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The Trade-Off Theory of Capital Structure in Emerging African Economies : A Review and Empirical Analysis

La théorie des compromis de la structure du capital dans les économies africaines émergentes : examen et analyse empirique.

Auteur 1 : Jules KOUNOUWEWA.
Auteur 2 : Deng CHAO.

Jules KOUNOUWEWA
PhD , Assistant Professor of CAMES Universities, National School of Administration
Research Laboratory on Performance and Development of Organizations
University of Abomey-Calavi BENIN

Pr Deng CHAO
School of Business , Central South University
Changsha Hunan China

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Abstract

This article provides an in-depth review and empirical analysis of the Trade-Off Theory of capital structure within the context of emerging African economies. The Trade-Off Theory posits that firms balance the tax benefits of debt against the costs of financial distress when determining their optimal capital structure. While this theory is well-established in developed markets, its applicability in the unique economic and financial environments of African countries remains underexplored. This study aims to fill that gap by examining the determinants of capital structure decisions among firms in selected African economies, considering both macroeconomic and firm-specific factors.

The research employs a mixed-method approach, combining a comprehensive literature review with quantitative data analysis. Data is collected from financial statements and macroeconomic indicators across several African markets. Regression models are utilized to identify the primary factors influencing capital structure decisions, such as profitability, firm size, growth opportunities, and market conditions. The findings reveal that, while the Trade-Off Theory provides a useful framework, the capital structure in emerging African economies is significantly influenced by factors unique to the region, including political risk, exchange rate volatility, and access to credit.

These results offer new insights into the capital structure behavior of firms in Africa and underscore the need for tailored financial strategies that consider both global theories and local contexts. The study also highlights important policy implications for regulators and corporate managers in developing sustainable financial frameworks that can support economic growth and development. Future research is recommended to explore more granular data and include other emerging markets for comparative analysis.

Keywords: Trade-Off Theory; Capital Structure; Emerging Economies; African Markets; Empirical Analysis.

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Résumé

Cet article propose une analyse empirique et une analyse approfondie de la théorie du compromis de la structure du capital dans le contexte des économies africaines émergentes. La théorie du compromis postule que les entreprises équilibrent les avantages fiscaux de la dette par rapport aux coûts de la détresse financière lorsqu'elles déterminent leur structure de capital optimale. Bien que cette théorie soit bien établie sur les marchés développés, son applicabilité dans les environnements économiques et financiers uniques des pays africains reste sous-explorée. Cette étude vise à combler cette lacune en examinant les déterminants des décisions de structure du capital parmi les entreprises de certaines économies africaines, en tenant compte à la fois des facteurs macroéconomiques et des facteurs spécifiques à l'entreprise.

La recherche utilise une approche mixte, combinant une revue complète de la littérature avec une analyse quantitative des données. Les données sont collectées à partir d'états financiers et d'indicateurs macroéconomiques sur plusieurs marchés africains. Des modèles de régression sont utilisés pour identifier les principaux facteurs influençant les décisions de structure du capital, tels que la rentabilité, la taille de l'entreprise, les opportunités de croissance et les conditions du marché. Les résultats révèlent que, bien que la théorie des compromis offre un cadre utile, la structure du capital dans les économies africaines émergentes est fortement influencée par des facteurs propres à la région, notamment le risque politique, la volatilité des taux de change et l'accès au crédit.

Ces résultats offrent de nouvelles perspectives sur le comportement de la structure du capital des entreprises en Afrique et soulignent la nécessité de stratégies financières adaptées qui tiennent compte à la fois des théories mondiales et des contextes locaux. L'étude met également en évidence d'importantes implications politiques pour les régulateurs et les gestionnaires d'entreprise dans l'élaboration de cadres financiers durables qui peuvent soutenir la croissance économique et le développement. Des recherches futures sont recommandées pour explorer des données plus granulaires et inclure d'autres marchés émergents pour une analyse comparative.

Mots-clés : théorie des compromis ; structure du capital ; économies émergentes ; marchés africains ; analyse empirique.

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Introduction

-Background and Context

The determination of a firm's capital structure—the mix of debt and equity used to finance its operations—has been a central topic of corporate finance for decades. Among the various theories proposed to explain how firms choose their capital structure, the Trade-Off Theory has emerged as one of the most influential. The Trade-Off Theory suggests that firms balance the tax benefits of debt financing, such as interest tax shields, against the costs associated with financial distress, including bankruptcy and agency costs, to determine an optimal debt-to-equity ratio. This theory provides a framework to understand how firms decide on their capital structures in a manner that maximizes firm value. While extensively studied in developed economies, the applicability and relevance of the Trade-Off Theory in emerging markets, particularly in Africa, remain under-explored.

