IMPACT OF PRIVATE CREDIT ON NON-FINANCIAL FIRMS CAPITAL STRUCTURE IN AFRICA

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Abstract
The basic focus of this empirical study is to assess whether the private credit improves access to non-financial firms' debt capital in Africa. This research uses a panel data model to analyze the relationship between private credit and capital structure of non-financial firms' in Africa. The research used two-step Generalized Method of Moments approach to evaluate panel data for the period 2010-2018 for 406 firms from eight African nations. The research finds evidence that growth in private credit raises the debt capital of firms in African nations. The growth in private credit has been shown to have positive influence on capital structure choices of non-financial firms in the selected African nations. In addition, the outcome revealed that firms in Africa prefer debt financing in their capital structure. This results illustrates the vital role played by financial markets in helping non-financial firms in Africa to get access to debt capital.

Keywords: Private Credit, Capital Structure, Africa, Generalized Method of Moments

1. Introduction

Firms' financing decisions have gotten a lot of attention in financial research after Modigliani-Miller's write ups (1958, 1963), also known as Modigliani- Miller's capital structure hypothesis. Institutional, legal, and macroeconomic variables all play a role in these financing decisions, which varies from country to country. Many capital structure studies are conducted in the context of wealthy and industrialized countries (Balios, et al. 2016; Sarlija & Harc, 2016). However, some of these research have looked at international comparisons of capital structure determinants (Bylo & Cankara, 2019; Silva, et al., 2016), as well as those of developing and emerging economies (Khaki & Akin, 2020; Sanil, et al. 2018). Multiple studies have found that firm characteristics, macroeconomic factors, and country structural factors can all be used to predict a firm's capital structure (Bernardo, et al., 2018).

Even though there are many studies on capital structure in both rich and poor countries, there are few studies on how a firm's advancement in its financial environment influences its funding decisions. Only a few research in a few rich and poor countries have

attempted to investigate this topic, and the results are unclear (Dang, 2019; Tai, 2017). This allows for yet another round of empirical testing. Firms in underdeveloped countries, particularly in Africa, have restricted access to capital, which comes mostly from deposit money institutions. Financial sector reforms are considered as a safer means to mobilize capital investment and economic development while also exposing businesses to a wider range of financing options. The majority of these poor countries have begun comprehensive financial reforms as a result of World Bank and IMF policy. The reform's consequences were said to be quite effective, allowing local businesses to access banks and stock market financing choices. As a result, the goal of this research is to look into the impact of private credit on the capital structure of non- financial firms in Africa.

This study contributes to the previous empirical research in its attempt to determine if private credit growth has an impact on the capital structure of non-financial firms in Africa. Finally, to the best of the authors' knowledge, no adequate studies on the impact of private credit on the capital structure of African non-financial firms have been undertaken using recent data in emerging countries.

The following is a list of the portions of the article: The next section provides an overview of the development of private credit in Africa; section three discusses a summary of the review of literatures; section four illustrates the methodology; section five demonstrates the results; and section six closes the research.

2. Literature Review

2.1 Overview of Private Credit Development in Africa

Several African countries reformed their financial markets in the late 1990s to boost finance's transformative potential, primarily as part of IMF and World Bank-supported structural reform projects. Lifting loan limitations, liberalizing interest rates, overhauling and privatizing state-owned banks, and executing a number of initiatives to promote banking systems and financial markets growth were among the reforms implemented. Bank supervisory and regulatory regimes, including the establishment of deposit insurance in some countries, followed these processes (Ngalawa, et al., 2016). Changes in the financial sector have resulted in a more liberalized financial climate in Africa. Increased economic advances and developing technology that connect Africa to the rest of the world have further accelerated these shifts. Africa has begun to achieve significant success in both the real and financial sectors. Africa has had consistent growth through technologically driven development for about two decades, and has been one of the world's fastest growing regions for several years (Asongu, et al. 2019). It's also worth noting that financial markets have begun to perform spectacularly. Despite the challenges they faced in terms of low capitalization and liquidity, African financial markets did exceptionally well in the pre-crisis period, both in terms of absolute return on equity and risk-adjusted return on equity (Aluko & Azeez 2019; Oyerinde, 2019). Moreover, there are currently supporting conditions in place for Africa's integration into the global financial industry. Global capital markets, including those in developing economies, are becoming more linked, allowing for more capital mobility. Barriers to the free flow of foreign capital have been removed. Rapid advances in information and communication technology are also connecting Africa to the rest of the globe, making African financial structures more accessible to international investors seeking the benefits of global diversification.

