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Corporate Policy and Capital Structure Decisions: Empirical Evidence from Non- Financial Sectors of Pakistan

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Abstract *Capital structure is expressed as the mixture of long-term debt and equity that a company uses in its financing composition. The importance of long-term financing in any business cannot be misjudged because it identifies the choice of optimal financing mix for the long-run survival of the business. The basic purpose of this study is to identify the behavior of financing composition through main corporate financial decisions in the non-financial sector of Pakistan. Data has been taken for 52 non-financial companies for 2015-2020. Outcomes of the study have been retrieved through OLS, Fixed Effect, Random Effect Model and Hausman Test by using Eviews software. The main corporate financial policies regarding leverage decisions include a firm's profitability, earning volatility, firm size, non-debt tax shield, and liquidity. Results identified that earning volatility, liquidity and profitability of the firm have a negative but significantly related to leverage; on the other hand, the study denotes that assets tangibility, not debt tax shield, firm size positively related to leverage. However as per fixed effect model earning volatility, liquidity and profitability has negative significant impact on leverage whereas, assets tangibility and firm size has positive significant impact on leverage. It is concluded that earning validity, liquidity and profitability are negative determinants of the firm's leverage. Whereas, assets tangibility and firm size are the positive determinants of the leverage. The corporate policy regarding these determinants should be well recognized while designing the capital structure of the organization.*

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Corporate Policy, Capital Structure, Leverage, Earning Volatility

JEL Classification:

Introduction

The capital structure is composition of long term debt, preferred stock and common stock which is utilized to finance the long run projects of the business. Generally the composition of strategic capital structure is to design the optimal mix of long term debt and shareholder's equity in a manner that may enhance the value of the firm in a long run perspective. Stockholders are the owners of the firm who invest in the company for long time period and are committed but debt holders play the role of lender to the business and these lenders have no long term

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commitment. Lenders are only concerned to the repayment of their principal amount back as well as interest amount. Leveraged firm is that firm which have both equity and long term debt but the unlevered firm is that firm which have only equity segment. However tax deductible benefits are available in debt financing because cost of debt is tax adjustable. It is decided on the grounds that how much debt should be included in the composition of capital structure of the firm in comparison to the equity. As the cost of equity is great than the cost of debt due to tax adjustability of interest payment therefore the long term debt decisions are more important in designing the optimal combination of debt and equity mix which may lead to enhance the value of the firm. Hence, the price of the equity is more than the price of debt therefore a balanced mix of financing decisions are made which deemed to be suitable and more valuable for a corporate unit.

Corporate policy generally considered as a wider concept. However, evaluation of capital structure dependency is one of the key motive of these policies. Firm performance and size of the business play a dynamic role in the strategic financing decisions. Therefore, the tax effect and earning volatility has to analyze to see the changing impact of these corporate policies on leverage decisions. The main goal of a business is to increase the value of share for the shareholders, therefore, financial decision makers perform their duty in best way for optimizing the capital structure for a business. To select the best optimal capital structure, a company must have to increase the output and also have to minimize the cost to meet the challenge. (Pouraghajan and Maklekian, 2012). Firm may go either for equity or long term debt to invest in its assets. The best alternative is the mixture of debt and equity. However, in a situation where debt is taxable, mangers or decision makers may prefer to debt on equity because they are in a position to maximize the overall value of the firm (Azhagaiah and Gavoury, 2011). Agency cost issues may be seen while using the debt in capital structure of a firm. Agency cost conflicts may start between the shareholders and mangers of a firm and also between shareholders and debt holders (Jensen and Meckling, 1976).

Some companies prefers equity financing because stock valuation is advantageous, where debt finance uses during low valuation of stock. Financial decision makers weigh the financial market while financing for new project if the financial market condition favorable then firm take long term loan even if they do not need (Baker and Wurgler, 2002).

