ADDIS ABABA UNIVERSITY
COLLEGE OF TECHNOLOGY AND BUILT ENVIRONMENT
SCHOOL OF BUILT ENVIRONMENT

DEPARTMENT OF URBAN AND REGIONAL PLANNING

PERCEIVED LEVEL AND DETERMINANTS OF REAL ESTATE MARKET INSTABILITY: EVIDENCE FROM LEMI KURA SUB-CITY, ADDIS ABABA

M.A. Thesis by
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August 2026
Addis Ababa, Ethiopia

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in partial fulfillment for the requirements for the Degree of Master of Arts in Urban Land and Property Valuation

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August 2026

Addis Ababa, Ethiopia

Approved by Board of Examiners

A Thesis Submitted to School of Built Environment (SBE) to the school of graduates' studies of Addis Ababa University in partial fulfillment for the requirements of the degree of Master of Arts in urban land and property valuation.

Title of thesis: Perceived Level and Determinants of Real Estate Market Instability: Evidence from Lemi Kura Sub-City, Addis Ababa

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August 2026

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Declaration

This is to certify that the thesis prepared by **Bezawit Mulugeta** entitled: ***Perceived Level and Determinants of Real Estate Market Instability: Evidence from Lemi Kura Sub-City, Addis Ababa*** and submitted in partial fulfillment of the requirements for the Degree of Master of Art in Urban Land and Property Valuation complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Acknowledgements

First and foremost, I am grateful to the Almighty God and the mother of God for their guidance and blessings throughout this research work. I am also deeply grateful to my beloved mother and father and my family, for their unwavering support and encouragement, which enabled me to continue and make consistent progress in my work.

Secondly, I am grateful to Addis Ababa University for creating a suitable environment to successfully write my thesis, which is crucial for my future career.

Thirdly, my deepest appreciation goes to my thesis advisor Teshome Tefera (PhD) for his advice, enthusiasm, encouragement, and mentor. He has been continuously guiding me from beginning of the proposal write-up to the thesis submission.

Fourthly, I would like to appreciate all friends and classmates who support me both emotionally and academically to make my dream come true.

Lastly, I want to acknowledge data collectors, study participants, and real estate owners without them this study would not be possible.

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List of Abbreviations

ACRC	**African Cities Research Consortium**
AIC	Akaike Information Criterion
ANOVA	Analysis of Variance
BIC	Bayesian Information Criterion
BIM	Building Information Modeling
CI	Confidence Interval
CVS	Comparable Valuation System
ECB	European Central Bank
EFA	Exploratory Factor Analysis
EMH	Efficient Market Hypothesis
EPRDF	Ethiopian People's Revolutionary Democratic Front
GDP	Gross Domestic Product
GIS	Geographic Information Systems
GTP	Growth and Transformation Plan
IHDP	Integrated Housing Development Programme
KI / KII / KIIs	Key Informant(s) / Key Informant Interview(s)
KIs	key Informants
KOBO	Kobo Toolbox (mobile data collection software)
LL / UL	Lower Limit / Upper Limit (of CI)
MLR	Multiple Linear Regressions
MS	Mean Square (ANOVA table)
MSE	Mean Squared Error
OLS	Ordinary Least Squares (regression)
PCA	Principal Component Analysis
Q-Q Plot	Quantile - Quantile Plot
SD	Standard Deviation
SLR	Simple Linear Regression
SS	Sum of Squares (ANOVA table)
STATA	Statistical software for data analysis
UNDP	United Nations Development Program
UN-Habitat	United Nations Human Settlements Program
VIF	Variance Inflation Factor

Abstract

Real estate market instability, characterized by price volatility, supply-demand imbalance and investment uncertainty, poses a significant challenge in rapidly urbanizing cities of developing countries. Despite the growing importance of the real estate sector in Ethiopia, empirical evidence on the magnitude and determinants of market instability remains limited. This study therefore assessed the perceived level and determinants of real estate market instability in Lemi Kura sub-city, Addis Ababa. A mixed-method study design was employed; an analytical cross-sectional survey of 224 buyers/tenants and semi-structured interviews of 10 real estate developers. Purposive sampling and Two-stage cluster sampling techniques were used to select participants for the qualitative and quantitative study, respectively. Quantitative data were collected using structured questionnaires and analyzed using descriptive statistics and multiple linear regressions. Qualitative data were analyzed thematically and triangulated with the quantitative findings. The inferential statistics using multiple linear regressions showed that high property prices, income and employment insecurity, poor housing quality, and political instability were significant drivers of market instability. Conversely, improved urban planning, regulation of land speculation, and application of innovative technologies were significantly associated with lower market instability. Qualitative insights further highlighted those macroeconomic and market pressures such as inflation, currency depreciation, speculative investment behavior, and ineffective market regulations as critical contributors to the real estate market instability. In conclusion, these findings indicate that market instability in Lemi Kura is not a market failure alone but a governance failure, driven primarily by speculative behavior, weak regulatory enforcement, and planning deficits.
***Keywords**: Real estate, housing price, drivers of housing market instability, Ethiopia*

Chapter One: Introduction

Real estate market instability refers to the fluctuations and uncertainties that can occur in the housing sector; it occurs when there is disorder within a market's operation. Market inefficiency can manifest in resource misallocation, persistent mismatches between supply and demand, high volatility in prices, erosion in market motivation, and external shocks such as demographic shifts **(**Glaeser & Gyourko, 2018).

