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THE ROLE OF FAMILY CONTROL IN DETERMINING THE CAPITAL STRUCTURE: EVIDENCE FROM NON-FINANCIAL LISTED FIRMS

This study aims to examine the effect of family control on the corporate financing decision of firms in Pakistan. This study uses the annual data of 100 non-financial firms listed at PSX for the period 2005-2012. To estimate the impact of family control on the corporate financing decision, we employ the ordinary least square (OLS) method. The findings of the univariate analysis show that a significant difference exists between family and non-family firms based on many characteristics of firms. Multivariate analysis results show that family firms maintain significantly high "total debt ratio" and "short-term debt ratio" compared to non-family firms. There are two

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reasons why family firms keep high debt ratios compared to non-family firms. First, family-owned firms do not want to dilute their ownership, and that is why they fulfill their major financing needs through debt instead of issuing new shares in the market. Second, family firms in Pakistan use extra cash flows for their private benefits. These findings reveal useful insights for investors, banks, regulators, and business families of Pakistan.

Key words: *Capital structure, Family ownership, Family firm, corporate financing decision, Dilute ownership*

1. INTRODUCTION

Capital structure decision is the most important strategic decision taken by the top-level management of the organization. Modigliani and Miller (1958) developed capital structure theory and argue that the investment decisions affect the value of the firm, whereas financing decisions do not affect the value of the firm. This theory is based on many constraints and ceteris paribus; therefore, it is not applicable in the real-world. In contrast, Trade-off theory (Jensen and Meckling, 1976; Myers, 2001) states that the optimal level of leverage is the point where the marginal benefit of debt is equal to the marginal cost of debt, it is based upon the cost of financial distress, agency cost, and effects of tax (Romano, Tanewski and Smyrnios, 2001). An underlying assumption of this theory is that there is a trade-off between high risk of financial distress and tax benefit due to the high debt proportion. In the case of high leverage, the firm can gain tax benefits and agency cost also reduces. On the other hand, firms face costs in the form of a higher probability of financial distress by maintaining high leverage. This trade-off increases the value of the firm but also weaken the financial position of the firm.

In the case of family firms, the following studies provide the reasons and evidence of maintaining high leverage. The capital structure of family firms depends upon the level of agency conflicts. Schulze et al., (2001) argue that the family firms use more debt as compared to non-family firms to, (a) limit the negative consequences of altruism within the firm, (b) control the self-interest of family agents, (c) use these resources to fulfill the self-interests through employment, incentives, and privileges that they otherwise would not receive. Gomez-Mejia et al., (2001) argue that family firms have higher agency costs because they retain incompetent family members in management and hesitate to fire them because of personal relationships, and ultimately agency costs increase, and efficiency decrease in the family firms. Santos et al., (2014) find that the family block holders maintain a high debt ratio to take some benefit from firms such as to pay themselves a higher divi-

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dend or use these cash flows for private family benefits. In both cases, when cash flows are used by the family to pay higher dividends or used for private benefits, family businesses need more external debt funding due to less internal funds to meet the company's financing needs. Every country law defines the ownership cut off point up to which control becomes contestable. Nenova (2006) argues that family firms use a high debt ratio to maintain control over the firm, which is expensive and riskier because high debt increases the risk of bankruptcy. McConaughy et al. (2001) argue that capital structure is used as a proxy for control risk, and family firms maintain high leverage to reduce control risk.

In contrast to the above-mentioned discussion, several studies also provide the reasons and evidence of lower leverage of family firms. Gallo, Tapies, and Cappuyuns (2004) argue that family firms maintain a lower debt ratio as compared to non-family firms, and financial risk aversion behavior of family firms is one of the main reasons behind maintaining a low debt ratio. Myers and Majluf (1984) test the pecking order hypothesis and explain that family firms maintain a low debt ratio, as the hypothesis implies that managers should use low-cost funding alternatives and issue less risky security to minimize costs. Family firms in the UK follow the pecking order principle of financing (Poutziouris, 2001). The monetary cost of financing is not the only cost, but other costs also affect financing decisions. If a firm focuses on issuing shares to fulfill financing needs, then the family firm's goals like maintains control, independence, and transfer business to next generation successfully, are sacrificed. (Anderson and Reeb, 2003a) argue that family firms have low portfolio diversification as compared to non-family ownership, such as institutional block holders have high portfolio diversification. Due to low portfolio diversification, family firms face high risk, hence family firms compensate for this high risk by reducing leverage.