This study is significant because it is focusing on the changing corporate policies that may affect the capital structure decisions in Pakistan for non-financial sector. Moreover, this study contributes practically for decision makers that how corporate financial policy may be designed by considering the empirical evidences. The basic purpose is to see the impact of corporate policies on the capital structure decisions of the companies. Study has taken into consideration 52 non-financial companies listed on Pakistan Stock Exchange for the period of 2015 to 2020. Eviews software has been used to analyze the data.

Further this study is exploring to identify the factors that may affected the capital structure decision of non-financial companies in Pakistan in recent past. It is important because Pakistan is going launch its economy to robust the business and banking industry has enough financing to facilitate the business sector. Problem statement indicates that presently this issue is now more focusing upon the recent scenario of new business financing models in a post COVID

scenario in Pakistan and restructuring of the businesses. Therefore the capital structure decisions are the key decisions that may apply in the sense that may enhance the value of the firm in a long run perspective and to attain the basic goal of wealth maximization of shareholder of the company. The rest of article is organized as Follow: Section 2 described Literature Review. Section 3 consists on theories ad hypotheses. Section 4 data and methodology of the study. Section 5 provides results and discussion and section 6 provide conclusion.

Literature Review

Mei Qiu and Bo La (2010) used unbalanced data of 367 companies for the period 1992 to 2006 for Australian firms. The panel data findings showed that long term debt positively correlated with assets tangibility and have inverse relationship with growth. It was also found that levered firms generated more profit as compared to unlevered firms. However, profitability is found negatively associated with leverage. The impact of firm size was not found in this study.

Sheikh and Zong (2011) explored capital structure determinants for 160 non-financial for the period 2003-2007. The results specified that profitability, liquidity, earning volatility and assets tangibility were negatively associated with firm size.

Serghisescu and Vaidean (2014) tested 20 non-financial companies for the period 2009-2011by using OLS model and fixed effects model for Romanian Firms. They identified that profitability and liquidity were found adversely associated to leverage. However, tangibility was negatively associated with debt ratio. Furthermore, size of the firm was positively related with assets turnover.

Vatavu (2015) conducted a research on 196 Romanian firms listed for period of 2003 to 2010. The outcomes of study indicated that efficiency in Romanian firms has been improved while using equity and avoid debt finance. However, leverage has negative association with ROA and ROE.

Sadiq and Sher (2016) tested capital structure determinants for 19 firms from automobile sector for the period 2006-2012. Results identified that there was negative association between profitability and leverage.

Panda and Nanda (2020) examined a research, the purpose of this research was to observe the elements of capital structure and their relationship with the firm and macroeconomics factors for Indian manufacturing firms. Panel semi-parametric and non-parametric regression was used to find the key elements of capital structure. To find the continuing connection of financial leverage with its determinants, panel co-integration models were used. Data was reviewed of 1592 firms from 8 sectors over the period of 2007 to 2017. The study found that the level of debt expressively by assets tangibility, tax rate, growth opportunity, cash flow, not debt tax shield, profitability, size of firm, economic growth, foreign direct investment, interest rate and government borrowing.

Saif-Alyousfi et al.,(2020) examined the factors effecting capital structure for 827 companies for the period 2008 to 2017 listed on KLSE Malaysia. Results were testified through 2SLS and GMM approach and identified that ROA, liquidity, tax shield, growth and cash flow volatility is negatively associated with leverage. Earning volatility, the effect of collateral and non-debt tax shield has positive association with leverage. Furthermore, age of the firm, size of the firm, interest rate and inflation rate are also significant parameters of leverage.

Data and Methodology.

To analyze the impact of corporate financing decisions on optimization of capital Structure determinants in Pakistan. Data has been collected for 52 non-financial Pakistani Companies from 8 different sectors, namely, Textile, chemical, Cement sector, Power sector, fertilizer automobile industry, metal and metal products, construction and real estate. Financial data of these firms have been collected for a period of six years from 2015-2020. Research is grounded on secondary data only. Data has been taken from State Bank of Pakistan record and yearly fiscal individual results have been measured to do the observed estimation.