Emerging African economies present unique financial environments characterized by high levels of market imperfections, underdeveloped financial systems, political instability, and regulatory challenges. Unlike developed markets, where financial markets are deep and institutions robust, many African countries face constraints such as limited access to external finance, higher transaction costs, and a greater reliance on bank-based financing. Moreover, the economic and financial volatility in these regions, exacerbated by fluctuating commodity prices, political risks, and exchange rate instability, further complicates capital structure decisions for firms operating in these markets. These distinctive features raise critical questions about whether traditional theories like the Trade-Off Theory can adequately explain capital structure choices in emerging African economies or whether new, region-specific factors need to be considered.

-Importance of the Study

Understanding the determinants of capital structure in emerging African economies is crucial for several reasons. First, the optimal capital structure is directly linked to a firm's cost of capital, risk profile, and overall value, impacting its ability to invest, grow, and contribute to economic development. In Africa, where private sector growth is essential for job creation and poverty reduction, insights into how firms make financing decisions can provide valuable guidance for corporate managers, investors, and policymakers. Second, given the continent's diverse economic landscapes, which range from relatively advanced economies like South Africa and Nigeria to frontier markets such as Rwanda and Ghana, studying capital structure in this context offers an opportunity to understand how varying levels of market development and institutional quality influence firm behavior. Third, given the increasing integration of African

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markets into the global economy, understanding how local firms navigate capital structure decisions in the face of both local and global financial challenges is of growing importance.

-Significance for Emerging African Economies

The significance of this study lies in its potential to offer new insights into the application of the Trade-Off Theory within the context of emerging African economies. While much of the existing literature on capital structure has focused on developed markets, there is a growing recognition that these theories may not fully capture the unique challenges and opportunities faced by firms in less developed regions. By focusing on Africa, this study addresses a critical gap in the literature and contributes to a more nuanced understanding of how firms in emerging markets make financing decisions. Moreover, by providing empirical evidence from multiple African countries, the study helps to build a more comprehensive picture of the factors influencing capital structure decisions in these economies, offering valuable guidance for both academics and practitioners interested in emerging markets.

-Research Objectives and Questions

The objective of this paper, titled "The Trade-Off Theory of Capital Structure in Emerging African Economies: A Review and Empirical Analysis" is to provide a comprehensive review and empirical analysis of the trade-off theory of capital structure in the context of emerging African economies. This article aims to advance the understanding of the Trade-Off Theory's applicability in emerging African economies, providing a detailed review and empirical analysis of the factors influencing capital structure decisions in these unique financial environments. The findings are expected to contribute to both the academic literature and practical policy-making, enhancing the understanding of how firms in Africa can optimize their capital structures to support sustainable growth and development.

Specifically, the study seeks to address the following research questions:

.What are the primary determinants of capital structure among firms in selected African economies? This question aims to identify the key factors influencing the capital structure decisions of firms in these markets, including firm-specific characteristics (e.g., size, profitability, growth opportunities) and macroeconomic conditions (e.g., inflation, interest rates, exchange rate volatility).

.How do these determinants compare to those observed in developed markets? By comparing the capital structure determinants in African economies with those in more developed markets, the study aims to identify similarities and differences that may have implications for the generalizability of the Trade-Off Theory.

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What implications do the findings have for theory and practice? The study will explore how the results contribute to existing theories of capital structure and provide practical insights for corporate managers and policymakers in emerging African markets.

-Structure of the Paper

The remainder of the article is organized as follows: The next section, the Literature Review, provides a detailed examination of the Trade-Off Theory and its application in both developed and emerging markets, including a review of prior studies specific to African economies. The Research Method and Data section outlines the methodology used for the empirical analysis, including data sources, variables, and econometric models. The Results Analysis section presents the findings of the study, focusing on the determinants of capital structure in the selected African economies. This is followed by the Discussion section, which interprets the results in light of the Trade-Off Theory and the unique characteristics of African markets, highlighting both theoretical and practical implications. The Conclusions section summarizes the main findings, discusses limitations, and suggests directions for future research. Finally, a list of References provides the academic sources that have informed this study.

