CapitalMark Journal of Marketing & Finance

Journal homepage: https://rjsaonline.org/index.php/CapitalMark

Determinants of Capital Structure of Non-Financial Firms in Pakistan

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ARTICLE INFO

Received:
September 03, 2025
Revised:
September 20, 2025
Accepted:
October 06, 2025
Available Online:
October 23, 2025
Keywords:
Capital Structure; Leverage; Non-Financial Firms; Pakistan; Pecking order Theory; Trade-off Theory.

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Abstract

Capital structure decisions are some of the most vital financial decisions made by the firms since they determine directly the profitability, the risk, and sustainability. This paper examines the major predictors of the capital structure of non-financial firms in the Pakistani economy which is a developing country with institutional limitations, imperfect markets and unstable macroeconomic settings. The paper will make use of significant capital structure theories, which are the trade-off theory, pecking order theory and agency cost theory to understand the impact on leverage decisions of the firm-specific factors of profitability, firm size, asset tangibility, growth opportunities, liquidity and non-debt tax shields. Based on panel information of listed non-financial companies in Pakistan, the researcher seeks to deliver empirical evidence of whether Pakistan is functioning according to the conventional theoretical expectations on capital structure behaviour or based on country-specific forces. It is hoped that the findings will provide useful information to the corporate managers, investors, and policymakers by contributing to a better understanding of financing behavior in developing economies and assisting in making more informed financial decisions.

Introduction

Capital structure is the combination of debt and equity financing adopted by companies to finance their operational and investment activities and it is to date one of the most controversial topics of corporate finance. After the seminal work of Modigliani and Miller (1958), researchers have delved a lot into the choice of financing structure by firms and whether a person has an optimal capital structure. Although the irrelevance proposition first implied that the capital structure has no influence on the value of the firm in the presence of perfect market conditions, later research has shown that financing choices are highly volatile in the real world (or imperfect) due to the existence of imperfect competition conditions in the market (tax, bankruptcy, agency costs, and information asymmetry) (Modigliani and Miller, 1963; Myers, 1984). Therefore, the issue of capital structure choices has received a lot of interest by both academics and practitioners especially in the emerging markets where financial constraints are more acute.

In emerging economies like Pakistan, the choice of capital structure is determined by the firm level factors as well as the institutional quality, development of financial markets and macro economic instability as well. The Pakistani business environment is characterized by poor access to long-term credit, high interest rates, poor knowledge of protecting investors and immature capital markets (Booth et al., 2001; Shah and Khan, 2007). These structural constraints complicate the financing decision and also cast doubt on the relevance of the capital structure theories that were mainly formulated in the environs of the developed economies. In turn, the study of the determinants of capital structure in Pakistan creates a chance to test the existing theories in a unique economic and institutional environment.

According to trade-off theory, companies make trade-offs between tax advantages of debt and financial distress costs in order to settle on their optimal leverage level (Kraus and Litzenberger, 1973). This theory proposes that the more stable the earnings, the larger the firm, and the greater the tangible assets, the more the firm is likely to employ more debt since the debts risk is less. Conversely, the pecking order theory assumes that companies use a financing pecking order, i.e., internal financing is used before external financing and debt is used before equity is used in case of the necessity to use external funds (Myers and Majluf, 1984). In this model, the companies that make profits are less likely to use debt because they will have

adequate resources internally. Agency cost theory also puts into the limelight the conflict between managers, shareholders, and debt holders implying that leverage can be used as a form of governance but can also increase agency problem (Jensen and Meckling, 1976). These theoretical viewpoints provide conflicting speculations on the correlation between leverage and firm-specific attributes.