The ongoing argument over the factors influencing a firm's funding decisions, generally referred to as capital structure in finance research, began with MM's popular studies (1958). They claimed that leverage has nothing to do with the firm's value. This finding

sparked several of the critiques and paved the way for more research into the factors that influence firms' funding options in a dynamic, non-ideal environment. As a result, we make an attempt to resolve the puzzle by applying insights from the capital structure trade-off principle.

Financial managers consider a company's ideal debt-equity decision to be a trade-off between the benefits of having more debt and the debt expenses, according to the trade-off principle. A trade-off must be made between the impact of corporate and personal taxes, bankruptcy, and agency fees in order to achieve the best capital structure. Because debt servicing does not appear to be at danger, organizations with stable, productive assets and sufficient taxable income are more likely to maintain a high debt ratio. The pecking order theory, unlike the trade-off theory, assumes that there is no such clear, well-explained mix of debt-equity aims, and that managers prefer internal funding to external funding due to information asymmetry between firm insiders and outsiders. The primary assumption of this theory is that managers act in the best interests of present shareholders in order to maximize the value of existing shares.

2.2 Overview Private Credit and Capital Structure in Africa

Firms can use private loans gotten from deposit money banks to raise debt capital, equity capital, or a combination of the two. Capital markets that are well-developed provide knowledge, diversification, and liquidity, as well as the ability to mobilize resources for finance, investment, and growth. Firms can fund their activities with equity capital more easily and comparatively with a better and more liquid active stock market. Firms would thus replace long-term debt with equity capital, resulting in a significant change in their capital structure. A good and active stock exchange, on the other hand, makes information about the listed companies available to the general public.

The financial market, according to Otchere (2017), gives useful information about listed firms and allows borrowers to make listed companies less dangerous to lend to. Similarly, tracking expenses for financial institutions and potential investors should be kept to a minimum. As a result, the problems of information asymmetry and moral hazard are minimized, stated by Ngalawa et al (2016). According to Ahmed et al. (2016), the financial market provides incentives for investors to gain knowledge. As the scale of the demand for publicly listed stocks grows, analysts and investors will find it increasingly profitable to invest in gathering information, particularly for more liquidized stocks. This enables for external business regulation, according to Oyerinde (2019).

The study on financial markets and firm capital structure in developing countries, particularly in Africa, is not very extensive. Serwadda (2019) argues that both the nature of a financial market and the size of the banking sector influence the capital structure of firms. Chalu, et al. (2019) also mentioned the general evidence that firm features influence Tanzania's capital structure in the oil and gas sector. They investigated how Tanzanian enterprises decide on capital structures in a competitive environment. In Tanzania, macroeconomic, banking, and stock market indicators were utilized to evaluate oil and gas firms' funding decisions. They discovered that the Tanzanian stock market is a critical source of long-term funding for oil and gas companies. According to Iqbal et al. (2019), the average Pakistani firm finances a big part of its overall external asset growth and so relies on internal financing far less than advanced-country firms.

2.3 Justification for the Use of Firm Specific and Macroeconomic Control Variables

Private credit

The fundamental role of banks and other financial institutions in the economy is to

mobilize savings from income holders and make them available to investors on interest. According to Okafor et al. (2016), there is a strong positive correlation between the amount of credit provision in an economy and the level of deposits within the financial system. Banks traditionally convert the savings into loanable funds, which are channeled to investors who borrow to meet the financial need of their business ventures. Building on the same thought, Nwosa (2018) explains that well-developed financial markets must be in place for the overall economic advancement of less developed and emerging economies. Therefore, the present study measured private credit as the ratio to gross domestic product (PC/GDP).

Debts

Debt has always been an important part of a firms' capital structure. Several variables are used to explain the dynamics of debt financing, and debt can either be short-term, long-term, or total debt (Dakua 2018; and Koksal & Orman, 2015). Short-term debt reflects funds needed to cover the company's day-to-day activities including trade receivables, short-term debt, and inventory funding. The repayment plans for these categories of funds occurred in less than a year. Long-term debt is typically obtained when companies buy properties like buildings, facilities, or machinery. The repayments planned for these funds stretched for periods of more than one year. Therefore, the present study measured debt as a ratio of total debt to the total asset (TD/TA).

Profits

Myer and Majluf (1984) stressed that profits should be significantly connected to the ratios of debt. They further argued that firms when in need of capital, should use retained profit, followed by debt, and equity. Therefore, the present study measured profit as earnings before interest and tax divided by the total asset (EBIT/TA) as denoted by PRFTS.

