

ANALYZING OWNERSHIP STRUCTURES AND DEBT MATURATION IN THE TEXTILE INDUSTRY DURING THE GLOBAL PANDEMIC

Muhammad Adeel Abbas¹, Muhammad Rafay^{1*}, Mehnaz Noor¹, Sidra Fatima¹,
Adeel Akhtar¹

¹ Division of Management and Administrative Sciences, UE Business School, University of Education Lahore, Jauharabad Campus, Pakistan.

Abstract

The study examined the impact of ownership structure on firm's debt maturity. In this study data is collected from 93 Non-financial firms that are listed in PSX Pakistan Stock Exchange. The data is collected for the period of 2015 to 2020. Non-financial firms included only Textile sector of Pakistan. The principal source of this data is the website State Bank of Pakistan (SBP) published as Financial Statement Analysis (FSA) of listed non-financial firms. Study used panel data analysis to find out the relationship between debt maturity and ownership structure. Various models are employed for data analysis, including ordinary least square (OLS), fixed effect (FE), and random effect (RE). Covid-19 used as a dummy variable in the research. The data showed that insider ownership had a positive and significant effect on debt maturity, while ownership concentration had a negative and significant effect. This study will help managers make choices about when to pay off debt and how to organize ownership.

Keywords: Debt Financing; Capital Structure; Textile Industry; Pandemic; Pakistan

1. Introduction

In this study we determined the impact of ownership structure on firm's debt maturity. A company's ownership structure can influence its debt maturity, which is the amount of time until the debt must be repaid. Debt maturity is an important consideration for businesses because it affects their financial flexibility and cash flow management. One way that ownership structure might impact debt maturity is through the desires of various types of shareholders. For example, if a company has a large number of institutional shareholders, these investors may prefer shorter debt maturities because they provide more liquidity and allow for more frequent capital structure adjustments. In contrast, if a company is owned by a small group of people, they may prefer longer debt maturities because they provide more security.

Debt maturity refers to the date on which a debt instrument, such as a bond or loan, becomes due for repayment. It is the date when the principal amount borrowed plus any interest accrued must be fully paid back to the lender. The maturity date is usually specified in the terms and conditions of the debt instrument, and it can range from a few months to several years or even decades depending on the type of debt and the agreement between the borrower and lender. The maturity date is an important consideration for both borrowers and lenders, as it determines the repayment schedule and the overall cost of the debt. Debt maturity is an important factor that affects the cost, flexibility, and creditworthiness of borrowing. It is essential for borrowers to understand the maturity of their debt and plan accordingly to avoid default and financial difficulties.

¹ **Corresponding Author:** Muhammad Rafay
Email: hafizMuhammadrafay.vf@ue.edu.pk

Corporations have various sources of funding available to them, including; Equity financing, corporations can raise funds by selling shares of ownership, also known as equity, to investors. This can be done through an initial public offering (IPO) or by issuing additional shares on the stock market. Equity financing can be a more flexible form of funding as there is no obligation to repay the funds raised, but it dilutes the ownership of existing shareholders. The second source of funding is Debt financing: Corporations can borrow funds from banks, financial institutions, or the bond market. Debt financing is typically structured as loans or bonds, with the obligation to repay the principal and interest over a specific period. Debt financing is often preferred as interest payments are tax-deductible, but it can also create additional risk and financial leverage. The third source of financing is Retained earnings: Corporations can use their own profits to finance their operations and expansion. This is called retained earnings, and it is a common source of funding for well-established companies that generate consistent profits. We selected the textile industry of Pakistan for our research as this is the largest sector of the country which is contributing more to the whole economy as compare to other sectors. Pakistan is the eight largest exporter of textile commodities in Asia. Textile sector contributes 8.5% to the GDP of Pakistan. In addition, the sector employs about 45% of the total labor force in the country. It is, in fact, the backbone of Pakistani economy. Our study also disclosed the effect of covid19 on firm's performance. As covid19 had influenced most of the firms by sudden reduction of demand of the goods and services. Covid19 disrupted the cash credit cycle, leaving many firms absolutely dry. A company's ownership structure looks at who owns the respective company. Those with private structures can control who buys and sells shares. Companies with public ownership can have public investors buy and sell shares on the open market. Ownership structure can impact how companies make decisions. In theory, ownership structure is one of the important factors affecting firm performance. According to the agency theory, separation of ownership and management causes costs, which detract firms from optimal performance and maximum potential shareholder value, which is the main purpose of firms.