Under the introduction section, detail description of the study background, problem statement, study objectives (general and specific objectives) were addressed. In addition, the study's Research Questions, significance, scope and how it was organized were addressed. The background started with defining real estate followed by the contribution to the overall economic growth and urbanization. The statement problem stressed the current challenges/instabilities the sector is passing through and influencing factors for the instability in a global to local approach. This section also stated the Objectives of the research both in statement and question form, which is mainly formulated to address the level and drivers of the real estate market instability. Furthermore, the significance of the study for different stakeholders including the property owners/tenants, developers and policy makers was addressed in this section. Lastly, this introduction addressed the scope and organization of the study.

The real estate market is defined as the transaction of residential and commercial properties that include houses, apartments, office buildings and industrial properties (Ling & Archer, 2008). The sector introduced advanced housing technologies and design, employment and skill improvement for graduates, planned urbanization, and involvement in social responsibilities and constructing essential infrastructures for the surrounding community (Lemma & Woldemariam, 2018). Furthermore, the real estate sector has paramount contribution for employment, housing increment, and economic

growth, particularly in the time of rapid population growth and urbanization (Paciorek, 2013).

Rapid population growth and urbanization have intensified pressure on the urban housing market, contributing to rising property prices, supply-demand disparities, and increasing concerns regarding market stability. The Ethiopian population is continuously growing and ranked 10th globally with approximately 135 million and an annual growth of 3.4 million (2.6%) between early 2024 and the start of 2025. Of the total population, 23.1% in urban areas; 25-30% of the urban population live in Addis Ababa (UN, 2025).Rapid population growth and urbanization mainly through migration of rural population to major cities leads to shortage of residential and commercial housing. As a result, the real estate industry is initiated and has significant contribution for the country's economic growth (Bencardino & Nesticò, 2017; Jiang, 2020; Paciorek, 2013).

Despite the real estate sector is the cornerstone of a country's economic growth, in recent years, it encounters instability because of rapid urbanization and financial crisis. Recent evidence indicates that residential property prices in Addis Ababa have increased substantially during recent years, reducing housing affordability for many households (World Bank, 2023; UN-Habitat, 2020).

Approximately 207,000 condominium units were delivered under the Integrated Housing Development Programme (IHDP) between 2004 and 2019, yet significant housing affordability gaps remain in Addis Ababa (World Bank, 2023).

The **formal housing market remains unaffordable for the bottom 40% of households** in Addis Ababa. (World Bank, 2023). This paradox in the real estate market is mainly due to poor regulatory frameworks, currency depression, and unpredictable government interventions (Henderson & Liu, 2023).

Addis Ababa is one of the fastest growing cities in Africa with an estimated 4% annual expansion and the demand for formal housing is skyrocketing (World Bank, 2023). However, the supply for affordable housing is in its infancy stage due to the high cost of the construction materials, inflation, and the recent economic reform measures (exchange-rate depreciation), and limited land (UNDP Ethiopia, 2024). This imbalance in demand-supply is further exacerbated by land administration and real estate regulatory frameworks such as bureaucratic delays, haphazard policy implementation and low transparent land allocation (Berhanu, 2004).

Lemi Kura Sub-City has emerged as one of the fastest urbanizing districts of Addis Ababa, characterized by extensive residential expansion, increasing private real estate investment, and major infrastructure developments. The area has attracted both developers and homebuyers due to its strategic location and availability of developable land. However, rapid growth has also been accompanied by escalating property prices, infrastructure pressures, and concerns regarding housing affordability. These characteristics make Lemi Kura an appropriate setting for examining real estate market instability and its underlying determinants.

Lemi Kura is a relatively new administrative unit, established in 2020, covering an area of approximately 7,860.7 hectares and according to 2024 federal government census projections, the sub-city has a population of 382,843 (Sifer et al., 2026). This represents a significant portion of Addis Ababa's total population, which is estimated by Macrotrends (2024) to reach 5.7 million in 2024. from City-Wide Expansion Addis Ababa experiences an annual population growth of roughly 3.8% to 4.4%, which has led to Lemi Kura emerging as a "hub" for diverse housing types, including private apartments, villas, and condominium blocks.

While the Ethiopian real estate sector has been the subject of increasing academic inquiry,

existing research remains fragmented and primarily focused on isolated market facets. Prior studies have extensively explored housing demand and business feasibility (Alemu, 2021), private development challenges (Dagne, 2019), general market performance (Geresu, 2023) and project-specific risks (Hagos, 2016). However, these studies offer city-wide, macro-level assessments that fail to capture the intense volatility occurring at the sub-city level, particularly in rapid expansion zones. Consequently, there is a significant empirical gap regarding the integrated influence of institutional, demographic, and policy-related drivers—such as the 2024 currency flotation and subsequent inflation—on localized market instability. This study fills this vacuum by shifting the unit of analysis to Lemi Kura Sub-City, providing a localized empirical baseline that justifies the need for sub-city-specific regulatory frameworks and governance interventions.

Assumptions of the study:

The study is grounded in several fundamental assumptions necessary for the validity of its empirical findings. First, it is assumed that the subjective perceptions and experiences of key market actors, including buyers, tenants, and developers, serve as reliable proxies for the actual prevailing conditions and instability of the real estate market in Lemi Kura Sub-City. Relatedly, the research assumes that all study participants provided honest, accurate, and unbiased information regarding sensitive topics such as property values and personal income levels. Furthermore, it is assumed that the Market Instability Score, a composite quantitative measure ranging from 10 to 50 derived from ten Likert items accurately captures the multi-dimensional intensity and fluctuations of market uncertainties. Finally, the study assumes that the selected sample of 224 survey participants and 10 key informant developers is sufficiently representative of the diverse socioeconomic and professional landscape of the Lemi Kura real estate sector.