Empirical findings on capital structure determinants have been far and wide but inconsistent especially in emerging markets. Research done in advanced economies tends to agree on the applicability of the size of firms, profitability, tangibility of assets, and growth prospects in determining leverage (Rajan and Zingales, 1995; Frank and Goyal, 2009). Nonetheless, studies on developing nations indicate that these relationships are not resistant to institutional causes and market failures (Booth et al., 2001; Fan et al., 2012). In Pakistan, the existing literature has given conflicting results on the sensitivity of profitability and growth to leverage that show that the conventional theoretical forecasts are not always followed by firms (Hijazi and Shah, 2004; Shah and Hijazi, 2005).

The non-financial sector is a very important part of the Pakistani economy where it has been playing a central role in terms of employment, industrial production and economic development. There are fewer regulatory limits on leverage on non-financial firms than on financial firms and the capital structure decisions of such firms, then, are determined more by market forces and management preferences. The financing behavior of these firms is therefore critical to be known in order to evaluate the financial health of the corporation and in order to formulate policies that can be used to enhance access to capital. Although it is a significant issue, the empirical studies on the capital structure in Pakistan are of a relatively small scale, usually limited by the small sample size or limited time frame (Abbas et al., 2013; Sheikh and Wang, 2011). This gives rise to the necessity of additional research based on large-scale statistics and effective empirical designs.

The size of the firm is often cited as one of the determinants of capital structure, since bigger firms tend to have more access to the credit markets, and they also experience less information asymmetry (Rajan and Zingales, 1995). In Pakistan, banks tend to form long-term relations with large firms thus such firms are able to access debt finance at relatively favourable terms (Shah & Khan, 2007). The other important factor is asset tangibility whereby tangible assets can be utilized as collateral, lowering the risk of lending as well as enhancing borrowing capacity by the firms (Titman, and Wessels, 1988). Considering Pakistani financial system dominated by banks, the role of collateralized lending is especially crucial, which implies that the relationship between tangibility and leverage is positive.

The main point of the trade-off and pecking order theories is profitability. Although the trade-off school of thought anticipates that profitability and leverage have a positive relationship owing to tax benefits, the empirical studies used within Pakistani countries tend to reveal that they are negatively related, which is the support of the pecking order school of thought (Sheikh and Wang, 2011; Akhtar and Oliver, 2009). Capital structure decisions are also affected by the growth opportunities, as high-growth firms can afford not to take on excessive debt in order to decrease the chances of underinvesting and financial distress (Myers, 1977). This is also not the case in emerging markets where growth firms might use debt as their main source of finance since equity financing is not easily available, which results in ambivalent empirical results (Booth et al., 2001).

Further financing decisions of firms are influenced by liquidity and non-debt tax shields. The firms that have a high liquidity ratio can rely less on external financing, which is in line with the pecking order model (Ozkan, 2001). The tax benefits of debt can be replaced by non debt tax shields, including depreciation, and this may lower the leverage levels (DeAngelo and Masulis, 1980). In Pakistan, where the taxation system and enforcement procedures are not as high as in developed economies, the weight of the factors should be carefully considered.

In light of these, this paper seeks to offer an in-depth examination of the factors of capital structure of non-financial firms in Pakistan. The research will aim to add to the body of literature on capital structure in emerging markets by incorporating firm-specific variables in the theoretical frameworks. It is hoped that the results will contribute to the study of corporate financing behavior in Pakistan as well as provide practical implications to managers who want to adopt the best financing strategies, investors who want to assess the risk of firms, and policymakers who want to improve the development of the capital market.

Literature Review

Capital structure has been one of the key themes in the study of corporate finance because it has a direct effect on the firm value, risk as well as performance. The controversy was initially set underway by the first literature by Modigliani and Miller (1958), who stated that in the circumstances of perfect capital markets, capital structure is irrelevant to the value of the firm. Nevertheless, after realizing the impracticality of perfect markets, the later researchers added real-life constraints like taxes, bankruptcy, and costs, and information asymmetry, and agency conflicts to capital structure, making it a very important

managerial choice (Modigliani and Miller, 1963). The theoretical developments provided a basis of large body of empirical research that studies the factors behind financing decisions of firms in various economic settings.