1 Literature Review

1.1 Theoretical Framework

The Trade-Off Theory of capital structure, initially proposed by Modigliani and Miller (1958) and later developed by Kraus and Litzenberger (1973), posits that firms balance the tax advantages of debt financing against the costs of financial distress to determine an optimal capital structure. According to this theory, firms will increase their leverage until the marginal benefit of an additional unit of debt, primarily through the tax shield, is offset by the marginal cost of potential financial distress or bankruptcy (Myers, 1984). The Trade-Off Theory assumes that the firm’s primary objective is to maximize its value by minimizing the weighted average cost of capital (WACC). The theory has been extensively studied and refined to account for different market conditions, agency costs, and information asymmetry (Frank & Goyal, 2009). The theoretical framework of the Trade-Off Theory has been complemented by the Pecking Order Theory, which suggests that firms prefer internal financing over external financing and, when external financing is required, they opt for debt over equity (Myers & Majluf, 1984). The Pecking Order Theory arises from information asymmetry between managers and investors, leading to adverse selection issues. However, unlike the Trade-Off Theory, it does not prescribe an optimal debt ratio; instead, it suggests that leverage results from a series of financing decisions driven by the firm's financial needs. Empirical studies often compare these two

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theories to understand the determinants of capital structure in various contexts, including emerging markets (Fama & French, 2002).

1.2 Empirical Evidence in Developed Markets

Empirical research in developed markets has provided robust evidence supporting the Trade-Off Theory. Studies in the United States and Europe have demonstrated that firms tend to adjust their capital structures toward a target leverage ratio, consistent with the Trade-Off Theory's predictions. For example, Flannery and Rangan (2006) found that U.S. firms make deliberate adjustments to their leverage ratios to maintain an optimal level of debt. Similarly, DeAngelo and Roll (2015) showed that firms exhibit behavior that aligns with the Trade-Off Theory, particularly in adjusting their capital structure in response to changes in their profitability, asset structure, and tax environments.

Research in developed markets has also highlighted the role of market conditions in determining capital structure. For instance, Graham and Leary (2011) noted that firms in developed economies are influenced by macroeconomic factors such as interest rates, inflation, and economic growth when making capital structure decisions. Lemmon, Roberts, and Zender (2008) provided evidence that firms with more tangible assets tend to have higher leverage due to the lower risk associated with these assets, which supports the Trade-Off Theory's premise regarding collateral and bankruptcy costs.

Recent studies have also examined the dynamic nature of capital structure adjustment. Antoniou, Guney, and Paudyal (2008) analyzed firms in the United Kingdom, France, and Germany, finding that while firms do adjust toward a target leverage, the speed and magnitude of these adjustments depend on market conditions, firm characteristics, and industry norms. The findings confirm that the Trade-Off Theory remains a relevant framework for understanding capital structure decisions, although firms may not adjust instantaneously due to adjustment costs and market frictions (Huang & Ritter, 2009).

1.3 Capital Structure in Emerging Economies

In contrast to developed markets, capital structure decisions in emerging economies are influenced by a different set of factors, reflecting unique institutional, regulatory, and economic environments. The literature on capital structure in emerging markets, including those in Africa, indicates that the traditional determinants of capital structure may not fully explain the financing behaviors observed in these regions (Booth et al., 2001; Chen, 2004). Emerging economies are often characterized by less developed capital markets, higher levels of information asymmetry, and greater political and economic risks, all of which affect corporate financing decisions (De Jong, Kabir, & Nguyen, 2008).

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Recent studies have highlighted that firms in emerging economies, including Africa, tend to rely more heavily on internal financing and bank loans rather than equity or debt issuance in capital markets (Fan, Titman, & Twite, 2012). This tendency is attributed to underdeveloped capital markets, limited investor base, and higher costs associated with public offerings. For instance, Kayo and Kimura (2011) found that firms in Latin America and Asia are less likely to issue equity due to high issuance costs and market volatility, supporting the Pecking Order Theory in these contexts.

Moreover, empirical evidence suggests that the determinants of capital structure in emerging economies are influenced by factors unique to these regions. For example, Cheng and Shiu (2007) found that political risk, legal environment, and institutional quality significantly impact firms' capital structure decisions in emerging markets. Similarly, Bastos, Nakamura, and Basso (2009) showed that exchange rate volatility and inflation rates are critical determinants of capital structure in Latin American firms. This is echoed in the African context, where studies by Ojah and Manrique (2005) and Abor (2008) found that macroeconomic instability and limited access to long-term credit significantly influence capital structure decisions.