In the above-mentioned discussion, some studies show that family firms maintain a high debt ratio as compared to non-family firms, and some studies find vice versa results. To address this literature gap and test this puzzle, this study focuses on examining the capital structure of family and non-family firms in Pakistan. The Pakistan business landscape is dominated by family-owned firms. Around 59% of non-financial listed firms can be classified as family-owned firms (Javid, 2012). So, this study provides useful insights to the family businesses, regulators, and financial institutions regarding the capital structure of family firms in Pakistan.

Our study is novel for three factors: *First*, scholars have rarely, if not ever, studied the stated objective in the context of Pakistan. *Second*, this study contributes to the corpus of literature on financing decisions in firms by focusing on an emerging economy, thus making it relevant to a large group of fast-developing countries in Asia and Africa. *Third*, it is particularly important to study firm policy dynamics in countries where most firms are family-run.

To examine the impact of family control on the corporate financing decisions of firms in Pakistan, we collect sample data of 100 nonfinancial firms from 2005 to 2012 and apply the ordinary least square (OLS) method. This paper is structured as follows: Section 2 provides an overview of existing literature on the subject. Section 3 explains the data, variables, and Section 4 presents the findings of the study. Finally, Section 5 concludes the whole discussion.

2. LITERATURE REVIEW

The corporate financing decision is one of the key strategic decisions of the firm and previous studies explain that many characteristics of the firms affect the capital structure decision such as tangibility, ownership, size, profitability, growth, non-debt tax shield, business risk, dividends, and liquidity. This section explains the theoretical and empirical relationship between capital structures and its determinants (including family ownership).

Family Ownership:

According to agency conflicts theory, agency conflicts may arise between the firm's shareholders and managers when the interests of both stakeholders are different from each other and agency cost is high in the presence of agency conflicts. But in view of agency theory, family-owned firms are believed to be more beneficial than non-family-owned firms because, in family-owned firms, owner and management are the same. Ang et al. (2000) argue that family firms are used as a solid proposition to represent non-conflicting firms with zero agency costs. Mc-Counaughy (2000) and Anderson et al. (2003b) suggest that incentive structure in family firms creates fewer conflicts between different stakeholders of firms, then non-family firms' counterparts.

Anderson and Reeb (2003a) argue that two main characteristics of family firms may affect the capital structure decision of family firms. First, family firms' shareholders do not hold a well-diversified portfolio due to financial constraints and non-family firms' shareholders usually hold a well-diversified portfolio. Family firms' shareholders demonstrate risk-averse behavior and debt uses as a tool to reduce risk because when firms maintain less debt then the cost of financial distress is low and vice versa. The family firms maintain a low level of leverage because a large proportion of the wealth of family firms is at high risk due to the

undiversified portfolio of family firms. This characteristic explains that family firms maintain lower leverage as compare to non-family firms. Gallo, Tappies, and Cappuyns (2004) confirm that family firms maintain lowers leverage as compare to non-family firms because family firms are risk averse. According to trade-off theory, there is a trade-off between the cost of financial distress and tax benefits; and these risk-averse family firms reduce leverage and in results cost of financial distress also decreases, so these firms may behave according to Trade-off theory, but very scarce empirical evidence find in the literature about this assumption (Romano, Tanewski and Smyrnios, 2001).

Second, family firms focus on long term survival because family firms want to transfer the business to the next generation. For long term survival and to avert from takeover attempt, family firms tend to be retaining control and concentrate voting power by maintaining high debt ratio in firms; instead of issuing new equity, which in results dilute ownership. So, the desire to 'retain control' and effects the leverage decision (Anderson and Reeb, 2003a). Family firms follow pecking order theory in financing preferences, at first, family firms use retained earning then debt and as a last resort, new issue of ordinary shares because family firms want to maintain control (Chen and Ye, 2007). Poutziouris (2001) find that when internal funds are insufficient than debt prefer to equity to fulfill financing need in the family firm in order to retain control. On one hand' risk reduction' desire motivates family towards maintaining low leverage, and 'retain control' objective motivates towards maintaining high leverage.