1.1 Agency Theory

Agency theory is the main idea that is used to understand and solve problems in the relationships between bosses and their employees. Most of the time, this is the case when owners act as principals and company executives act as agents. Agency issues also have an impact on when the debt matures. When it comes to agency cost of debt, there are two parties involved: debt holders and stakeholders. These two parties have competing interests. According to (Myeres, 1977) the agency cost of debt is the cause of the underinvestment problem. Investors are hesitant to put money into businesses that generate modest profits and whose returns are expected to benefit only creditors. As a result, it lowers the firm's market capitalization because the market capitalization is determined by the present value of its assets. Myers contends that when there are growth prospects, the maturity date of debt should be lowered so that it can be paid off before the opportunities to grow run out. Due to the underinvestment issue, the growth potential have an impact on the maturity of debt.

1.2 Trade off Theory

This theory states that the best amount of debt maturity for increasing a company's market value involves a dynamic trade-off between the cost of bankruptcy associated with debt and the tax benefits of debt. Tax advantage is additionally influenced by tax rates and yield curve rates, whereas bankruptcy is influenced by the firm's volatility. So, a key element in determining debt maturity is the term yield curve. Furthermore, the choice of loan term is influenced by the cost of

floatation, which in turn influences interest rate. Companies want to use a long-term loan to avoid excessive floatation charges when the cost of floatation is elevated. Because of the positive theoretical and empirical relationship between interest rate and debt, businesses use short-term debt.

2. Literature Review

Hajiha et al., (2010) looked into how ownership structure and loan maturity structure are related. The information they got came from Iranian companies that were traded on the Tehran Stock Exchange between 2002 and 2009. To find out how ownership affects debt age, Multivariate regression analysis was used to look at the data. The results clearly show that managerial ownership and the presence of institutional investors have a good effect on the maturity of debt. Gujarati.,(2014) looked at how ownership affected the debt maturity structure of Chinese companies at a time when the bond market wasn't fully developed and the government held most of the commercial banks. All Chinese companies that only sell shares on the Shanghai Securities Exchange (SHSE) and the Shenzhen Security Exchange (SZSE) are in the sample pool that was collected. The data were put to the test with both Univariate and Regression analysis. The study found that businesses that were privately owned and businesses that were run by the government had easier access to long-term debt and used less short-term debt. The study by Lean et al., (2015) looked at how ownership concentration and family control affected the decision to pay off a company's debt. The sample is made up of 201 companies that are traded on the main board of Bursa Malaysia. In this study, a multiple regression model was used. We looked at how family ownership affects the link between ownership concentration and the choice to borrow money. The study found that (1) the more shares that the top shareholders own, the lower the leverage will be; and (2) ownership concentration has a smaller negative effect on leverage decision making in family businesses than in non-family businesses. Mendoza et al., (2019) studied how the ownership structure of Chilean companies affects the age of their debt in a way that is not linear. The information comes from 20,586 businesses. Also, they used a Tobit Regression Model and the Longitudinal Business Survey. Their findings showed that when owners held more of the debt, it would mature sooner. Wang et al., (2018) looked into how the structure of ownership affects how firms handle their capital. The figures are from 24220 businesses that were tracked from 1998 to 2015. Statistics that describe the variables that were used in this study. It also had signaling theory, packing order theory, and trade of theory in it. The study found that Chinese companies on the stock market have a lot more short-term debt than long-term debt. It also said that less debt is usually better when the biggest shareholder's share of the company grows. Martins et al., (2020) looked at how the firm's institutional environment and the number of people who owned shares in it affected the decisions made about when to pay off its debt. Since ownership concentration and debt maturity are two different types of governance, we think and look into whether the way countries are run affects how these two types of governance are linked in a way that makes it easier for small shareholders and debtholders to keep an eye on things from outside the company. A dataset of 50599 firms from 38 countries was used for their research. They use a method called "propensity-score matching." They discovered that the impact of having a lot of owners on the maturity of debt depends on the government features of the country. When both company protection and creditor rights are weak in a country, ownership concentration makes debt take longer to mature. It is true that ownership concentration tends to make debt maturities longer as protection levels rise, and this effect is stronger in countries that increase protection for debt holders rather than shareholders.

