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Industry, Firm, and Country Level Dynamics of Capital Structure: A Case of Pakistani Firms

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Abstract: The capital structure appears to be one of the most researched and the most controversial areas in modern corporate finance. Prior literature on determinants of capital structure has concentrated on firm and country level factors by employing static modeling. Static modeling has certain limitations, which do not allow companies to establish an optimum capital structure in line with economic uncertainty. This study makes a worthy contribution to the existing body of knowledge by filling the gap in the evolution of capital structure by employing a dynamic framework of the financial sector of Pakistan. In addition, the study brings into focus sectors' importance in determining the firm's financial behavior. Based on secondary financial sector data from 2006–2019, the article addresses the issues by employing two-step system generalized method of moments (GMM). The findings of the study validated the existence of dynamic capital structure across the financial sector of Pakistan and reinforced the substantial impact of sectors' unique environment on leverage mechanism. The results are robust under alternative estimation approaches and offer useful policy implications.

Keywords: dynamic capital structure; financial sector; two step-system GMM

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1. Introduction

This paper pertains importance because of three reasons. Firstly, the study uses dynamic modelling to check the financing behavior of the firms. Initial studies, focusing the capital structure determinants, have considered the observed leverage as an optimal leverage (Margaritis and Psillaki 2007; Rajan and Zingales 1995) and remained inclined towards static modeling. The static modeling encompasses certain limitations as it does not consider financial variations and observed leverage is treated as an optimal leverage. A more realistic approach necessitates the use of a dynamic model to investigate the dynamics of capital structure. However, dynamic modeling got material importance in capital structure literature only across developed and emerging countries In the context of developing countries, the dynamic framework has received much too little attention. There is no formal study to empirically evaluate the dynamics of capital structure in Pakistan to the best of the researcher's knowledge. In order to fill this vacant spot, study brings into focus the dynamic modelling to check the factors affecting capital structure decision of Pakistani firms. Secondly as the capital structure research remained engrossed in the non-financial sector of the economies across the developed and developing world including Pakistan Rafiq (2008), Sheikh and Wang (2013) by ignoring financial sectors of economies.

Similar to non-financial firms, firms from the financial sector do have their financial models which may be triggered by firms' own features and several external factors. To date, the majority of research has focused on firm and country-level factors as determinants of capital structure (Booth et al. 2001; Frank and Goyal 2003). However, the specific behavior of sector level factors has received no attention, which could indirectly alter the mechanism of financing of firms Because enterprises operate in a variety of sectors, each of which has its own dynamics, development prospects, riskiness, competitive environment, and amount of access to capital, sector level factors play a critical role in their performance. Given the fundamental role of sector level factors in firm performance, it is critical to investigate how this specific nature of sector level factors may influence the leverage mechanism of firms operating in developing economies. In Pakistan, capital structure literature has primarily focused on firm-level characteristics and macroeconomic factors that influence enterprises' capital structure decisions (Shah et al. 2004; Shah and Khan 2007). Lastly, but most importantly, the study considered three sector level factors, e.g., dynamism, munificence and industrial concentration along with few firms and country level factors to check their bearing on firms financing choice. To highlight the factors which affect capital structure decision of firm, two-step generalized method of moment (GMM) has been used in this study. The results confirm the existence of dynamic capital structure in financial sector of Pakistan. The coefficient value of lagged leverage is positive and significant, indicating that past leverage has a significant impact on current leverage. The element of past leverage in current leverage is almost 92%, which reflects that the current capital structure of Pakistani financial firms is grounded upon its historic capital structure.

Consistent with industry level factors which added novelty to this study, munificence postulates highly significant but negative relationship with debt. The results envisages that munificence positions approximately 19% negative change in capital structure decisions of firms. The results support the agency cost theory and related literature (Kayo and Kimura 2011; Smith et al. 2015). These statistical outcomes endorse the argument that in developing countries, industry munificence is a factor which cut short the usage of debt. The negative relationship can also be supported with the argument that these Pakistani financial firms hold rich resources and henceforth reduce leverage to achieve their targets. In relation with dynamism, the coefficient sign is positive which is also supporting the results of Kayo and Kimura (2011). This positive relationship predicts that firms have stable sales volume and are functioning in a less dynamic environment. These results are backing the argument that firms operating in a lesser dynamic environment tend to use an additional amount of debt. Finally, the Herfindahl-Hirshman Index (HHI) reported a significant negative association with leverage.

This study is a provider of worthy insights for banking and corporate sectors, especially in Pakistan. While developing their financial choices, firms should consider industry level factor in addition to the firm and country level factors. Likewise, the borrowing and lending procedures could be advanced by complying with dynamic mechanism. In addition, the outcomes of this research provide obstinate grounds for future research like role of industry level factors on financing decision of financial firms in the presence of dynamic modelling.

The rest of the paper is organized in the following manner. Section 2 inscribes a brief review of the literature. The leading section retains the information about methods, techniques to estimate, and formulation of variables used. After that, Section 4 outlines the outcomes and follows the discussions. The final section is relevant to the conclusion of the study.

2. Literature Review

In the presence of perfect markets, firms' values cannot be influenced by capital structure (Modigliani and Miller 1958). Due to the imperfection of capital markets; different taxes, cost of bankruptcy and incomparable choices of the financial structure have some influence on firms' values (Almășan et al. 2019). Firms exchange the cost and benefits

associated with debt and reach out to its targeted debt-equity ratio. Several studies tend to examine the factors influencing firms leverage. In a broader view, these factors can be a group in two heads. First, one broad head is firm-specific characteristics, and the other head is country-specific or macroeconomic factors. There are also some studies in which sector level factors like munificence, dynamism, HHI have also been incorporated (Kayo and Kimura 2011; Naveed et al. 2015). Afterward, revising the extensive literature concerning capital structure, we reached at the choice to pick the financial sector for the study. The rationale behind this selection is that minimum consideration has been given to this sector in the past. This study is in line with the literature from the manufacturing sector and contains understated country, sector, and firm-specific determinants.

2.1. Firm-Specific Determinants

2.1.1. Assets Tangibility

Tangibility holds a remarkable influence on firms' capital structure decisions. It is the extent to which a firm uses assets having physical existence. The physical assets are kept as collateral to acquire a loan. The availability of more tangible assets minimizes the cost incurred on debt. Tangible assets are backing firms as a tool to enhance bargaining supremacy from debt givers. In previous studies, mixed association has been observed between tangibility and leverage. A research study proposes that investors of leveraged firms have a motivation to capitalize timely to steal wealth from the firm's bondholders through giving tangible assets as a security (Myers 1977). Margaritis and Psillaki (2007), examined a positive correlation of leverage and firm's tangibility. Relevant to the aforementioned studies of Rajan and Zingales (1995), Frank and Goyal (2008), presented similar findings. Opposite to this; Naveed et al. (2015) and Booth et al. (2001), reported a negative association. Considering conflicting evidence and local dynamics, the following hypothesis is formulated for empirical investigation.

