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School of Commerce

The Effect of Capital Structure on Financial Performance: Evidence from Selected Real Estate Firms in Ethiopia

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A THESIS SUBMITTED TO THE SCHOOL OF COMMERCE OF Addis Ababa UNIVERSITY IN FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MSc IN CORPORATE FINANCE WITH SPECIALITY IN INVESTMENT MANAGEMENT

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Abstract

This study examines the effect of capital structure on financial performance of selected real estate firms in Ethiopia. The study is conducted on seven real estate firms across five years period, 2020-2024. Those firms are selected purposively among real estate firms operating in the sector. The quantitative data is analyzed using fixed effects regression model and qualitative data from interview with finance officers and executives are analyzed thematically. Findings of the research shows that ages of the firms' has significant positive effect on the firms' financial performance. It indicates the importance of experience and accumulated resources in the sector. Debt to Equity ratio, as indicator of capital structure shows negative and insignificant relationship with financial performance. Growth opportunities shows negative relationship which is also statistically insignificant. On the other hand, the study indicates positive relationship between firms' size (total assets) and financial performance. Thematic analysis shows that real estate sectors are facing various challenges such as macroeconomic volatility, inflation, absence of financing options such as capital markets, long term financing and so on. It is concluded that balanced use of internal sources, curious leverage and strategic financing enhanced financial performance. The research contributes valuables insights to policy makers, industry practitioners and future scholars on financing practices in developing economy.

Key Words: Capital Structure, Debt-equity ratio, return on equity, real estate

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Thesis Submission Approval Form

This is to certify that the thesis entitled **"The Impact of Financing Decisions and Capital Structure on Financial Performance: Evidence from Selected Real Estate Firms in Ethiopia"** has been carried out by **Hika Terefe** under my supervision. This thesis is submitted for the fulfillment of the requirements for the Master of Science in Corporate Finance (With Specialty in Investment Management) program at Addis Ababa University. I confirm that the candidate has met the necessary academic requirements and recommend the thesis for submission and defense.

Name of Advisor: Hawlet Ahmed (Dr.)

Signature: 

Date:June 11, 2025

Declaration

I, Hika Terefe Hundessa have carried out independently a research work on "The Effect of Capital Structure on Financial Performance: Evidence from Selected Real Estate Firms in Ethiopia" in fulfilment of the requirement of Master of Science on Corporate Finance with Specialty in Investment Management with guidance and support of my research advisor, Dr. Hawlet Ahmed. This study is an original work and was not submitted earlier for any degree either at this university or any other university. It complies with the regulation of the university and meets the accepted standards with respect to originality and quality.

Name: Hika Terefe

Signature:

Date:

Chapter One

Introduction

1.1 Background of the Study

Capital Structure is one of fundamental Concepts in the field of corporate finance. Capital Structure deals with actual mix of debt and equity a corporation uses to finance its operations. The relationship between this concept and financial performance are widely studied within the framework of corporate finance theories.

One of the foundational theory is "Capital Structure Irrelevance Theorem" by Modigliani and Miller (1958). It argues that a firm's value is independent of its capital structure in perfect market. However, real world market imperfections such as taxes, bankruptcy costs and information asymmetry can cause capital structures significantly affect financial performance. On the hand, the Trade-Off Theory (Kraus & Litzenberger, 1973) suggests that firms want an optimal capital structure by balancing the tax advantages of debt and costs of financial distress. The pecking order theory asserts that firms prefer internal sources to debt and equity. Secondly they prefer debt and only turn to equity as a last resort (Myres & Mailuf, 1984).

Globally, studies shows that capital structure has a critical role. The sector requires substantial investments in land acquisition, construction and project management as a capital-intensive industry. In developed economies, firms benefit from diverse financing options (i.e equity & bond markets, mortgage-backed securities…) which enables them to achieve balanced capital structures. Studies in United States indicate that firms with an optimal capital structure are more resilient and profitable (Ghosh, 2008).

In contrast, firms in developing countries face various significant challenges on financing. These challenges include, high borrowing costs, limited long-term credit access, and underdeveloped financial markets. Study in Nigeria, shows that firms heavily depend on short term debt due to lack financing options which leads to increased financial risks and constrains profitability (Olaseni, 2017). Additionally, another research conducted in Kenya reveals that dependence on bank loans

creates a mismatch between project durations and financing terms, as a result affects financial performance (Njoroge, 2019).

In Ethiopia, the real estate sector is expanding at rapid speed due to urbanization, population growth and rising requirement of commercial and residential areas. But the financial sector presents challenge to the sector not to operate at its optimum capacity. Excessive interest rate on borrowing, restricted access to long term finance and underdeveloped market for finance are some of the issues faced in the sector. Use of short term finance for long term projects by enterprises initiates liquidity limitations and low performance (Senbeta & Batra, 2020; Muluneh & Amsalu, 2022). Thus, such issues strengthen the function of research on the influence of capital structure towards financial performance.

1.2 Statement of the Problem

It is a fact that Ethiopian real estate firms have a very grave challenge as far as finance is concerned, which affects their level of profitability in general. Some of them are prohibitive borrowing rates, a lack of long-term loans, high interest rates, and a lack of a capital market through which firms are able to raise funds for development and expansion. Irrespective of all these obstacles, a lot of capital must be available in the real estate industry if it has to function adequately and remain competitive (Wendafrash, 2021).

Hence, most real estate firms cannot exist, and their performance is adversely affected by this. Under such constraints in funds, real estate firms will have no choice but to make conscious capital structure choices if they are going to optimize their performance. It has been used to argue that the performance of a firm depends directly upon how it manages its capital structure. Examination of the capital structure against the financial performance of Ethiopia's real estate sector and description of how it influences the profitability of firms are objectives of this study.

It is popularly assumed that capital structure is critical to the profitability of a company. Despite this, there exist limited empirical researches that attest to this relationship in Ethiopia, particularly in the property sector. There is therefore a humongous knowledge gap as far as the unique financial dynamics of the property market are concerned since most of the previous studies have concentrated in other industries like banking, manufacturing, and microfinance.

Wassie (2020), for instance, examined the effect of capital structure on profitability in Ethiopian construction companies in relation to leverage and its effect on performance. The uniqueness of financing and running of real estate companies was, however, not reflected in the study. Gebreyohannes (2021) also examined financial problems of Ethiopian real estate developers, including regulatory and liquidity problems, while ignoring the effect of capital structure and funding strategies on financial performance.

Commercial banks having significantly different capital structures from property companies were the subject of studies into the capital structure of Ethiopian financial institutions, as for example was the case in a study by Muhammad et al. (2024). Likewise, Bayiley and Siweya (2023) examined the determinants of capital structure among Ethiopian construction companies but did not examine how these decisions influence financial performance, particularly in the real estate industry. Sarda (2016) did not address any specific industry like real estate but studied the general role of capital structure on profitability among Ethiopian businesses.

Challenges facing real estate firms in these countries, such as higher borrowing costs and reduced access to external long-term finance, were brought to attention by international research, such as research in Nigeria (Olayemi, 2017) and Kenya (Njoroge, 2019). The research takes into account circumstances that are relatively different from the case in Ethiopia in terms of macroeconomic performance, financial markets, and regulatory environments. A new-fangled new finance emerging industry, tight regulation, and macroeconomic uncertainty in the shape of inflation and currency devaluation are some of the overall Ethiopian real estate company traps. These general forces are not well-studied in the literature before this study.

In responding to gaps outlined in the effect of capital structure on Ethiopian real estate companies' finance performance, this research fills gaps. Regional statistics are given through attention to the money needs, problems, and suggestions of a particular industry. This study will be able to add to the literature and push theoretical scholarship in corporate finance by analyzing the linkage between financial practices and financial performance within this relatively un-explored area of research. It also attempts to offer policymakers, managers, and investors in the real property sector of Ethiopia evidence-based advice towards better financial practices.

1.3 Objectives of Study

1.3.1 General Objective

The general objective of this study is to examine the effect of capital structure on financial performance of selected real estate firms in Ethiopia.

1.3.2 Specific Objectives

- To examine the effect of capital structure, measured by the Debt-to-Equity Ratio, on the financial performance measured by ROE of real estate firms in Ethiopia.
- To assess how firm-specific factors such as firm age, size (measured by total assets), and growth opportunities (sales growth rate) influence financial performance in the sector.
- To explore challenges and considerations that influence capital structure decisions among real estate firms in Ethiopia.

1.4 Research Questions

- How does the Debt-to-Equity Ratio (capital structure) affect the financial performance (ROE) of real estate firms in Ethiopia?
- What is the relationship between firm-specific factors (age, size, and growth opportunities) and the financial performance of real estate firms in Ethiopia?
- What challenges and constraints influence capital structure decisions among real estate firms in Ethiopia?

1.5 Scope of the Study

This study is focused on the effect of capital structure on financial performance of real estate firms in Ethiopia. Specifically, the research is conducted on seven real estate firms, which are identified based on their relevance and prominence within the Ethiopian real estate sector. These firms are; Tsehay Real Estate PLC, Noah Real Estate PLC, Gift Real Estate PLC, Yotek Real Estate, Sunshine Construction PLC, Flintstone Homes and Eniy Real Estate. The data for this study are collected from the firms' financial statements covering a five-year period, from 2020 to 2024. This period is chosen to capture the most recent and current status and trend of those firms. In addition

these financial numbers give a whole picture of the companies' capital foundation and financial performance over the years.