Tangibility of Assets:

The cost of borrowing can be low for firms with more physical or tangible assets compared to firms with less physical assets because tangible assets can be used as collateral (Yousaf and Ali, 2020a), thus reducing the risk of creditors. According to the agency costs theory of Jensen and Meckling (1976), conflicts between lender and shareholder exists and lender face agency cost, because the firm may invest in riskier projects by borrowing from the lender and may transfer the wealth from lender to shareholder. The lender's risk of experiencing agency debt costs can be mitigated by offering fixed assets as collateral against loans, meaning businesses with more physical or fixed assets can borrow more from lenders. Hence, agency theory explains about the positive association between assets' tangibility and debt.

Booth et al. (2001) argue that a firm's ability to raise secured debt is high if it has more tangible assets. Several studies (Titman and Wessels, 1988; De Jong,

2008)   conclude that there is a positive association between tangible assets and leverage. While analyzing the sample of Pakistani companies, Shah and Khan (2007) found positive relationships between asset tangibility and leverage. In contrast, Booth et al. (2001) conducted a study in ten emerging countries, including Pakistan, and find that there is a negative association between the assets tangibility and leverage.

Profitability:

According to pecking order theory, firms use internal financing options to use retained earnings first, then external debt financing, and external financing at the last priority to meet their financing needs (Myer et al. 1984). This show that firm with insufficient profit prefers to borrow debt then issue equity securities if debt borrowings do not fulfill financing need. Pecking order theory explains a negative association between profitability and leverage of the firm because more profitable firms will need less debt to finance investments. Several studies (Rajan and Zingales,1995; Ozkan,2001) observe a negative association between a firm's profitability and leverage. Wiwattanakantang (1999) and Booth et al. (2001) find a negative association between profitability and leverage in emerging economies.

In contrast, Trade-off theory explains the positive association between a firm's profitability and leverage; firms identify the target debt ratio by comparing the costs and benefits of leverage. Leverage's cost is the cost of financial distress and the benefit of leverage is tax shield. Frank and Goyal (2009) argue that the cost of financial distress is low, and the tax shield becomes more beneficial for more profitable firms. Maintaining high debt will gain more tax shield benefits, which suggests a positive relationship between productivity and client leverage. Jensen (1986) predicts that high debt can be used to restrain management discretion for those firms having high profits or cash flows. So, trade-off theory and agency cost predict a positive association of profitability and leverage.

Size:

Large size firms are more diversified and having lower bankruptcy risk as compared to small size firms (Titman and Wessels, 1988). Hence, borrowing costs can be low for large firms because of having a low risk of default and high bargaining power over creditors. According to Trade-off theory, any decrease in the

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cost of leverage allows the firms to increase leverage. This theory explains the positive association between leverage and company size because large companies have lower borrowing costs compared to small companies. Many empirical studies (Marsh, 1982; De Jong et al., 2008) find a positive relationship between leverage and size. Booth et al. (2001) also find a positive relationship between leverage and size of the firm while studying the sample of developing countries.

Frank and Goyal (2009), on the other hand, argue that bigger firms are well known and have an older history of adding retained earnings to their capital structure. According to the pecking order theory, the company fulfills its financing requirement at first priority from retained earnings, and if it's high, then there is no need to use the second borrowing option, which explains a negative relationship between leverage and company size. Rajan and Zingales (1995) argue that more information has to be provided by a large firm to outside investors than small firms, so large firms having less asymmetric information problems should prefer more equity as compared to debt. This study explains about negative relationship between leverage and size of the firm. Chen (2004) finds a negative association between leverage and size of firms in the emerging economy of China.

Growth:

According to the pecking order theory, internal funds may be insufficient to finance positive investment opportunities in the high growth period of firms, and then firms use an external source of funds to fulfill the financing needs of growth opportunities. Firms prefer debt because of lower information cost associated with debt issues as compare to equity financing. Hence, this theory explains the positive relationship between growth and leverage of the firm. Chen (2004) finds a positive association between growth opportunities and leverage of firms. Tong and Green (2005) also predict a positive association between growth opportunities and leverage of firms.

On the other hand, agency cost theory, leverage increases with lack of growth opportunities. Jensen (1986) suggests that debt serves to limit agency cost of managerial discretion for firms having a lack of investment opportunities. Hence, this theory explains the negative relationship between growth opportunities and the firm's leverage. Slutz (1990) and Goyal (2009) found a negative relationship between company leverage and growth opportunities.