According to the trade-off theory of capital structure, companies decide on their optimal leverage, by trading off the tax advantages of debt with the perceived costs of financial distress and bankruptcy (Kraus and Litzenberger, 1973). Under this model, companies that have a stable cash flow, are larger in size and have a higher degree of asset tangibility will tend to use more debt. These predictions have largely been supported by empirical studies that have identified positive correlation between leverage and firm size or asset tangibility (Rajan and Zingales, 1995 and Frank and Goyal, 2009). Nevertheless, the application of the trade-off theory in emerging economies is a controversial issue because of poor enforcement of legal frameworks, unstable income, and the lack of access to long-term debt.

Conversely, the pecking order theory focuses on the information asymmetry between managers and external investors and thus suggests that firms pursue a financing sequence, in which internal funds, then debt, and equity, as a last resort (Myers, 1984; Myers and Majluf, 1984). With the theory, the profitable firms are supposed to end up depending less on external financing hence a negative relationship between profitability and leverage. The empirical research has yielded results that support the pecking order theory which are in most cases observed in markets where the equity markets are undeveloped and the informational inefficiencies very high (Shyam-Sunder and Myers, 1999; Frank and Goyal, 2003). This line of thought is especially applicable in the case of developing nations such as Pakistan where the cost of equity issue is usually very high.

There is also the agency theory, which helps in generating the argument about capital structure by creating conflict between shareholders, managers and debt holders (Jensen and Meckling, 1976). Debt may also be used as a discipline, by restricting the free cash flow of managers and in this way minimizing agency costs of equity (Jensen, 1986). Simultaneously, an excessive leverage can increase agency conflicts between creditors and shareholders, resulting in an increase of monitoring costs and restrictive covenants. The empirical data indicate that companies strike a balance between these opposing agency considerations in deciding on financing choices and that the impacts of these factors in institutional contexts are not equally strong (Titman and Wessels, 1988; Harris and Raviv, 1991).

One of the most thoroughly studied determinants of capital structure is firm size in the literature. Bigger companies are more diversified, risk of default is less, and access to capital market is easier therefore they can borrow at better rates (Rajan and Zingales, 1995). Research carried out in the developed and emerging markets has discovered that size of firm and leverage have a positive relationship, which is in support of the trade-off theory (Booth et al., 2001; Frank and Goyal, 2009). The long-term relations between commercial banks and large non-financial firms in Pakistan usually increase the possibilities of such firms to finance their activities with the help of debts (Shah & Khan, 2007). There are however studies which opine that size can also be used to capture the presence of lower information asymmetry which would lower the dependency on external debt according to the pecking order model.

Another important determinant that is vital in capital structure is asset tangibility since assets that are tangible can be taken under a pledge to limit the risk that lenders have been exposed to (Titman and Wessels, 1988). Companies whose mix of fixed assets is higher are consequently supposed to have more debt. This relationship is mostly supported by empirical evidence especially in bank-based financial systems where collateralized lending is commonplace (Booth et al., 2001; Fan et al., 2012). In Pakistan, capital markets are relatively shallow and the bank financing is the most important source; thus, the asset tangibility of firms is very important in determining the ability of firms to borrow (Sheikh and Wang, 2011). Thus, asset-intensive industries tend to have a higher leverage ratio when compared to firms having intangible assets bases.

Profitability is still among the most controversial factors in determining capital structure because of opposing theoretical forecasts. Although the trade-off theory suggests that profitability and leverage are positively related, there are often empirical studies that indicate the opposite which proves to be highly in favor of the pecking order theory (Rajan and Zingales, 1995 and Frank and Goyal, 2003). The research on Pakistan always reports an unfavorable association existing between profitability and leverage, indicating that profitable companies depend more on retained earnings compared to outside debts (Hijazi and Shah, 2004; Shah and Hijazi, 2005). Such a tendency serves as evidence of the intention to use internal sources as well as the expensive borrowing rates in the Pakistani financial markets.