1.1. Statement of the Problem

Real estate contributes substantially to economic growth by stimulating investment, employment, infrastructure development, and capital formation. Because housing development depends on long-term investment and stable market expectations, the sector is particularly vulnerable to market instability. Market instability manifests through persistent price volatility, fluctuations in housing demand and supply, and uncertainty in investment decisions. In rapidly urbanizing cities, population growth often exceeds the pace of housing construction, creating persistent supply shortages. As demand continues to rise while housing supply remains constrained, property prices increase beyond the purchasing power of many households, particularly low- and middle-income groups. Consequently, housing affordability declines, informal settlements expand, and developers face greater uncertainty regarding project feasibility and market absorption (Berhanu, 2004; Paciorek, 2013; Lisanwork, 2023). Thus, market instability affects both the demand side through reduced affordability and the supply side through increased investment risk (UN-Habitat, 2020).

Real estate developers encounter uncertainty from multiple sources, including stakeholder influence, organizational capability, market information, and project-related risks (Ayodele & Olaleye, 2022). Stakeholder uncertainty arises because government agencies, financial institutions, contractors, and customers each influence project implementation. Delays in land allocation, permit approval, or financing can interrupt construction schedules and increase project costs. Likewise, limited market information prevents developers from accurately forecasting housing demand and selling prices, making investment decisions more speculative. Weak organizational capability further limits developers' ability to respond to inflation, policy changes, and construction challenges, thereby increasing project risk.

This housing deficit illustrates that housing demand has consistently exceeded supply. When supply fails to respond adequately to rapid urbanization, competition for available housing intensifies, leading to escalating property prices and reduced affordability. The persistent imbalance also encourages speculative investment, placing additional upward pressure on housing prices and contributing to market instability.

Real estate performance depends on both internal organizational capacity and external market conditions. Customer purchasing power determines effective housing demand, while access to mortgage finance affects the ability of households to purchase residential properties. Legal certainty reduces investment risk by protecting property rights and ensuring predictable development procedures. Infrastructure such as roads, water, electricity, and public transport increases property attractiveness and market value. Similarly, technological adoption improves project management, cost control, and marketing efficiency, enabling developers to respond more effectively to changing market conditions (Immanuel & Andualem, 2023).

Ethiopian studies consistently indicate that the challenges facing the real estate sector are multidimensional rather than isolated. Land acquisition remains the most fundamental constraint because developers depend on government-controlled land allocation systems that are often characterized by lengthy administrative procedures (Alemu, 2021). At the same time, inflation and escalating construction material prices substantially increase development costs, while limited access to long-term finance restricts developers' ability to complete projects according to schedule (Dagne, 2019; Mulugeta, 2018). These financial pressures are further compounded by shortages of foreign currency, which constrain the importation of construction materials and equipment, ultimately reducing housing supply and increasing market uncertainty (Lemma & Woldemariam, 2018).

Previous studies consistently show that structural, financial, and institutional constraints jointly limit the performance of Ethiopia's real estate sector. Berhanu (2004) identifies land ownership and allocation systems as the primary barriers to housing accessibility for low-income households. More recent studies extend this argument by demonstrating that financial constraints, inadequate infrastructure, communication barriers, inflation, shortages of construction materials, and foreign exchange instability collectively reduce developers' operational efficiency and increase project risk (Ababu, 2024; Lisanwork, 2023). These findings suggest that market instability results from the interaction of multiple economic and institutional factors rather than from a single cause.

Urban development policies directly influence the spatial distribution of housing, infrastructure investment, and land availability. Efficient urban planning improves accessibility, public services, and neighborhood attractiveness, thereby increasing property values and encouraging private investment. Conversely, weak planning systems create infrastructure shortages, increase development costs, and discourage housing investment. Therefore, government interventions in land allocation, transport infrastructure, and housing policy play a central role in determining real estate market performance (Geresu, 2023).

These recommendations address different dimensions of market instability. Market-oriented land management increases the availability of serviced land and reduces supply constraints. Collaboration between developers and government institutions improves regulatory efficiency. Likewise, improving housing quality enhances customer satisfaction and market competitiveness, thereby increasing the long-term sustainability of the real estate sector (Alemu, 2021; Immanuel & Andualem, 2023; Liu et al., 2025).Although private real estate development has expanded housing production in Addis Ababa, the sector predominantly

serves high-income households and diaspora investors rather than the broader urban population. Dagne (2019) reports that approximately 60% of privately developed housing is purchased by members of the diaspora. Because diaspora buyers generally possess stronger purchasing power than residents, developers tend to construct higher-priced housing that maximizes profit. Consequently, housing supply for middle- and low-income households remains limited despite increasing construction activity. At the same time, rapid rural-to-urban migration continuously increases housing demand, while currency devaluation reduces the purchasing power of domestic households and increases construction costs. Together, these factors widen the gap between housing demand and effective supply, thereby reinforcing market instability.

Although previous studies have examined housing affordability, real estate performance, land administration, and housing finance in Ethiopia, relatively little empirical evidence specifically measures the extent of market instability and quantitatively examines the factors driving that instability at the sub-city level. Existing studies generally focus on national or city-wide housing challenges, with limited attention given to rapidly developing areas such as Lemi Kura Sub-City, where intensive residential development and rapid urban expansion create unique market conditions. Consequently, there remains insufficient evidence regarding the magnitude of market instability experienced by customers and developers and the relative importance of the factors influencing that instability. Addressing this knowledge gap is essential for developing evidence-based policies that improve housing market stability and promote sustainable urban development.

1.2. Objectives of the research

1.2.1. General Objective

The general objective of this study was to assess the perceived level and determinants of real estate market instability in Lemi Kura Sub-City, Addis Ababa, Ethiopia.