Non-debt tax shield:

The trade-off theory predicts a negative relationship between the non-debt tax shield and the debt of the firm (Titman and Wessels et al. 1988). Firms having a large amount of non-debt tax shields are expected to use less debt because non-debt tax shields are substitutes for tax shields or tax benefits from debt financing. Marginal tax saving from an additional unit of debt decreases with the increase in non-debt tax shields because, with an increase in leverage, the cost of financial distress increases, and marginal benefit becomes low (DeAngelo and Masulis,1980). M'ng et al., (2017) empirically proved that non-debt tax shields have a negative relationship with leverage. Donnelly (1993) find a negative relationship between leverage and non-debt tax shields of the firms.

On the other hand, some studies explain the positive association between non-debt tax shield and leverage of the firm. Bradley et al., (1984) argue that non-debt tax shield can be used as a measure of a firm's assets security in terms of debt collateral, so firms with more tangible assets can get debt at a lower cost because of having less risk. A non-debt tax shield is highly correlated with tangibility, and they do not include the proxy of tangibility in their study, which also affects the leverage of the firm. Wald (1999) and Delcoure (2007) also confirm the positive relationship between non-debt tax shields of the firm.

Business risk:

Business risk is the volatility in firms earning (Yousaf et al. 2018), an increase in volatility increases the likelihood of financial distress. When costs of financial distress are higher, then firms will have a low level of leverage. Bradley et al., (1984) predict a negative association between earnings volatility and leverage of firm and shows consistent results with Trade-off theory findings. DeAngelo and Masulis (1980) argue that an additional unit of debt increases the chances of the firm's bankruptcy. Based on publicly accessible information, investors face difficulties in predicting future earnings because of high revenue variability; and high volatility is an indicator of high risk. Hence, investor demands a high premium against high risk in order to lend fund to the company. So, this shows a negative relationship earning volatility and leverage of the firm because high earning volatility increases the cost of debt and decreases the leverage level. Marsh, 1982; De Miguel and Pindado, 2001) finds a negative association between leverage and earnings volatility.

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Jaffe and Westerfield (1987) find that the relationship between leverage and earning volatility may not be monotonic, and under certain conditions, this relation can be positive. Bradley, Jarrell, and Kim (1984) explain 'U' shaped dependence between two variables. Thies and Klock (1992) find a positive relationship between short term debt and earnings volatility of firms. Because of credit rationing, companies are restricted from borrowing large long-term loans in the face of high volatility in earnings; thus, firms resolve such issues through short-term debt funding. So this shows a positive association between short term debt and earning volatilities. Shenoy and Koch (1996) explain another reason for a positive association between earnings volatility and demand for debt. High levered companies have far greater risk i.e. there may be a bidirectional relationship between earning volatility and leverage instead of unidirectional. Huang and Song (2006) find that there is a positive association between the business risk and leverage of the firms in the emerging economy of China.

Dividends:

The dividend decision affects the capital structure of the firm. According to the pecking order theory, firms with higher dividends payout ratio are experiencing the higher debt in their capital structure. Dividend payments to the shareholders reduce the amount of internal funds. When internal funds are insufficient to fulfill their financing needs than firms borrow funds to meet up their financing needs, and this theory predicts a positive relationship between the dividends and leverage of firms. Tong and Green (2005) confirm the positive association between dividends and leverage of the firms.

Debt financing and dividend payments can be used as two alternative approaches to tackle the agency costs of free cash flows problem. According to agency theory, agency costs of free cash flow problems decrease with the increases in the borrowing of firms. Therefore, when the business borrows more to reduce agency costs, businesses have less to pay dividends than the large amount is paid as interest charged on the high debt, And large dividends payout can also reduce the security of bondholders or creditors. So, this shows a negative relationship between dividends and leverage of firms. The trade-off theory also proposed a negative association between dividend and leverage of firms due to higher costs of bankruptcy. Allen and Mizuno (1989) found that when a company faces high fixed financing costs, then a company does not pay dividends to the company's shareholders. Frank and Goyal (2009) clarify that 'dividend paid firms' have lower leverage rates relative to non-dividend paid firms. Fama and French (2002) also find a negative association between the dividend payments and leverage of firms.

Liquidity:

Pecking order theory states that firms that have more liquid assets maintain a low level of leverage. Liquid assets such as cash and cash equivalents are part of internal funds, where adequate internal funds are sufficient to meet investment funding needs, external financing, either debt or equity. Hence, this theory predicts a negative relationship between leverage and liquidity of the firms. Ozkan (2001) find a negative association between liquidity and leverage of the firms. According to the agency cost theory, if a large number of free cash flows are available to the firm, then managers will spend these large amount of cash flows in unnecessary activities or negative net present value ventures instead of effectively using them to improve the value of the business. In this way, debt funding is used to reduce these non-economical actions by requiring managers to use excess cash flows to pay interest on the debt. This theory shows a positive association between liquidity and leverage of the firm (Jensen and Meckling, 1976).