Mbanyele., (2020) talked about how ownership concentration affects how firms decide how much debt to take on. The sample is made up of information from 163 registered Italian companies from 2002 to 2013. The fixed effect estimates model was used. The study's findings showed that there was no straight-line link between the amount of ownership and the age of the company's debt. The study also found that family businesses in Italy have a lot of common owners and use less debt than non-family companies. Rasool, (2020) studied how the structure of ownership affects the age of a company's debt. The 78 companies on the Pakistan Stock Exchange (PSX) were used to make the sample. Over the course of 13 years, from 2004 to 2016, the data was gathered. It has been used to do statistical analysis with panel data analysis. The study's data showed that foreign ownership had a big, positive effect on when debts were paid off. Do., (2021) looked into the small and large factors that affect the maturity of company debt. The information comes from consumer goods companies that are traded on the Vietnam Stock Exchange. We used the feasible generalized least squares (FGLS) estimation and packing order theory to look at how different factors affect the age of debt. The findings showed that both small-scale (firm size, income, capital structure, and asset structure) and large-scale (inflation rate and credit growth) economic factors have a noticeable effect on the debt maturity. Feito-Ruiz et al., (2021) talked about how foreign institutional ownership (FIO) affects how quickly a company can change its debt. It came from 7246 businesses in 38 markets between 2000 and 2013. The 2SLS regression and DID estimates were used to find out how different FIO was. Dynamic trade theory was used to back up this work. The study's conclusion was that institutional investors help keep shareholders and management from having to deal with bad behavior. Overleveraged companies try to lower their financial leverage to get their capital structure back in balance, which is a good thing. Ruiz et al., (2021) looked at how small and medium-sized businesses (SMEs)' ownership structure affects the maturity of their loans. This small business was put on the Alternative Investment Market (AIM). The information on 227 public companies was gathered from 1998 to 2016. They used both cross-sectional and panel data to figure out the study's results. This study found that companies with more concentrated ownership have more long-term debt in their capital structure. Woods et al., (2021) looked into how institutional investors can be involved in making decisions about company governance. The study looks at a group of 10069 companies that were listed on the Shanghai and Shenzhen stock exchanges in China between 2014 and 2019. The letter estimation model was used to look at actual earnings and the prior estimation model was used to look at predicted earnings. The study proved that the structure of ownership changes the link between institutional ownership and the cost of capital. What the study found was that big investors with longer holding periods and higher shareholding ratios have a negative impact on capital decisions.

3. Methodology

3.1 Data and Measurements

This study gathers data exclusively from 93 Non-financial firms that are listed on the PSX (Pakistan Stock Exchange). Data has been gathered from 2015 to 2020. Only the Textile sector of Pakistan was comprised of non-financial enterprises. The primary data source for this information is the State Bank of Pakistan (SBP) website, namely the Financial Statement Analysis (FSA) of non-financial enterprises that are included.

The study employed panel data analysis to determine the correlation between debt maturity and ownership structure. The variables comprising ownership structure include insider ownership, ownership concentration, and institutional ownership. There is no variation in the

variability of the variables, and the data contains more useful information for analysis. Ordinary least squares (OLS), fixed effect (FE), and random effect (RE) models are utilized for data analysis. The primary regression model we employ is Ordinary Least Squares (OLS). We employed the Hausman test to ascertain the appropriateness of utilizing the random effect model for analysis.

3.2 Variables Measurements

The dependent variable in our study is debt maturity (DM). Different researchers used different proxies for debt maturity. We used proxy of debt maturity as long term debt over total debt as it is used by (Hussain et al. 2022). We used 3 independent variables that are insider ownership (IO) institutional ownership (INSO) and ownership concentration (OC). We measured insider ownership by dividing the number of insider shareholders over total equity (Habib et al. 2022). The INSO is measured by percentage of shares held by financial institutions (Tsai et al., 2007). Whereas OC is measured by percentage shares owned by ten largest shareholders (Abbas et al., 2013). We also included the controls as independent variables. The controls variable are firm's size, taxes, current ratio and profitability. According to Shan & Xu. (2011) the proxy used for firm size is taking natural log of the total assets. The Tax is calculated by taking natural log of the taxes. Profitability is measured by return on asset Abbas et al.,(2013) and liquidity is measured by current ratio of the firms.

3.3 Econometric Model

This study used Ordinary Least Square, Random Effect and Fixed Effect Models to make the data appropriate for analysis.