Geographically, the study is limited to Ethiopian-based real estate firms, as required by the local financial, regulatory, and economic conditions that can affect capital structure decisions and performance results. Focusing on the seven companies within a five-year period, this research is intended to make informed and pertinent observations regarding the funding activities of the real estate sector and develop a clear picture of how capital structure influences financial performance in Ethiopia.

1.6 Significance of the Study

Significance of this study is that it can unfold the critical yet not-so-well-researched nexus among capital structure and financial performance of the Ethiopian real estate sector. This study reveals debt, equity, and their blend's influence on financial viability and profitability in the real estate sector, an industry with known long time horizons for investments and massive financing demands.

The findings fill gaps in literature, which has in most instances focused on studies from other countries that have different financial and regulatory climates or other sectors such as banking and manufacturing. The findings can be used by policymakers to create policies that will assist real estate firms to obtain the best source of financing available, which will affect economic growth and development.

The study also provides some practical implications to property managers as it will render them well-informed in making decisions while selecting finance options to achieve maximum performance. Better understanding of the risk profile and financial situation of Ethiopian real estate companies will also make investors make well-informed decisions. The study will also have scholarly significance and some practical impact on the real world by filling gaps between theory and practice.

1.7 Limitations of the study

One of the primary limitations of this research is the unique character of the real estate business. The real estate firms are confronted with atypical financial issues such as market volatility and changing property values over time in comparison to other industries, which may affect financial

performance in capital-structure-independent ways. The impacts of funding decisions in isolation can be overshadowed by influences that are difficult to quantify, e.g., regulatory changes and trends in real estate prices (Brealey, Myers, & Allen, 2017). The companies in question can also be heavily influenced by economic forces outside their control, including inflation levels and changes in government rules. These issues are able to bring confounding variables into the analysis and complicate the isolation of the effect of capital structure upon performance (Myers & Majluf, 1984).

There are also constraints to quantitative methodology use in this study, particularly regression analysis. Regression analysis is able to calculate correlations between variables but often will not be able to establish all of the subtlety of financial performance. While hard to quantify or document in financial statements, non-financial items such as management decisions, organizational culture, and external strategic influences may have a strong influence on firm performance (Gujarati & Porter, 2009). Therefore, even though the study will reveal informative data regarding capital structure, care must be exercised in interpreting the same. To make available broader understanding of the capital structure and financial performance of the Ethiopian real estate market, future studies can overcome these limitations by having a broader range of research, employing qualitative data, broader time period, and broader range of firms.

1.8 Organization of the Study

This thesis is organized in 5 chapters. The first chapter deals with background of the study, statement of the problem, research objectives and questions, Scope of the study, Significance of the study, limitations and organizations of the study. In chapter two the researcher made a review of theoretical and empirical literatures. Chapter three discusses methodology used, while chapter two is analysis and interpretations of the data. Finally, chapter five is conclusion and recommendations of the researched.

Chapter Two

Literature Review

One of core concepts of corporate finance capital structure, play a critical role in competitiveness and performance of a firm. Capital structure of a firm is the proportion of debt and equity capital through which it finances its growth and operations (Modigliani & Miller, 1958). To achieve strategic objectives, capital structure decisions include determining the optimal mix of inside and outside source of funds. On the other hand, financial performance, often measured based on ratios such as Return on Equity (ROE) and Return on Assets (ROA), measures the extent to which a company utilizes its resources for making profits (Das, 2017).

The theoretical frameworks like the Modigliani and Miller theorem, trade-off theory, pecking order theory, and agency theory are covered in this section. It then performs a critical review of empirical studies that have been undertaken regionally and globally and outline the opportunities and challenges confronting the Ethiopian real estate companies.

2.1 Theoretical Framework

Capital structure theories examine how companies decide the level of debt and equity to utilize to raise funds for operations and investments. Theories attempt to explain the factors that influence these decisions and how they influence the performance and value of the firm. The four main theories, discussed below, are The Modigliani and Miller Theorem, Trade-Off Theory, Pecking Order Theory, and Agency Theory.

2.1.1 Modigliani and Miller Theorem

2.1.1.1 Modigliani and Miller Theorem (Irrelevance Theory)

- **History and Development**

Modigliani and Miller theorem, MM theorem for brief, was initially set out by Franco Modigliani and Merton Miller in 1958. Their classic paper, "The Cost of Capital, Corporation Finance, and the Theory of Investment," transformed corporate finance by proposing a theory stating that under

certain assumptions, the capital structure of the firm does not matter to the firm's value. For this new theory, they were awarded a Nobel Prize in Economic Sciences.

- **Key Assumptions**

The original MM theorem is based on a set of restrictive assumptions, including:

- ✓ Perfect capital markets with no taxes, transaction costs, or bankruptcy costs.
- ✓ Homogeneous expectations among investors regarding future cash flows.
- ✓ Symmetric access to information for firms and investors (no information asymmetry).
- ✓ Firms operate in a risk-free environment where debt and equity are perfectly substitutable.

- **Core Propositions**

Proposition I: The value of a firm is independent of its capital structure. In other words, whether a firm finance itself with debt or equity, its market value remains unchanged.

Proposition II: The cost of equity increases linearly with the firm's debt-to-equity ratio, reflecting the rising financial risk borne by equity holders.

2.1.1.2 Revised Theory (1963)

Modigliani and Miller (1963) revised their theory to incorporate corporate taxes. They acknowledged that interest payments on debt are tax-deductible, reducing the firm's taxable income and creating a "tax shield." This revision made debt financing more attractive, as it could enhance firm value.

- **Implications**

The MM theorem, especially its revised version, forms the basis of modern capital structure theories. While its strict assumptions limit practical applicability, it provides a foundational understanding of the effects of financing decisions on firm value.

2.1.2 Trade-Off Theory

- **History and Development**

The trade-off theory evolved as a response to the limitations of the MM theorem. Pioneered by economists like Kraus and Litzenberger (1973) and later refined by Myers (1984), it acknowledges the real-world imperfections ignored by Modigliani and Miller.

- **Core Concept**

This theory posits that firms aim to balance the benefits and costs of debt to determine their optimal capital structure. Specifically, firms trade off:

Benefits of Debt: Tax shields from interest payments.

Costs of Debt: Financial distress costs (e.g., bankruptcy) and agency costs associated with debt financing.

- **Key Insights**
  - ✓ Firms with higher profitability tend to use more debt because they can better exploit the tax shield while minimizing bankruptcy risks.
  - ✓ Firms with significant non-debt tax shields (e.g., depreciation) rely less on debt, as the incremental tax benefit of debt decreases.
- **Applications**

Real estate and construction firms, with their capital-intensive nature and fixed assets, often use the trade-off theory to justify higher debt levels. However, excessive leverage can lead to financial distress, counteracting the benefits of debt.

2.1.3 Pecking Order Theory

- **History and Development**

The pecking order theory, introduced by Myers and Majluf (1984), emerged as an alternative to the trade-off theory. It focuses on the role of information asymmetry between firms and investors in shaping financing decisions.

- **Core Concept**

The pecking order theory states that firms prioritize financing sources based on their relative costs and risks:

Internal Financing: Retained earnings are the least costly and preferred source of financing.

Debt Financing: When internal funds are insufficient, firms turn to debt, as it involves lower signaling costs compared to equity.

Equity Financing: Issuing new equity is a last resort due to high transaction costs and the potential for negative market signals.

- **Key Assumptions**
    - Managers have more information about the firm's prospects than external investors (information asymmetry).
    - Issuing equity signals that the firm is overvalued, leading to a decline in stock prices.
- **Implications**

The theory explains why profitable firms with abundant internal funds tend to use less debt, while less profitable firms with limited internal resources rely on external financing.

- **Limitations**

The theory does not prescribe an optimal capital structure, unlike the trade-off theory. It assumes firms prioritize financing hierarchy without considering the tax benefits of debt.

2.1.4 Agency Theory

- **History and Development**

Agency theory was introduced by Jensen and Meckling (1976) to address conflicts of interest between different stakeholders within a firm:

Principal-Agent Conflict: Between shareholders (principals) and managers (agents).

Debt-Equity Conflict: Between debt holders and shareholders.

- **Core Concept**

The theory explores how capital structure decisions can mitigate or exacerbate agency problems:

Debt as a Disciplinary Mechanism: Debt reduces free cash flow available to managers, limiting unproductive spending and aligning managerial actions with shareholder interests.

Agency Costs of Debt: High debt levels may incentivize shareholders to undertake riskier projects (risk-shifting) or underinvest in profitable opportunities (debt overhang), harming debt holders.

- **Applications**

In real estate firms, agency theory highlights the importance of aligning interests between managers, shareholders, and lenders to optimize capital structure and enhance financial performance.

- **Limitations**

Although debt can lessen principal-agent disputes, it can also lead to new disputes with creditors. The theory makes the assumption that people behave rationally, which may not always be the case in real life.

In summary, robust capital structure decision explanation theories are provided by Modigliani and Miller theorem, trade-off theory, pecking order theory, and agency theory. Agency theory describes stakeholder conflicts, the trade-off and pecking order theories describe life realities, and MM's irrelevance theory provides theory treatments. The theories in general provide a model to study how financing decisions influence financial performance, particularly in capital-intensive enterprises such as real estate.

2.2 Empirical Studies on Capital Structure

2.2.1 Global Perspectives

The empirical relationship between capital structure and firm performance has been extensively explored, with studies conducted in various global contexts yielding mixed results. This review synthesizes key findings from different countries and industries to provide a comprehensive understanding of the subject.