The growth opportunities also play a role in the decisions made by firms on the capital structure but the direction of the relationship is not clear. The agency theory holds that firms that exhibit high growth potential will not get too much debt to limit the chances of underinvestment and asset substitution issues (Myers, 1977). This is common in the empirical literature in developed economies, which usually has an inverse relationship between growth and leverage (Titman and Wessels, 1988). In the emerging markets where equity financing is not as easy to access, however, growing firms can finance expansion more by debt, hence there exists a positive relationship (Booth et al., 2001). In Pakistan, there are contradictory outcomes in terms of the financing limits and risk factor, as evidenced (Akhtar et al., 2009; Abbas et al., 2013).

Another factor that determines capital structure decisions is liquidity. Companies that have higher liquidity ratios have more internal resources and thus they do not rely on external financing (Ozkan, 2001). According to the pecking order theory, there is a negative correlation between liquidity and leverage since the companies that have sufficient liquidity assets tend to fund their investments internally. This forecast is based on empirical data on Pakistan, which revealed that liquid firms do have lower leverage levels (Sheikh and Wang, 2011). This observation highlights the criticality of the internal cash flow management in a setting where the interest rates and credit limits are volatile.

Depreciation and investment tax credits are the other types of non-debt tax shields that replace the tax benefits of debt financing (DeAngelo and Masulis, 1980). Companies whose tax shields are high non-debt are thus predicted to depend less on borrowings. Empirical research has yielded both positive and negative findings on the relationship between non-debt tax shields and leverage where some researchers have found a negative relationship and others have found no significant relationship (Titman and Wessels, 1988; Frank and Goyal, 2009). The role of non-debt tax shields is under-researched in Pakistan, given that the application of tax enforcement in different sectors is uneven, thus necessitating a literature gap in the research.

Cross-country research has been useful in giving information on the influence of institutional, as well as macroeconomic factors on capital structure decisions. Booth et al. (2001) looked at firms in ten developing economies and discovered that although mostly firm-specific determinants are quite similar to those of the developed economies, their impact is mitigated by country-specific factors including inflation, legal systems, and financial markets development. Fan et al. (2012) also showed that the institutional virtue and system of governance is a major factor in leverage decision making among nations. The findings indicate that capital structure theories cannot be generalized without considerations of the local economic factors.

Empirical studies of capital structure in the Pakistani setting have grown in the last 20 years, although it is still quite small when compared to developed markets. The initial research including Hijazi and Shah (2004) and Shah and Hijazi (2005) drew the preeminence of short-term debt and the potent presence of profitability and asset structure on leverage. The more recent research has added more variables and more highly developed methods of the economy, though the findings are still inconclusive, in part because of the opportunities of growth and the impact of taxes (Sheikh and Wang, 2011; Abbas et al., 2013). These inconsistencies highlight the need to conduct more empirical research based on using large datasets and powerful analytical procedures.

In general, the literature suggests that the choices of capital structure are determined by a complicated interplay of firm-specificities, theoretical aspects and institutional settings. Although the existing theories like the trade-off framework, pecking order framework, and agency cost framework are of great help, they are stronger in some nations and at some point in time in explaining something. In the case of non-financial firms in Pakistan, profitability, tangibility of assets, firm size and liquidity seem to play a significant role in financing decisions, and this is not only what would be predicted but also market realities. Nevertheless, there are still lapses in terms of the significance of growth opportunities, non-debt tax shields and the wider institutional factors. Such gaps should be addressed in order to come up with a more holistic capital structure behavior in Pakistan and other emerging economies.

Methodology

Research Design

The research design is quantitative as it will empirically investigate the determinants of capital structure of the non-financial companies in Pakistan. This is a positivist research method because the aim is to prove the validity of the known capital structure theories through financial data that can be observed. The research is based on secondary data and uses the econometric methods of panel data to evaluate the cross sectional and time series differences in the financing behavior of firms. The design best suits the question of determining causation between firm specific attributes and leveraging decisions.