The econometric model is given below,

$$DM = \alpha + \beta_1(IO) + \beta_2(INSO) + \beta_3(OC) + \beta_4(PROF) + \beta_5(LIQ) + \beta_6(\ln TAX) + \beta_7(\ln ASSET) + \beta_8(Covid\ 19) + \epsilon_t \quad (1)$$

In above equation DM represent debt maturity that is dependent variable (DV). While IO, INSO, and OC are used as independent variables (IV). IO represents the insider ownership, INSO represents the institutional ownership and OC stand for ownership concentration. The controls $\ln ASSET$, $\ln TAX$, PROF and LIQ are also used as IV. This study also includes Covid19 as dummy to see its impact on firm's debt maturity structure. PROF represents the profitability of the firm and LIQ reports the liquidity or current ratio.

A represents the regression constant

β Represents the co-efficient for all variables used in this study.

ϵ_t Represents the error term

4. Results and Interpretations

The descriptive is used to explain data is in proper and meaningful manners. Descriptive statistics is used for the explanation of the basic characteristics of dependent and independent variables such as minimum, maximum, mean, median and standard deviation.

Table 1. Descriptive Statistics

Variable	Obs	Mean	S.D	Minimum	Maximum
IO	558	49.64489	27.57486	0.01	97.99
INSO	558	12.94545	16.01219	0	90.5349
OC	558	67.58388	20.27755	0	99.4658
DM1	558	0.263284	0.2954354	0	1
lnASSET	558	8395718	1.53E+07	0	1.18E+08
lnTAX	408	9.93154	2.231404	0	13.86046
PROF	558	-1.84595	18.39413	-94.11	317.38
LIQ	558	2.655719	18.56538	0	316.8322

Table 3 reports the descriptive statistics of variables. IO is insider ownership its mean is 49.64489 and its minimum and maximum value is 0.01 and 97.99, standard deviation is 27.57486. INSO represents institutional ownership whose standard deviation is 16.01219, its mean is 12.94545 and minimum and maximum value of INSO is 0 and 90.5349. OC is abbreviation of ownership concentration its mean value is 67.58388, standard deviation is 20.27755 and minimum and maximum value is 0 and 20.27755. lnASSET represent the firm’s size its mean value is 8395718 its standard deviation is 1.53E+07, minimum and maximum value 0 and 1.18E+08. lnTAX mean value is 9.93154, standard deviation is 2.231404 and minimum and maximum value is 0 and 13.86046. PROF is profitability of the firm its mean value is -1.84595 its standard deviation is 18.39413, minimum and maximum value is -94.11 and 317.38. LIQ is the liquidity of the firms its mean value is 2.655719 standard deviation is 18.56538 while minimum and maximum value is 0 and 316.8322. DM represent debt maturity that is 0.26328 it means firms use average 26.3 % long term debt, minimum and maximum value of debt maturity is 0 and 1, while standard deviation of debt maturity is 0.2954354.

Table 2 Correlation analysis

	IO	INSO	OC	DM	lnASSETS	lnTAX	PROF	LIQ
IO	1.0000							
INSO	-0.4265* 0.0000	1.0000						
OC	0.3068* 0.0000	-0.0045 0.9164	1.0000					
DM	0.1434* 0.0007	0.0175 0.6800	-0.0874* 0.0391	1.0000				
lnASSET	0.0337 0.4287	0.1189* 0.0050	-0.0508 0.2323	0.1900* 0.0000	1.0000			

lnTAX	0.0124 0.8035	0.1012* 0.0410	-0.1170 0.0180	0.2233* 0.0000	0.7853* 0.0000	1.0000		
PROF	0.0709 0.0942	0.0443 0.2959	0.0313 0.4613	0.0214 0.6139	0.1346* 0.0015	0.0844 0.0887	1.0000	
LIQ	-0.1122* 0.0080	0.1234* 0.0035	0.1023* 0.0156	-0.0682 0.1076	-0.1956* 0.0000	-0.1864* 0.0002	-0.0155 0.7143	1.0000

Table 2 describes the correlation between variables. IO has positive and significant correlation with OC and value is (0.3068*) and DM (0.1434*) while positive and insignificant correlation with lnASSET, lnTAX and PROF, whereas IO has negative significant correlation with INSO and LIQ. INSO has positive significant correlation with lnASSET(0.1189*), lnTAX(0.1012*) and LIQ(0.1234) while negative insignificant correlation with OC. Whereas INSO has positive and insignificant correlation with DM, lnTAX and PROF. OC has negative and significant correlation with LIQ and positive and significant correlation with LIQ. Whereas OC has negative insignificant correlation with lnTAX and lnASSET. But OC has positive and insignificant correlation with PROF. DM has positive and significant correlation with lnASSET and lnTAX, whereas positive and insignificant correlation with PROF while negative and insignificant with LIQ. lnASSET has positive and significant correlation with lnTAX and PROF whereas negative and significant correlation with LIQ. lnTAX has positive and insignificant correlation with PROF and negative and significant correlation with LIQ. PROF has negative insignificant correlation with LIQ.