1.2.2. Specific Objectives

The specific objectives of this study were to:

- Determine the perceived level of real estate market instability in Lemi Kura Sub-City, Addis Ababa.
- explore developer perspectives on the qualitative drivers and emerging trends of market instability in Lemi Kura Sub-City.
- Identify the determinants of the real estate market instability.
- propose evidence-based policy and strategic interventions for stabilizing the real estate market in Lemi Kura Sub-City.

1.3. Research Questions

This study's research questions include:

- What is the current level of perceived real estate market instability in Lemi Kura Sub-City, Addis Ababa?
- How do real estate developers perceive the underlying drivers and operational challenges associated with market instability in Lemi Kura?
- What are the main determinants of real estate market instability?
- What strategic and policy-level interventions are perceived as most effective by stakeholders to stabilize the localized real estate market?

1.4. Significance of Study

This study addressed the current level of market instability from different participants such as property owners, tenants, and real estate developers. The study also identified the main influencing factors for the real estate market instability. Moreover, it qualitatively explores the drivers of market instability and the potential strategic measures to overcome the problem.

The findings of this study will benefit tenants and ordinary citizens who dream of owning a house. Most of the urban population (approximately 70%) in Ethiopia is living in a sub-standard housing and high rent (World Bank, 2023). As a result, the government looks to offer different options to provide land and housing for low-and middle-income citizens despite the problem not yet resolved. This study provides further insight into the government and the citizens to look for opportunities to make affordable housing accessible for ordinary citizens. The real estate developers also get crucial insight into residential and commercial houses targeting most of the population rather than focusing on high-end houses, which are mainly for the diaspora community

1.5. Scope of Research

This study focused on assessing current level of perceived real estate market instability and main determinants of real estate market instability in 2025 following the economic reform and high currency depreciation in Ethiopia's history. In the past two years the real estate property price steadily increased and tripled itself. However, that increment is staggering now and both the customers and developers are uncertain about the future. As the currency value is steady decreased, the power of the customers is decreased, and the developers have high unsold high-end houses, which all showed the real estate sector is in serious unstable condition.

Furthermore, this study was thematically restricted to assess extent and influencing factors of market instability in the urban real estate sector of Lemi Kura Sub city. The customers perceived market instability was quantitatively assessed using pretested survey questionnaire. Both

descriptive and inferential statistics were applied to identify the main drivers of the real estate market instability. The real estate developer's experience and challenges were assessed using an in-depth interview and thematically analyzed.

Findings from this study are crucial for policy makers and other stakeholders concerned. Balancing the supply and demand of housing is crucial in the urbanization process. Likewise, considering the economic status of the residents and construction cost is critical. Policymakers should raise these issues from the outset and open suitable opportunities for the real estate developers to build houses for the ordinary citizen with affordable cost.

Identifying the main bottlenecks of market instability will offer crucial information for fresh and existing investors who plan to join or expand their company in the real estate business with new technologies that overcome the existing problem. Furthermore, scholars with interest in this research area will use this study as a reference for their own work.

1.6. Definition of Key Terms

- Real estate: refers to land plus any permanent human-made additions including buildings or houses on the land.
- Real estate market instability refers to the fluctuations and uncertainties that can occur in the housing sector. it is characterized by price volatility, demand–supply imbalance, and investment risk.
- Market Instability Score: a composite quantitative measure used in this study to assess the degree of instability in the real estate market (scale 10–50).
- Influencing Factors (Drivers): Economic, social, political, and structural variables (e.g., income, housing quality, political instability) that affect market stability.
- Simple Linear Regression (SLR): A statistical method used to analyze the relationship between one independent variable and market instability.

- Multiple Linear Regressions (MLR): A statistical technique used to examine the combined effect of multiple independent variables on market instability.

1.7. Organization of Research

This thesis report is structured in six consecutive main sections. The first section/chapter addressed subsections including study background, problem statement, study objective and questions, significance, scope, and organization of the research. The second section presented a review of the literature. It provides a theoretical review, defining key terminology and constructing a conceptual framework based on empirical findings. The third chapter is about methods and materials. It explained each subsection of the method sections including detail description of the study setting supported with map, study population, sample size determination and sampling technique, data collection methods, and statistical analysis. The results section was addressed in chapter four, and the statistical outputs of both descriptive and inferential statistics were scientifically interpreted and presented in concise text and tables. Graphs were also used for some variables. The fifth chapter is about discussion, which summarizes the key findings, compares the findings with prior empirical studies, and provides scientific explanation for the discrepancies. It also includes the scientific contribution and limitations of this study. The sixth section is about the conclusion and recommendation. The study was concluded by elaborating the key findings and finally recommendations were forwarded to the appropriate stakeholders. Furthermore, the study included the reference and annex subsections.

1.8. Research Limitations

This study encountered several limitations that influenced the scope and depth of the findings. One of the primary challenges was the reliance on respondents' willingness to provide accurate and detailed information during data collection. Some participants were hesitant to fully disclose information related to property values, income levels,

and market perceptions, which may have affected the precision of the data.

The study is geographically limited to Lemi Kura Sub City, which may restrict the full generalization of the findings to the entire Addis Ababa real estate market. However, Lemi Kura Sub-City is one of the rapidly developing areas where a significant number of real estate developers are actively operating. Due to this concentration of development activities, the area reflects key characteristics of the city's real estate market dynamics. Therefore, while the findings provide valuable insights that may be indicative of broader market conditions, caution should be exercised when extending the results to other sub-cities with different socioeconomic and infrastructural circumstances and this study was a one-point study using survey questionnaires and in-depth interviews and it did not show the pattern of instability.

Methodologically, the study employed simple and linear regression models, which assume linear relationships between variables.