Hypothesis 1 (H1). *A negative association exists between assets tangibility and leverage of firm.*

2.1.2. Firm Size

Firm size in another very significant firm-specific factor influencing the financial structure of companies contradicting results spotted between theory and empirical findings between firm size and leverage of firms. Frank and Goyal (2008) stated that according to tradeoff theory, larger firms or companies have better opportunities to acquire debt financing because their occurrence of default is on the lower side. Contrary to this, Huang (2006), Margaritis and Psillaki (2007), Tong and Green (2005), Tóth and Mura (2014) supported the negative association.

Hypothesis 2 (H2). *A negative association exists between size and leverage of firm.*

2.1.3. Firm Profitability

Profitability is also considered as an explanatory factor for leverage which impacts the leverage decision of the firms. Previous literature does not portray a clear picture of this relationship, hence, mixed results found. Agency theory stated that positive association exists between firm profitability and leverage as profitable companies tend to bear lesser agency cost. This positive relationship has been presented by Jensen and Meckling (1976). In contrast, other researchers came out with negative association between profitability and debt (Imtiaz et al. 2016; Myers 1977; Myers and Majluf 1984; Titman and Wessels 1988). The hypothesis is developed by considering the agency theory.

Hypothesis 3 (H3). *A negative association exists between profitability and leverage of firms.*

2.1.4. Growth Opportunities

Another crucial predictor of the firm's leverage is the growth opportunities. According to the tradeoff theory, growth opportunities affect leverage decisions of firms negatively. The firms having greater growth prospects involve a massive amount of resources and eventually exploit a noteworthy volume of debt to meet their funding necessities (Frank and Goyal 2008). Positive connotation has been studied by Frank and Goyal (2008). Nevertheless, few studies like Myers (1977), and Gaud et al. (2005) supported negative affiliation between assets growth and firm leverage.

Hypothesis 4 (H4). *A negative association exists between growth and leverage of firms.*

2.2. Sector-Specific Determinants

Pertinent to financial structure, most of the prior studies focused on firm and country-specific factors across the globe (Frank and Goyal 2008; Kayo and Kimura 2011). In the area of capital structure, the effect of industry characteristics on leverage is often controlled. Frank and Goyal (2008) highlighted the effects of sector-level variables on firm financing decisions. According to Kayo and Kimura (2011), the sectoral impact on the financial structure of firms was ignored in literature because of the data limitations and the measurement problems. In the past, the impact of this sector was observed through the industry median and aggregation of the firm-level factors. However, these approaches do not show the real picture. Because of the unavailability of data in Pakistan, our study remained focused on three industry-specific factors: munificence, industry dynamism and concentration level of industry and could not consider policy stringency and production turnover growth, etc. Munificence and dynamism borrowed from Dess and Beard (1984), model recognized as the "multidimensional model of environment'. This model so far has been primarily used in the context of corporate strategies. In capital structure literature, few studies observed industry-specific variables effect on capital structure decisions of firms (Kayo and Kimura 2011; Smith et al. 2015). The direct influence of the concentration level of industry (HHI) on the leverage of firms was initially examined by Kayo and Kimura (2011). He examined a significant negative association between HHI and capital structure. Grounded on past literature, the study encompassed following sectoral variables to check their impact on leverage.

2.2.1. Dynamism

As a moderator, environmental dynamism was firstly used by Simerly and Li (2000) to examine the influence of leverage and performance. Dynamism is an essential component which imitates the index of volatility and instability of fluxes in any industry. The dynamism of industry looms a company's survival, since, for companies, it is difficult to counter the required changes which make their performance volatile (Palmer and Wiseman 1999). Simerly and Li (2000), detected that firms functioning in other dynamic industries incorporated a lower percentage of debt in their capital structure. Kayo and Kimura (2011) observed an insignificant positive connection between dynamism and leverage. Mittal and Kumari (2015), found a negative and significant association between leverage and dynamism.

Hypothesis 5 (H5). *A negative association exists between industrial dynamism and leverage of firms.*

2.2.2. Munificence

Another concept derived from the strategy field is munificence, which contributes a significant part of the combination of debt and equity. Munificence is the plenty and convenience of outside funds that has potential to sustained growth of organizations (Andrevski et al. 2014; Dess and Beard 1984; Vida et al. 2020). Castrogiovanni (1991) divided munificence into three types which are, capacity, decline or growth, and opportunities

or threats. Capacity is defined as the convenience of funds to companies in any industry. The decline or growth is the variation in these funds whereas threats or opportunities denote to the munificence, which is unidentified. The studies considering munificence along with capital structure are rare (Kayo and Kimura 2011). In the views of Smith et al. (2015), firms with abundant resources reduce the use of debt to achieve their target. In constant with "agency cost theory", Kayo and Kimura (2011) recognized a contrary association between munificence and firm's leverage, which simply established the relevance of agency cost theory.

Hypothesis 6 (H6). *A negative association exists between munificence and leverage of firm.*

2.2.3. Herfindahl–Hirshman Index (HHI)

"Industrial concentration" refers to a structural characteristic of the business sector. It is the degree to which production in an industry—or in the economy as a whole—is dominated by a few large firms. In 1982, when new federal merger guidelines were issued, the Herfindahl-Hirschman Index (HHI) became the standard measure of industrial concentration. Two types of industries exist, i.e., higher and lower concentrated. Lower concentration invites greater competition, and higher concentration is opposite to it. The concentration level can be optimally gauged through HHI. This lower or high-level concentration affects leverage decisions, and literature explored the mixed relationship between HHI and leverage. Previous studies observed that organizations operating under highly concentrated industries consume higher debt compare to those operating under lower concentrated industries (Brander and Lewis 1986).

Hypothesis 7 (H7). *A negative association exists between HHI and leverage of firm.*

2.3. Country-Level Determinants

Based on the argument that firms own factors having a more significant influence on the capital structure decisions of firms, a reasonable strand of studies remained focused on firm-level determinants of capital structure. However, few studies proved macroeconomic factors equally important as they affect the firm level factors (Booth et al. 2001; Kayo and Kimura 2011). However, according to (Mitton 2008), the influence of country-level factors on leverage mechanism of firms is lesser than firm-level factors. A combination of firm and country level factors gives more detailed insights into the leverage mechanism of firms. In line with these arguments, the study adopted two country-level factors; gross domestic product (GDP) and inflation to check their impact on the capital structure of financial firms.

2.3.1. Gross Domestic Product (GDP)

An essential indicator of a country's performance is GDP. Earlier Booth et al. (2001), encouraged to use economic growth as a determinant of leverage. This was also emphasized by Meyer and Meyer (2020), and Alenoghena et al. (2020). The prior studies exhibited different results concerning GDP and leverage. Stulz (1990), argued that in response to the GDP, growth firms customize the least debt in capital structure. Muhammad et al. (2020), Booth et al. (2001) and Deesomsak et al. (2004) provided positive affiliation between GDP and leverage. Opposite association spotted by Arif and Mai (2020).