The panel data is strongly balance and have 300 observations. To evaluate the panel data E-Views Statistical software has been used for descriptive, correlation, OLS, Fixed Effects Model, Random Effect Model and Housman Test.

LEV〗_it=ß_0+ß_1(PROF)_it+ß_2 (EVOL)_it+ß_3(ATAN)_it+ß_4(FISZ)_it+ß _5(NDTS)_it+ß_6(LIQ)_it+ε_it (1)

Whereas

LEV〗_it=Leverage as dependent variable

(PROF)_it=Profitiblity

(EVOL)_it=Earning volailtiy

(ATAN)_it=Assets Tangiblity

(FISZ)_it=Size of the firm

(NDTS)_it=Non-debt tax shield

(LIQ)_it=Liquidity

ε _it=Error term .

Table 1. Proxies Table for Variable Computations

Variables	Symbol	Description	Proxy Used by
Leverage	LEV	Total debt divided by total assets	Delcoure (2007),Danso & Adomako (2014), Cheng and Shiu (2007)
Profitability	PROF	Ratio of operating income to total assets	Kahya & Ersen (2020). De Jhong et al,(2008), Danso & Adomako (2014)
Earning Volatility	EVOL	Ratio of the standard deviation of operating income to total assets	Danso & Adomako (2014), De Jong et al. (2008)
Assets Tangibility	ATAN	Ratio of fixes assets to total assets	Deesomsak et at. (2004) Kahya & Ersen (2020). Deitiana & Robin (2016)
Firm size	FSIZ	Log of total asset	Deitiana & Robin (2016) Danso & Adomako (2014), Kahya & Ersen (2020). Panda & Nand (2020).
Non-debt tax shield	NDTS	Ratio of depreciation expenses to total assets	Sheikh Wang (2011), Deitiana & Robin (2016), Panda & Nand (2020).
Liquidity	LIQ	Ratio of current assets to current liabilities	Danso & Adomako (2014) Kahya & Ersen (2020). Sheikh and Wang (2011).

Results and Discussion

The below table 2 display the mean, median, slandered deviation as a measure of central tendency and Kurtosis, Skewness and Jarque- Bera Tests indicate the normality level of the data.

Table 2. Descriptive Statistics

	LEV	EVOL	ATAN	FSIZ	LIQ	NDTS	PROF
Mean	0.180	0.018	0.66	17.07	1.50	0.031	0.048
Median	0.160	0.010	0.657	17.10	1.20	0.027	0.046

Maximum	1.005	0.213	2.262	20.37	7.57	0.145	0.288
Minimum	0	-0.224	0.056	13.70	0.09	-0.008	-0.26
Std. Dev.	0.15	0.06	0.37	1.55	1.11	0.02	0.09
Skewness	1.80	0.292	0.720	0.10	2.29	1.8194	-0.29
Kurtosis	8.7	4.6	4.0	2.2	9.9	8.7	3.8
Jarque-Bera	577.8	37.27	38.66	8.20	872.59	573.58	13.78
Probability	0	0	0	0.016	0	0	0.001
Sum	54.12	5.53	200.16	5121.26	451.71	9.57	14.51
SumSq. Dev.	7.33	1.1317	42.11	720.72	374.15	0.128	2.530
bservations	300	300	300	300	300	300	300

Descriptive statistics for leverage shows 0.18 ± 0.15 mean and standard deviation respectively and the leverage is positively skewed. Standard deviation indicates lower value that indicates low volatility. The average of earning volatility (EVOL) is 0.018 and Standard Deviation is 0.06 while skewness is positively related. Mean of assets tangibility is 0.66 and standard deviation is 0.37 and positively skewed. Mean of size of firm is 17.07 and Standard deviation of 1.55 and firm size is positively skewed. The average of liquidity is 1.505 and standard deviation is 1.11 while liquidity is positively skewed. Mean of liquidity is observed 1.50 it means that firms can get easy debt from lenders. Average of non-Debt Tax Shield is 0.031 and standard deviation is 0.02 while non-debt tax shield is negatively skewed. The result shown that firms get more leverage to entertain the tax benefits. Average of profitability is 0.048 and standard deviation is 0.09 and profitability is negatively skewed. The result shows that average profit is almost 5% which means that higher amount of debts lends to larger amount of interest paid which result as negative for profit.