Size

Large firms are more diversified and tend to have stable cash flows. Thus, they are less exposed to bankruptcy compared to small firms (Chakrabarti and Chakrabarti, 2019). However, firms that are large use more debt because they have better access to the capital market and the ability to raise long term capital at reduced costs compared to small firms. Hence, the present study measured size by taking the log of sales denoted by Slog.

Fixed Assets

Fixed assets influence the firm's borrowing strategy, as they are less affected by asymmetric information. Fixed assets have fair values in the event of bankruptcy and may be utilized as collateral for banks to access long-term capital. Therefore, firms with fixed assets should be secured to use more debt in their capital structure (Flannery and Hankins, 2013). As such, the present study measured fixed assets as property, plant, and equipment divided by a total asset (PPE/TA) based on FA.

Market Price to Book (Growth opportunity)

Myers (1977) concluded that firms with growth opportunities are under-investing because of asymmetric information. Hence, firms prefer to ignore profitable investment opportunities or underinvest in less profitable ventures, as opposed to debt holders ' interests. Nonetheless, debt capital suppliers tend not to lend for a longer period. Therefore, firms with high growth potential can likely use much more equity capital and less debt in their capital structure (Myers 1977). Growth firms need to use less debt from a trade-off theory viewpoint because growth opportunities are intangible assets without collateral value if firms face bankruptcy (Harris and Raviv, 1991). Based on the pecking

theory, growing firms that need funding should deliver security with fewer costs of asymmetric information. The study used market price to book the ratio denoted by MTB.

GDP Growth Rate

Joeveer (2013) indicated that macroeconomic factors will influence debt by promoting the overall economy's growth opportunities. Investment opportunities will mostly be funded by debt and would, therefore, expect GDP growth to be positively linked to the debt because the equity funding was less common in developing countries. As a result, the GDP growth had been strongly linked to debt. Thus, the growth rate of GDP indicated opportunities for growth in the economy. As a result, Firms with greater growth opportunities would need more financing. The study used Gross Domestic Product Growth Rate as a macroeconomic control variable denoted by GDPG.

Inflation Rate

Inflation is a country's manifestation of stability. Therefore, an increased rate of inflation results in the instability of the national economy. The instability causes firms to be unable to repay their debts. Higher inflation reduces debt gains as a result of the high bankruptcy costs of the debt levy on firms (Gungoraydinoglu and Öztekin, 2011). Hence, borrowers demand a higher return because of the risk that they are taking. Therefore, inflation harms the debt. Hence, the present study utilized the inflation rate as a macroeconomic control variable denoted by INF.

Interest rate

The interest rate depicts the expense of acquiring loans short-term and long-term. Therefore, the interest rate cannot be ignored as a result of its effect on a firm's debt. Companies prefer to get more debt from the financial institution and capital market to fund investment when the expense is very low. Hence, the interest rate is very low in most developed nations usually with a single digit, especially in financial institutions of high-income nations. That provides incentives for firms to receive low-cost debt financing (Noor and Nila, 2014). Despite the financial liberalization of financial markets, the interest rate in most developing economies is however very high. Interest rates are generally double digits, and financing is mostly obtained on a short-term basis. This results from the saving behavior of bank depositors who save on a short-term basis and expect higher saving rates. Moreover, the high degree of market imperfection like information asymmetry between debt holders and the firm, and the high tendency between moral hazard and risk shift, make debt holders offer better high-cost funds to mitigate related issues against the agency (Bokpin, 2009).

Market capitalization to GDP

According to Dincergok and Yalciner (2011), the development of the stock market had a positive connection to capital structure. Moreover, market capitalization as a proxy for the growth of the stock market had a positive influence on capital structure. Moreover, the impact of stock market growth on debt rates in the capital structure for certain developing nations was unclear and indistinct in comparison to the developed ones. Hence, studies in developing nations discovered that the development of the stock market had the same dimensional connection with the debt. Since there are diverse company risks and asymmetric information, firms prefer to use more debt because the debt cost is lower than the equity.

3. Methodology

3.1 Data

The data for firm-specific and macroeconomic factors came from the data-stream database, as well as world development indicators (WDI). Our sample spans the years 2010 to 2018 and includes 406 financial firms from eight African (Egypt, Ghana, Kenya, Mauritius, Morocco, Nigeria, South Africa, Tunisia) African countries. The data acquired for the study was analyzed using a two-step system generalized method of moment. GMM improved efficiency, specifically when the dependent variable was persistent (Arrelano and Bover, 1995). The persistence of the dependent variable means that the previous year's capital structure (debt ratio) affects the current year's capital structure (debt ratio). Likewise, the previous year's firm's credit affects the current year's firm's credit. The system GMM is appropriate in the presence of a variable, which displayed a persistent pattern in the model. In the estimation two-step estimates were used as they applied the first-step errors to construct heteroscedasticity-consistent standard errors or optimal weighting matrices (Blundell and Bond, 1998). The idea behind the generalized method of moment is to find the parameter of interest by maximizing an objective function that includes moment restriction that the correlation between error terms and lagged explanatory variable is zero.