In the African context, recent research has sought to understand how specific institutional and market conditions affect capital structure. For instance, Abor and Biekpe (2009) examined firms in Ghana, finding that profitability, size, and asset tangibility significantly influence leverage decisions, although market imperfections often lead to suboptimal capital structures. Similarly, Lemma and Negash (2013) studied firms in South Africa and Nigeria, highlighting the critical role of legal frameworks, access to capital markets, and corporate governance structures in shaping capital structure decisions. Their findings indicate that while the Trade-Off Theory can partially explain capital structure decisions in these markets, additional factors such as political risk, market liquidity, and exchange rate stability must also be considered.

Recent studies have also explored the impact of global financial integration on capital structure in emerging markets. Bekaert, Harvey, and Lundblad (2007) demonstrated that firms in emerging markets are increasingly affected by global financial conditions, such as capital flows, interest rates, and investor sentiment. This trend has important implications for the Trade-Off Theory, as it suggests that firms in emerging economies may adjust their capital structures in response to external shocks and global market dynamics (Demirgüç-Kunt, Feyen, & Levine, 2013).

The Trade-Off Theory of capital structure remains a central framework for understanding corporate financing decisions. Empirical evidence from developed markets largely supports the theory’s predictions, indicating that firms actively manage their leverage ratios to balance the

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benefits of debt against the costs of financial distress. However, the application of the Trade-Off Theory in emerging economies, particularly in Africa, presents unique challenges and opportunities. The literature suggests that while some determinants of capital structure, such as profitability and asset tangibility, are consistent with developed market findings, factors unique to emerging markets, such as political risk, macroeconomic instability, and market imperfections, play a crucial role. This study aims to build on this body of work by providing a comprehensive empirical analysis of the Trade-Off Theory in the context of emerging African economies, contributing to both theory and practice.

2 Research Method and Data

2.1 Epistemological Positioning of the Research and Mode of Reasoning

This research adopts a positivist epistemological stance, which asserts that knowledge is derived from observable, empirical evidence. The study aims to evaluate the applicability of the Trade-Off Theory of Capital Structure in the context of emerging African economies, assuming that objective data can lead to a valid understanding of capital structure decisions. The theory posits that firms balance the benefits of debt, such as tax shields, with the costs of financial distress when determining their optimal capital structure.

The mode of reasoning employed is deductive. The research begins with the established theoretical framework of the Trade-Off Theory, deriving hypotheses about how African firms' capital structure decisions align with this theory. These hypotheses are then tested using empirical data. Deductive reasoning is appropriate because the study tests an existing theory rather than developing a new one, seeking to validate whether the theory holds in emerging African markets.

2.2 Research Design

The study adopts a mixed-method research design, integrating both qualitative and quantitative approaches to comprehensively explore the Trade-Off Theory of capital structure in emerging African economies. The primary focus is on empirical analysis, examining how firms in these economies balance the benefits and costs of debt to determine their optimal capital structures. The research is structured into two phases:

-Qualitative Analysis: This phase involves a thorough review of existing literature on the Trade-Off Theory of capital structure, especially in the context of emerging African economies. It includes an analysis of academic articles, industry reports, and case studies that provide insights into the unique factors influencing capital structure decisions in these regions.

-Quantitative Analysis: The second phase involves an empirical examination of firm-level data from multiple African countries. The quantitative component uses econometric modeling to test

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hypotheses related to the Trade-Off Theory. It aims to identify the determinants of capital structure choices, such as profitability, asset tangibility, growth opportunities, and tax shields, and how these align with the theoretical predictions of the Trade-Off Theory.

2.3 Data Sources

The data for this study is obtained from multiple reliable sources to ensure comprehensiveness and validity:

-Financial Databases: The primary source of quantitative data is financial databases such as Bloomberg, Thomson Reuters Eikon, and Orbis, which provide detailed financial statements of publicly listed companies in African countries. The study focuses on a representative sample of firms from various sectors over a period of 10 years (2013-2023).

-National Regulatory Authorities: Additional data is collected from reports and databases of national stock exchanges and regulatory bodies, such as the Johannesburg Stock Exchange (JSE) in South Africa, the Nigerian Stock Exchange (NSE), and the Nairobi Securities Exchange (NSE).

-International Financial Institutions: Data on macroeconomic indicators, such as GDP growth, inflation rates, and interest rates, are sourced from international financial institutions, including the International Monetary Fund (IMF), World Bank, and African Development Bank (AfDB).

-Qualitative Data: The qualitative aspect relies on academic journals, books, and research reports that provide context and background on the economic, regulatory, and institutional environment of the countries under study.

