, 2013. All information is available under Item 'C' and 'D' in the State Bank of Pakistan report on financial statements analysis of companies (non-financial) listed at Karachi Stock Exchange (2009-2013).

Types of Debt

S#	Types of Debts	Detailed Calculation
1	Short Term Secured Debts	Current maturities of secured long term loan, redeemable capital finance and lease finance + Secured short term running finance + Short term lease finance
2	Short Term Other Debts	Creditors + Outstanding expenses + Loans, deposits and advances
3	Long Term Secured Debts	Bank loans + Non-bank loans + Redeemable capital finance + Foreign loans + Vendors account
4	Long Term Unsecured Debts	Loan by governments, directors, creditors and suppliers
5	Debenture	Debenture are TFCs (Term Finance Certificates) and also include Sukuk bonds
6	Other Long Term Debts	Deferred liabilities, subordinated loans, retention money payable etc.