Hypothesis 8 (H8). *A negative association exists between GDP and leverage of firm.*

2.3.2. Inflation

The expected inflation rate should be given due consideration as it affects numerous decisions of a firm. It is a country level factor, which hits the cost of debt and equity. In addition, it has a remarkable effect on equity markets and the amount of return grasped by investors. The change in the amount of inflation affects the interest rate, and hence, the value of debt declines. Numerous studies also came with the same results that a high

inflation rate allows the firms to use more debt (Bajaj et al. 2020; Neves et al. 2020). However, the studies of Flannery et al. (2020). (Khoa and Thai 2021) conveyed the significant negative connection between inflation and the firm's leverage.

Hypothesis 9 (H9). *A negative association exists between GDP and leverage of firm.*

2.3.3. Money Supply

Banks would have a lot of money to lend if the money supply is increased. This could lead to increased competition among banks, resulting in lower interest rates, which would speed up the economy by encouraging more borrowing and spending. Based upon this fact that the majority of literature suggests that monetary policy has a positive impact on debt (Berger and Udell 1998; Gertler and Gilchrist 1993; Zéman 2019). In general, profit-oriented banks are expected to expand loans to the private sector during periods of rising interest rates, resulting in increased firm-level debt. Firms can employ domestically generated cash for financing during periods of economic expansion since profits are higher. However, Cooley and Quadrini (2006), suggest the possibility of a non-linear relation between money supply increase and corporate debt increase. The response of firms' leverage to monetary shocks is subject to a trade-off between the benefits of extra funding versus the higher volatility of income induced by the new debt, according to their theoretical model. On the one hand, increased debt helps businesses to increase production size, resulting in higher projected income on the other side.

Hypothesis 10 (H10). *A negative association exists between money supply and leverage of firm.*

3. Materials and Methods

3.1. Data

This study uses a quantitative research approach to test the hypotheses. This research approach is preferable as it is objective and specific than qualitative research approach. In this approach, human bias is minimum and things are analyzed statistically (Rahman 2020). This study uses secondary data in the form of unbalance panel of firms listed at Pakistan Stock Exchange (PSX) and operating under the umbrella of the financial sector. The data for firm-level variables are retrieved from the "*Balance Sheet Analysis of Financial Companies Listed on Pakistan Stock Exchange (2006–2020)*" published by the State Bank of Pakistan (SBP). In addition to this, data for macroeconomic variables were retrieved from "Economic Survey of Pakistan" as well as from "World Bank's Development Indicators (WDI)". The financial sector consists of 124 listed companies at the Pakistan Stock Exchange. These firms belong to leasing, insurance, and banking sectors. The total number of firms of which data were used in this research was 55, of which, 23 firms belong to the banking sector, 32 to insurance and rest 10 are leasing firms.

3.2. Diagnostic Tests

Different diagnostic test tests have been performed before moving forward with the analysis to confirm the dataset's legitimacy and health. The data are organized for supplementary analysis in addition to the reliable diagnostic test. The following tests are carried out in order to diagnose the data:

- Descriptive summary;
- Correlation matrix;
- Wald test, Wooldridge test for heteroscedasticity and autocorrelation;
- Unit root test.

3.3. Statistical Analysis

In corporate finance, statistical analysis plays a crucial role to reach a decision. However, these statistical models are subject to certain limitations. Therefore, we performed necessary diagnostic testing to come up with reliable estimation. These tests include the panel unit root test, multicollinearity, and heteroscedasticity. In our study, we employed the two-step Sys-GMM. In order to encounter endogeneity biases, omitted variables, over identifying restrictions, measurement errors and autocorrelation in the panel dataset, Sys-GMM is best estimation technique to apply (Arellano and Bond 1991; Ozkan 2001). GMM is a good fit when the lag effect is there, meaning that the dependent variable is also based upon its past values. Moreover, it is suitable in controlling measurement errors and endogeneity issues. Inconsistent with application of Sys-GMM, basic criterion that N (the number of cross sections) > T (period) have been fulfilled as our study pertains data, where T = 15, and N = 55 (N > T). The estimation techniques of two-step GMM comprise both OLS and 2SLS, where 2SLS represents a special GMM case. In line with robustness check, DK regression standard errors approach has been employed which responds correctly to the problem of heteroscedasticity and auto-correlation (Driscoll and Kraay 1998; Khan et al. 2020). As a result of the preceding discussion, the econometrics static and dynamic models equations are as follows:

$$Capital\ Structure\ (Debt:Equity) = \int (Tangibility,\ Profitability,\ Size,\ Growth,\ Dynamism, Munificence, Concentration,\ Inflation,\ GDP) \quad (1)$$

The GMM two-step system has the following functions:

$$\begin{aligned} \gamma_{it} &= X_{it}\beta + \vartheta_{\gamma it-1} + £_I + \mu_{it} \\ \Delta\gamma_{it} &= \Delta X_{it}\beta + \vartheta_{\gamma it-1} + £_I + \mu_{it} \end{aligned} \quad (2)$$

where i represents the cross-sectional units, of which our sample has 55, t denotes time, which in our sample is 14 years, and it is supposed that the fixed individual effect is made up of a term of error. Moreover, ε as follows: E [ci] = E = [εit] = [ci εit] = 0, which would hold the properties as reflecting idiosyncratic shocks while the difference operator is Δ sign. Therefore, the two-step system GMM model can be written as:

Static Model:

$$\begin{aligned} D:E_{it} = \beta_0 + \ & \beta 1(Tangibility)_{it} + \beta 2(Size)_{it} + \beta 3(Profitability)_{it} + \beta 4(Growth)_{it} + \beta 5(Dynaisam)_{it} \\ & + \beta 6(Munificence)_{it} + \beta 7(Concentration)_{it} + \beta 8(Inflation)_{t} + \beta 9(GDP)_{t} \\ & + \beta 10(Oil\ Prices)_{t} + \beta 11(Money\ supply)_{t} + \mu_{it} \end{aligned} \quad (3)$$

Dynamic Model:

$$\begin{aligned} \Delta D:\mathrm{E}_{it} = \beta_0 + \ & \beta 1(D:E)_{it-1} + \beta 2(Size)_{it} + \beta 3(Profitability)_{it} + \beta 4(Growth)_{it} + \beta 4(Tangibility)_{it} \\ & + \beta 5(Dynaisam)_{it} + \beta 6(Munificence)_{it} + \beta 7(Concentration)_{it} + \beta 9(GDP)_{t} + \beta 9(Inflation)_{t} \\ & + \beta 10(Oil\ Prices)_{t} + \beta 11(Money\ supply)_{t} + \mu_{it} \end{aligned} \quad (4)$$

In the above equations, D/E is debt ratio belongs to firm 'i', for time 't' with firm, sector and country level factors, including tangibility (TAN), size (SIZ), profitability (ROA), growth (GRW), dynamism (DYN), munificence (MUF), concentration (HHI), GDP and inflation (INF). The equation of our dynamic model is presented in Equation (4), where $\Delta TDit$ is the difference in debt ratio for firm 'i' in time 't', with firm, sector and country factors stated above while 'μi' represent the time-invariant unobservable fixed-effects of firm and 'μt' represents the firm-invariant time-specific effect.