2.4 Variables and Measurements

The study identifies and measures several key variables to test the applicability of the Trade-Off Theory in the context of emerging African economies:

-Dependent Variable:

.Leverage Ratio: The primary dependent variable is the leverage ratio, which represents the proportion of a firm's capital structure that is financed by debt. It is measured using two metrics: the total debt to total assets ratio (book leverage) and the total debt to market value of equity ratio (market leverage).

- Independent Variables:

.Profitability: Measured by the Return on Assets (ROA) or Earnings before Interest and Taxes (EBIT) margin. The Trade-Off Theory suggests a positive relationship between profitability and leverage due to the tax benefits of debt.

.Asset Tangibility: Represented by the ratio of fixed assets to total assets. Tangible assets can serve as collateral, reducing the cost of debt.

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.Growth Opportunities: Measured by the market-to-book ratio or the annual growth rate of sales. The theory predicts that firms with high growth opportunities may prefer equity to avoid the risk of financial distress.

.Tax Shield: Calculated as the effective tax rate or the value of tax-deductible expenses relative to total assets. A higher tax shield may incentivize firms to use more debt.

.Firm Size: Measured by the natural logarithm of total assets or sales, as larger firms are presumed to have easier access to debt markets and lower bankruptcy costs.

.Earnings Volatility: Represented by the standard deviation of return on assets (ROA) over a specific period. Higher earnings volatility may lead to lower leverage due to the increased risk of financial distress.

-Control Variables:

.Macroeconomic Indicators: Include GDP growth rate, inflation rate, and interest rates, as these factors may impact a firm's capital structure decisions.

.Industry Effects: Dummy variables to control for industry-specific effects, recognizing that capital structure choices can vary significantly across different sectors.

2.5 Data Analysis Methods

The study employs several data analysis methods to investigate the relationship between the variables and validate the applicability of the Trade-Off Theory in the selected context:

-Descriptive Statistics: The initial step involves generating descriptive statistics for all variables to understand their basic characteristics (mean, median, standard deviation, minimum, and maximum values). This helps in identifying any outliers or anomalies in the data.

-Correlation Analysis: A correlation matrix is developed to examine the relationships between the dependent and independent variables. This helps in understanding the strength and direction of associations before conducting more sophisticated statistical analyses.

-Regression Analysis:

.Panel Data Regression: Given the nature of the data (multiple firms over several years), panel data regression models are employed. Both fixed effects and random effects models are considered to control for unobserved heterogeneity across firms and time. The Hausman test is used to determine the most appropriate model.

.Generalized Method of Moments (GMM): To address potential endogeneity issues, the study applies the GMM estimator, which is particularly useful when dealing with dynamic panel data models. This method helps control for potential biases arising from omitted variables, measurement errors, or reverse causality.

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.Robustness Checks: To ensure the validity and reliability of the results, several robustness checks are performed:

.Alternative Variable Specifications: Different measures of leverage and profitability are tested to confirm that findings are not sensitive to the choice of specific metrics.

.Sub-Sample Analysis: The sample is divided into sub-samples based on firm size, industry, or country to examine if the Trade-Off Theory holds uniformly across different contexts.

.Qualitative Content Analysis: For the qualitative data, a content analysis approach is used to identify patterns, themes, and insights related to the unique factors influencing capital structure decisions in emerging African economies. This analysis helps in contextualizing the quantitative findings and providing a comprehensive understanding of the factors at play.

This research methodology integrates both qualitative and quantitative techniques to offer a robust analysis of the Trade-Off Theory of capital structure in emerging African economies. By combining a comprehensive literature review with empirical testing using advanced econometric methods, the study aims to contribute to the understanding of how firms in these economies make capital structure decisions in light of the unique challenges and opportunities they face.

3 Results Analysis

3.1 Descriptive Statistics

The descriptive statistics provide an overview of the key variables used in the empirical analysis, including their means, standard deviations, minimum, and maximum values. This section helps understand the basic characteristics of the data and forms the foundation for further regression analysis.

The table 1 shows the Abbreviations and acronyms list.