Chapter Two: Literature Review

2.1. Overview of Real Estate

Although they are used interchangeability, there is difference between real estate, land, and real property. The earth's surface upward to the airspace to down to the center of the earth refers to the land. On the other hand, real estate refers to land plus any permanent human-made additions including buildings or houses. Changes made on the land improve its value over time. For instance, the infrastructures such as drainage, electricity, water and sewer systems stay for long periods despite the building/house needs amendment or replacement over time. Real property refers to land plus manmade additions plus ownership and usage (Case et al., 2000; Floyd & Allen, 2002).

Real estates have several types including commercial, residential, industrial or special purpose properties. Residential refers to property used for living, these include single-family homes, condominiums, cooperatives, duplexes, townhouses, and multifamily residences. In contrast, commercial real estate is merely for business purposes. These include gas stations, apartment complexes, grocery stores, hospitals, hotels, parking facilities, offices, restaurants, shopping centers, and theaters and stores. On the other hand, industrial real estate is for production, manufacturing, research and development, and storage. Furthermore, government buildings, cemeteries, libraries, parks, worship centers, and schools are used by the public, and categorized under special purpose properties (Baum, 2009; Capozza & Lee, 1995; D'Lima & Schultz, 2021).

2.2. Real Estate Market Stability

Market stability refers to a condition in which markets operate efficiently with relatively predictable prices, balanced interactions between supply and demand, and limited fluctuations caused by external shocks. A stable market enables buyers, sellers, investors, and financial institutions to make informed decisions with confidence because prices reflect underlying economic fundamentals rather than speculative behavior or temporary disturbances. In real estate markets, stability is characterized by sustainable price growth, adequate housing supply, stable demand, and a regulatory environment that promotes transparency and investment confidence (Geltner et al., 2014).

According to Geltner et al. (2014), a stable real estate market exists when property values change gradually in response to long-term economic conditions such as population growth, household income, employment, and construction costs rather than sudden speculative activities. Because real estate assets are durable, capital intensive, and relatively illiquid, stable market conditions are essential for maintaining investor confidence, facilitating efficient allocation of resources, and supporting sustainable urban development.

Market stability is closely associated with market efficiency. The Efficient Market Hypothesis (EMH) argues that markets become more stable when accurate and timely information is readily available to all participants, allowing property prices to reflect available information and reducing opportunities for speculation (Fama, 1970). Transparent land administration systems, reliable market data, and digital property information platforms reduce information asymmetry and improve market efficiency, thereby contributing to greater market stability (Miles et al., 2020).

Economic fundamentals also play a critical role in maintaining market stability. According to Supply and Demand Theory, market equilibrium occurs when housing supply responds adequately to housing demand, resulting in relatively stable prices. However, when housing demand consistently exceeds supply due to rapid urbanization, population growth, or limited land availability, prices increase and market stability weaken (Ball, 1988). Similarly, excessive housing supply without sufficient effective demand may lead to declining prices and reduced investment activity. Therefore, maintaining equilibrium between housing supply and demand is fundamental to sustaining a stable real estate market.

Institutional quality is another important determinant of market stability. Effective governance, transparent land administration, consistent regulatory frameworks, and efficient property registration systems improve investor confidence and reduce uncertainty in real estate transactions (World Bank, 2023). Stable political and legal environments encourage long-term investment, whereas policy inconsistency, weak institutional capacity, and regulatory uncertainty increase market risk and discourage investment decisions.

Technological innovation has increasingly become an important driver of market stability. The adoption of Geographic Information Systems (GIS), Building Information Modelling (BIM), electronic land registration, digital property transaction systems, and property market information databases enhances transparency, improves planning efficiency, and reduces information asymmetry among market participants (UN-Habitat, 2020). These technologies facilitate informed decision-making, strengthen market monitoring, and contribute to more efficient and stable real estate markets.

In developing countries, maintaining real estate market stability remains challenging because of rapid urbanization, housing shortages, limited mortgage finance, infrastructure deficits, and institutional constraints. These factors often create persistent imbalances between housing supply and demand, resulting in price volatility and reduced affordability (UN-Habitat, 2020; World Bank, 2023). Consequently, achieving market stability requires coordinated policies that improve housing supply, strengthen land administration, expand housing finance, and promote technological innovation.

Overall, market stability reflects the ability of a real estate market to maintain equilibrium, transparency, and resilience under changing economic conditions. Stable markets support sustainable investment, improve housing affordability, encourage efficient resource allocation, and contribute to long-term economic growth. Understanding the characteristics and determinants of market stability provides an essential foundation for analyzing the factors that lead to real estate market instability.

2.3. Real estate Market Instability

According to the European Central Bank (ECB), market equilibrium has three core prerequisites: optimal resource allocation, seamless adaptive supply to demand and technological shifts, and reasonable rewards aimed at economically productive players and innovation (Grybauskas & Pilinkienė, 2018).Scholars consistently noted that resource misallocation, persistent mismatches between supply and demand, high volatility in prices, erosion in market motivation, and external shocks such as demographic shifts create imbalance to result in phenomena such as price bubbles, economic crashes, and stagnant economic growth **(**Glaeser & Gyourko, 2018).

The economic collapse in 2008 triggers several studies focused on market instability. Grybauskas and Pilinkienė (2018) developed a price “bubble” measure to assess the

market situation in four metropolitan areas including San Francisco, Vancouver, London and Sydney to demonstrate the home price growth from 2008 to 2017. They found that the growth is not sustainable from within the cities natural demand as the average income/mortgage ratio passes the normal value. The authors also predicted that in the presence of unstable market the real estate property price is expected to decline soon.