3.4. Formulation of Variables

Consistent with formulation of variables, the proxy of our explained variables is one (book value of equity/book value of assets) as used by Gropp and Heider (2010). Consistent with independent variables, Table 1 below provides full insights on the formulation of these variables.

Table 1. Formulation of variables.

Variable	Calculation	Source	Hypothetical Prediction
Tangibility	Fixed assets/total assets	(Naveed et al. 2015) (Liaqat et al. 2017)	–
Size	Natural log of total ASSETS	(Deesomsak et al. 2004)	–
Profitability	Return on assetsEBIT/total assets	(Ozkan 2001)	+
Growth	Annual percentage change in total assets	(Rafiq 2008)	+
Inflation	Annual growth in consumer price index	(Ozkan 2001)	+
GDP	Annual growth in nominal GDP	(Titman and Wessels 1988)	+
Oil Prices	Crude oil rates per barrel in USD	(Gay 2008)	–
Money Supply	"M2"	(Širůček 2011)	+
Dynamism	Standard error of the munificence regression slope co-efficient divided by the mean value of sales over the study period	(Kayo and Kimura 2011)	–
Munificence	Regressing time against sales of an industry over the period of study and taking the ratio of the regression slope coefficient to the mean value of sales over the same period.	(Kayo and Kimura 2011)	–
HHI	Market share of firm	(Kayo and Kimura 2011)	–

4. Results and Discussion

4.1. Summary of Statistical Results

In Table A1 of Appendix A, results of the descriptive statistics which are basic features of variables such as mean, standard deviation and maximum and minimum average values of each variable are presented. Inconsistent with our explanatory variables, a higher mean value is reported by op (oil prices) which is 68.039. Consistent with our dependent variable, the mean value is 7.637 while it reported 16.912 in terms of standard deviation.

4.2. Correlation Matrix Results

Multicollinearity occurs when two or more independent variables in a regression analysis are extremely close to each other, causing them to misinterpret authentic or partial data from the regression analysis. In order to check multicollinearity issues among explanatory variables, this study performed analysis of correlation matrix. These analysis are beneficial for the examination of the health of instruments (Masnoon and Saeed 2014). In Table A1 of Appendix A, which is of correlation matrix, no serious concern for multicollinearity has been observed. All independent variables are correlated to each other at a very lower intensity, and hence, in given Table A1, the highest correlation is observed between macroeconomic variables, GDP and inflation of 0.65 and when dynamism and munificence reaches 0.695. However, this value is below 70%, therefore, it creates no cause of concern.

4.3. Heteroscedasticity and Autocorrelation Test Results

Table A3 shows that the estimated FEM has standard error problems, as evidenced by the diagnostic results of the modified Wald test for groupwise heteroscedasticity, Pesaran's test of cross-sectional independence, and Wooldridge's test for autocorrelation in panel data. To overcome these problems, system GMM has been used, which is robust and utilizes DK-regression.

4.4. Two-Step Sys-GMM Results and Discussion

Table 2 presents the results of regression analysis in which Columns 1 and 2 show the static modelling results. The first column is devoted to "OLS" modelling. All firm level factors are significant at 1% except growth which reported as being an insignificant bearing on the capital structure decision of Pakistani firms. Inconsistent with industry level factors, dynamism pertains positive effect with a significance level of 10% while HHI is significant at the 1% level. In the second column of static modelling, fixed effect results have been displayed. In fixed effect modelling, only tangibility and GDP bring significant bearing on the debt-to-equity ratio.

In our third and fourth column of Table 2, results from the dynamic modelling have been portrayed. The results depict that Arellano–Bond (AR) test, applied for the zero autocorrelation in first-differenced, reveals AR (1) showing the existence of first-order autocorrelation. AR (2) shows no second order autocorrelation, implying that the moment conditions are correctly specified, and the original error term is serially uncorrelated at second-order. The Hansen and Sargan test was applied to examine the instrument's reliability and control the over-identifying restrictions in the analysis (Ali et al. 2020). Therefore, the Hansen test and Sargan tests to estimate the other restrictions were also validated. Consistent with the Sargan p-value, it must not be <5% or >10%. The higher the p-value of the Sargan statistic, the better. In our results, the p-value of the Hansen test is 0.172 and this p-value is within the range suggested by Roodman (2009), $0.25 \leq p < 1$). In our dynamic estimation, the results clearly show that Pakistani financial firms do have a dynamic capital structure. The coefficient value of lagged leverage is positive and significant, indicating that past leverage has a significant impact on current leverage. The substance of past leverage on current leverage is almost 92%. This reflects that the current capital structure of Pakistani financial firms is grounded upon its historic capital structure. More simply, it can be argued that lagged leverage is the critical determinant of current leverage, and the future is the repetition of the past. The obtained results validate the dynamic trade-off theory. In our dynamic results, tangibility, size, and munificence reported significant results.

The fifth column of Table 2 shows two-step GMM estimations, which indicate more accurate and robust results. In our GMM model, the results clearly show that Pakistani financial firms appear to have a dynamic capital structure. The coefficient value of lagged leverage is positive and significant, indicating that past leverage has a significant impact on current leverage. The past leverage has a nearly 92 percent impact on current leverage. This reflects the fact that Pakistani financial firms' current capital structure is based on their historical capital structure. Simply put, lagged leverage is the most important determinant of current leverage, and the future repeats the past. Consistent with GMM results, all firm level factors are affecting the capital structure decisions of Pakistani firms quite significantly. In line with these firm level factors, size, tangibility, and growth are significant at 1% level while the profitability's significance is observed at the 5% level.

Table 2. Two-step Sys-GMM Results and Discussion.