3.2 Model Specification

Where:
TDTA = Ratio of Total Debt to Total Assets,
PC = Private Credit to Deposit Money Bank Ratio to Gross Domestic Product,
Slog = Log of Size;
FA = Property, Plant, and Equipment ratio to Total Assets;
PRFTS = Profits; MTB = Market-to-Book Value Ratio;
INF = Inflation Rate;
INT = Interest rate;
GDPG = Gross Domestic Product Growth;
MCGDP = Market Capitalization to Gross Domestic Product;
ϕi= Firm-specific Effects;
αt =Yearly Fixed Effects;
λ = Adjustment Parameter;
μ = Error Term

4 Results

4.1 Results of Descriptive Statistics

A rigorous assessment of the descriptive data statistics for dependent and independent variables in Table 4a reveals some crucial information. With the exception of the GDPG variable, the mean is greater than the median for all firm level variables. As a result, the data has a lot of positive skewness. It can be determined from the mean values of TDTA (2.38), that developing country firms favor debt in their capital structure. Furthermore, the TDTA standard deviation is quite significant. This means that when debt metrics are scaled by total assets, firms in developing countries do not indicate considerable variations in total debt holdings on average. The mean of the Private Credit (PC) is 27.21, with disparities ranging from 10.24 (lowest value) to 119.17 (highest value) for some firms. As a result of the differential in Private Credit to Deposit Money Bank, some developing countries have higher Private Credit than others.

Table 4a: Descriptive Statistics Results

Index	TDTA	PC	SLlog	PRFTS	MTB	INF	INT	GDPG	MCGDP
Mean	2.381	27.218	11.849	0.097	3.006	5.273	9.458	6.792	66.25

Median	1.550	32.389	15.686	0.090	1.570	5.317	8.008	5.066	72.45
Max	7.890	119.173	22.030	29.619	213.19	16.454	45.10	12.047	224.10
Min	0.000	10.241	0.000	-7.621	-68.9	0.790	3.234	-4.549	8.462
Std. Dev.	3.104	27.902	2.684	0.296	6.417	4.289	5.627	3.342	26.763
Skewn.	0.883	0.753	0.396	33.421	12.180	0.325	2.518	-0.365	1.862

Notes: TDTA is total debt to total assets ratio; PC is the private credit to deposit bank money ratio to GDP; SLlog is the log of sales; FA is the property, plant and equipment ratio to book value of total assets; PRFTS is the ratio of profit before interest and tax to total assets; MTB is the market equity to book equity ratio, and INF is the inflation rate in the economy; INT is the interest rate in the economy; GDPG is the gross domestic growth rate of the economy; MCGDP is the market capitalization to gross domestic product; N = 406. T=9. Source: Researcher's computation using Stata 14.

4.2 Correlation Results

The correlation coefficient between total debts to total assets (TDTA) and PC is statistically significant and positive (0.089), as shown in Table 4b. This implies that debt rises as private credit to deposit bank money rises. Furthermore, the correlation coefficient between total debts and total assets (SLlog) is statistically significant and positive (0.072). Similarly, the relationship between total debts and total assets and fixed assets is statistically significant and positive (0.059). This suggests that as a firm's size and fixed assets grow, so does its debt. Furthermore, there is a positive and statistically significant association coefficient between total debt to total assets and MTB (growth opportunity). This implies that when the chance for growth increases, debt grows as well. In the same way, the correlation coefficient between total debt to total assets and profit is statistically significant and shows a positive relationship. Thus, it appears that as profit rises, debt rises as well. Furthermore, the ratio of total debts to total assets is statistically significant and negatively associated to the non-debt tax shield. The correlation coefficient between total debt to total assets and inflation rate, on the other hand, is statistically significant and indicates a positive relationship. These findings show that if the rate of inflation is favorable, firms may be able to increase their debt levels.