2.2.1.1 Positive Relationship between Capital Structure and Performance

Several studies have demonstrated a positive association between leverage and firm performance, often attributed to the disciplinary role of debt in reducing agency costs. Margaritis and Psillaki (2010) analyzed French firms and found that leverage positively influences performance, particularly in firms with higher levels of efficiency. They argue that debt can serve as a monitoring mechanism for managerial actions. Abor (2005), studying Ghanaian firms, showed that higher debt levels were associated with better performance for small and medium enterprises, emphasizing the benefits of tax shields in a developing economy.

Jensen (1986), Found that the free cash flow hypothesis supports the view that debt reduces free cash flows available to managers, thereby curbing their ability to invest in unprofitable projects. Empirical validations of this hypothesis have shown that leveraged firms tend to perform better when managerial discretion is constrained.

Firms that effectively utilize the tax shield benefits of debt often experience improved performance metrics. Abor (2007), A study on Ghanaian firms revealed that leveraging debt significantly enhanced profitability, especially for firms in the growth phase. The author highlights that debt financing is cheaper than equity and allows firms to expand operations without diluting ownership. Hadlock and James (2002), In a study of U.S. firms, found that firms with access to low-cost debt through banking relationships performed better in terms of profitability and market valuation, as debt financing enabled them to undertake profitable projects.

1. **Role of Leverage in Emerging Markets**

In developing economies, where equity markets are often less accessible, debt financing plays a critical role in boosting firm performance.

Salim and Yadav (2012), study on Malaysian listed firms found a significant positive relationship between leverage and performance indicators like return on equity (ROE) and earnings per share (EPS). They argued that moderate debt levels improve firm performance by leveraging low-interest environments and fostering efficient resource allocation. Raheman, Zulfiqar, and Mustafa (2007) In Pakistan also observed that firms using debt as a major source of financing performed

better due to the tax deductibility of interest payments, which enhances profitability and lowers the cost of capital.

2. **Industry-Specific Insights**

Certain industries benefit more from debt financing due to their asset structures and cash flow stability.

Berger and Bonaccorsi di Patti (2006), Studied the banking sector and their study demonstrated a positive relationship between leverage and performance. They argued that banks, with their regulated environment and predictable cash flows, are well-positioned to benefit from high leverage.

Saeed, Gull, and Rasheed (2013) on the other hand made their analysis on the textile firms in Pakistan and their study revealed that firms with higher leverage reported improved operational performance due to the tax advantages and the financial discipline imposed by debt financing.

3. **Leverage as a Catalyst for Innovation and Competitiveness**

Aivazian, Ge, and Qiu (2005), Studying Canadian firms and found that moderate debt levels positively influence performance, particularly in industries reliant on innovation. Debt forces firms to focus on projects with high expected returns, increasing competitiveness.

Kayo and Kimura (2011), In their cross-country study of firms in Brazil, Russia, India, and China (BRIC nations), concluded that firms with a higher proportion of debt in their capital structure displayed improved performance due to the strategic use of leverage to fund innovation and expansion in competitive markets.

2.2.1.2 Negative Relationships between Capital Structure and Firm Performance

On the other hand, some empirical studies demonstrate a negative relationship between capital structure and firm performance, frequently highlighting the adverse effects of excessive debt, including financial distress, increased risk, and reduced flexibility in decision-making. Below is a review of significant studies that support this perspective.

1. **Financial Distress and Agency Costs**

Excessive leverage can lead to financial distress, which erodes firm performance. The associated agency costs between shareholders and creditors also increase.

Zeitun and Tian (2007), Examining firms in Jordan, found a significant negative relationship between leverage and performance metrics such as return on assets (ROA) and return on equity (ROE). High debt levels increased the risk of financial distress, especially in less stable economic environments. Fosu (2013), a study on South African firms also reported that excessive debt significantly reduced profitability, particularly in firms with volatile earnings. The study attributed this to high financial costs and constrained operational flexibility.

In Addition, Simerly and Li (2000), an analysis of U.S. firms revealed that firms in high-growth industries performed worse with high leverage because debt obligations restricted their ability to pursue growth opportunities.

2. **Impact of Economic Downturns**

Leverage amplifies risk during economic downturns, as firms struggle to meet fixed debt obligations. Frank and Goyal (2009), their research on U.S. firms, showed that during recessions, highly leveraged firms underperformed due to reduced revenue streams and increased bankruptcy risks.

Graham, Leary, and Roberts (2015) in their cross-sectional analysis of firms during financial crises also found that firms with higher debt-to-equity ratios faced greater declines in performance, particularly in sectors with cyclically sensitive revenues.

3. **Cost of Debt and Profitability**

High-interest rates and fixed debt repayments can erode profitability, leading to poor performance outcomes. According to Chakraborty (2010), an increase in leverage significantly reduced profitability, particularly in firms that relied on short-term debt with high interest rates in India. The study noted that the interest burden often outweighs the benefits of tax shields.

Additionally, Voulgaris, Asteriou, and Agiomirgianakis (2004), research on small and medium-sized enterprises (SMEs) in Greece found that high leverage negatively affected firm performance.

They attributed this to the inability of smaller firms to negotiate favorable debt terms, leading to higher borrowing costs.

4. **Underperformance in High-Leverage Firms**

Firms with high leverage may underperform due to limited financial flexibility and a focus on debt servicing over growth or innovation. Majumdar and Chhibber (1999), Studying Indian firms, observed that higher debt levels constrained operational decisions, reducing profitability and market competitiveness. According to Harris and Raviv (1991), their theoretical and empirical analysis suggested that high leverage leads to reduced firm value due to managerial reluctance to undertake profitable but risky investments, a phenomenon known as "debt overhang."

5. **Sector-Specific Evidence**

Some sectors are more negatively impacted by high leverage due to the nature of their operations and revenue variability. A study conducted by Sheikh and Wang (2011), an analysis of Pakistani firms, showed that high debt levels negatively affected performance in capital-intensive industries. These firms faced challenges in managing fixed costs during periods of declining revenues. Additionally, Hall, Hutchinson, and Michaelas (2004), study of U.K. SMEs, demonstrated that firms in technology-intensive industries performed worse with high leverage due to the uncertainty of returns from innovation.

6. **Emerging Market Insights**

In developing economies, the lack of financial stability and high borrowing costs exacerbate the negative impact of leverage.

According to Salawu and Agboola (2008), In their study of Nigerian firms, found that excessive reliance on debt financing led to significant performance declines. They argued that underdeveloped financial systems and high interest rates contributed to this negative effect. Also Gatsi and Akoto (2010), Studying Ghanaian manufacturing firms, reported a negative impact of leverage on performance, highlighting the inefficiencies of local credit markets and the inability of firms to manage financial risk effectively.

The adverse effect of leverage on company performance is documented, especially when companies stretch their optimal debt level. High leverage brings about financial distress, erodes

profitability, and decreases flexibility in decision making. Economic downturns, emerging economies, and sectors with unpredictable cash flows see the aforesaid relation most prominently. These findings reflect the importance of maintaining an optimal capital structure in trying to maximize performance.

2.2.2 The Impact of Capital Structure on Real Estate Firms' Performance; A Review of Sector Specific Literatures

2.2.2.1 The relationship Between Capital Structure and Financial Performance of Real Estate Sector in emerging economies

In the emerging economies, extensive studies have been conducted on the relationship between capital structure, financing, and financial performance. These studies reveal specific problems such as macroeconomic environment volatility, regulatory issues, and poorly developed financial markets.

1. **Sub-Saharan Africa**

Nigeria

With Uchendu et al. (2020), moderate debt levels enhanced the profitability of Nigerian real estate firms primarily by making firms market competitive and operationally efficient. Large leverage ratios were not desirable since firms were unable to service their debt and cope with higher interest rates. The authors, as a way of promoting the development of the industry, recommended intervention by government in the provision of relatively priced credit facilities.

Equity finance was safer but less engaged due to low investor confidence and market participation, as noted by the capital structure and profitability relationship of Nigerian property companies researched by Ogbonna and Nwankwo (2019). Debt finance was prevalent at high gearing levels, even at the expense of unfavorable profitability.

Ghana

Amoako and Nyarko, in their research in 2020, analyzed the financing practices of Ghanaian real estate companies and discovered that the ones heavily reliant on debt financing faced financial

issues due to high-cost borrowing and volatile sources of revenue. In stabilizing interest rates and promoting access to equity financing, the research underlined policy intervention.

Financial inability of companies to generate sufficient returns in order to pay back their interest payments is the primary reason why Adusei (2018) observed a significant negative correlation between over-leveraging and financial performance. Diversifying the source of finance was one method by which the risks were overcome.

Kenya

Amoako and Nyarko, in a 2020 study, studied the funding behavior of Ghanaian real estate companies and discovered that the most highly leveraged were also beset by financial problems owing to expensive borrowing and unstable sources of revenues. In mitigating interest rate risk and enhancing access to equity capital, policy intervention was the focus of the study.

Financial incapacity of firms to generate sufficient returns in a way that they would be able to satisfy their responsibilities in terms of interest is the immediate result why Adusei (2018) created strong negative correlation between over-leveraging and financial performance. Diversification of source of finance was one of the ways in which the risks were minimized.

2. **North Africa**

Egypt

In their empirical investigation of Egyptian real estate companies, Hassan and Ali (2021) discovered a U-shaped correlation between performance and leverage. Businesses with low to moderate debt levels did well, using borrowed money to grow their operations. Financial distress was brought on by high debt levels, though, especially when inflation and currency devaluation were present. In their analysis of capital structure choices, Said and Ghoneim (2019) emphasized the contribution of government-backed housing programs to the provision of low-interest loans. These programs increased developers' affordability, but they were only available for residential projects, which restricted financing for commercial real estate.