Variables	(1)	(2)	(3)	(4)	(5)
	Static Model		Dynamic Model		
	Pooled OLS	Panel Fixed Effect	Pooled OLS	Panel Fixed Effect	Two-Step System GMM
	Debt Equity	Debt Equity	Debt Equity	Debt Equity	Debt Equity
DE(-1)			0.92 ***	0.71 ***	0.91 ***
			(0.020)	(0.027)	(0.005)
TAN	0.01 ***	0.00 ***	0.00 ***	−0.004	0.00 ***
	(0.006)	(0.005)	(0.003)	(0.005)	(0.000)
SIZ	0.43 ***	0.225	−0.03 **	−0.33 ***	−0.04 ***
	(0.100)	(0.334)	(0.053)	(0.117)	(0.012)
PRO	4.64 ***	2.003	0.135	0.614	0.07 **
	(1.630)	(1.461)	(0.865)	(0.974)	(0.034)
GRW	0.141	−4.338	−0.701	−3.41 ***	−0.93 ***
	(1.897)	(2.685)	(1.049)	(1.155)	(0.104)
MUN	−15.516	−20.539	−19.88 *	−20.213	−18.94 ***
	(16.980)	(13.300)	(10.979)	(13.257)	(1.803)
HHI	−11.58 ***	−7.206	−3.19 **	−3.295	−2.93 ***
	(2.465)	(4.301)	(1.272)	(2.639)	(0.350)
DYN	248.83 *	1.857	203.93 **	137.149	177.31 ***
	(140.149)	(239.486)	(101.820)	(98.214)	(19.745)
INF	−1.362	2.229	0.429	0.464	−0.04 **
	(1.679)	(1.461)	(0.713)	(0.718)	(0.018)
GDP	−0.696	1.38 *	0.595	0.411	0.27 *
	(2.028)	(0.762)	(1.064)	(1.000)	(0.066)
MS	−1.930	3.043	−0.009	0.593	0.05 ***
	(1.832)	(2.276)	(0.531)	(0.918)	(0.010)
OP	0.241	−0.381	0.000	−0.072	−0.00 ***
	(0.234)	(0.284)	(0.064)	(0.110)	(0.004)
Constant	98.641	−145.145	−1.614	−22.618	0.000
	(90.987)	(115.038)	(28.021)	(45.831)	(0.000)
Year Effect	Yes	Yes	Yes	Yes	Yes
Observations	765	765	714	714	714
R-squared	0.108	0.057	0.783	0.549	
Diagnostics/Post Analysis					
AR1					−2.441
AR1(*p*-value)					0.0147
AR2					1.039
AR2(*p*-value)					0.299

Table 2. *Cont.*

Variables	(1)	(2)	(3)	(4)	(5)
	Static Model		Dynamic Model		
	Pooled OLS	Panel Fixed Effect	Pooled OLS	Panel Fixed Effect	Two-Step System GMM
	Debt Equity	Debt Equity	Debt Equity	Debt Equity	Debt Equity
Sargan					729.6
Hansen					26.96
Hansen(*p*-value)					0.172
j-statistics					49
Wald/Chi-square test					0.0000
Wald/Chi-square (*p*-value)					0.00
Number of groups		51		51	51

Note: *** Significant at the 1% level;** Significant at the 5% level; * Significant at the 10% level.

Based upon two step GMM results, tangibility has a significant positive effect on financing choice of Pakistani firms. This shows that a change in the tangible asset structure of Pakistani financial firms brings positive change in the use of debt. The more a firm has tangible assets, the maximum it can borrow for their financing mix by incorporating these assets as a collateral, increases. These outcomes of tangibility with leverage are in accordance with the results of studies conducted in developing countries (Czerwonka and Jaworski 2019; Imtiaz et al. 2016). This positive association provides more support to the trade-off theory.

These results are consistent with the literature (Margaritis and Psillaki 2007; Rajan and Zingales 1995). However, results contradict the findings of Khoo et al. (2017). Furthermore, in harmony with Rajan and Zingales (1995), the information about larger firms is less asymmetrical which encourages firms to issue equity securities and reduce the chances of undervaluation of new issuance. Adding more to the strand of discussion, the negative relationship between size and leverage supports the views that the information of large size firms is less-asymmetrical which fosters these firms to raise funds through the issuance of shares (Sutomo 2020).

In the case of growth, the observed relationship is negatively significant. The value of coefficient establishes that growth put forth approximately 0.938 negative variation on leverage. This statistical outcome contradicts with past studies (Bajaj et al. 2020; Doan 2020). The negative relationship of growth strengthens the argument that growing firms do have enough funds, and hence, this fulfills their funding needs through retained earnings. These results are in align with pecking order theory. By adding more in this aspect of discussion, these results negate the assessment of Myers and Majluf (1984), that growth puts the positive bearing on leverage because firms more likely have a habit of using debt for financing their growth opportunities instead of equity underpinned by insecurity.

In relation to profitability, the variable indicated a positive association with leverage. These positive results are in accordance with trade-off theory which reveals that higher profitability minimizes the chance of default risk and hence, firms deploy more amount of debt in their capital structure. It gives some sort of relief to debt sellers, and they provide debt in greater quantity (Oláh et al. 2019a, 2019b). These results are consistent with the results of Frank and Goyal (2008) but contradict some recent studies Khoa and Thai (2021) who observed a significant negative correlation between profitability and leverage.

In line with industry level factors, a higher significance relationship has been observed between all industrial factors and financing choice of financial firms working in Pakistan. In the case of munificence, a significant negative relationship has been found. The value

envisages that munificence deploys approximately 19% negative change in the usage of debt. Results support the agency cost theory and findings cross match the findings of Kayo and Kimura (2011); (Smith et al. 2015). These statistical outcomes endorse the argument that, in developing countries, the industry munificence is a factor which cut short the usage of debt. The negative relationship can also be supported with the argument that these Pakistani financial firms hold rich resources, and henceforth, reduces leverage to achieve their targets. In relation to dynamism, the coefficient sign is positive which is also supporting the results of Kayo and Kimura (2011). This positive relationship predicts that Pakistani financial firms have stable sales volume and are functioning in a less dynamic environment. Consistent with Simerly and Li (2000) and Kayo and Kimura (2011), it is discernible that firms tend to increase short-term leverage as uncertainty increases due to environmental variability. In the notion of agency cost theory, in order to reduce the cost of financial distress, firms may issue equity financing which operate under dynamic environment. These results are backing the argument that firms operating in a lesser dynamic environment tend to use an additional amount of debt. Finally, HHI reported a significant negative association with leverage. The negative sign of coefficient eventually supports the pecking order theory and indicates that most of Pakistani industries are less concentrated which lets firms employ lesser levels of leverage.

Inconsistent with macroeconomic factors, oil prices and money supply reported significance at 1% level, while inflation and GDP postulated significance at the level of 5% and 10% levels. The inflation influences leverage with a negative coefficient. This inverse relationship designates that a 1% change in the rate of inflation brings forth about 89% inverse impact on the application of debt. These outputs are in line with the empirical results of Li and Islam (2019). The higher the inflation rate is, the higher is the interest rate which ultimately increases the borrowing cost and discourages firms to use debt. These findings suggest that because of undervaluation, equity managers choose additional debt during inflationary periods. Moreover, in case these findings are consistent with Antoniou et al. (2008), firms reduce the use of long-term debt with the increase in the lending interest rate. It confirms the application of trade-off theory. In relation to GDP, results are significantly positive. Although the literature on capital structure with regard to its relationship with GDP is limited; however, a few studies have shown that firms tend to employ more debt during periods of higher economic growth (Booth et al. 2001). Our results imitate this: 1% growth in GDP in Pakistan triggers a 0.27% progressive change in the debt of Pakistani financial firms. These results confirm the empirical outcomes of Panda and Nanda (2020), and the argument that the growth of GDP molds Pakistani firms to use marginal debt to capture available openings. Rest of the both macroeconomic variables, i.e., money supply and oil prices put-forth positive and negative bearing, respectively. The positive association of money supply means that an increase in money supply facilitates corporate leverage as long as the growth of the monetary aggregate does not exceed certain level of liquidity.