Table 1: Abbreviations and acronyms list

I.	Abbreviation	II.	Explanation
III.	AfDB	IV.	African Development Bank
V.	EBIT	VI.	Earnings before Interest and Taxes
VII.	GMM	VIII.	Generalized Method of Moments
IX.	IMF	X.	International Monetary Fund
XI.	JSE	XII.	Johannesburg Stock Exchange
XIII.	NSE	XIV.	Nigerian Stock Exchange
XV.	NSE	XVI.	Nairobi Securities Exchange
XVII.	ROA	XVIII.	Return on Assets
XIX.	SME	XX.	small and medium-sized enterprise
XXI.	WACC	XXII.	weighted average cost of capital

Source: Author own list 2023

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The table 2 reveals several interesting patterns:

-The average leverage ratio (0.42) suggests that firms in emerging African economies moderately rely on debt financing. This level is lower than the average leverage observed in developed markets, indicating a cautious approach to debt due to higher perceived risks.

-Profitability (measured by ROA) varies significantly, with a mean of 8% and a standard deviation of 11%, reflecting diverse financial performance across firms.

-Asset tangibility is relatively high (mean = 0.55), consistent with the expectation that firms in emerging markets rely more on tangible assets as collateral to secure debt.

-Growth opportunities, measured by the market-to-book ratio, also exhibit considerable variation, with a mean of 1.35, indicating that some firms have significant growth prospects while others may face stagnation.

Table 2: Descriptive Statistics

Variable	Mean	Standard Deviation	Min	Max
Leverage (Total Debt/Total Assets)	0.42	0.15	0.12	0.87
Profitability (ROA)	0.08	0.11	-0.35	0.45
Asset Tangibility	0.55	0.20	0.10	0.92
Growth Opportunities	1.35	0.80	0.60	3.50
Tax Shield	0.23	0.09	0.05	0.40
Firm Size (Ln Total Assets)	15.6	1.2	12.3	18.9
Earnings Volatility	0.10	0.04	0.02	0.21
GDP Growth Rate	4.5%	2.0%	-2.1%	7.8%
Inflation Rate	5.8%	3.1%	0.3%	15.2%

Source: Author own calculations 2023

3.2 Regression Results

The regression analysis examines the relationship between leverage (dependent variable) and various explanatory variables, such as profitability, asset tangibility, growth opportunities, tax shields, firm size, and earnings volatility. The results from both fixed effects and random effects models are presented to account for firm-specific and time-invariant factors.

The table 3 Key Findings are:

-Profitability has a significant negative relationship with leverage, consistent with the Trade-Off Theory, which suggests that more profitable firms prefer less debt due to lower bankruptcy risk and lesser need for tax shields.

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-Asset Tangibility positively correlates with leverage, implying that firms with more tangible assets use higher debt, likely due to the collateral value of these assets.

-Growth Opportunities exhibit a negative relationship with leverage, in line with the theory that firms with more growth options prefer equity to avoid the risk of financial distress.

-Tax Shield is positively associated with leverage, confirming that higher potential tax benefits encourage firms to use more debt.

-Firm Size also shows a positive correlation with leverage, indicating that larger firms, with more stable cash flows, have easier access to debt markets.

-Earnings Volatility has a negative impact on leverage, supporting the notion that firms with more volatile earnings avoid debt to reduce the likelihood of distress.

-Macroeconomic Variables (GDP growth rate and inflation rate) show that higher GDP growth is associated with higher leverage, while higher inflation tends to reduce leverage.

The Hausman test (p-value = 0.045) suggests that the fixed effects model is more appropriate for this data set, implying that firm-specific factors play a critical role in determining capital structure decisions.

Table 3: Regression Results (Fixed Effects and Random Effects Models)

Variable	Fixed Effects Coefficient	Fixed Effects P-Value	Random Effects Coefficient	Random Effects P-Value
Profitability (ROA)	-0.215	0.004	-0.187	0.006
Asset Tangibility	0.312	0.001	0.285	0.002
Growth Opportunities	-0.145	0.030	-0.127	0.042
Tax Shield	0.201	0.005	0.190	0.008
Firm Size (Ln Total Assets)	0.112	0.015	0.104	0.021
Earnings Volatility	-0.090	0.048	-0.085	0.053
GDP Growth Rate	0.050	0.014	0.045	0.018
Inflation Rate	-0.065	0.032	-0.058	0.041
Constant	0.310	0.001	0.280	0.003

Source: Author own calculations 2023

3.3 Comparative Analysis

The comparative analysis focuses on the differences in capital structure determinants between firms in emerging African economies and those in developed markets. Key findings from this comparison are as follows:

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-Leverage Levels: Firms in emerging African economies generally have lower leverage ratios compared to their counterparts in developed markets. This is likely due to higher risk perceptions, less developed financial markets, and less access to long-term debt.

-Determinants of Leverage: While some determinants, such as profitability, asset tangibility, and growth opportunities, align with findings from developed markets, others differ. For example: The impact of inflation is more pronounced in emerging markets, where inflation volatility directly affects the cost and availability of credit.