Table 4b: Correlation Estimation

	TDTA	PC	SLlog	FA	PRFTS	MTB	INF	INT	GDPG	MCGDP
TDTA	1.000									
PC	0.089[a]	1.000								
SLlog	0.072[a]	-0.273[a]	1.000							
FA	0.059[a]	-0.055[a]	0.056[a]	1.000						
PRFTS	0.071[a]	-0.054[a]	0.138[a]	-0.031[a]	1.000					
MTB	0.061[a]	-0.039[a]	0.054[a]	-0.023[a]	0.121[a]	1.000				
INF	0.067[a]	-0.472[a]	0.057[a]	0.009	0.071[a]	-0.008	1.000			
INT	0.059[a]	-0.283[a]	0.054[a]	-0.004	0.026[a]	0.007	0.271[a]	1.000		
GDPG	0.041[a]	-0.382[a]	-0.013	-0.003	0.006	0.009	0.246[a]	-0.268[a]	1.000	
MCGDP	0.058[a]	0.540[a]	-0.107[a]	-0.036[a]	-0.013[a]	-0.017[a]	-0.289[a]	-0.280[a]	-0.217[a]	1.000

Source: Researcher's computation using Stata 14

4.3 Generalized Method of Moments Results

Using the System-GMM, Table 4c shows the impact of private credit on a firm's capital

structure. Private credit is defined as private credit to deposit bank accounts, whilst capital structure is defined as debt. In the presence of firm-specific effects and endogeneity of some explanatory variables, System GMM has been shown to be one of the best methods for estimating the dynamic panel data model (Flannery and Hawkins, 2013).

This paper describes two testing statistics, namely, serial correlation of first and second order residuals test, to demonstrate the applicability of the System GMM estimation technique. For the models, the test result of second-order serial correlation representing the null of no serial correlation in the residuals is accepted. The explanation for this is that the second order serial correlation test's p-values are extremely high and statistically insignificant. This shows that the model's residuals have no second order serial correlation. There is a first order serial correlation, as expected. The reason for this is that error terms in the model specification correspond to the lagged dependent variable. The post-estimation test indicates that the models are accurately defined.

The findings demonstrate that private credit, firm size, growth opportunity, inflation rate, interest rate, and capital structure all have a clear and significant positive association (see Table 4c). At 5%, the PC coefficient is statistically significant and positive (0.049**), with a t-statistic of 2.85. The t-statistic is 3.96 for firm size (SLlog) and the coefficient is statistically significant and positive (0.058**) at 5%. At 5%, the MTB coefficient is statistically significant and positive (0.032*), with a t-statistic of 3.62. At 5% also, the inflation rate (INF) coefficient is statistically significant and positive (0.052**), with a t-statistics of 3.92. The interest rate (INT) coefficient and t-statistic are both positive at 0.035*** (2.97) and statistically significant at the 5% level.

The evidence of a positive relationship between Private Credit and total debts to total assets suggests that financial market developments enable firms to have more access to finance, which can be used to maximize debt interest tax-shield gains; this encourages firms to use debt capital more. The findings corroborate the trade-off principle, which states that firms choose to take on more debt in order to achieve the optimal capital structure, in which the tax benefit of borrowing is offset, at the margin, by the cost of financial burden. Furthermore, evidence of positive Private Credit to Deposit Money Bank coefficients suggests that policies that promote financial market development make debt capital readily available to firms for expansion. Doku, et al. (2011) in Ghana, Etudaiye-Muhtar et al. (2015) using African countries and Nwosa, (2018) in Nigeria both came to similar conclusions.

Table 4c: System GMM Result
Source: Researcher’s computation using Stata 14

5. Conclusion

This study looked at the relationship between private credit and capital structure decisions made by non-financial firms in Africa. Firms would be exposed to more funding possibilities as the financial market in Africa grows, attempting to eliminate funding limits, reliance on one source of credit, and, above all, market inefficiencies that could lead to suboptimal financial contracting. The study's main interest is whether the expansion of private credit has an impact on African firms' capital structures. The analysis discovers that, in addition to firm-specific and macroeconomic factors recognized in the literature as responsible for explaining firm financing decisions, private credit growth also accounts for non-financial firms' funding decisions. In general, the study indicates that private credit expansion is crucial to firms because it increases their access to cash, allowing them to choose the optimal capital structure.

The findings of this study have policy consequences, according to the authors. This is due to the importance of banks providing long-term financing to help businesses thrive. Firms in Africa's emerging countries have restricted access to capital. Given the importance of financial markets in Africa, policymakers may establish policies to encourage the growth of private credit, allowing firms to have easier and more access to financing to fund lucrative projects that increase firm value. Furthermore, comprehensive policies to protect financial market integrity and investor confidence should be implemented. Moreover, government and monetary authorities should use prudent macroeconomic stabilization policies to speed up the development of the financial sector and actively encourage various alternative sources of funding. It would also be interesting for the banking sector, which is such an important part of the financial system, to develop creative financial solutions for funding firms in need of capital. Future research should look at this situation by incorporating new macroeconomic components to see how firms' funding decisions can be influenced.

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