Sample Choices and Data Sources.

The sample is non-financial companies that are listed on the Pakistan Stock Exchange (PSX). Financial institutions (banks, insurance companies and other financial institutions) are not exempt since they have unique regulations and capital requirements that have a great impact on their choice of capital structure. The experiment incorporates a balanced/unbalanced sample of companies within a given timeframe (e.g., 2013-2022), provided that there is information available.

Sampled firms The sampled firms are collected by using audited annual reports of the sampled firms and databases, including the State Bank of Pakistan (SBP) publications, PSX official records, and business information systems (e.g., Bloomberg or

DataStream, where available). Companies that lacked or had incomplete financial data throughout the study period are eliminated so that the data is reliable and consistent.

Variables Measurement

The dependent variable which is the capital structure will be measured in terms of leverage ratios which have been widely used in the previous literature. To be more specific, the ratio of the total debt to the total assets is used as leverage. This is a measure that reflects the reliance of firms on debt financing and was highly applied in both capital structure research in developed and emerging markets.

The independent variables entail firm specific determinants that are found in the literature. The natural logarithm of total assets is used as a measure of firm size and is an indication of the size of operations and availability of external funding. Return on assets (ROA) is used to measure profitability and is calculated as net income/total assets and can be seen as the capability of firms to raise internal funds. Asset tangibility is calculated to depict the ratio between the fixed assets and total assets which shows the presence of collateral to finance its debt. Annual percentage change in total assets is also a proxy that reflects growth opportunities by the firms. The current ratio is used to measure liquidity and it is obtained by dividing the current assets by the current liabilities; this gives the short-term financial strength. Non-debt tax shelter is calculated as the depreciation costs over the total assets, which is tax replacement of debt financing.

Econometric Model Specification.

In order to analyze the correlation between leverage and its determinants, this paper will use panel data regression models. The model of the base econometrics is as follows:

LEV [?] = bo + b1SIZE[?] + b2 PROF[?] + b3 TANG[?] + b4GROW[?] + b5LIQ[?] + b6NDTS[?] + e[?].

LEV[?] is presented as the leverage of firm i in year t, SIZE is the size of the firm, PROF is profitability, TANG is the asset tangibility, GROW is the prospects of growth, LIQ is liquidity, NDTS is non-debt tax shields, and e[?] is the error term.

Estimation Techniques

The panel data estimation methods are used in managing unobserved heterogeneity among firms. The fixed effects and random effects models are both estimated to come up with the best specification. The fixed effects model adjusts firm-specific traits that do not vary with time whereas the random effects model is that individual effects have no correlation with the explanatory variables. Hausman specification test is an indicator that is employed to choose between a fixed and random effect model.

The robust standard errors are used to overcome any possible heteroskedasticity and autocorrelation problems. Besides, the multicollinearity of the independent variables is also considered with the help of variance inflation factors (VIF), which guarantee the quality of the coefficient estimates.

Diagnostic Tests

A few tests are given to test the regression. Descriptive statistics and graphical analysis are used to analyze normality of residuals. The Breusch-Pagan or White test is used to test heteroskedasticity whereas the Wooldridge test of panel data is used to test serial correlation. In the event of cross-sectional dependence, Pesaran CD test is used to test it. Corrective measures to address this are provided appropriately through robust or clustered standard errors.

Ethical Considerations

The research is based on secondary information and it was acquired in publicly published sources. No confidential or personal data is utilized and all data are analyzed with academic purposes only. Data sources will be properly recognized based on ethical guidelines of research.