Table 3. Correlation Matrix

The below Table Indicate the Correlations between the Variables

	LEV	ATAN	EVOL	FSIZ	LIQ	NDTS	PROF
LEV	1						
ATAN	0.39*	1					
EVOL	-0.33*	-0.30*	1				
FSIZ	0.18**	-0.04	-0.29*	1			
LIQ	-0.27*	-0.25*	0.14***	-0.15***	1		
NTDS	0.20**	0.65*	-0.13***	-0.12***	-0.07	1	
PROF	-0.10***	-0.01	0.03	0.10***	0.19**	0.05	1

Significant at p<0.01
Significant at p<0.05
Significant at p<0.10

Correlation matrix shows the relationship of independent variables with dependent variable. Results indicate that leverage is significantly positively correlated with assets tangibility at p<0.01, However, non-debt tax shield and firm size are correlated at p<0.05 level of significance with leverage, whereas leverage is found adversely related with earning volatility and liquidity at p<0.01 and leverage is negatively associated with profitability at p<0.10. However, Assets tangibility is positively correlated with non-debt tax shield while it is negatively correlated with earing volatility, size of the firm, liquidity, and profitability. Earning

volatility is negatively related with Firm size and Non-debt tax shield while positively correlated with liquidity and profitability. The Results shows that firm size is negatively correlated with liquidity and non-debt tax shield while associated positively with profitability. Liquidity is negatively associated with non-debt tax shield while positively correlated with profitability. Profitability and tax shield has positive correlation but not significant.

Table 4. OLS, Fixed Effect and Random Effect Model

DV= Leverage	OLS		Fixed Effects		Random Effects	
Variable	**Constant**	**Prob.**	**Constant**	**Prob.**	**Constant**	**Prob.**
C	-0.0974	0.342	-0.1161	0.258	0.05521	0.740
Earning Volatility	-0.4282	0.003*	-0.4332	0.002*	-0.3539	0.0002*
Asset Tangibility	0.13539	00000*	0.13468	0.000*	-0.0352	0.265
Firm Size	0.01382	0.0133**	0.0150	0.007*	0.01018	0.265
Liquidity	0.01916	0.013**	-0.0186	0.015*	-0.0143	0.019*
Non-debt tax shield	-0.1654	0.7471	-0.146	0.774	0.1435	0.769
Profitability	-0.1324	0.1395	-0.1874	0.0426	0.0498	0.4769
R-squared	0.24		0.26		0.07	
Adjusted R-squared	0.23		0.23		0.05	
Sum squared resid	5.5110		9.5504		3.8679	

**Significant at p<0.01*
***Significant at p<0.05*
**** Significant at p<0.10*

Table 4 indicates the results of OLS, Fixed Effect and Random Effect model regarding the impact of corporate policy of firm capital structure. The results indicated that earning volatility has negative but significant impact on long term debt at $p < 0.01$. Titman (1984), described that stakeholder have anxiety of insolvency for companies with variation in earning place control on the volume of leverage that such companies can undertake. The study finds out that assets tangibility has positive and statically significant impact on leverage at $p<0.01$. The positive relationship shows that a company with extraordinary tangibility leads to get high debt as compare to lower tangibility firm. Firm with lower tangibility unable to get attractive debts from landers. The results reveal that size of the firm has a positive and significant impact on leverage at $p<0.05$, if assets of a business increase, leverage also increase. Assets may be used as guarantee to get more external financing.

