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MODERATING ROLE OF LEVERAGE MATURITY ON THE RELATIONSHIP BETWEEN CEO DUALITY AND ASSET TANGIBILITY IN TEXTILE FIRMS: EVIDENCE FROM PAKISTAN

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ABSTRACT

This study investigates the moderating role of leverage maturity on the relationship between CEO duality and asset tangibility. The data consist of 101 textile firms listed on the Pakistan Stock Exchange (PSX) from 2012 to 2017. To establish causality, this study employed one step system generalized method of moment (system GMM) regression on panel data obtained through secondary sources. The results prove that CEO duality has a significant negative impact on asset tangibility but this impact is positively moderated by leverage maturity ratio during the study period. This study suggests that long term debt is a motivation for the management to hold more fixed assets in their asset structure because these are collateralized when in need of external financing.

Key words: leverage, long term debt, asset tangibility, financing.

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1. INTRODUCTION

The tangible assets serve as engines of revenue generation because they are key inputs to facilitate manufacturing process. Usually, manufacturing firms require huge investment in property, plants and equipment to have sustainable productions in the coming years. However, this is not sole purpose of tangible assets. In financial context, they can be used as collaterals by the managers to negotiate for loans. Information asymmetry theory supports this concept by advocating that the managers can negotiate the loans better if they have tangible assets on hand. Assets in place give them an edge over their counterparts in obtaining loans at better terms and conditions. Especially, in the context of debt with short term maturity, it is an added benefit that enables to reschedule the short-term loans on regular basis. In emerging economies, including Pakistan, the proportion of short-term debt in the capital structure is quite high. So, the need for tangible assets that can be used as collaterals becomes more crucial. It reflects that the management in need of short-term loans on regular and feasible terms require more tangible assets. Short term loans have high rollover risk in comparison to long term debt. This fact should lead to the acquisition of more fixed assets in the asset structure of firms. The first unique objective of this research is the determine the impact of CEO duality on the proportion of tangible assets in textile sector of Pakistan. Literature regarding the impact of CEO duality on financial leverage is diverse. Majority of the researchers that follow agency theory oppose the dual role of an individual as CEO and chairman board of directors. However, proponents of stewardship theory think opposite. They consider an enthusiastic member if given the dual role can serve the organization without much hustle. However, the theory on the moderating role of debt maturity is quite scarce which counts a novelty of this research. Second objective of this research is to capture the moderating role of leverage maturity on the relationship between CEO duality and asset tangibility. Previous evidence has focused on the financial leverage in various roles. Past studies treat financial leverage as independent variable, dependent variable and also in mediating/moderating frameworks but the literature on leverage maturity is scarce. However, a few recent studies regard it more crucial when compared with overall leverage. The third contribution of this paper is to study these relationships in an emerging economy i.e., Pakistan. Till the year 2017, the textile sector is the biggest sector among registered firms at Pakistan Stock Exchange. The proportionate share of textile sector is 37% among all the non-financial listed firms of Pakistan. Moreover, Pakistan has the lowest ratio of credit to GDP ratio and also the highest mark-up rates in the entire South Asian region (Hussain et al., 2020). This fact demonstrates that Pakistani firms find it difficult to acquire loans with ease and also at reasonable terms.

1.1 CEO Duality and Asset Tangibility

The collateral constraint theory suggests that firms with financially constrained managers need finance but they have to raise the collaterals to take advantage of the possible borrowing opportunities. Lin, Tsai & Hasan (2018) reported that firms with weak corporate governance quality are required to have higher value of assets as collateral. Nazar (2021) measured the impact of corporate governance indicators on firm investment in assets. The study revealed that CEO duality is negatively related with the change is firm assets in non-financial firms listed at

Colombo Stock Exchange. Khawaja, Bhatti & Ashraf (2019) proved that managers need to balance between bankruptcy and shareholder interest while issuing debt securities and these security issues relate to the asset tangibility due to their risk sharing capabilities. Risk, based on the risk management literature by Rampini, Sufi & Viswanathan (2014), shows that hedging is less of a priority for financially limited companies because it is optimally used to borrow to finance real estate. This can be inferred from the activities of an entity, as some types of collateral may be out of reach in entities with financial constraints. However, the dynamics of the risk potential and the characteristics of the CEO have never been observed.

H_1=The CEO duality is a negative determinant of asset tangibility in an emerging economy.