According to the Trade-off theory, there is a positive association between liquidity and leverage of the firm. High liquid firms have a greater ability to fulfill their short term obligations on time, and as a result cost of financial distress also decreases. Shleifer and Vishny (1992) argue that the debt capacity of firms having more liquid assets increases because liquid assets use as better collateral against short term borrowings and high liquid asset holding firms can do their repayments of borrowings easily as they come due. This shows a positive relationship between liquidity and leverage of the firms. Sibilkov (2009) finds a positive association between liquidity and leverage of the firm.

3. RESEARCH METHODOLOGY

Data description and Variable construction

This study explores the effect of family ownership on the capital structure of the firms in Pakistan by using the ordinary least square (OLS) method. This population of the study comprises all non-financial firms listed on Karachi Stock Exchange (KSE), and a sample of the study consists of 100 non-financial public limited companies that are listed on Karachi Stock Exchange (KSE). Out of these 100 firms, half are family firms, and half are non-family firms. The annual based data is used for analysis and the sample period of study is from 2005 to 2012. The data of the study is taken from "Balance sheet analysis of stock exchange-listed

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firms" published by State bank of Pakistan and data of family ownership are taken from annual financial reports of selected companies.

Name	Definition	Ref
Leverage (LEV1)	The ratio of total debt to total assets	Rajan and Zingales, 1995; Baker and Wurgler, 2002; Chang et al., 2019
Leverage (LEV2)	long term debt to total assets	Ali, Yousaf, and Naveed, 2020
Leverage (LEV3)	short term debt to total assets	Ali et al., 2020
Family Dummy (FD)	1 for the family firm and 0 otherwise	
Size	Log of sale	Bevan and Danbolt, 2004; Nguyen et al., 2020; Abbas et al., 2020
Profitability (PRO)	It's the ratio of earnings before interest and taxes divided by total assets	Vo, 2017: Yousaf and Ali (2020b)
Tangibility (TANG)	fixed assets divided by total assets	Titman and Wessels, 1988; Yousaf, Ali & Hassan, 2019
Growth (GRO)	book value of firm assets plus the market value of equity less book value of equity divided by book value of the assets	Fama and French, 2002
Non-debt tax shields (NDTS)	Depreciation expense scaled by the total assets	Titman and Wessels, 1988
Business risk (BR)	The standard deviation of the percentage changes in operating income	Castanias, 1983
Dividend (DPS)	Dividend per share divided by earning per share	Yousaf, Ali & Hassan, 2019
Liquidity (LIQ)	the ratio of the current asset to current liabilities	Ozkan, 2001; Yousaf, Ali & Hassan, 2019

Following Yousaf, Ali and Hassan (2019) this study defines the family firm as the firm which fulfills two conditions simultaneously; (a) At least two individuals related by blood or marriage are directors (or CEO) of the firm; (b) Individuals from family owns at least 20 percent of shareholdings. The firm is categorized as a family firm that fulfills both two conditions, and all other firms are categorized as non-family firms.

4. EMPIRICAL RESULTS

4.1. Descriptive statistics and analysis

4.1.1. Summary statistics

Table 1 exhibits that the average total debt ratio in Pakistani listed firms is 0.592, with the highest 3.107 and lowest 0.076. This shows that debt is a major source of financing in non-financial listed firms of Pakistan as compared to equity. Breaking the total debt ratio into two parts indicates that the average long-term debt ratio is 0.140 and the average short-term debt ratio is 0.453. This shows that listed non-financial firms in Pakistan are fulfilling their financing needs more from short term debts as compared to long term debts. Tangibility has a mean value of 0.478, with the lowest value of 0.001 and the highest value of 0.973.