Table 3 Variance Inflation Factor

Variable	VIF	1/VIF
lnASSET	2.75	0.363828
lnTAX	2.62	0.382095
IO	1.53	0.652227
INSO	1.41	0.707269
OC	1.18	0.848159
LIQ	1.11	0.902625
PROF	1.01	0.985669
Mean VIF	1.66	

To check the multicollinearity among the independent variables this study used Variance Inflation Factor (VIF). Table 3 shows the VIF and results reports that there is no multicollinearity between independent variables because all independent variables have the value of VIF less than 10. The values that are less than 10 show the less association of independent variables. Greater the value from 10 the greater the multicollinearity among the independent variables (Gujrati 2014). In table 3 all the values are less than 10 and the highest value is 2.75 it means that there is no multicollinearity among independent variables.

Table 4 Multiple Regression Models

Variables	OLS		RE		FE	
	coefficient	P value	coefficient	P value	coefficient	P value
IO	0.002	0.000	0.001	0.130	0.000	0.577

INSO	0.001	0.328	-0.001	0.161	-0.002	0.040
OC	-0.001	0.047	0.001	0.398	0.001	0.112
lnTAX	0.004	0.637	-0.003	0.729	-0.004	0.592
lnASSET	0.031	0.007	0.035	0.016	-0.007	0.805
PROF	0.000	0.540	0.000	0.518	0.000	0.565
LIQ	0.000	0.782	0.000	0.800	0.000	0.732
Covid 19	0.000	0.992	-0.001	0.934	0.007	0.644
F.value	6.530	0.000	15.860	0.026	1.460	0.171
N	408		408		408	
R Square	0.116		0.079		0.004	

Table 4 shows multiregression models that investigate the correlation between debt maturity (DM) and financial variables, including insider ownership (IO), intangible assets (INSO), operating cash flow (OC), tax (lnTAX), total assets (lnASSET), profitability (PROF), liquidity (LIQ), and the influence of COVID-19. The findings indicate that companies with greater insider ownership have a preference for long-term debt (LTD), suggesting a strong and statistically significant relationship between insider ownership (IO) and debt maturity (DM) significance level of 0.00). The study found that intangible assets (INSO) have a small but beneficial impact on DM, with a significance level of 0.328. On the other hand, operating cash flow (OC) has a substantial negative connection with DM, with a significance level of 0.047. This suggests that companies with strong cash flows are less dependent on long-term debt (LTD). Furthermore, there is a strong and statistically significant positive relationship between the size of enterprises, as shown by their total assets (lnASSET), and their tendency to select LTD. This is confirmed by a statistically significant p-value of 0.007. COVID-19 does not have a substantial effect on decisions considering the maturity of debt. Applying Random Effect Model (REM) and Fixed Effect Model (FEM) for panel data analysis produces comparable findings, enhancing our comprehension of the complex variables that impact enterprises' decisions regarding loan maturity in different economic situations.

5. Conclusion

This study was carried out to discover empirical evidence of an influence of ownership structure on corporate debt maturity for non-financial firms listed on the Pakistan Stock Exchange, The goal of this study was also to determine the empirical validity of several hypotheses in Pakistan's developing economies, Based on the literature and theoretical perspectives, we considered ownership concentration, insider ownership and institutional ownership as important determinants of ownership structure. We collected data from 2015 to 2020, a total of 93 companies from the website State Bank of Pakistan (SBP) published as Financial Statement Analysis (FSA) of listed non-financial firms. For statistical analysis, panel data regression, fixed effect model and random effect model are used. This study discovers a significant positive impact of IO and INSO on firm debt maturity. Whereas OC has negative but significant impact on debt maturity. Its means that firm with higher concentration prefer short term debt. Short term debt is mostly risky so firms should prefer less concentration to get long term debt. Our results indicate that the companies with higher INSO and IO is more suitable for LTD.

5.1 Implications and Limitations

Our study found various consequences for academic research, managers, and policymakers. Managers favor LTD over STD because of its lower interest rate. LTD helps managers forecast cash flow and capital budgets. Our data is limited to the textile industry, but other industries may be included in the future. This study employed static model, but future studies may use dynamic. One DM determinant, LTD, was utilized; others may be used.

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