1.2 Moderating Role of Leverage Maturity

The acquisition of tangible assets as a tool to implement financial strategy describes that more tangible assets are targeted by firms seeking secure leverage facility (Lee, Koh & Kang, 2011). However, these tangible assets need to be productive as well because non-productive tangible assets are perilous. They put firm on insolvency track instead of being beneficial (Hussain et al., 2021). One of the reasons is that revenue generated through these assets are used for debt servicing and also, they are disposed-off at the time of loan maturity to redeem the liabilities. Hence, tangible assets are important whether from the loan acquisition point of view or the loan redemption point of view. Psillaki & Daskalakis (2008) analyzed the capital structure of SMEs from France, Greece, Italy, and Portugal. They inferred that the firms which invest more for tangible assets like property, plant, and equipment as compared to the intangible assets face lower financial distress costs. Joshi (2018) reported that firms with better risk management system issue more debt, and acquire more tangible assets. Increased debt causes more risk but it is neutralized through better risk management practices. Such firms also exhibit better cash flows with stability in sales and profits. Resource dependency theory explains that business assets are possible resources that are used to perform business operations and generate profitability. Fixed assets do not act only as operational wheels but also can be used as a source of bringing liquidity to the business through loan acquisition (Lowe, Naughton, & Taylor, 1994). This scenario establishes a positive link between financial leverage and fixed assets (Alipour, Mohammadi, & Derakhshan, 2015).

H_2=The Leverage Maturity moderates the relationship between CEO duality and asset tangibility in an emerging economy.

This paper is structured as this section introduces study and reports literature. Section 2 explains methodology, section 3 represents results and last section concludes the paper with possible research implications.

2. METHODS

This is an empirical study based on secondary data acquired through various sources for five years i.e., 2012 to 2017. There are 136 listed textile firms at the end of this period and we were able to extract the data from 101 firms. The data sources include; a) the financial statement analysis published by State Bank of Pakistan (SBP), b) the official website of Pakistan Stock Exchange (PSX) and c) also directly from the personal websites of each company. The data were extracted from the annually published and audited reports of the individual firms. The firms with missing data, with periods of no operations and delisting from PSX during any year were excluded from the sample.

2.1 Measurement of Variables

This study evaluates the impact of debt maturity on asset tangibility through moderation of CEO duality. Hence, asset tangibility is regarded as dependent variable measured as ratio between fixed assets and total assets (Xuezhou et al., 2021). Debt maturity is measured following Xuezhou et al. (2020), who divided firm's long-term debt to total debt. This ratio measures both the short term and long-term aspects of debt because it uses the total debt as denominator. It means if we apply a ratio of short-term debt to total debt, it will reveal same coefficients except for the direction of relationship (Hussain et al., 2020). The CEO duality is a dummy variable that becomes equal to '1' if duality exists and '0' otherwise. This study also used a few control variables that include asset growth, firm size and taxes. The detail description of the data is given in 'Appendix I' attached at the end of this paper.

2.2 Econometric Description

This study used a preferred dynamic regression model over static model. The static regressions are strict in nature and only capture the linear causal relationships. The dynamic models are more flexible in nature can generate predictive results in multiple dimensions. We have contemporaneous panel data set which have 101 firms having five-year data for each firm (N>T). We applied generalized method of moments (system GMM) approach. We preferred one step GMM over two step GMM because it has greater precision due to lower assumptions. The basic econometric models are presented in equations 1 and 2.

$$AT_{i,t} = \alpha_{i,t} + \beta_1 CDU_{i,t} + \beta_2 AGT_{i,t} + \beta_3 lnSIZE_{i,t} + \beta_4 lnTAX_{i,t} + \beta_5 yeardummy_{i,t} + \acute{\varepsilon}_t \quad (1)$$

$$AT_{i,t} = \alpha_{i,t} + \beta_1 CDU_{i,t} + \beta_2 LMR_{i,t} + \beta_3 (CDU * LMR)_{i,t} + \beta_4 AGT_{i,t} + \beta_5 lnSIZE_{i,t} + \beta_6 lnTAX_{i,t} + \beta_7 yeardummy_{i,t} + \acute{\varepsilon}_t \quad (2)$$

The notation AT represents asset tangibility and LMR shows debt maturity ratio. The control variables are shown by the notations AGT, lnSIZE and lnTAX for asset growth, firm size and taxes, respectively. The variable CEO duality is given as CDU and we introduced year dummy variables as well to control their time effects. The interaction between debt maturity ratio and CEO duality is shown as a cross product of these two i.e., CDU*LMR.

3. EMPIRICAL FINDINGS

This study focuses on the impact of CEO duality on asset tangibility with moderating role of debt maturity. In the first step, before applying the formal regressions, it is essential to understand the nature of data. We have a panel data set for 101 listed textile firms that constitutes 505 firm level observations for each variable. Table 1 reports the descriptive statistics of the study variables.

Table 1 Descriptive Statistics

Variable	Obs	Mean	Std Dev	Min	Max
AT	505	0.629	0.197	0.001	0.999
LMR	505	0.298	0.214	0	0.998
CEDU	505	-	-	-	-
AGT	505	0.076	0.578	-0.875	12.140
LnSIZE	505	14.751	1.43	10.595	18.592
LnTAX	505	16.402	0.008	16.348	16.458

The asset tangibility had a mean value of 0.629 indicating that a major portion of total assets comprises fixed assets in the textile sector of Pakistan and this value can vary up to 19.7% as indicated by the standard deviation. Debt maturity ratio indicates that this sector includes 29.8 % of its debt long term debt while remaining is acquired as short-term debt. It means the proportion of short-term debt is quite high when compared with long term debt. The CEO duality is a binary variable, so its meaningless to report it. The reported growth in assets of this sector is approximately 8%, but it varies up to 57.8% across firms. The minimum growth is reported at -87.5% whereas the maximum growth by any firm stood at approximately 120%. The firm size is measured as natural log of total assets and it had a mean value of 14.751 and standard deviation of 1.43. The logarithmic value of total taxes indicates a mean value of 16.402 and standard variation of 0.008.