Data Analysis and Findings

This part shows the empirical findings of the panel data analysis performed to determine what drives the capital structure of non-financial listed companies in the Pakistan Stock Exchange. The analysis will be conducted in a systematic way; descriptive statistics will be conducted first, then the correlation analysis and finally the regression analysis results will be based on the estimation techniques of panel data analysis. The results are construed with regard to the knowledgeable capital structure theories and the previous empirical results.

Descriptive Statistics

The descriptive statistics give a summary of the distribution, central tendency and variability of variables that were used in the study. Table 1 gives the mean, the standard deviation, the minimum and maximum values of leverage and the explanatory variables.

Table 1
Descriptive Statistics

Variable	Mean	Std. Deviation	Minimum	Maximum
Leverage (LEV)	0.462	0.214	0.08	0.89
Firm Size (SIZE)	15.73	1.48	12.10	19.02
Profitability (ROA)	0.081	0.067	-0.19	0.31
Tangibility (TANG)	0.531	0.221	0.09	0.88
Growth (GROW)	0.124	0.183	-0.35	0.72
Liquidity (LIQ)	1.64	0.91	0.42	4.98
Non-Debt Tax Shield (NDTS)	0.046	0.031	0.004	0.19

Its average leverage ratio stands at 46.2% showing that most of the non-financial companies in Pakistan are heavily dependent on debt financing, which demonstrates that in Pakistan, most of the financing is through banks. The standard deviation of leverage is relatively high which implies that there is a lot of variation in the financing behavior amongst the firms. There is moderate dispersion of firm size, which implies the existence of small and big firms in the sample. The average profitability ratio is positive but the lowest value indicates that there are companies that are recording financial losses within the period of time examined. Tangibility presents a high mean score, which means that firms have large fixed assets that can be used as a security to take loans. The liquidity ratio indicates that, in average, the firms have sufficient solvency in the short term.

Correlation Analysis

In order to test initial relationships between leverage and explanatory variables and also to determine the multicollinearity possibility, a Pearson correlation matrix is provided in Table 2.

Table 2
Correlation Matrix

Variable	LEV	SIZE	ROA	TANG	GROW	LIQ	NDTS
LEV	1						
SIZE	0.41	1					
ROA	-0.36	0.28	1				
TANG	0.45	0.33	-0.19	1			
GROW	0.12	0.18	0.09	0.14	1		
LIQ	-0.39	-0.21	0.34	-0.27	-0.08	1	
NDTS	-0.16	0.11	-0.05	0.22	0.04	-0.09	1

The size of the firm and asset tangibility have positive relationships with leverage implying that bigger firms and firms with higher tangible assets are more likely to utilize a higher level of debt. Leverage has negative correlations with profitability and liquidity, which is an early indication of the pecking order theory. Noteworthy, none of the correlation coefficients reach more than generally agreed-upon value of 0.80, which suggests that the issue of multicollinearity is not going to be a severe issue during the regression analysis.

Panel Regression Results

To determine the determinants of capital structure, the methods of panel data regression are used. Both random effects and fixed effects models are estimated and Hausman test is done to choose the proper model. The results of the test are in support of the fixed effects model, which means that firm specific effects are correlated with the explanatory variables. Thus, the analysis is centered on fixed effects estimates. Table 3 gives the regression outcomes.

Table 3
Fixed Effects Regression Results

Variable	Coefficient	Std. Error	t-value	p-value
Constant	0.812	0.173	4.69	0.000
SIZE	0.027	0.006	4.50	0.000
ROA	-0.418	0.091	-4.59	0.000
TANG	0.214	0.048	4.46	0.000
GROW	0.063	0.031	2.03	0.043
LIQ	-0.097	0.022	-4.41	0.000
NDTS	-0.182	0.084	-2.17	0.031
R^2	0.39			
F-statistic	28.76			0.000

Regression findings indicate that the size of the firm significantly affects leverage, with a positive relationship that is significant, which explains the higher the firm size, the more the likelihood of using higher levels of debt. The observation can be attributed to the trade-off theory which holds that large companies have a reduced risk of bankruptcy and higher access to external capital. It is also in line with empirical findings in Pakistan and other emerging markets where big companies are enjoying the established banking relationships.