3. South Asia

India

Chakraborty (2010) found that high leverage in Indian real estate firms adversely affected financial performance due to the high cost of borrowing and refinancing challenges. However, firms that diversified their financing through equity, joint ventures, and public-private partnerships (PPPs) exhibited better financial outcomes.

Gupta and Mohanty (2019) emphasized the role of regulatory reforms, such as the introduction of the Real Estate Regulation Act (RERA), in enhancing transparency and investor confidence. This, in turn, improved access to equity financing for developers.

Bangladesh

Over-reliance on short-term bank finance weakened financial performance, as evidenced in the 2018 Bangladesh real estate finance study conducted by Rahman and Hossain. Developers were forced to operate under very lean cash flow constraints in the absence of long-term credit facilities, leading to project delay and cost escalation.

4. Southeast Asia

Vietnam

As Nguyen et al. (2020) has shown, Vietnam's capital markets underdevelopment was severely handicapping finance for real estate companies. Although debt finance remained dominant as a source of finance, its affordability was deterring profitability. In an effort to make it less debt dependent, the study advised developing the equity markets and providing instruments such as REITs. Le and Tran (2019) described how Vietnamese real estate companies could solve their financial issues through solving foreign direct investment (FDI). Through better liquidity and reduced financing costs, firms with FDI access performed better.

Comparative Insights

Across developing economies, several themes emerge

Debt Financing Dominance: Most real estate firms rely heavily on debt financing due to limited equity market participation. However, the high cost of debt, coupled with macroeconomic instability, often erodes profitability.

Policy and Regulatory Support: Government interventions, such as subsidized housing schemes in Egypt and regulatory reforms in India, play a critical role in improving financing conditions.

Requirement for Alternative Financing Mechanisms: Options such as REITs, crowdfunding, and FDI have been suggested as effective tools to provide diversification in finance and to mitigate reliance on conventional bank financing.

2.2.2.2 The relationship between Capital Structure and Financial Performance of Real Estate Sector in Ethiopia

Wassie, Fekadu (2020), addressed the effect of capital structure on profitability of Ethiopian construction companies. The outcome was that leverage was good for profitability if properly calibrated but would discourage performance if dependent. The study placed the issue of debt and equity balance for construction firms into crystal focus in financial sustainability. The study, in contrast, was in the construction industry and did not consider the particular finance requirements or performance trends in the property market.

Gebreyohannes, Mikiyas (2021), analyzed Ethiopian property developers' financial issues and concluded that the most relevant constraining factors were liquidity issues, regulatory issues, and economic volatility. However, it did not examine finance choices, capital structure, and financial performance and thereby created a gap in as far as the industry-wide impact of finance policies is concerned.

Muhammed, Seid, Deresa Goshu Desalegn, & Emese Prihoda (2024), compared the impact of capital structure on financial performance of Ethiopian commercial banks. It set that financial performance is greatly influenced by capital structure in a way that the use of higher equity ratios leads to better performance because of lowered financial distress. Its emphasis on banking companies makes it not possible to use the outcomes to real estate companies because the latter firms have different financial trends.

Bayiley, Yitbarek & Siweya, Fikru (2023), also examined the determinants of capital structure of Ethiopian construction companies. It concluded that size, profitability, and tangible assets significantly impacted the decisions regarding capital structure. Although it produced construction findings, it did not examine the effects of making such decisions on financial performance or the real estate sector.

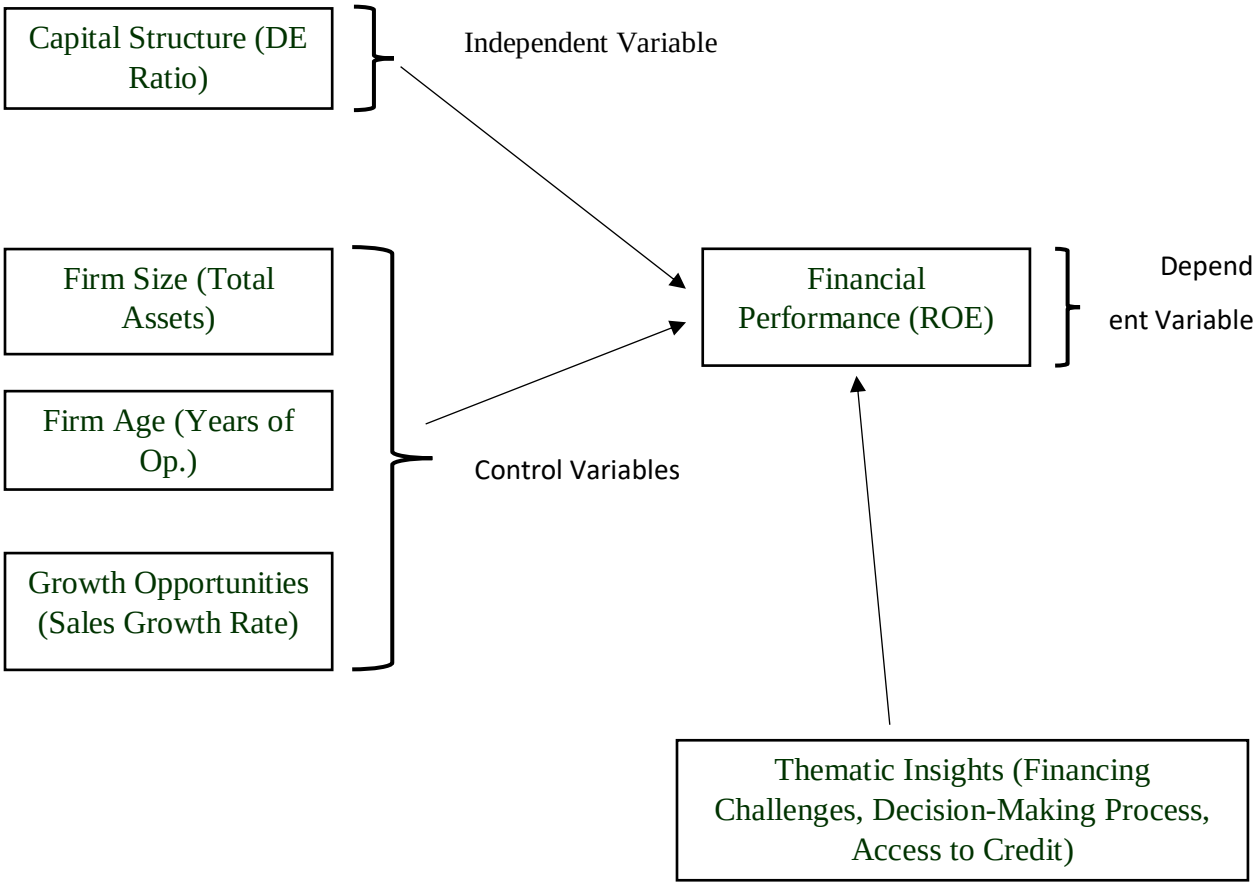
Sarda, Tariku (2016) the study by Sarda gave a general picture of how the capital structure affected profitability in various Ethiopian firms. Based on evidence mentioned in the study, the study stated that firms with an optimal mix of debt and equity were more profitable. The study was not company-specific, such as real estate, and thus could not provide explicit insights to solve company-specific issues.

A Telila, M. (2018) work tested the 16 grade one general contractors of the 2012-2017 span. It found that short-term debt to assets were strongly positively correlated with financial performance, as measured by return on asset (ROA). Long-term debt to assets were strongly positively correlated with financial performance. Debt-to-equity were negatively correlated with financial performance. The work highlights that it is essential to have the right capital structure to increase profitability.

Overall research highlights the significance of capital structure in driving financial performance across various sectors. The outcomes are mainly the need to maintain a debt-to-equity ratio at its best, the impact of circumstances like industry and country-specific regulations, and the impact of financial plans on profitability and long-term sustainability. Not much is, however, known regarding such matters in the case of Ethiopia's property market, a business with special funding needs, far-out investment horizons, and regulatory problems.

2.3 Conceptual Framework

In this context, theoretical model can estimate the association between Capital Structure (Debt-to-Equity Ratio) and Financial Performance (Return on Equity). Control Variables—Firm Size (Total Assets), Firm Age, and Growth Opportunities (Sales Growth rate)—are controlled in the model since they can control financial performance. The focus variable is to have the commodities under how capital structure affects financial performance while keeping every other variable constant and set equal to have an independent effect on the result. Contextual information is taken from thematic interview data but left out of the regression model.


Capital Structure (DE Ratio)
Independent Variable
Firm Size (Total Assets)
Firm Age (Years of Op.)
Growth Opportunities (Sales Growth Rate)
Control Variables
Financial Performance (ROE)
Depend
ent Variable
Thematic Insights (Financing Challenges, Decision-Making Process, Access to Credit)

Chapter Three

Research Methodology

3.1 Research Design

A research design is a plan or a blueprint that is used to direct the process of data measurement, collection, and analysis in research. It is a systematic method of pursuing research questions such that the objectives of the study are achieved in a correct, logical, and systematic way. A sound research design is very important as it has a direct correlation with the reliability, quality, and outcome of the study.

This research used a sequential explanatory design under mixed-methods approach, where quantitative and qualitative analyses were used to acquire the effect of capital structure on financial performance of real estate companies in Ethiopia. The quantitative section used panel data regression analysis using second-level financial data, while qualitative did thematic findings analysis on in-depth interviews with finance authorities and managers. This design allowed for a holistic understanding of both the measurable relationships and the underlying managerial perspectives within the sector.