Table 1:

SUMMARY STATISTICS FOR THE FULL SAMPLE PERIOD

Variables	Mean	Std Dev.	Minimum	Median	Maximum
Total debt ratio	0.593	0.289	0.076	0.609	3.107
Long term debt	0.140	0.168	0.000	0.082	1.073
Short term debt	0.453	0.249	0.017	0.439	2.119
DPS	6.510	19.00	0.000	1.000	249.9
Tangibility	0.478	0.226	0.001	0.481	0.973
Profitability	0.115	0.130	-0.445	0.098	0.604
Size	6.764	0.789	3.484	6.696	9.010
M/B	1.385	1.375	0.251	0.999	13.90
NDTS	0.033	0.032	0.000	0.028	0.458
Liquidity	1.515	1.246	0.139	1.107	14.51

Table 2 and Table 3 show family and non-family descriptive summary, respectively. Table 2 shows that the average total debt ratio is 0.611, with a minimum of 0.097 and a maximum value of 3.107. Table 3 exhibits that the average total debt ratio is 0.574, with a minimum value of 0.076 and a maximum value of 1.415. This

reveals that the leverage of family firms is higher than non-family firms. Table 2 exhibits that the average profitability ratio is 0.086, with a standard deviation of 0.106 of family firms. Table 3 shows that the average profitability ratio is 0.145, with a standard deviation of 0.145 of non-family firms. This reveals that the rate of return on assets in family firms is low and less volatile as compared to non-family firms.

Table 2:

SUMMARY STATISTICS FOR THE FAMILY FIRM'S SAMPLE

Variables	Mean	Std Dev.	Minimum	Median	Maximum
Total debt ratio	0.611	0.249	0.097	0.626	3.107
Long term debt	0.162	0.147	0.000	0.123	0.988
Short-term debt	0.450	0.265	0.017	0.434	2.119
DPS	1.862	6.010	0.000	0.000	110.0
Tangibility	0.531	0.191	0.007	0.529	0.965
Profitability	0.086	0.106	-0.445	0.082	0.497
Size	6.447	0.589	3.484	6.479	7.686
M/B	0.977	0.426	0.251	0.866	3.133
NDTS	0.032	0.022	0.001	0.028	0.305
Liquidity	1.405	1.262	0.211	1.050	14.51

4.1.2. Correlation Matrix

Table 4 reveals the correlation matrix of different key variables of the study. Leverage is negatively correlated with dividends of the firms which is consistent with agency theory that "when firm borrow more to reduce agency costs then firms leaves fewer amount to pay a dividend because a large amount of interest pays against a large amounts of borrowings". Leverage (lev1 and lev2) is positively correlated with the tangibility of the firms because as fixed assets are used as collateral against borrowing, so as more the tangible assets firms have, then more the firms can get financing through borrowing. There is a positive correlation between leverage (lev1 &2) and market to book ratio is consistent with agency cost theory which explains that leverage increases with lack of growth opportunities.

Table 3:

SUMMARY STATISTICS FOR THE NON-FAMILY FIRM'S SAMPLE

Variables	Mean	Std Dev.	Minimum	Median	Maximum
Total debt ratio	0.574	0.265	0.076	0.594	1.415
Long term debt	0.117	0.183	0.000	0.035	1.073
Short term debt	0.456	0.232	0.055	0.452	1.212
DPS	11.157	25.38	0.000	2.500	249.9
Tangibility	0.426	0.245	0.001	0.408	0.973
Profitability	0.145	0.145	-0.267	0.116	0.604
Size	7.081	0.836	4.909	7.152	9.010
M/B	1.792	1.809	0.316	1.180	13.90
NDTS	0.034	0.039	0.000	0.029	0.458
Liquidity	1.626	1.221	0.139	1.227	8.737

4.1.3. Mean difference univariate analysis

Table 5 presents the mean differences in leverage, dividends, investment, as well as other variables for family firms and non-family firms. The univariate analysis shows that family firms behave differently than non-family firms in several aspects. Family firms employ significantly higher total debt and long-term debt levels in their capital structure as compare to non-family firms, which is consistent with the results of (Nenova, 2006). According to this study, family firms use a high debt ratio to maintain their control over the firm. The difference between the short-term debt ratio of family and non-family firms is not statistically significant at the 10% level. Size, profitably, M/B ratio, business risk, and liquidity of family firms is significantly lower than non-family firms, and mean difference is statistically significant at 1% in all these characteristics of firms.