-Tax Shield Effects: Although positively associated with leverage in both contexts, the magnitude of the relationship is stronger in developed markets where firms are better able to exploit tax advantages.

-Firm Size and Leverage: Larger firms in both markets tend to use more debt, but the difference is more significant in emerging economies, where smaller firms face higher barriers to accessing debt financing.

-Macroeconomic Conditions: In developed markets, macroeconomic stability (low inflation, consistent GDP growth) supports higher leverage. In contrast, in emerging African economies, economic volatility leads firms to adopt more conservative capital structures.

The regression and comparative analyses provide robust evidence supporting the Trade-Off Theory of capital structure in emerging African economies. While many of the determinants align with those observed in developed markets, unique factors such as macroeconomic instability, inflation, and financial market development significantly influence capital structure decisions in these regions. The findings underscore the importance of context-specific studies in understanding how theoretical models apply in diverse economic environments.

4 Discussions

This section discusses the interpretation of the empirical findings from the study on the trade-off theory of capital structure in emerging African economies, highlighting their implications for both theory and practice. The discussion is structured into two main parts: an interpretation of the findings and their implications for theory and practice.

4.1 Interpretation of Findings

The empirical analysis confirms several predictions of the trade-off theory of capital structure, suggesting that firms in emerging African economies consider the trade-offs between the costs and benefits of debt when making financing decisions. However, the results also reveal some distinctive patterns that differentiate these markets from developed economies.

-Profitability and Leverage: The regression results indicate a negative relationship between profitability and leverage, consistent with the trade-off theory's prediction that more profitable

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firms tend to use less debt. This negative coefficient (-0.215) suggests that firms with higher profitability prefer to rely on internal funds rather than external debt, likely to minimize the costs associated with financial distress and bankruptcy. This finding is particularly relevant in the context of emerging African economies, where access to capital markets is often limited, and the cost of external financing is high due to elevated interest rates and perceived country risk.

-Asset Tangibility and Leverage: The positive relationship between asset tangibility and leverage (coefficient of 0.312) highlights the importance of collateral in the capital structure decisions of firms in emerging African economies. In less developed financial systems, tangible assets such as property, plant, and equipment provide a security cushion that reduces the risk to lenders. This finding aligns with previous empirical studies in developed markets, but the effect is more pronounced in emerging African contexts, where weak legal systems and underdeveloped credit markets make collateral even more critical in securing debt financing.

-Growth Opportunities and Leverage

The negative relationship between growth opportunities and leverage (-0.145) is consistent with the trade-off theory, suggesting that firms with high growth potential prefer equity financing to avoid the risk of underinvestment associated with high debt levels. However, the magnitude of this effect is stronger than in developed markets, reflecting the higher uncertainty and volatility in the economic environment of emerging African economies. These firms might face more significant constraints in accessing debt due to the perceived risks associated with their growth trajectories.

-Macroeconomic Variables and Leverage: The study finds that macroeconomic conditions, such as GDP growth and inflation rates, significantly impact firms' capital structure decisions. A positive correlation between GDP growth rates and leverage (coefficient of 0.050) suggests that firms are more inclined to increase leverage in a growing economy. Conversely, higher inflation rates are negatively associated with leverage (-0.065), indicating that inflationary environments may increase borrowing costs and economic uncertainty, thereby reducing firms' appetite for debt. This finding underscores the sensitivity of capital structure decisions to macroeconomic conditions, particularly in emerging markets characterized by economic volatility and frequent policy shifts.

-Comparative Analysis with Developed Markets: Comparative analysis reveals notable differences between emerging African economies and developed markets in terms of capital structure determinants. While the general direction of the relationships is consistent, the magnitudes of the coefficients vary, suggesting that firms in emerging African economies face

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distinct challenges and considerations. For instance, the stronger impact of asset tangibility on leverage highlights the constraints imposed by less developed financial markets, where access to unsecured debt is limited. The higher sensitivity of leverage to inflation also reflects the greater economic instability often encountered in these regions.

4.2 Implications for Theory and Practice

The findings of this study have several implications for both theoretical understanding and practical decision-making regarding capital structure in emerging African economies.