3.2 Research approach

The researcher applied mixed-method approach. Therefore, both quantitative and qualitative analysis are used sequentially to examine the effect of capital structure on financial performance of real estate firms.

3.3 Target Population, Sampling Technique and Sample Size

3.3.1 Target Population

The study population was all Ethiopian real estate companies. There are more than 4,000 registered real estate developers in the country, which consist of a majority of diverse and growing companies, as cited by the Ethiopian Investment Commission and Ministry of Urban and Infrastructure. Given that such organizations were likely to possess the information required in terms of finance and management information relevant to the objectives of study, the study focused

on property development companies registered with the Ethiopian Investment Commission that also engaged in property development, selling, and ancillary services.

3.3.2 Sampling Technique and Sample Size

The aim of research "The Effect and Capital Structure on Financial Performance: Evidence from Selected Real Estate Firms in Ethiopia" is to analyze the relationship between capital structure, and financial performance of Ethiopian real estate companies. Although there exist a huge number of real estate developers that are licensed within the country, the disparities between them in the areas of operating and reporting finances are extremely broad (Addis Insight, 2024; Ethiopian Real Estate Development Association [EREDA], 2023). Most of the firms face problems with weak records or brief history of operations, limiting them from being included in the study.

Sample firms were chosen using the purposive sampling method. For selection of firms that were sufficiently large in operation, there existed available data, and appropriate to the topic of this study on capital structure, financing choices, and financial performance, the non-probability sampling method was employed. Firms were chosen using willingness to be interviewed, availability of data, and visibility within the industry.

To ensure that companies with sufficient operating maturity and clear financial information are examined, the research will identify companies that meet two significant requirements: operating for five years or more and having corresponding financial data for corresponding period. This purposive sampling strategy ensures that the sample companies picked are companies with sufficient operating maturity and transparency, aspects that are critically important to high-quality financial analysis.

This purposive sampling will provide quality, in-depth information, hence making the study rigorous and relevant but constraining generalizability to some degree. Seven purposively selected companies that best represent the inclusion criteria constituted the final sample of the study which are namely, Tsehay Real Estate PLC, Noah Real Estate PLC, Gift Real Estate PLC, Yotek Real Estate, Sunshine Construction PLC, Flintstone Homes and Eniy Real Estate. The study seeks to contribute to the general knowledge of the process of financial decision-making among top Ethiopian real estate companies and its effect on financial performance by limiting the study to a

number of companies with small sizes, which has far-reaching implications to the industry stakeholders and policy-makers.

3.4 Method of Data Analysis

For the analysis of data analysis, which was gathered, descriptive and inferential statistical analysis were conducted in the present study. Minimum, maximum, standard deviation, and mean of each variable were some of the significant features of the dataset, which were estimated through descriptive statistics. Distribution and trends of independent variable (debt-to-equity ratio), dependent variable (return on equity), and control variables (firm size, firm age, and growth opportunities) were described in this analysis. For identifying direction and magnitude of relationships between variables and for testing for potential Multicollinearity, correlation analysis was also performed.

The inferential analysis involved panel data regression techniques to examine the effect of capital structure on financial performance of real estate firms. Both Fixed Effects Model (FEM) and Random Effects Model (REM) estimations were conducted using STATA software. The choice between these models was guided by the results of the Hausman test, which tested whether unobserved firm-specific effects were correlated with the independent variables. A significant test result supported the use of the fixed effects model.

To ensure the validity and reliability of the regression results, several diagnostic tests were performed:

- The Variance Inflation Factor (VIF) was used to test for multicollinearity among independent variables.
- The Modified Wald Test for GroupWise Heteroscedasticity assessed whether the variance of errors was constant across firms.
- The Wooldridge Test for Serial Correlation was used to detect autocorrelation in the panel data.
- The Hausman Test was conducted to choose between the Fixed Effects and **R**andom Effects models, ensuring the selection of the most appropriate model for the panel data analysis.

STATA software was used for all analyses. To clearly show the relationships between the variables, the results were displayed using tables and visualizations such as bar charts and scatterplots. Throughout the study, statistical significance was evaluated at the 5% level. The study was able to produce significant insights into the impact of capital structure and financing choices on the financial performance of Ethiopian real estate companies thanks to the methodological approach's thorough and methodical analysis of the data.

3.5 Description of Variables

1. Dependent Variable

Financial Performance: This is the outcome variable I aim to explain. It is measured using Return on Equity (ROE).

2. Independent Variables

Capital Structure: These is the factor expected to influence financial performance. Since the research tries to study the effect of capital structure on financial performance of real estate firms in Ethiopia, the research uses Debt-to-Equity Ratio (D/E) to measure the capital structure of those firms.

3. Control Variables

Size of Firm (SIZE): Measured by total assets.

Age of Firm (AGE): Measured as the number of years since the firm's establishment.

Growth Opportunities (GROWTH): Measured by the growth rate of sales,

3.6 Research Hypothesis

Its capital structure and financing mostly position the business financially, particularly in industries with high capital requirements like property. A choice between equity financing and debt financing may significantly impact its profit. Debt financing offers leeway for expansion but at the expense of overdependence, inducing financial difficulty. Equity financing, on the other hand, is safe but will possibly reduce returns and ownership. Accomplishing the perfect capital structure is

particularly challenging for Ethiopian real estate businesses owing to factors like costly borrowing, tight capital markets, and regulatory impediments.

Basing on these forces, this research frames the following hypotheses to explore the interdependence of capital structure, financing choices, and financial performance in the Ethiopian real estate industry.

> H1: Capital structure, as reflected in the Debt-to-Equity Ratio, negatively affects Return on Equity (ROE) of Ethiopian real estate firms.

3.7 Model Specification

The present study aims at examining the effect of capital structure, dominated by the debt-to-equity ratio, on the financial performance of sample companies in the Ethiopian real estate sector as reflected through return on equity (ROE). Capital structure choices directly affect a firm's risk exposure and cost of finance. Thus, they directly affect financial performance. The control variables include significant ones such as the age of the firm, size (total assets), and growth opportunities (e.g., growth in sales) as well as the debt-to-equity ratio. The other potential determinants of the financial performance are controlled for by these control variables.

Mathematically, the correlation can be written as follow:

$$ROE_{it}=\beta_0+\beta_1(D/E_{it}) +\beta_2(Size_{it})+\beta_3(Age_{it})+\beta_4(Growth_{it})+\varepsilon_{it}$$

Where:

- ROE_{it}: Return on Equity of firm i at time t (dependent variable).
- D/E_{it} : Debt-to-Equity ratio of firm i at time t (independent variable).
- $Size_{it}$: Size of firm i at time t (control variable, e.g., total assets measured in millions of ETB).
- Age_{it} : Age of firm i at time t (control variable, e.g., years since incorporation).
- $Growth_{it}$: Growth opportunities of firm i at time t (control variable, e.g., sales growth rate).
- β_0: Intercept term.

- $\beta_1, \beta_2, \beta_3, \beta_4$: Coefficients of the independent and control variables.
- ε_{it} : Error term.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

This chapter deals with major findings of the paper. The data is collected using different tools under descriptive analysis and inferential analysis. The descriptive analysis provides descriptive profile of the firms, while the inferential analysis checks the relationship between the variables.

4.1 Descriptive Analysis

This section provides a descriptive profile of the real estate companies under research. The sample consists of seven leading companies chosen depending on their operation importance and data availability. These companies have different establishment dates to facilitate varied analysis of financing behavior and financial performance across levels of maturity and experience in Ethiopia's real estate sector. The following is a summary of the descriptive profile of the data:

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE_Percent	35	0.11409	0.01764	0.08	0.145
DE_Ratio	35	0.61571	0.16332	0.35	0.9
Total_Assets	35	3091.14	1390.73	1194.79	5362.34
Firm_Age	35	18.5714	8.58962	8	38
Growth_Ratio	35	0.11571	0.01868	0.08	0.15

Table 4.1: Summary Descriptive Analysis

Table 4.1 represents descriptive statistics of the most significant variables of the study, i.e., Return on Equity (ROE), Debt-to-Equity Ratio (D/E), firm size (total assets), age of the firm, and sales growth rate. These values are indicative of the financial nature and dynamics of the Ethiopian real estate companies under study (2020–2024).

The mean ROE of all the firms is 11.41% with standard deviation 1.76%, reflecting moderate degree of variability in profitability. The range of ROE is 8% to 14.5%, meaning while some of

the firms are achieving relatively high profitability, other firms are experiencing lower returns, which would reflect variability in operating efficiency as well as strategic decision.

The mean Debt-to-Equity Ratio is 0.62, with ratios varying between 0.35 and 0.90. This indicates that, on average, the companies have moderately high risk capital structures with higher dependence on debt than on equity. The standard deviation of 0.16 indicates some heterogeneity of financing policy among the companies, supporting the fact that the capital structure policy is firm-specific with factors like risk attitude, access to the market, and management style.

Average total assets of the companies are around 3.1 billion birr, and standard deviation is 1.39 billion birr. Minimum and maximum are 1.19 billion and 5.36 billion birr, respectively, which means that small and big companies are present in the sample because the Ethiopian real estate market is diversified.

The company age is relatively evenly distributed with a mean of 18.57 years and a range between 8 and 38 years. This would suggest the presence of mature and new companies and perhaps differential impacts on financing, functional efficiency, and market positioning. Mature companies, as proposed by the Resource-Based View (Barney, 1991), are in a position to utilize built-up experience, greater networks, and reputation benefits to generate better performance.