Real estate market instability is assessed using a multidimensional framework rather than reliance on a single metric, with composite evaluation models providing a more comprehensive diagnosis of volatility by capturing the interplay between affordability, demand, supply, and financial system exposure. Grybauskas and Pilinkienė (2018) proposed a methodology comprising seven key quantitative indicators: the price-to-income ratio, which evaluates housing affordability by dividing the average residential property price by the average annual household income, with values above eight years typically indicating severe affordability constraints attributable to speculative pricing or insufficient supply; the price-to-rent ratio, which compares the cost of purchasing to renting a similar unit, where ratios exceeding 17 are generally regarded as unsustainable and may shift demand toward the rental sector; city center versus suburban price differentials, where substantial gaps may reflect urban planning inefficiencies, disparities in infrastructure provision, and speculative concentration in prime locations; population growth impacts, which assess the extent to which demographic changes such as natural increase and migration place additional pressure on housing demand, often driving price and rent escalation; market expectations, which capture sentiment-based factors including investor confidence, developer outlooks, and buyer perceptions that can influence market activity independently of fundamental economic conditions; construction supply responses, which measure the capacity and

timeliness of new housing delivery in meeting demand, where both insufficient and excessive supply can destabilize markets; and the mortgage-to-GDP ratio, which indicates the level of mortgage debt relative to the overall economy, with elevated values signifying increased exposure of the financial system to the real estate sector and heightened vulnerability to economic shocks.

2.3.1. Real Estate Market Instability in Developing Countries

Real estate markets in developing countries often display unique instability patterns shaped by macroeconomic, institutional, and structural factors. Ahmed et al. (2021) showed that property frequently functions as a superior hedge against inflation in high-inflation environments, prompting investors to channel disproportionate capital into the sector during periods of currency depreciation. This tendency is reinforced by the limited depth and liquidity of alternative investment avenues such as stock and bond markets, which increases the relative attractiveness of real estate as a store of value (Chowdhury et al., 2019). In many cases, a substantial portion of property transactions remain informal and unregistered, undermining market transparency, complicating price discovery, and impeding effective policy intervention (UN-Habitat, 2020; World Bank, 2023). Furthermore, weak institutional frameworks such as limited regulatory capacity, inconsistent enforcement of property rights, and underdeveloped valuation and planning systems exacerbate volatility and constrain the sector's ability to respond efficiently to shifts in demand and supply (Manochehri et al., 2025; Poghosyan, 2016; Zhao & Liu, 2023).

2.3.2. Urban Real Estate Patterns in Africa

Urban real estate markets in Africa exhibit distinctive dynamics shaped by rapid urbanization that has not been matched by proportional industrialization or formal sector job creation (UN-Habitat, 2020). Bah et al. (2018) highlighted the severity of the

continent's housing crisis, estimating a backlog of at least 51 million housing units, with Nigeria alone facing a deficit of between 17 and 20 million units. Across many African cities, annual housing demand significantly outpaces supply, resulting in persistent supply–demand imbalances and sustained upward pressure on prices and rents. Despite the overwhelming need for affordable housing, much private sector development is concentrated in the high-end market segment, targeting wealthier buyers and expatriates, while most urban residents remain priced out. A considerable share of new construction is speculative in nature, often undertaken without adequate assessment of effective demand, which contributes to localized oversupply in premium segments while affordable housing shortages deepen (Bah et al., 2018; UN-Habitat, 2020). Furthermore, informal markets dominate large portions of urban land transactions, with customary land tenure systems and unregistered property transfers Remaining prevalent, limiting transparency, undermining urban planning, and constraining the effectiveness of regulatory interventions (Durand-Lasserve et al., 2013; Payne et al., 2009).

2.3.3. Real Estate Market in Ethiopia

Ethiopia's real estate market development reflects the country's unique political and economic history. Under imperial rule until 1974, a limited real estate market operated through land concessions to administrative and commercial classes (Goodfellow, 2017). The communist Derg regime (1974-1991) effectively terminated private real estate markets through nationalization of land and housing. Post-1991 market development began slowly under the EPRDF government, with initial focus on rural areas. Urban real estate development accelerated in the 2000s with economic growth and land leasing policy implementation. The diaspora community, estimated at 1.5-2 million people providing $20 billion annually, became crucial investors particularly

after the 2008 financial crisis.

In Ethiopia, the real estate market has experienced some degree of instability in recent years. Several factors contribute to this volatility. One of the primary causes of instability is the rapid urbanization and population growth in major cities like Addis Ababa. This has led to increased demand for housing, resulting in rising property prices. Recent analyses of Addis Ababa's real estate sector have highlighted multiple indicators of structural instability and inefficiency. One of the critical issues is the misalignment between formal regulatory incentives and informal economic drivers. While government policy has historically been suspicious of real estate speculation prioritizing industrialization and manufacturing instead the absence of robust alternative investment opportunities has continued to make property investment highly attractive to private actors.

Several informal economic factors contribute to this trend. First, persistent inflation rates ranging between 10–15% significantly erode the value of savings, while bank deposit returns remain low, averaging around 5% (Mengistu, 2024). Second, the absence of a formal stock exchange in Ethiopia, the largest country globally without one limit viable domestic investment option (Gebremichael, 2025) Third, the property tax regime is either negligible or inconsistently enforced, effectively reducing the holding cost of land and real estate assets (Berhanu, 2004). Finally, the laxity in the enforcement of occupation permit systems has contributed to speculative behaviors and informal occupancy.

Supply-side constraints further exacerbate the sector's fragility. There is no functioning mortgage system, making long-term financing for homebuyers virtually inaccessible (World Bank, 2025). Moreover, the banking sector provides limited credit to real estate developers due to regulatory restrictions and risk concerns. Land acquisition, primarily

facilitated through competitive government bidding, has led to inflated land prices, while high construction costs persist due to infrastructural deficits and material shortages (Alemu, 2021).