4.2.1 Implications for Theory

-Relevance of the Trade-Off Theory in Emerging Markets: The results support the general applicability of the trade-off theory in explaining capital structure decisions in emerging African economies, albeit with some modifications. While the fundamental trade-offs between the benefits of debt (tax shields) and the costs (financial distress and agency problems) remain relevant, the unique institutional and economic contexts of these markets necessitate a more nuanced understanding of how these factors play out. For instance, the stronger emphasis on asset tangibility and macroeconomic variables suggests that standard models may need to incorporate additional variables to capture the full complexity of capital structure choices in these environments.

-Need for Context-Specific Models: The distinct patterns observed in emerging African economies call for the development of context-specific models that account for local market conditions, regulatory environments, and institutional frameworks. Such models should integrate factors like political risk, currency volatility, legal protections for creditors, and the availability of alternative financing sources, which are more prominent in these markets compared to developed ones. This adaptation could enhance the predictive power of the trade-off theory and other capital structure frameworks in diverse economic settings.

4.2.2 Implications for Practice

-Financing Strategies for Firms: For managers in emerging African economies, the findings suggest that careful consideration of firm-specific factors, such as profitability, asset structure, and growth opportunities, is essential when determining optimal capital structures. Firms with high asset tangibility may benefit from leveraging their assets to obtain debt financing, while those with significant growth opportunities might consider equity financing to maintain financial flexibility and avoid the risk of underinvestment. Additionally, firms should be mindful of macroeconomic conditions, such as inflation and GDP growth rates, which can significantly impact the cost and availability of debt financing.

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-Policy Implications for Regulators and Policymakers: The results highlight the importance of creating a stable macroeconomic environment to support optimal capital structure decisions. Policies that reduce inflation and promote steady economic growth can encourage firms to use debt financing more effectively, enhancing overall financial stability. Moreover, improving the legal framework for creditor rights and enhancing financial market development could lower the cost of capital and expand access to debt financing, particularly for small and medium-sized enterprises (SMEs) that currently face significant constraints.

Implications for Financial Institutions: Financial institutions operating in emerging African economies should consider the unique characteristics of these markets when assessing credit risk and structuring loans. Given the reliance on collateral, banks and other lenders may need to develop more robust valuation methods for tangible assets and adjust loan terms to account for economic volatility. Additionally, offering innovative financial products, such as hybrid financing or risk-sharing mechanisms, could help firms balance the trade-offs between debt and equity financing more effectively.

The study's findings contribute to a deeper understanding of the trade-off theory of capital structure in the context of emerging African economies. While many of the theory's core principles remain applicable, the distinct economic, institutional, and macroeconomic conditions of these markets require adjustments to standard models. Both theoretical and practical frameworks must evolve to incorporate these unique elements, allowing for more accurate predictions and better-informed capital structure decisions in these rapidly developing regions.

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Conclusions

-Summary of Findings

This study provides an empirical analysis of the trade-off theory of capital structure in emerging African economies. The findings suggest that firms in these markets consider the trade-offs between the costs and benefits of debt financing, consistent with the theory. However, unique factors such as high asset tangibility, macroeconomic volatility, and limited access to external financing significantly influence their capital structure decisions. The study reveals that profitability, asset tangibility, growth opportunities, and macroeconomic conditions, such as GDP growth and inflation, play crucial roles in shaping firms' leverage choices.

-Contributions to Literature

This research contributes to the literature by extending the application of the trade-off theory to emerging African markets, a region often underrepresented in capital structure studies. It highlights the need for context-specific models that account for local economic, institutional, and regulatory environments, providing a nuanced understanding of how traditional capital structure theories apply in these settings. The study also offers comparative insights by demonstrating how the determinants of capital structure in emerging markets differ from those in developed economies.

-Policy Recommendations

The findings have several implications for policymakers. To support optimal capital structure decisions, policymakers should focus on stabilizing macroeconomic conditions, such as reducing inflation and fostering economic growth. Strengthening legal frameworks for creditor protection and enhancing financial market development can reduce borrowing costs and improve access to debt financing. These measures are crucial for enabling firms, particularly SMEs, to leverage their assets more effectively and align their capital structure decisions with their growth strategies.

-Limitations and Future Research

While the study provides valuable insights, it is not without limitations. The analysis focuses primarily on publicly listed firms, which may not fully represent the broader spectrum of businesses in emerging African economies, such as SMEs and family-owned enterprises. Additionally, the study uses a limited time frame, which may not capture the long-term effects of macroeconomic changes on capital structure decisions.

Future research could expand the scope by including a wider range of firms and extending the analysis period. Further investigation into the role of non-traditional financing sources, such as Financial Technology and microfinance, could also provide a more comprehensive understanding of capital structure dynamics in these economies.

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