Average sales growth rates are 11.57%, with a standard deviation of 1.87%. The highest growth rate is 15%, and the lowest growth rate is 8%, indicating fairly uniform growth in the sales of the sector. All these rates indicate moderate growth, based on market demand, funding availability, and the cyclical property market.

In general, the descriptive statistics indicate a moderately profitable and mostly debt funded real estate industry in Ethiopia with variation among firms in size, growth, and age. These results are the foundation for the subsequent inferential analysis, which will continue to analyze the determinants of capital structure and financial performance.

4.2 Model Selection

Panel data can be analyzed using various methods of analysis. Among this are fixed effects and random effects model. To choose between this two models of inferential data analysis, Hausman test must be performed. Therefore the Hausman test for model selection is discussed below.

4.2.1 Hausman Test for Model Selection

When working with panel data, one of the critical methodological decisions involves choosing between the fixed effects (FE) and random effects (RE) regression models. The Hausman specification test is employed to make this determination. The test examines whether the individual-specific effects (unobserved heterogeneity) are correlated with the explanatory variables. Under the null hypothesis, the RE model is appropriate because it assumes no correlation. If the null hypothesis is rejected, the FE model is preferred because it provides consistent estimates when such correlation exists.

Test	Chi^2	Prob > Chi^2	Conclusion
Hausman Test	53.55	0	Fixed Effects model preferred

Table 4.5: Hausman Test for Model Selection

The Hausman test was conducted to determine the appropriate model for the panel data analysis. The test compares the fixed effects and random effects models under the null hypothesis that the preferred model is random effects, assuming no correlation between the regressors and the firm-specific error term. The test yielded a chi-square statistic of 53.55 with a p-value of 0.0000, indicating that the fixed effects model is preferred. This suggests that the unique firm-level characteristics are correlated with the independent variables, and the fixed effects model provides consistent and unbiased estimates.

4.3 Diagnostic Tests

For the sake of model validity and checking the efficacy of panel regression model, battery of diagnostic tests was run. Tests of Multicollinearity, heteroskedasticity, Serial Correlation and choice of model criteria (Hausman test) were undertaken. Results are displayed below.

4.3.1 Multicollinearity Test

Prior to performing regression analysis, one should perform a check for Multicollinearity that is when two or more independent variables of a regression equation are correlated with each other at a highly significant level. Multicollinearity exaggerates the standard errors of the coefficients and makes it difficult to determine the true significance of every predictor. The Variance Inflation

Factor (VIF) is a routine diagnostic test to detect Multicollinearity. A VIF value greater than 10 is normally considered to be an indicator of serious Multicollinearity that would skew the results of regression.

Variable	VIF	1/VIF
Firm_Age	6.21	0.161
Total_Assets	4.73	0.211
Growth_Ratio	3.09	0.324
DE_Ratio	2.34	0.427
Mean VIF	4.09	

Table 4.2: Multicollinearity Test (Variance Inflation Factor - VIF)

The VIF values that are given in the results are all lower than the commonly used threshold of 10, and the average VIF is 4.09. The maximum VIF is 6.21 for Firm Age, and so it is fine. The value of VIF is thus lower than 10, and the model can continue without danger of inflated standard errors or biased coefficient estimates due to multicollinearity.

4.3.2 Heteroskedasticity

Yet another basic assumption in regression analysis is one of homoscedasticity, where the variance of the error term holds constant for all observations. If not i.e., if heteroskedasticity the standard errors of the coefficients will be biased, and hypothesis testing will not be valid. In fixed effects panel data models, Modified Wald test for GroupWise heteroskedasticity would usually be applied in order to ascertain whether the variance of residuals varies between cross-sectional units.

Test	Chi^2	Prob > Chi^2	Conclusion
Modified Wald test for heteroskedasticity (xttest3)	4.3	0.7449	No heteroskedasticity detected

Table 4.3: Heteroskedasticity Test (Modified Wald Test for GroupWise Heteroskedasticity)

The Modified Wald test for GroupWise heteroskedasticity was conducted to test the null hypothesis that the variance of the error term is constant across firms. The test yielded a chi-square statistic of 4.30 with a p-value of 0.7449, indicating that the null hypothesis cannot be rejected. Therefore, there is no evidence of heteroskedasticity in the model, and the assumption of homoskedasticity is considered valid.

4.3.3 Serial Correlation Test

In panel data analysis, one critical assumption is that the error terms are uncorrelated across time within each cross-sectional unit. Violation of this assumption, known as serial correlation or autocorrelation, can lead to biased standard errors, invalidating hypothesis testing and confidence intervals. To detect the presence of serial correlation in panel data models, the Wooldridge test for autocorrelation is commonly used. This test examines whether the residuals from the regression model are correlated across time within firms, which, if present, necessitates adjustments such as using robust standard errors to ensure valid inference.

Test	F-Statistic	Prob > F	Conclusion
Wooldridge Test for Autocorrelation	144.017	0.0000	Serial correlation detected

Table 4.4: Autocorrelation test

The Wooldridge test for autocorrelation was performed to detect the presence of first-order serial correlation in the panel data model. The test returned an F-statistic of 144.017 and a p-value of 0.0000, indicating strong evidence of serial correlation. Consequently, robust standard errors clustered at the firm level will be used in the regression analysis to correct for this issue.

Diagnostic Tests Summary

Test	Result (p-value)	Conclusion
Multicollinearity (VIF)	Mean VIF = 4.09	No Multicollinearity concern
Heteroskedasticity (xttest3)	p = 0.7449	No heteroskedasticity detected
Serial Correlation Test	P = 0.0000	Serial correlation detected

Table 4.6: Summary of diagnostic tests

The diagnostic tests confirm that the regression model is statistically valid and suitable for panel data analysis. The absence of Multicollinearity and heteroskedasticity issues supports the robustness of the estimates. The Hausman test confirms the appropriateness of the fixed effects model for this study, and subsequent analysis will focus on the fixed effects regression results.

4.4 Fixed Effects Model Results (With Robust Standard Errors)

The Fixed Effects (FE) model is an econometric technique used in panel data analysis to control for unobserved, time-invariant firm-specific characteristics that could bias the estimates of the explanatory variables. By focusing on variations within firms over time, the FE model effectively removes any unobserved heterogeneity that is constant across firms but may influence profitability. However, when serial correlation or heteroskedasticity is detected in the data, the standard errors of the coefficients may be biased, leading to incorrect inference. To address this issue, robust standard errors clustered at the firm level were applied in the FE model. This adjustment corrects for both heteroskedasticity and autocorrelation, ensuring the validity of the hypothesis tests and confidence intervals.

```
R-sq:                                           Obs per group:
     within  = 0.9505                                        min =         5
     between = 0.0612                                        avg =       5.0
     overall = 0.0371                                        max =         5

                                                F(4,24)           =    115.21
corr(u_i, Xb)  = -0.9151                        Prob > F          =    0.0000
```

ROE_Percent	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DE_Ratio	-.0171349	.0201787	-0.85	0.404	-.0587818	.024512
Total_Assets	1.36e-06	1.77e-06	0.77	0.449	-2.28e-06	5.00e-06
Firm_Age	.004344	.0007305	5.95	0.000	.0028364	.0058517
Growth_Ratio	-.088131	.0708932	-1.24	0.226	-.2344473	.0581853
_cons	.0499594	.0116795	4.28	0.000	.0258541	.0740648
sigma_u	.04558819					
sigma_e	.00138435					
rho	.99907872	(fraction of variance due to u_i)				

```
F test that all u_i=0: F(6, 24) = 29.69                     Prob > F = 0.0000
```

Table 4.7: Fixed Effects Model Results

4.4.1 Interpretation of Results

The Fixed Effects regression results reveal important insights into the determinants of profitability, measured by Return on Equity (ROE), in the Ethiopian real estate sector.

- **Firm Age** The correlation between ROE and firm age is statistically significant, positive, and strong (coefficient = 0.004344, $p < 0.001$). The cumulative benefits of experience are highlighted by the positive coefficient (0.0043, $p < 0.001$), which suggests that ROE rises by roughly 0.43 percentage points for every extra year of operation. This implies that older businesses typically turn a profit. The results are consistent with the Resource-Based View (RBV) theory, which highlights the value of firm-specific assets, expertise, and market knowledge amassed over time in improving financial performance. It suggests that well-established businesses may profit from customer trust, brand awareness, and operational efficiencies—all of which support long-term profitability. This result is also consistent with empirical research showing the beneficial effects of learning curves, accumulated knowledge, and resilience on long-term business performance.

- **Growth Ratio** ROE is negatively and statistically insignificantly impacted by growth ratio (coefficient = -0.0881, $p < 0.226$). This finding suggests that while businesses look for ways to grow, doing so may put a strain on their resources and short-term profitability. The Pecking Order Theory predicts that growth opportunities typically improve firm value and performance, which is in contrast to this finding. The adverse impact might be a reflection of issues unique to the Ethiopian real estate market, like restricted access to funding, postponed projects, and cost overruns during growth stages. Furthermore, the outcome might indicate that Ethiopian growth is frequently funded by outside sources or depends on unstable funding sources, which raises risk without guaranteeing quick returns.

- **Debt-to-Equity Ratio (DE Ratio)** ROE is negatively but statistically insignificantly impacted by the debt-to-equity ratio (coefficient = -0.0171, $p = 0.265$). The lack of statistical significance indicates that within-firm variations in debt financing do not consistently affect profitability over the study period, even though the negative sign is consistent with the Trade-Off Theory, which cautions that higher leverage can increase financial risk and reduce profitability. This could be because there is little variation in financing choices made by businesses themselves, or because external factors like market

dynamics, legal constraints, and sector-specific difficulties have a greater influence on profitability. It might also be a reflection of Ethiopian real estate companies' propensity to depend more on informal credit sources or internal funding, which reduces the overall effect of leverage on performance.