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Table 4:

CORRELATION MATRIX

	Lev1	Lev2	Lev3	Div	Tang	Prof	Size	M/B	NDTS	Liq	Risk
Lev1	1.000										
Lev2	0.511	1.000									
Lev3	0.815	-0.080	1.000								
Div	-0.112	-0.151	-0.028	1.000							
Tang	0.057	0.569	-0.317	-0.185	1.000						
Prof	-0.519	-0.326	-0.379	0.308	-0.237	1.000					
Size	-0.082	-0.066	-0.055	0.147	-0.078	0.236	1.000				
M/B	-0.046	-0.144	0.045	0.322	-0.214	0.393	0.051	1.000			
NDTS	0.025	0.098	-0.036	-0.065	0.197	-0.032	-0.022	-0.025	1.000		
Liq	-0.610	-0.256	-0.532	0.098	-0.261	0.358	-0.058	0.085	-0.057	1.000	
Risk	-0.012	0.041	-0.043	0.011	0.019	0.169	0.484	0.094	0.031	0.087	1.000

Table 5:

DIFFERENCE OF MEAN TEST FOR FAMILY AND NON-FAMILY FIRMS

	All (1)	**Family** (2)	**Non-Family** (3)	**t-statistic (2)-(3)** (4)
Total Debt Ratio	0.593	0.610	0.573	1.822*
Long Term Debt	0.140	0.161	0.117	3.805***
Short Term Debt	0.453	0.449	0.456	-0.378
DPS	6.510	1.861	11.157	-7.127***
Tangibility	0.478	0.530	0.426	6.741***
Profitability	0.115	0.085	0.145	-6.608***
Liquidity	1.515	1.404	1.625	-2.514**
Size	6.764	6.447	7.081	-12.393***
M/B	1.385	0.977	1.792	-8.767***
NDTS	0.033	0.032	0.033	-0.706

This table provides the results of the difference of means tests for key variables between family and non-family firms. *, **, *** Significance at 10%,5% and 1% respectively.

4.2. Multivariate Regression Analysis

A regression result in Table 6 suggests that family ownership has a positive impact on the total debt ratio of the firms, as the coefficient of the family ownership binary variable is 0.095. This coefficient shows that family firms maintain a significantly higher total debt ratio as compared to non-family firms in Pakistan. This result explains that family firms may keep a high debt ratio to maintain control over the firm or to avoid dilution of ownership of the firm (Nenova, 2006) or to avert from takeover attempt for long term survival up to next generations. Another explanation is that when the family uses cash flows for private purposes, they need more external debt funding to meet the financial needs of the company.

The study findings indicate that tangibility has a positive relationship with the company's debt with a coefficient of 0.22. According to the agency theory, because of the conflict between lender and shareholder and lender face agency costs because the company can invest in riskier projects by borrowing from the lender and transfer the wealth from lender to shareholder. Also, by using fixed assets as leverage against loans, this lender's risk of suffering agency debt costs can be mitigated, so that businesses with more fixed assets can borrow more from lenders.

This study provides evidence about the significant negative association between size and total debt ratio of the firms, and this result is consistent with the pecking order theory. Results also indicate that a significant negative relationship exists between corporate profitability and total debt ratio, and this relationship is consistent with the pecking order theory and Yildrim et al., (2018). Regression results show that there is a significant positive association between growth and total debt ratio. The finding is in line with the pecking order theory, which suggests that internal funds might not be adequate to finance promising investment opportunities in firms' high growth periods, they may use external sources of funds such as debt to meet the funding needs of growth opportunities.

There is a significant positive association between the business risk and total debt ratio of the firms and these results are in line with the study of (Huang and Suang, 2006). Liquidity shows a significant negative association with the total debt ratio and these results are consistent with the pecking order theory. Regression results in Table 6 show that the effect of family ownership on long term debt ratio is insignificant. Results in Table 6 exhibit that there is a positive and significant

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Table 6:

EFFECT OF FAMILY OWNERSHIP ON DEBT

	LEV1	LEV2	LEV3
Constant	1.206***	-0.140**	1.346***
	(-6.001)	(-1.960)	(-6.959)
Family Ownership	0.095***	-0.013	0.108***
	(-2.650)	(-1.030)	(-3.144)
Tangibility	0.221***	0.405***	-0.187***
	(-3.022)	(-15.585)	(-2.657)
Size	-0.136***	0.001	-0.138***
	(-5.893)	(0.141)	(-6.172)
Profitability	-0.363***	-0.195***	-0.164*
	(-3.522)	(-5.319)	(-1.653)
M/B	0.085***	0.001	0.084***
	(8.141)	(0.182)	(-8.375)
Business Risk	0.000***	0.000***	0.000*
	(-2.802)	(-2.923)	(-1.839)
NDTS	0.089	0.087	0.003
	(0.213)	(-0.585)	(-0.008)
Liquidity	-0.090***	-0.001	-0.089***
	(-10.410)	(-0.453)	(-10.650)
DPS	0.000	0.000	0.000
	(-0.834)	(-0.715)	(-0.600)
Industry Dummy	Yes	Yes	Yes
R-squared	0.409	0.418	0.405
Adj. R Square	0.387	0.395	0.377
F-Statistics	21.325	20.325	18.075
Prob F-Statistics	0.000	0.000	0.000