4.5. Robustness Check of Driscoll-Kraay Standard Errors Regression

Table A4 in Appendix A shows the results of the robust checks using the DK standard error regression. Our results are confirmed in DK regression. The DK regression standard errors approach, according to John C. Driscoll and Kraay (1998), it corrects the problems of heteroscedasticity and autocorrelation. Overall, the results support and endorse the decision to use a two-step system GMM, to investigate endogeneity biases, omitted variables, over identifying restriction, measurement errors, and controlling autocorrelation in a panel dataset.

5. Conclusions

The study has essentially set out the importance of dynamic modeling in the financial sector of Pakistan. The results of the study are based on two-step system GMM. The study includes firm sector, and country level factors to evaluate the determinants of

capital structure of financial firms. Under dynamic modeling, results confirmed that Pakistani financial firms appear to have a target in their capital structure. The lag leverage triggered a positive association with leverage expressing that history is the best forecaster of future and henceforth Pakistani financial firms have a target in their capital structure. The outcomes proved the existence of dynamic trade-off theory in the financial sector of Pakistan. Additionally, the negative association of tangibility confirms the existence of trade-off theory. The statistical results for size are insignificant, and other firm-level factors, like profitability, is associated negatively with debt. These negative results support the pecking order theory. In line with sector level factors, dynamic estimation came with significant outcomes for all the factors, i.e., dynamism, munificence, and concentration.

In the case of dynamism, positive results have been observed while the rest of the variables predicted negative association with leverage. These results are in accordance with the outcomes of Kayo and Kimura (2011) and (Smith et al. 2015). Finally, dynamic modeling revealed significant impact for all macro variables, inflation, and GDP. In turn, dynamic modeling provided strong evidence about the existence of a dynamic capital structure in the financial sector of Pakistan. The findings of the study enhanced the existing body of knowledge and concluded that the firm's own characteristics are essential at the time of making financial decisions. However, sectoral and country level factors which enlarge this study also trigger the firm's financial decisions. Lastly, the study endorsed that history has a role to play in making capital structure decisions.

The findings of this study have a number of important implications for Pakistani financial companies and lending institutions. The study suggests several courses of actions. The key policy priority for firms' management is to consider preference order of sector-specific capital structure determinants. The significance of capital structure determinants is highly sensitive to sectors distinctive characteristics and also to different economic conditions. Secondly, as the importance of determinants varies across sectors, the study provides policy direction for firms and banking institutions to establish sector-based lending and borrowing mechanism. Pakistani listed non-financial firms are heavily reliant on short-term debt; the growth of listed firms can be enhanced through more dependence on long-term debt. Therefore, the State Bank of Pakistan needs to facilitate the corporate sector through reduction in the long-term interest rate and also to curtail the requirements for long-term borrowing. There is need to establish some credible benchmark for rates on long-term bonds issued by firms. In addition, high regulatory and administrative costs of issuing debt securities also need to rationalize for greater financial deepening in bond market of Pakistan.

The detailed research analysis can be extended in the future by incorporating more variables, subject to the availability of data. Incorporating the market value of debt whenever data are available in future, to verify the deviations between results obtained through the book and the market value of debt can also promulgate the future research agenda. Moreover, future research may include residual independent variables to check whether their dynamicity.

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Appendix A

Table A1. Descriptive Statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
DE	765	7.637	16.912	−79.5	187.026
TANG	765	0.068	0.117	−0.183	0.848
SIZE	765	15.499	4.582	0	23.758
PRO	765	0.035	1.2	−23.26	9.208
GRW	765	0.065	0.395	−5.102	6.218
MUNI	765	0.075	0.289	−0.436	0.997
HHI	765	0.187	0.186	0.036	0.763
INF	765	8.918	4.421	2.529	20.286
DYNA	765	0.012	0.036	−0.046	0.112
MS	765	54.313	3.163	48.1	59.037
OP	765	68.039	21.396	37.13	98.83
GDP	765	1.676	1.549	−1.04	3.683

Table A2. Correlation Matrix.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) TANG	1.000										
(2) SIZE	−0.355	1.000									
(3) PRO	−0.526	−0.028	1.000								
(4) GRW	−0.028	0.103	−0.021	1.000							
(5) MUNI	0.016	−0.064	0.059	0.002	1.000						
(6) HHI	−0.065	−0.208	−0.012	0.015	−0.105	1.000					
(7) DYNA	0.019	−0.059	0.061	0.002	0.695	−0.102	1.000				
(8) INF	−0.022	−0.013	0.084	−0.002	0.249	−0.013	0.248	1.000			
(9) GDP	0.019	−0.004	−0.060	0.014	0.100	0.006	0.101	−0.613	1.000		
(10) MS	−0.026	0.014	−0.029	0.024	−0.079	−0.012	−0.078	−0.330	0.316	1.000	
(11) OP	−0.000	−0.021	0.069	0.033	0.301	−0.007	0.299	0.237	−0.253	−0.356	1.000

Table A3. Heteroscedasticity and Autocorrelation Test Results.

Test	F	*p*-Value
Wooldridge test	12.279	0.001
Wald test	chi2 (51) = 1,400,000.00	0.000
Pesaran's test of cross-sectional independence	29.789	0.0000

Table A4. Unit Root Test.

Description	At Level (Statistics)	Decision
DE	−3.755 ***	I(0)
TANG	−2.240 ***	I(0)
SIZE	−3.869 ***	I(0)
PRO	−2.597 ***	I(0)
GRW	−2.647 ***	I(0)
MUNI	−5.939 ***	I(0)
HHI	−2.092 ***	I(0)
DYNA	−2.566 **	I(0)
INF	−2.010 **	I(0)
GDP	−1.453 **	I(0)
MS	−3.421 ***	I(0)
OP	−2.341 ***	I(0)

Note: *** Significant at the 1% level, ** Significant at the 5% level.

Table A5. Regression with Driscoll–Kraay Standard Errors.

de	Coef.	Std.Err.	*t*-Stat	*p*-Value
TANG	0.006	0.001	4.030	0.001
SIZE	0.367	0.092	3.970	0.001
PRO	0.496	0.167	2.960	0.010
GRW	−0.042	0.006	−7.350	0.000
MUNI	8.406	5.117	1.640	0.123
HHI	−7.635	6.512	−1.170	0.261
DYNA	−115.616	53.015	−2.180	0.047
INF	−0.064	0.050	−1.290	0.217
GDP	0.221	0.299	0.740	0.471
MS	0.152	0.127	1.190	0.253
OP	−0.025	0.012	−2.110	0.054
Constant	−2.449	6.259	−0.390	0.701
Observations	765			
Cross-sections	51			
R-squared	0.325			
F-stat	189.63			

References

Alenoghena, Raymond Osi, Olufemi Muibi Saibu, and Babatunde Wasiu Adeoye. 2020. Financial Development and Economic Growth in Nigeria: Asymmetric Cointegration and Threshold Analysis. *Forum Scientiae Oeconomia* 8: 44–63.