- **Total Assets** has a positive but negligible impact on ROE when used as a stand-in for firm size (coefficient = 0.00000136, p = 0.637). The study's total assets are expressed in Ethiopian Birr (ETB) millions. This suggests that ROE rises by a statistically insignificant 0.00000136 units for every additional 1 million ETB in total assets. This implies that changes in asset size within the same company have little effect on profitability. This could be due to the capital-intensive nature of the industry, where big investments may take time to pay off, or the fact that returns on additional assets are not instantaneous. It also emphasizes how crucial asset utilization efficiency is; merely growing a company's size without matching gains in operational effectiveness or revenue-generating capacity might not result in higher profitability.

The model's R-squared (within) value of 0.9505 indicates that approximately 95% of the variation in ROE within firms over time is explained by the model's predictors. This high R-squared suggests a strong fit and implies that the selected variables (DE ratio, firm age, total assets, and growth opportunities) collectively provide a robust explanation for profitability dynamics in the sector. However, the relatively lower between (0.0612) and overall R-squared (0.0371) values highlight that much of the variation is captured by within-firm differences over time, rather than across firms.

The significant F-statistic ($F(4,24) = 115.21$, $p < 0.001$) further confirms the overall goodness-of-fit of the model. Together, these metrics suggest the fixed effects model is an appropriate and effective approach for analyzing the determinants of ROE in the Ethiopian real estate sector.

Overall, the findings highlight that firm-specific characteristics, particularly age, which indicates operation maturity, play a more critical role in determining profitability than financing structure, size or growth. The results also underscore the challenges faced by growing real estate firms in Ethiopia, where expansion efforts may strain resources and negatively impact short-term profitability.

4.5 Hypothesis Testing

In chapter three we have formulated the below hypothesis, that was going to be tested by the results of the study;

> H1: Capital structure, measured by the Debt-to-Equity Ratio, has a negative effect on the Return on Equity (ROE) of real estate firms in Ethiopia.

Therefore, the result allows to reject the null hypothesis that capital structure has no negative relationship with financial performance of the firms. The result shows that debt to equity ratio has negative coefficient, which indicates negative relationship with financial performance

4.6 Thematic Analysis of Interview Data

In addition to the regression analysis of secondary financial data, semi-structured interviews were conducted with finance officers and executives from the sample real estate firms and with representatives from ministry urban and infrastructure and Ethiopian Investment Commission. The interviews aimed to explore financing strategies, capital structure preferences, challenges in accessing finance, and perspectives on profitability. A thematic analysis of the responses revealed several key patterns, summarized below.

4.6.1 Industry Data Analysis

The following is a synthesis of industry-level information gathered through a structured interview from a Ministry of Urban and Infrastructure of Ethiopia representative. This was tried in attempting to gather regulatory and institutional information regarding the real estate industry of Ethiopia specifically as regards trends of licensing, funding sources, terms of investment, and principal sector issues. Responses have been recorded as follows:

4.6.1.1 Regulatory Environment and Sectoral Overview

Number of Active Developers

According to the Ministry of Urban and Infrastructure, there are approximately 4,000 licensed real estate developers currently operating in Ethiopia. However, figures from other institutions differ. The Ministry of Trade estimates over 5,000 developers, while the Ethiopian Investment

Commission aligns more closely with the Ministry of Urban and Infrastructure, also reporting around 4,000. This discrepancy indicates the lack of a centralized and harmonized database for real estate licensing.

4.6.1.2 Institutional Oversight

The real estate sector in Ethiopia is subject to multi-agency oversight. The Ministry of Urban and Infrastructure plays a key role in drafting regulatory proclamations, such as Proclamation No. 1357/2024, and monitors developer activity. Meanwhile, the Ministry of Trade and Regional Integration is responsible for granting licenses to new real estate developers. This dual-layered governance structure can potentially cause procedural overlaps and institutional inefficiencies.

4.6.1.3 Legal and Capital Entry Requirements

Licensing Criteria for Developers

Proclamation No. 1357/2024 outlines the formal requirements for securing a real estate developer's qualification certificate. These include:

I. For Domestic Developers:

- Capacity to construct and transfer at least 1,500 square meters of built-up housing for rent or sale.
- Clear evidence of financing sources for project execution or, in cases of pre-sale development, appropriate government authorization.
- A detailed project study, organizational readiness, and a competent workforce capable of executing the construction within a specified timeframe.

II. For Foreign Developers:

- Proof of minimum capital, as stipulated by Ethiopian investment laws, sourced from either private or foreign financial institutions.
- Ability to develop the minimum required housing space.
- Submission of a comprehensive project plan and compliance with administrative laws applicable to foreign investors.

This regulatory framework is intended to professionalize the industry while protecting consumer interests.

4.6.1.4 Investment Incentives and Financing Modalities

Currently, there are no direct investment incentives available for real estate developers in Ethiopia. However, Proclamation No. 1357/2024 provides for the possibility of future incentives. Article 10(3) of the Proclamation states that "various incentive systems may be developed to support the real estate sector," with implementation details to be outlined in subsequent regulations.

Furthermore, Article 5(6) introduces the potential for government-backed guarantees to support both local and foreign developers seeking long-term loans from foreign banks, in accordance with National Bank of Ethiopia policies.

The Ethiopian real estate market is officially open to foreign investors, who may also partner with domestic developers. This marks a liberal approach toward attracting foreign capital to the sector, although operational and financial constraints remain.

Real estate developers in Ethiopia employ a mix of equity financing, bank loans, and pre-sales to fund their projects. These financing strategies vary by developer generation:

- First Generation Developers primarily rely on personal equity.
- Second Generation Developers tend to depend heavily on pre-sales.
- Third Generation Developers utilize a combination of equity, pre-sales, and bank loans.

This segmentation illustrates an evolving financial behavior among developers and highlights the sector's growing complexity.

4.6.1.5 Sectoral Challenges and Policy Gaps

Absence of Housing Finance Institutions

The foremost structural challenge facing the Ethiopian real estate sector is the lack of housing finance mechanisms, such as dedicated mortgage banks. Existing banks offer only collateral-based loans, which are unsuitable for long-term real estate financing due to their high costs and short

repayment periods. Furthermore, alternative financing instruments are virtually nonexistent in the current financial ecosystem.

Limited Government Support for Financing

At present, there are no active government-led financing schemes tailored specifically for real estate developers. Although the recent proclamation makes provision for future government guarantees, actual implementation mechanisms have not been developed.

Weak Institutional Collaboration

The Ministry of Urban and Infrastructure reported no formal collaboration with financial institutions aimed at improving access to finance for developers. This lack of coordination presents a missed opportunity to foster a more enabling financial environment for the sector.

4.6.1.6 Implications for Capital Structure and Performance

This industry-wide perspective shows that Ethiopian real estate developers are confronted with a capital structure context of diversified finance sources, poor institutional strength, and policy risk. These will influence the selection for individual firms between equity, debt, and hybrid capital structures hence their financial performance.

4.6.2 Perspectives from Industry Practitioners

4.6.2.1 Financing Structure and Preferences

Executives of sample firms made clear that they strongly preferred equity financing to debt. Businesses cited high interest rates, collateral requirements, and restricted access to long-term credit as the main obstacles to debt financing, and instead relied mostly on internal funds, pre-sales, and retained earnings. This is consistent with the results of the regression, which showed that the debt-to-equity ratio had no discernible impact on profitability and that there was little variation in the amount of debt used by different businesses.

The majority of short-term needs were financed by bank loans with high interest rates (12% to 18%) and collateralized by real estate assets, according to the cautious debt strategies reported by

the firms. Citing market uncertainty and regulatory complexity, none of the companies announced issuing bonds or contemplating the issuance of public equity.

4.6.2.2 Growth Opportunities and Profitability Challenges

Although growth opportunities are crucial for long-term success, executives have repeatedly underlined that they frequently put a strain on resources and have a negative effect on short-term profitability. Cost overruns, client payment delays, and cash flow management issues were frequent problems during expansion stages. These observations corroborate the regression result, which showed that the Growth Ratio significantly and negatively affected ROE. This suggests that aggressive growth strategies may lower immediate profitability in the Ethiopian real estate market.

4.6.2.3 Role of Firm Age and Experience

Firm experience and age are the most significant financial performance drivers, according to respondents. Deeper networks of clients, greater ease of accessing finance from banks, and higher market credibility were mentioned by older firms. This is supported by the outcome of the regression model that ROE and firm age are significantly and positively correlated, in the sense that they capture how established relationships and acquired experience are contributing factors to profitability.

4.6.2.4 Decision-Making and Financial Strategies

In line with the interviews, top executives and boards of directors are likely to be tasked with centralizing finance choices. The decision is driven by a variety of factors such as risk appetite, cost of capital, and returns on investment expectations. Most companies have a strong liking for conservative financing with an effort to minimize exposure to debt and maintain their flexible structures.

4.6.2.5 Sectoral and Macroeconomic Challenges

Macroeconomic volatility, regulatory risk, and varying inflation rates were most often cited by managers to be prime discouragers of funding decisions. Unpredictable legal systems and lengthy

project delay in approvals were also cited by several interviewees as discouragers for raising outside capital. Such problems highlight how policy reform must be implemented to allow the financial viability of the real estate sector to be possible.