The impact of liquidity on leverage is negative and significant at $p<0.05$. The current result confirms the pecking order theory that predict an inverse association between leverage and liquidity. Research disclosed that non-debt tax shield has negative impact on leverage but insignificant and evidence support to trade off theory.

According to our findings, it is identified that profitability has negative impact on leverage but insignificant. Business having high profitability never go to take long term loan, High profitability means that there are enough internal funds available in the firm to run their operations. R-Square indicates that 24% independent variables explain to the leverage.

The results of fixed effect model indicates that earning volatility has negative and have significant impact on leverage at $p<0.01$. Assets tangibility has a positive and statically significant impact

on leverage at p<0.01. According to results it is examined that size of a business has significant impact on leverage at p<0.01. However liquidity has negative impact on leverage at p<0.05. While non-debt tax shield has negative impact but insignificant but it is evident that profitability has negative and significant impact on leverage at p<0.05. Here it is very clear that profitability increases internal equity and the debt financing proportionately comes down. Whereas in fixed effect model R-square indicates that 26% independent variables explain to the leverage dynamics. According to random effects result, earning volatility has negative and statically significant impact on leverage at p<0.01. Assets tangibility has negative but insignificant impact on leverage. According to the results there is positive and statically insignificant impact of firm size on leverage. Liquidity has positive and statically significant impact on leverage p<0.05.

Non-debt tax shield has positive and insignificant impact on leverage and profitability has positive but insignificant impact on leverage as well.

Further to evaluate that either fixed effect model is better or random effect is better. Hausman test is used to analyze the result.

Table 5. Hausman Test

Variable	Fixed	Random	Var(Diff.)	Prob.
Earning Volatility	-0.31857	-0.35393	0.001082	0.2824
Asset Tangibility	-0.12467	-0.03523	0.000412	0.000
Firm Size	-0.01459	0.01018	0.000145	0.0399
Non Debt Tax Shield	0.085662	0.143579	0.048704	0.793
Liquidity	-0.01571	-0.01433	0.000005	0.543
Profitability	0.014472	0.04985	0.001094	0.2848

Cross Section Random: Chi-squared $\chi^2 = 27.08$, Probability value =0.0001

The above results indicate that fixed effect model is better than the random effect model as the chi-squared statistics has probability value less than 0.01.

Conclusion

This study investigated and identified the determinants that may affect the financing mix strategies of the organizations during 2015 to 2020 and for this purpose 52 non-financial companies has been taken from various sectors listed on PSX. Following determinants have been testified for impact on leverage that include profitability, liquidity, assets tangibility, size of the firm, no- debt tax shield and earning volatility as independent variables. The empirical results provided evidences that supports pecking order theory and trade off theory.

Positive association is found between the assets tangibility and leverage that indicates that the greater size of fixed assets can be used as collateral for further financing and financial agencies should have more capacity to more finance. Earing volatility is negatively related with leverage. As the leverage increase the size of firm increases. Hence there is a positive connection between leverage and size of the firm. Firms needs to invest in real assets to increase their sale volume in comparison to other competitors. Furthermore, study found the positive relationship between non-debt tax shield and leverage. Leverage is negatively related to liquidity and profitability and

support pecking order theory Hamid et al (2020) and Akash et (2011)

It is found that capital structure decisions are not static decision making process it encompass the number of other determinants that have not been addressed in this study. For example the impact of lagged polices have not too much testified for the impact of previous polices on the current year and the earning volatility of the firms may be modeled in a panel GARCH model. However, we have some limitations in the current study like short sample of only 52 companies and from 2015 to 2020, it can be enhanced to greater size because this study is based on short time horizon; it is compulsory to increase the sample size of manufacturing companies for future study to address further determinants as well. The scope of this study may be enhanced to attain the more effective results it is suggest that the research may conducted on number of developed and emerging economies. This study is based on firm-specific variables of capital structure and it may enhanced with macro-economic policies of the country as well

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