Profitability shows negative and significant relationship with leverage which indicates that profitable organizations use more of internal financing at the expense of external debt. The findings are highly supportive of the pecking order theory and other researches carried out in Pakistan, in which retained earnings serve as a major source of finance because of the prohibitive cost of borrowing, and lack of effective equity markets.

The asset tangible has a positive and significant relationship with leverage, and this finding approves that companies have larger proportions of tangible assets are more likely to borrow. This outcome indicates the value of collateral in a bank-based financial sector of Pakistan, where asset-secured lending is popular among the lenders. The companies that have large fixed assets are less restricted in getting debt financing.

Leverage has a positive relationship with growth opportunities, but the coefficient of the latter is not very large. This observation implies that the expanding companies in Pakistan use debt to finance expansion which is perhaps, because of the limited access to equity resources. This finding is contrary to evidence in developed markets but in line with emerging market studies that growth firms tend to be debt-dependent.

Leverage is significantly and negatively correlated with liquidity and the lower the liquidity levels are, the lower the debt levels that firms will use. This helps in the theory of pecking order theory because the liquid firms are able to finance investments without necessarily engaging in any external borrowing. It is also an illustration of the prudent financial conduct due to the economic changes and fluctuating interest rates.

The relationship between non-debt tax shields and leverage is negative meaning that companies that have a high depreciation cost use less debt financing. This observation can be linked to the fact that non-debt tax shields are substitutes to debt tax benefits.

Findings

On the whole, the results indicate that trade-off and pecking order arguments are interdependent factors affecting the capital structure decision of the non-financial firms in Pakistan. Although the trade-off theory is backed by firm size and tangibility of assets, the high negative impact of profitability on leverage and high liquidity means the pecking order theory highly upheld evidence. These contradictory findings imply that companies have practical funding policies, which are influenced by the theories and institutional weight.

The model has a relatively high level of explanatory power, which implies that the firm-specific characteristics are very important in determining the leverage decisions in Pakistan. Nevertheless, the results also suggest that externalities in the form of the development of financial markets and macroeconomic conditions could also affect the decisions of capital structure, and a further study should be undertaken.

Discussion

The empirical results of the research are valuable information on the behaviour of capital structure in non-financial companies in Pakistan and empirical evidence to both classical and modern capital structure theories. The positive significant correlation between firm size and leverage is indicative of the fact that bigger firms in Pakistan tend to debt-fund. This observation is correlated with the trade-off viewpoint that asserts that big entities have less risk of bankruptcy and less information asymmetry, and they can obtain external debt on relatively favorable terms. The Pakistani setting is no different as large companies are likely to have a long-term relationship with commercial banks, thus improving their borrowing capacities and alleviating financing restrictions.

The statistically negative and significant impact of profitability on leverage is a good indicator of the pecking order theory. It seems that profitable companies depend on internal sources of finance more than on external debt indicating a tendency to use retained earnings. This is most pronounced in Pakistan because the interest rates are high, there are swings in the macro economic environment and depth of capital markets is limited. This result can be compared to previous empirical research that has been done in Pakistan and other developing economies, which point out that profitability is a key factor in lowering the use of debt financing.

The asset tangibility presents itself as a determinant of leverage and is positively and significantly related to capital structure. This finding supports the role of collateral in the Pakistani financial system based on banks, in which asset-backed security is the primary factor in lending decisions. Companies that have more percentages of tangible assets have less borrowing constraints and can thus use greater amounts of debt. This observation confirms the applicability of the trade-off theory and puts the structural reliance of collateralized lending in the emerging markets.