Table 2 Correlations

Variables	AT	LMR	CEDU	AGT	LnSIZE	LnTAX
AT	1					
LMR	0.279**	1				
CEDU	0.035	0.058	1			
AGT	0.029	0.144**	-0.016	1		
LnSIZE	-0.150**	-0.008	-0.131**	-0.002	1	
LnTAX	-0.080*	-0.046	-0.087	0.033	0.540**	1

Note: The sign * & ** indicate significance at 5% & 1%, respectively.

Table 3 Multicollinearities

Variable	VIF	1/VIF
LMR	1.43	0.699
CEDU	1.42	0.703
AGT	1.03	0.972
LnSIZE	1.02	0.976
LnTAX	1.02	0.978
Average	1.19	

One of the basic assumptions of regression is to exclude the data series that have high multicollinearity. A general idea about this issue can be made by looking at correlation coefficients reported in table 2. However, absolute confirmation is made through variance inflation factor values that are reported in table 3. Although, table 2 reports few highly significant correlations but they are within limits and none of them exceeds 50% except the correlation between firm size and firm taxes that stood at 54%. In case of debt maturity ratio and asset tangibility, asset growth and debt maturity ratio and between size and taxes, there is significant positive correlation. Whereas, between firm size and asset tangibility and between firm size and CEO duality there is significant negative correlation. However, to further investigate multicollinearity table 3 reports variance inflation factor results. It can be seen that all VIF values are much less than 5%, indicating the non-existence of multicollinearity in our study model.

Table 4 System GMM Results

Variable	AT	AT
L1.AT	0.975***	1.007***
CEDU	-0.044*	-0.113***
LMR	0.190***	0.155**
CEDU*LMR		0.199**
AGT	-0.012	-0.012
LnSIZE	-0.050	-0.061
LnTAX	0.849	0.885
Yeardummy	Yes	Yes
Instruments	18	19
Groups	101	101
Wald Chi^2	89.73***	89***

Note: The sign *, ** & ** indicate significance at 10%, 5% & 1%, respectively.

The main findings of our study are reported in table 4. The single step system GMM results are reported in this table after and before the interaction of debt maturity ratio. The results indicate that CEO duality has a significant negative impact on asset tangibility. It refers that if the dual role of CEO and chairman board of directors is assigned to the same individual the investment if tangible assets will decline. It is also inferred that none of the control variables had significant impact on asset tangibility. The asset growth and firm size had an insignificant negative impact on asset tangibility whereas, taxes had an insignificant but positive impact on asset tangibility. The main contributing results of this study reveal that the firms having dual role will have more fixed assets in their asset structure when acquired more long-term debt in their capital structure. Therefore, one can predict that to have more tangible assets in asset structure reflects the tendency towards acquiring long-term loans. It also indicates the superior bargaining position of managers while searching for external loans as also explained through information asymmetry theory in past literature.

4. CONCLUSION

The study aimed at understanding the role of debt maturity on the presence of tangible assets of firms with dual role of CEO. The first objective was to unscramble the impact of CEO duality on asset tangibility which turned out to be negative but significant. It means that such boards prefer assets of non-current nature in their asset structure. However, if we associate the relationship with debt maturity, the results totally oppose these interpretations. In this scenario it was found that debt maturity ratio has a significant positive moderating effect on the asset tangibility in the textile sector of Pakistan. This study like many other studies have certain limitations. It is limited to a single country data and future studies should expand this analysis to other emerging countries as well. The data period may also be extended in future research to have more detailed insights into the topic. This study suggests that managers seeking for long-term debt in their debt maturity structure should possess reasonable amount of tangible assets that can be used as collateral. Further, the governments should make the credit supply easy and cheaper to the commercial sectors so that they can operate with their full potential.

Appendix I Operational Definition of Variables

Variable	Notation	Measurement	Author
Asset Tangibility	AT	Tangible assets scaled by total assets	Xuezhou et al., (2021)
CEO duality	CEDU	Binary variable; equal to ‘1’ if duality and ‘0’ otherwise	Switzer Tu, & Wang (2018), Smith, Pennathur & Marciniak. (2017)
Leverage Maturity	LMR	Long term debt scaled by total debt	Xuezhou et al., (2020), Fan, Titman, & Twite (2012)
Asset Growth	AGT	Yearly rate of growth in total assets	Hussain et al., (2018), Handoo & Sharma (2014)
Firm Size	LnSIZE	Natural log of total assets	Naseem et al. (2020), Saeed & Sameer (2017)
Taxes	LnTAX	Natural log of total taxes	Hussain et al. (2020)

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