Ali, Minhaj, Shujahat H. Hashmi, Muhammad R. Nazir, Ahmer Bilal, and Muhammad I. Nazir. 2020. Does financial inclusion enhance economic growth? Empirical evidence from the IsDB member countries. *International Journal of Finance & Economics*. [CrossRef]

Almășan, Alina, Cristina Circa, Mădălina Dumitru, Raluca Gina Gușe, and Dragoș Marian Mangiuc. 2019. Effects of integrated reporting on corporate disclosure practices regarding the capitals and performance. *Amfiteatru Economic* 21: 572–89.

Andrevski, Goce, Orlando C. Richard, Jason D. Shaw, and Walter J. Ferrier. 2014. Racial diversity and firm performance: The mediating role of competitive intensity. *Journal of Management* 40: 820–44. [CrossRef]

Antoniou, Antonios, Yilmaz Guney, and Krishna Paudyal. 2008. The determinants of capital structure: Capital market-oriented versus bank-oriented institutions. *Journal of Financial and Quantitative Analysis* 43: 59–92. [CrossRef]

Arellano, Manuel, and Stephen Bond. 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies* 58: 277–97. [CrossRef]

Arif, Imam Akbar Ilham, and Muhammad Umar Mai. 2020. The Determinants of Capital Structure: A Comparative Study between Sharia and Non-Sharia Manufacturing Companies in Indonesia Stock Exchange (IDX). *International Journal of Applied Business Research* 2: 73–85. [CrossRef]

Bajaj, Yukti, Smita Kashiramka, and Shveta Singh. 2020. Capital structure dynamics: China and India (Chindia) perspective. *European Business Review* 32: 845–68. [CrossRef]

Berger, Allen N., and Gregory F. Udell. 1998. The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. *Journal of Banking & Finance* 22: 613–73.

Booth, Laurence, Varouj Aivazian, Asli Demirguc-Kunt, and Vojislav Maksimovic. 2001. Capital structures in developing countries. *The Journal of Finance* 56: 87–130. [CrossRef]

Brander, James A, and Tracy R. Lewis. 1986. Oligopoly and financial structure: The limited liability effect. *The American Economic Review* 76: 956–70.

Castrogiovanni, Gary J. 1991. Environmental munihcence; a theoretical assessment. *Academy of Management Review* 16: 542–65. [CrossRef]

Cooley, Thomas F., and Vincenzo Quadrini. 2006. Monetary policy and the financial decisions of firms. *Economic Theory* 27: 243–70. [CrossRef]

Czerwonka, Leszek, and Jacek Jaworski. 2019. Determinants of enterprises' capital structure in Poland: Evidence from Warsaw stock exchange. In *Eurasian Economic Perspectives*. New York: Springer, pp. 249–62.

Deesomsak, Rataporn, Krishna Paudyal, and Gioia Pescetto. 2004. The determinants of capital structure: Evidence from the Asia Pacific region. *Journal of Multinational Financial Management* 14: 387–405. [CrossRef]

Dess, Gregory G., and Donald W. Beard. 1984. Dimensions of organizational task environments. *Administrative Science Quarterly* 29: 52–73. [CrossRef]

Doan, Thu-Trang Thi. 2020. Determinants of financing decisions: Evidence using GMM estimation. *Accounting* 6: 681–86. [CrossRef]

Driscoll, John C., and Aart C. Kraay. 1998. Consistent covariance matrix estimation with spatially dependent panel data. *The Review of Economics, & Statistics* 80: 549–60.

Flannery, Mark J., Jan Hanousek, Anastasiya Shamshur, and Jiri Tresl. 2020. *M&A Activity and the Capital Structure of Target Firms*. Available online: https://ssrn.com/abstract=3638015 (accessed on 5 September 2020).