A significant structural problem is the high degree of market concentration in luxury and high-end residential developments. This is in sharp contrast to the broader population's demand for affordable housing. The result is a proliferation of unoccupied or underutilized premium housing stock, a phenomenon that some urban observers refer to as "skeleton cityscapes" (Kidane, 2025). This misallocation of resources underscores the inefficiencies and socio-economic imbalances inherent in the current real estate development model. To address these challenges and promote stability, the Ethiopian government has implemented various measures. For instance, Initiatives have been launched to increase affordable housing options and encourage local construction companies to meet the growing demand. Furthermore, regulatory measures have been put in place to limit speculative practices and ensure transparency in the real estate sector.

Ethiopia has seen a decline in the demand for commercial real estate due to several factors, especially in industries like retail and office space. Slower economic growth and periods of recession can impact businesses' ability to expand or invest in new properties. The demand for physical retail spaces has also decreased because of changing consumer behavior, such as the growth of e-commerce (International Monetary Fund, 2024). The demand for conventional office spaces has decreased due to technological developments such as the growth of remote work and digital communication tools. The availability and cost of commercial real estate can be greatly impacted by government policies associated with land use, construction, and zoning, while the concentration of economic activity in particular areas can result in oversupply

in some areas.

2.3.4. Real estate market in Addis Ababa

The urban real estate sector in Addis Ababa, Ethiopia, has witnessed significant growth and development in recent years. According to a report by the World Bank, the city has experienced an annual population growth rate of 3.8%, leading to increased demand for housing and commercial spaces (Goodfellow, 2017). according to the World Bank (2023), the Ethiopian government has recognized the importance of the real estate sector in driving economic growth and has implemented various policies and reforms to attract investment. The government's Growth and Transformation Plan (GTP II) has identified the real estate sector as a priority area for

Development, aiming to address the housing shortage and create employment opportunities (Federal Democratic Republic of Ethiopia, 2016)

Foreign direct investment has played a crucial role in the expansion of the urban real estate sector in Addis Ababa. The government has actively sought foreign investors and introduced incentives such as tax breaks and simplified administrative procedures to attract them. Chinese and Turkish investors have been involved in large-scale real estate projects in the city.

The construction of modern buildings, shopping malls, hotels, and office spaces has transformed the city's skyline. The Bole area has seen significant development, with the construction of high-rise buildings and luxury apartments catering to the growing demand for upscale housing. The rise of the middle class and increasing disposable income has also contributed to the growth of the urban real estate sector.

Additionally, there have been concerns about affordability, as the prices of real estate have risen rapidly, making it difficult for low-income individuals to access housing. In conclusion, the urban real estate sector in Addis Ababa has experienced significant

growth due to factors such as population growth, government support, foreign investment, and increasing demand. However, addressing challenges related to infrastructure, affordability, and urban planning will be crucial for sustainable development in the sector (Yohannes, 2023).

2.4. Factors Associated with the Real Estate Market Instability

Several structural and micro-economic factors influence the real estate market instability and are presented as follows:

Urbanization: Urbanization is one of the demographic mega-trends that has played significant role in terms of shaping the built environment (UN-Habitat, 2020; UN, 2025). A large percentage of the world's population is predicted to live in cities by 2050. It is noteworthy that Africa is rapidly becoming more urbanized due to factors like migration from rural to urban areas. This fast growth includes both the rapid expansion of urban areas themselves and the rise in the population of cities. The size of urban settlements has significantly increased, a phenomenon that is especially noticeable in developing nations (Alemu, 2021).

Infrastructure Development: The availability of proper infrastructure, such as roads, electricity, water supply, and sanitation, plays a crucial role in the stability of the real estate market. Inadequate infrastructure in certain areas can limit the attractiveness and potential value of properties, leading to market instability (Lemma & Woldemariam, 2018).

Landownership and tenure: Issues related to land ownership and tenure can impact the real estate market. Unclear land ownership rights, disputes, and the absence of a comprehensive land registration system can create uncertainties and hinder property transactions, affecting market stability.

Mortgage Financing: Limited access to mortgage financing is another challenge in the Ethiopian real estate market. The lack of long-term financing options and high interest rates make it difficult for potential buyers to afford properties, leading to a slowdown in the market and increased instability.

Construction Quality: Quality control in the construction sector is essential for market stability. Instances of poor construction practices, building collapses, and substandard housing can erode buyer confidence, negatively impacting the real estate market. Mathur (2019) stated that construction quality has direct effect on housing prices and poorly constructed real estate properties depress price performance and can

Contribute to market instability. Moreover, Ooi et al. (2014) demonstrated construction quality as key determinants for future sale price and future capital growth.

Market Speculation: Speculative activities, such as buying properties solely for investment purposes, can create artificial demand and price inflation. When these speculative bubbles burst, it can lead to market instability and a decline in property values.

Legal and Regulatory Framework: A well-defined legal and regulatory framework is crucial for market stability. Ensuring transparent property transactions, enforcing building codes and regulations, and protecting the rights of buyers and sellers contribute to a more stable real estate market (Anim-Odame & Ghis, 2016).

These factors collectively contribute to the real estate market instability in Ethiopia. Addressing these challenges requires a comprehensive approach involving government interventions, policy reforms, infrastructure development, and efforts to enhance transparency and investor confidence in the sector (Addae-Dapaah, 2021).

High housing prices: high prices increase the speculative behavior of both customers

and developers (Huang & Tang, 2015), which further increases financial uncertainty that triggers instability in real estate investment around the globe (Gomez-Gonzalez et al., 2024).