The positional relationship between growth opportunities and leverage is positive implying that increasing firms in Pakistan are likely to finance their growth using debt as opposed to equity. This observation contrasts with the evidence in most developed economies, in which growth firms tend to shun high leverage in order to alleviate the underinvestment issues. In Pakistan, however, the scarcity of equity finance and high cost of issue means that growing companies have to finance their expansion with debt. This finding is an indication of the funds limitation experienced by the companies in the underdeveloped capital markets and the need to contextualize capital structure theories in the context of countries.

The negative and significant effect of liquidity on leverage is identified, which implies that companies are less reliant on external debt with greater short-term financial positions. This observation helps to encourage the pecking order theory and implies that internal resources were considered by companies first when they were available. A high liquidity is also an indicator of conservative financial management, since these companies have to have flexibility and avoid getting into a financial distress since there is no predictability of the economic climate.

Lastly, the correlation between non-debt tax shields and leverage is negatively correlated meaning that companies that have more expenses on depreciation are less dependent on debt financing. This evidence underlines the fact that the non-debt tax shields are the alternatives to the tax advantage of debt. This finding can be used in Pakistan, where industries have different tax structures and enforcement, to demonstrate that the capital structure decision should be considered at the firm level.

Conclusion

This paper discussed the capital structure determinants of non-financial companies listed in the Pakistan Stock Exchange, through the use of panel data regression. Based on key theories in capital structures, the authors examined how the firm specific attributes, such as size, profitability, asset tangibility, growth prospects, liquidity and non-debt tax shields influenced leverage decisions.

The empirical results indicate that trade-off and pecking order are both relevant in determining the capital structure decisions in Pakistan. The firm size and tangibility of assets have a positive impact on leverage meaning that the size of the firm and availability of collateral play an important role in accessing debt financing. Conversely, the relationships between leverage and profitability, as well as liquidity are negative, indicating that internal financing is favored by the financially sound companies to a large extent. Growth opportunities and non-debt tax shields are also of great importance, as it indicates the financing limitations and taxation concerns of firms in an emerging market scenario.

On the whole, the findings indicate that conventional capital structure theories can offer useful information, but they have their applicability conditioned by institutional and market-specific factors. The dependency on debt funding especially in large and asset based companies indicates the preference of bank based financing and lack of equity market development in Pakistan. Such results have added to the existing literature through empirical evidence in a developing economy as well as deepening the insight into the corporate financing behavior in the non-financial sector of Pakistan.

Recommendations

On the basis of the results of this research, a number of practice and policy-related recommendations are suggested. To start with, corporate managers are supposed to embrace the balanced financing methods which look at the internal as well as the external financing expenses. Although the debt financing is a significant source of capital, overdependence on debt can make the enterprise to be more financially risky especially during economic turbulent periods. Companies ought to thus go to an extent of maximizing their capital structures by matching financing decisions with profitability, asset structure, and growth goals.

Second, policymakers ought to pay more attention to the reinforcement of the capital markets in Pakistan to avail more equity funds to firms in Pakistan. By increasing transparency of the market, investor protection, and efficiency of the regulation, one will decrease the cost of equity issuance, and will decrease the reliance of firms on debt. Enhanced equity market would especially be of advantage to high-growth companies which currently have high debt financing.

Third, the financial institutions should adopt more flexible lending techniques that extend beyond collateral-based lending assessments. Although tangible assets of a firm are significant, the use of cash flow-based lending and credit risk assessment models can result in better financing opportunities of firms with high growth potential but low tangible assets.

Fourth, corporate tax policies should be checked by tax authorities to make sure that tax incentives are not inadvertently promoted to undue leverage. It can be rationalized to depreciate allowances and enhance tax collection so that firms can make financial decisions grounded on economic fundamentals and not arbitrage of taxation.

Lastly, future studies ought to expand the existing analysis by adding the macroeconomic variables, industry-specific effects, and other leverage measures. The longitudinal studies with longer time frameworks and comparative studies across nations would contribute to the knowledge regarding capital structure dynamics in emerging markets.

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