Frank, Murray Z., and Vidhan K. Goyal. 2003. Testing the pecking order theory of capital structure. *Journal of Financial Economics* 67: 217–48. [CrossRef]
Frank, Murray Z., and Vidhan K. Goyal. 2008. Trade-off and pecking order theories of debt. *Handbook of Empirical Corporate Finance*, 135–202. [CrossRef]
Gaud, Philippe, Elion Jani, Martin Hoesli, and Andre Bender. 2005. The capital structure of Swiss companies: An empirical analysis using dynamic panel data. *European Financial Management* 11: 51–69. [CrossRef]
Gay, Robert D., Jr. 2008. Effect of macroeconomic variables on stock market returns for four emerging economies: Brazil, Russia, India, and China. *International Business, & Journal, Economics Research* 7. [CrossRef]
Gertler, Mark, and Simon Gilchrist. 1993. The role of credit market imperfections in the monetary transmission mechanism: Arguments and evidence. *The Scandinavian Journal of Economics* 95: 43–64. [CrossRef]
Gropp, Reint, and Florian Heider. 2010. The determinants of bank capital structure. *Review of Finance* 14: 587–622. [CrossRef]
Huang, Guihai. 2006. The determinants of capital structure: Evidence from China. *China Economic Review* 17: 14–36. [CrossRef]
Imtiaz, Farhan, Khaled Mahmud, and Avijit Mallik. 2016. Determinants of capital structure and testing of applicable theories: Evidence from pharmaceutical firms of Bangladesh. *International Journal of Economics and Finance* 8: 23–32. [CrossRef]
Jensen, Michael C., and William H. Meckling. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3: 305–60. [CrossRef]
Kayo, Eduardo K., and Herbert Kimura. 2011. Hierarchical determinants of capital structure. *Journal of Banking & Finance* 35: 358–71.
Khan, Muhammad Atif, Domicián Mate, Elyas Abdulahi, Rabeea Sadaf, Muhammad Asif Khan, Jozsef Popp, and Judit Oláh. 2020. Do institutional quality, innovation and technologies promote financial market development. *European Journal of International Management* 14. [CrossRef]
Khoa, Bui Thanh, and Duy Tung Thai. 2021. Capital structure and trade-off theory: Evidence from Vietnam. *The Journal of Asian Finance, Economics, and Business* 8: 45–52.
Khoo, Joye, Robert B. Durand, and Subhrendu Rath. 2017. Leverage adjustment after mergers and acquisitions. *Accounting & Finance* 57: 185–210.
Li, Larry, and Silvia Z. Islam. 2019. Firm and industry specific determinants of capital structure: Evidence from the Australian market. *International Review of Economics & Finance* 59: 425–37.
Liaqat, Idrees, Shamila Saddique, Tanveer Bagh, Muhammad Atif Khan, Mirza Muhammad Naseer, and Muhammad Asif Khan. 2017. Capital structure as driving force of financial performance: Case of energy and fuel sector of Pakistan. *International Journal of Accounting and Financial Reporting* 7: 86–101. [CrossRef]
Margaritis, Dimitris, and Maria Psillaki. 2007. Capital structure and firm efficiency. *Journal of Business Finance & Accounting* 34: 1447–69.
Masnoon, Maryam, and Abiha Saeed. 2014. Capital Structure Determinants of KSE Listed Automobile Companies. *Masnoon & Saeed 2014" Capital Structure Determinants of KSE Listed Automobile Companies" European Scientific Journal, May Edition* 10: 451–61.
Meyer, Daniel Francois, and Natanya Meyer. 2020. The relationships between entrepreneurial factors and economic growth and development: The case of selected European countries. *Polish Journal of Management Studies* 21: 268–83. [CrossRef]
Mittal, Sangeeta, and Lavina Kumari. 2015. EffEct of DEtErminants of capital structurE on financial lEvEragE: A stuDy of sElEctED inDian automobilE companiEs. *Journal of Commerce & Accounting Research* 4. Available online: http://www.publishingindia.com (accessed on 5 September 2021).
Mitton, Todd. 2008. Why have debt ratios increased for firms in emerging markets? *European Financial Management* 14: 127–51. [CrossRef]
Modigliani, Franco, and Merton H. Miller. 1958. The cost of capital, corporation finance and the theory of investment. *The American Economic Review* 48: 261–97.
Muhammad, Maryam Isyaku, Mohammed Abubakar, Mohammed Mahmud Kakanda, and Muhammad Abdul Abubakar. 2020. The dynamics of capital structure and firm value of listed industrial goods in Nigeria. *Asian Journal of Empirical Research* 10: 184–93. [CrossRef]
Myers, Stewart C. 1977. Determinants of corporate borrowing. *Journal of Financial Economics* 5: 147–75. [CrossRef]
Myers, Stewart C., and Nicholas S. Majluf. 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics* 13: 187–221. [CrossRef]
Naveed, Muhammad, Suresh Ramakrishnan, Melati Ahmad Anuar, and Maryam Mirzaei. 2015. Factors affecting speed of adjustment under different economic conditions: Dynamic capital structure sensitivity analysis. *Journal of Chinese Economic and Foreign Trade Studies* 8: 165–82. [CrossRef]
Neves, Maria Elisabete, Zélia Serrasqueiro, António Dias, and Cristina Hermano. 2020. Capital structure decisions in a period of economic intervention. *International Journal of Accounting & Information Management* 28: 465–95. [CrossRef]
Oláh, Judit, Sándor Kovács, Zuzana Virglerova, Zoltán Lakner, Maria Kovacova, and József Popp. 2019a. Analysis and comparison of economic and financial risk sources in SMEs of the Visegrad group and Serbia. *Sustainability* 11: 1853. [CrossRef]
Oláh, Judit, Zuzana Virglerova, József Popp, Jana Kliestikova, and Sándor Kovács. 2019b. The assessment of non-financial risk sources of SMES in the V4 countries and Serbia. *Sustainability* 11: 4806. [CrossRef]

Ozkan, Aydin. 2001. Determinants of capital structure and adjustment to long run target: Evidence from UK company panel data. *Journal of Business Finance & Accounting* 28: 175–98.
Palmer, Timothy B., and Robert M. Wiseman. 1999. Decoupling risk taking from income stream uncertainty: A holistic model of risk. *Strategic Management Journal* 20: 1037–62. [CrossRef]
Panda, Ajaya Kumar, and Swagatika Nanda. 2020. Determinants of capital structure; a sector-level analysis for Indian manufacturing firms. *International Journal of Productivity and Performance Management* 69: 1033–60. [CrossRef]
Rafiq, Muhammad. 2008. The determinants of capital structure of the chemical industry in Pakistan. *The Lahore Journal of Economics* 13: 139–58. [CrossRef]
Rahman, Md Shidur. 2020. The advantages and disadvantages of using qualitative and quantitative approaches and methods in language "testing and assessment" research: A literature review. *Canadian Center of Science and Education*. [CrossRef]
Rajan, Raghuram G., and Luigi Zingales. 1995. What do we know about capital structure? Some evidence from international data. *The Journal of Finance* 50: 1421–60. [CrossRef]
Roodman, David. 2009. How to Do Xtabond2: An Introduction to 'Difference'and 'System. GMM in STATA', Center for Global Development Working Paper No. 103. 2006. Available online: http://citeseerx.ist.psu.edu/showciting?doi=10.1.1.718.7361 (accessed on 5 September 2021).
Shah, Attaullah, and Safiullah Khan. 2007. Determinants of capital structure: Evidence from Pakistani panel data. *International Review of Business Research Papers* 3: 265–82.
Shah, Attaullah, Tahir Hijazi, and Attiya Yasmin Javed. 2004. The determinants of capital structure of stock exchange-listed non-financial firms in Pakistan [with comments]. *The Pakistan Development Review* 43: 605–18. [CrossRef]
Sheikh, Nadeem Ahmed, and Zongjun Wang. 2013. The impact of capital structure on performance. *International Journal of Commerce and Management*. [CrossRef]
Simerly, Roy L., and Mingfang Li. 2000. Environmental dynamism, capital structure and performance: A theoretical integration and an empirical test. *Strategic Management Journal* 21: 31–49. [CrossRef]
Širůček, Martin. 2011. Impact of monetary policy on US stock market. *Trends Economics, and Management* 5: 53–60.
Smith, David J., Jianguo Chen, and Hamish D. Anderson. 2015. The influence of firm financial position and industry characteristics on capital structure adjustment. *Accounting & Finance* 55: 1135–69.
Stulz, René M. 1990. Managerial discretion and optimal financing policies. *Journal of Financial Economics* 26: 3–27. [CrossRef]
Sutomo, Sutomo. 2020. The determinants of capital structure in coal mining industry on the Indonesia Stock Exchange. *Investment Management & Financial Innovations* 17: 165.
Titman, Sheridan, and Roberto Wessels. 1988. The determinants of capital structure choice. *The Journal of Finance* 43: 1–19. [CrossRef]
Tong, Guanqun, and Christopher J. Green. 2005. Pecking order or trade-off hypothesis? Evidence on the capital structure of Chinese companies. *Applied Economics* 37: 2179–89. [CrossRef]
Tóth, Zsuzsanna, and Ladislav Mura. 2014. Support for small and medium enterprises in the economic crisis in selected EU countries. *Hradec Economic Days* 424.
Vida, Imre, Endre Spaller, and Laszlo Vasa. 2020. Potential effects of finance 4.0 on the employment in East Africa. *Economie şi Sociologie*, 29–42. [CrossRef]
Zéman, Zoltán. 2019. New dimensions of internal controls in banking after the GFC. *Economic Annals-XXI* 176: 38–48.