This table reports fixed effects multivariate regression results of family ownership on the long-term debt ratio of the firms. t-statistics are reported in brackets. *, **, *** Significance at 10%,5% and 1% respectively.

relationship between family ownership and the short-term debt of the firms and the coefficient of the family firm is 0.108. This shows that family firms maintain a higher short-term debt ratio as compared to non-family firms in Pakistan. In

Pakistan, mostly firms fulfill their short, as well as long term financing needs from short term debt, that why family ownership is significant for short term debt and insignificant for long term debt ratio.

Hausman test is used for the selection of appropriate methods from fixed and random effects models for panel estimation. The p-value for the Hausman test is 0.0001, which is less than 1% and this shows that random effects are not consistent and efficient. So, this study prefers the parameter estimates of the fixed-effect model for panel estimation.

5. CONCLUSIONS

This study aims to examine the effect of family control on the corporate financing decision of firms in Pakistan by using univariate and multivariate analysis. The univariate analysis shows that family and non-family firms vary on the basis of several company characteristics, such as total debt ratio, long-term debt ratio, duration, profitability, tangibility, liquidity, market risk, and dividend per share. Hence, family firms behave differently from non-family firms in Pakistan.

The results of the multivariate analysis reveal that family ownership significantly affects the total debt ratio and short-term debt ratios. However, family ownership does not significantly influence the long-term debt ratio, this shows that family firms prefer to fulfill the majority of their financing needs from short term debt. Instead of financing long term projects from long term debts, firms generally fulfill most of their long and short-term financing needs from short term debts in Pakistan.

Family firms maintain significantly high "total debt ratio" and "short term debt ratio" as compared to non-family firms. There are two reasons for maintaining a high "total debt ratio" and "short term debt ratio" by family firms. First, family firms don't want to dilute their ownership and want to transfer ownership to next generation successfully; therefore, the family firms fulfill their major financing need from debt instead of issuing new shares. Second, family firms in Pakistan use extra cash flows for their private benefits and ultimately these firms need more external finance (as compared to non-family firms) in the form of debt to fulfill the financing needs of the firm. Third, family firms retain a high debt ratio to gain a maximum tax benefit. These findings reveal useful insights for investors, banks, regulators, and business families of Pakistan.

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ULOGA OBITELJSKE KONTROLE U ODREĐIVANJU STRUKTURE KAPITALA: SLUČAJ NEFINANCIJSKIH PODUZEĆA UVRŠTENIH NA BURZU

Sažetak

Ovaj rad ispituje učinak obiteljske kontrole na odluke o financiranju poduzeća u Pakista-nu. Korišteni su godišnji podaci 100 nefinancijskih poduzeća navedenih na PSX-u za razdoblje 2005.-2012. Za procjenu utjecaja obiteljske kontrole na odluku o financiranju poduzeća korištena je metoda običnog najmanjeg kvadrata (*ordinary least square, OLS*). Nalazi univarijantne analize pokazuju da postoji značajna razlika između obiteljskih i neobiteljskih poduzeća na temelju brojnih karakteristika poduzeća. Rezultati multivarijantne analize pokazuju da obiteljska poduzeća imaju značajno visok "omjer ukupnog duga" i "omjer kratkoročnog duga" u usporedbi s neobiteljskim poduzećima. Dva su razloga zašto obiteljska poduzeća drže visoke stope duga u usporedbi s neobi-teljskim poduzećima. Prvo, obiteljska poduzeća ne žele razvodnjavati svoje vlasništvo i zato svoje potrebe financiranja zadovoljavaju dugovima umjesto da izdaju nove udjele na tržištu. Drugo, obi-teljska poduzeća u Pakistanu koriste dodatne novčane tokove za svoje privatne koristi. Ovi nalazi otkrivaju korisne uvide za investitore, banke, regulatore i poslovne obitelji Pakistana.

Ključne riječi: struktura kapitala, obiteljsko vlasništvo, obiteljsko poduzeće, odluka o finan-ciranju poduzeća, razrijeđeno vlasništvo