Through throwing more light on the financing tactics and issues of Ethiopian property firms, the thematic analysis deepens the quantitative findings. Sectoral conditions as well as overall macroeconomic conditions are reflected in the conservative stance towards debt funding, concern with internal capital, and growth contributing to profitability. These qualitative findings supplement the findings of the regression analysis and create an integrative understanding of the variables that drive the performance of the industry.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATION

5.1 Conclusions

This research tested the effect of capital structure and funding on the financial performance of some Ethiopian real estate firms. Utilizing two quantitative regression methods and qualitative thematic themes based on managers' and finance officers' interviews, the research utilized a seven firm's panel dataset for five years (2020–2024).

The findings indicate that company age is the strongest predictor of an increase in financial performance with increasing company age and where the oldest-aged companies have the highest profitability. ROE and company age were statistically significantly and positively related by the Fixed Effects model and indicated profitability to be increased approximately 0.43 percentage points with every extra year of firm operation.

This is then contrasted with this, and profitability was not found to have a statistically significant relationship with the Debt-to-Equity (DE) ratio in the research. The Negative coefficient sign does, however, validate the Trade-Off Theory alert that excessive leverage will lower profitability and heighten financial risk. This would indicate that risk-averse financing practice, high interest rate cost, and low credit availability are the most probable reasons why conservative capital structures dominate the Ethiopian real estate market.

Likewise, there was no discernible impact of firm size (measured by total assets, expressed in millions of ETB) on profitability. Due to the capital-intensive nature of real estate operations and the potential for delayed returns from large capital investments, the positive but negligible coefficient suggests that scale alone does not ensure superior performance in this sector.

Rapid expansion may put a strain on resources and lower short-term returns, according to the Growth Ratio's negative and statistically significant relationship with profitability. Although this finding runs counter to the Pecking Order Theory, which holds that growth opportunities increase

firm value, it is consistent with issues raised in the thematic insights from the interviews, including the Ethiopian real estate sector's limited access to financing, project delays, and cost overruns.

The diagnostic tests confirmed the reliability of the model:

- No multicollinearity issues (after adjustments to the data),
- No heteroskedasticity, and
- Serial correlation was detected but corrected using robust standard errors, ensuring the validity of the Fixed Effects regression results.

In general, according to the study, tenure and operational maturity are dominion drivers that contribute very much to profitability in the real estate industry in Ethiopia, whereas growth planning and capital structure influence is intricate and very responsive to external variables such as financing limits, industry-associated risks, and regulatory risks.

5.2 Recommendations

Based on the results, the following is recommended to be suggested to practitioners, policymakers, and researchers in the future:

For Real Estate Firms

- Enhance Internal Capabilities: To be profitable in the long term, companies have to invest in establishing strong operational maturity through trainings, experience sharing with experienced firms and recruiting experienced professionals.
- Adopt Balanced Financing Strategies: As the most common source of finance is debt (mostly short term), corporations must utilize internal sources of finance, raising capital by issuing shares and optimize debt & equity composition.
- Manage Growth in a Planned Way: With care and caution to avoid draining resources and ensuring that growth is not undertaken at the cost of long-term cash generation, corporations must plan growth and finance it cautiously.

For Policymakers and Regulators

- Increased Access to Long-Term Financing: For the purpose of enabling the expansion of the companies without overutilization of equity, the financial institutions and government must devise financing products that will suit the real estate sector, such as long-term loans and mortgage-backed securities.
- Improve Regulatory Transparency: For a stable and stable investment climate for the purposes of availing a stable and secure investment climate, there must be clear policies, especially on collateral requirements, interest rate arrangements, and project authorization.

For Future Researchers

- Extend the Analysis's Scope: Future research could examine additional factors that influence financial performance, such as macroeconomic trends, market demand, and regulatory considerations, and involve a larger sample of businesses.
- Integrate Qualitative and Quantitative Methods: Expanding on this research, mixed-methods approaches with managerial insights and financial data can offer a more thorough understanding of the dynamics of the sector.
- Longitudinal Studies: Studies that span more time may be better able to capture how market swings, policy changes, and business cycles affect financial performance.

Lastly, by illuminating the relationship among capital structure, firm attributes, and profitability, this study adds to the scant literature on the Ethiopian real estate market. It provides a nuanced understanding of the opportunities and challenges facing real estate firms by fusing financial analysis with industry viewpoints. This lays the groundwork for future research and offers decision-makers useful insights.

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Appendix 1

Interview Questions for "Ministry of Urban & Infrastructure" and "Ethiopian Investment Commission"

Dear Sir/Madam

My name is Hika Terefe, and I am currently conducting my master's thesis entitled "The Effect of Capital Structure on Financial Performance of Selected Real Estate Firms." As part of my research, I am collecting relevant data from key government institutions and selected real estate developers.

Therefore, _____ has been identified as a sample real estate firm. I am therefore writing to kindly request your support in responding to the questions below and in providing any documents or data you consider relevant and helpful to my research.

Your assistance is greatly appreciated.

Sincerely,

Hika Terefe

I. General Background and Firm Overview

1. Can you briefly describe your firm's history, size, and primary business activities in the real estate sector?

2. What are the main sources of revenue for your firm?

3. How would you describe your firm's financial performance over the past 5 years?

II. Capital Structure

4. What are the primary sources of financing for your firm (e.g., debt, equity, internal funds)?

5. What percentage of your firm's capital structure is financed through debt versus equity?

6. How does your firm decide on the optimal mix of debt and equity financing?

7. What factors influence your firm's decision to take on debt (e.g., interest rates, growth opportunities, tax benefits)?

8. How does your firm determine the appropriate level of leverage (Debt-to-Equity ratio)?

9. Has your firm ever considered issuing new shares or seeking external equity investors? If so, what were the reasons?

III. Debt Financing

10. What types of debt instruments does your firm use (e.g., bank loans, bonds, mortgages)?

11. What are the typical terms and conditions of the debt your firm takes on (e.g., interest rates, maturity periods)?

12. How does your firm manage the risks associated with debt financing (e.g., interest rate risk, default risk)?

13. Has your firm ever faced challenges in servicing its debt? If so, how were these challenges addressed?

IV. Equity Financing

14. Has your firm ever raised capital through equity financing? If so, what was the process like?

15. What are the advantages and disadvantages of equity financing for your firm?

16. How does your firm decide whether to retain earnings or distribute dividends to shareholders?

V. Internal Financing and Cash Flow Management

17. How important are internal funds (e.g., retained earnings) in financing your firm's operations and investments?

18. How does your firm manage its cash flow to support ongoing operations and new projects?

19. What role do working capital management practices play in your firm's Capital Structure decisions?

VI. Growth Opportunities and Investment Decisions

20. How does your firm identify and evaluate new investment opportunities (e.g., new projects, acquisitions)?

21. How are financing decisions aligned with your firm's growth strategy?

22. What role do growth opportunities play in determining your firm's capital structure?

VII. Challenges and Constraints in Financing

23. What are the biggest challenges your firm faces in accessing financing (e.g., high interest rates, limited access to credit)?

24. How do macroeconomic conditions (e.g., inflation, GDP growth) affect your firm's financing decisions?

25. Are there any regulatory or legal constraints that impact your firm's ability to raise capital?

VIII. Decision-Making Process

26. Who is involved in making financing decisions within your firm (e.g., board of directors, CFO)?

27. What criteria or metrics are used to evaluate financing options (e.g., cost of capital, return on investment)?

28. How does your firm's management team prioritize between different financing options?

Appendix II

Interview Questions for "Ministry of Urban & Infrastructure" and "Ethiopian Investment Commission"

Dear Sir/Madam

My name is Hika Terefe, and I am currently conducting my master's thesis entitled ***"The Effect of Capital Structure on Financial Performance of Selected Real Estate Firms."*** As part of my research, I am collecting relevant data from key government institutions and selected real estate developers.

Therefore, _____ has been identified as a vital source for industry-level data on the real estate sector. I am therefore writing to kindly request your support in responding to the questions below and in providing any documents or data you consider relevant and helpful to my research.

Your assistance is greatly appreciated.

Sincerely,
Hika Terefe

I. General Sector Overview

1. How many real estate developers are currently licensed and actively operating in Ethiopia?

2. How has the number of licensed developers changed over the past seven years?

3. What criteria must an entity fulfill to obtain a real estate development license in Ethiopia?

4. Which government bodies are involved in the regulation and oversight of real estate developers?

II. Regulatory and Capital Requirements

1. What are the minimum capital requirements for establishing a real estate development company in Ethiopia?

2. Are there differences in capital requirements based on the scale or type of real estate development (e.g., residential, commercial, mixed-use)?

3. What other financial or legal prerequisites (e.g., escrow accounts, guarantees) are mandated before initiating a project?

4. Are there any recent or upcoming policy changes affecting licensing or capital requirements for developers?

III. Investment and Financing

1. What investment incentives (e.g., tax breaks, duty-free imports) are available for real estate developers?

2. Are developers allowed to access foreign financing or only domestic funding sources?

3. What is the Ministry's observation on how developers typically finance their projects (e.g., equity, bank loans, pre-sales)?

4. Is there any data on the average investment size or capital structure (equity vs. debt) used in current real estate projects?

IV. Sectoral Challenges and Opportunities

1. What are the major financial challenges currently facing real estate developers in Ethiopia (e.g., high interest rates, limited access to long-term credit, lack of alternative financing instruments)?

2. Are there any government-led or supported financing schemes specifically designed for real estate developers (e.g., concessional loans, credit guarantees, infrastructure bonds)?

3. Does the Ministry collaborate with financial institutions (public or private) to improve access to financing for real estate development projects? If so, how?

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