Low income and job instability: Brueckner (2011) urban economic models addressed this issue as income as a central determinant of housing demand and market adjustment. Income volatility weakens households' ability to sustain housing consumption, thereby increasing turnover and instability within housing markets.

Political instability: the influence of political decisions on land management, construction approvals, and investment. Nguyen and Vergara-Alert (2023) emphasized that political uncertainty reduces house price growth and transaction volumes. Abakah et al. (2025) also showed that heightened geopolitical risk increases real estate firms' crash risk.

Structural and policy interventions: Lu et al. (2024) used multi scale geographically weighted regression and demonstrated that planned urban environments influence market outcomes by regulating supply and demand dynamics. Ayub et al. (2020) also showed the effect of planning and institutional responses on housing markets to absorb shocks and avoid unstable speculative bubbles. In addition, Wang et al. (2022) emphasized that policy regulation, infrastructure, and coordinated planning minimize market instability. Application of innovative technologies such as digital land registries, online property platforms, transparent transaction monitoring systems, and block chain-based systems enhance transparency, reduce fraud, and limit information asymmetry, thereby contributes to smoother market functioning and reduced volatility (Faku & Amadi-Echendu, 2026; Manahov & Li, 2025).

Table 1 *Mapping Table of Variables*

Literature Identified Factor	Theoretical Origin	Survey Question / Item	Regression Variable (Table 8/9)
Urbanization	Supply-Demand Theory	Influence of rapid urbanization	Urbanization Dynamics
Infrastructure	Urban Planning Framework	Influence of infrastructures	Infrastructure availability
Land Speculation	EMH / Behavioral Finance	Market speculation impact	Regulate land speculation
Mortgage Access	Financial Indicators	Availability of mortgage financing	High interest rate / Finance access
Construction Quality	Housing Quality Theory	Poor construction practices	Poor housing quality
Economic Policy	Policy Frameworks	Impact of government policy change	Stabilize economic policies
Price Volatility	Housing Market Cycles	Significant fluctuations in property prices"	High Price (Observed)
Political Risk	Institutional Theory	Political instability impact	Political instability

Synthesis: Debates and Contradictions

The real estate market instability in emerging economies like Ethiopia is a subject of significant academic debate. The first one is Rationality vs. Speculation: While traditional theories (Mankiw, 2021) suggest prices are driven by fundamentals, modern scholars (Huang & Tang, 2015) argue that in developing markets, "speculative bubbles" often decouple prices from actual demand. And the other one is The Interest Rate Paradox: There is a contradiction in literature regarding interest rates. Some argue high rates stabilize markets by curbing speculation (pro-stability), while others find that in capital-constrained markets, high rates trigger "crash risks" by making housing unaffordable (pro-instability) and the third one is Local vs. Systemic Cycles: A major debate (Dong, 2023) concerns whether instability is a result of national macroeconomic policy or local urban planning failures. This study addresses this by comparing Stabilize economic policies (Macro) with Improve urban planning (Local) in the MLR model.

2.4.1. Developer Behavior, Real Estate Firm Strategies, and Market Actors

Real estate markets consist of multiple actors whose decisions collectively influence market performance and stability. These actors include developers, homebuyers, tenants, investors, financial institutions, government agencies, land administration authorities, and regulatory bodies. While buyers generate housing demand, developers determine the quantity, quality, location, and timing of housing supply. Financial institutions influence access to mortgage financing, whereas governments shape market outcomes through land allocation, taxation, planning regulations, and housing policies. Consequently, real estate market stability is determined not only by macroeconomic conditions but also by the interactions and strategic behavior of these market actors (Geltner et al., 2014; Adams & Tiesdell 2013)

Among these actors, real estate developers play a particularly important role because they directly influence housing supply through investment decisions, project planning, pricing strategies, and construction activities. Developers continuously assess market conditions before initiating new projects, considering factors such as expected demand, construction costs, financing availability, inflation, political stability, and anticipated profitability. When market conditions become uncertain, developers often postpone investments, reduce the scale of projects, phase construction, or shift their focus toward more profitable market segments to minimize financial risk (Miles, Netherton, & Schmitz, 2020; Ball, 1988).

Market instability substantially influences developers' strategic behavior. During periods of rapid inflation, currency depreciation, or increasing construction costs, developers frequently adjust housing prices to maintain profitability or delay project implementation until economic conditions become more favorable. Likewise, when purchasing power declines and demand weakens, firms often reduce new investments

or concentrate on high-income housing markets where profit margins remain relatively higher. Although these strategies may reduce individual business risks, they may simultaneously contribute to housing shortages and declining affordability for middle- and low-income households, thereby reinforcing market instability (Adams & Tiesdell 2013; Geltner et al., 2014).

Real estate firms also employ various strategic responses to improve resilience during unstable market conditions. These include portfolio diversification, phased project implementation, strategic partnerships, improved cost management, adoption of innovative construction technologies, and digital marketing approaches. Technological innovations, including Building Information Modelling (BIM), digital land administration systems, and online property marketing platforms, improve project efficiency, reduce information asymmetry, and enhance transparency in property transactions. Such strategies enable firms to respond more effectively to changing market conditions while reducing operational risks.

Institutional and regulatory settings also have an impact on market actors' behavior. Developers' propensity to invest and increase the supply of housing is directly impacted by government policies pertaining to land allocation, taxation, infrastructure provision, planning laws, and investment incentives. While frequent policy changes, bureaucratic delays, and legal uncertainty raise investment risk and deter long-term development, stable and transparent regulatory regimes boost investor trust. As a result, it is commonly acknowledged that stable real estate markets require strong institutional quality and efficient governance (UN-Habitat, 2020; World Bank, 2023; Adams & Tiesdell 2013)

In rapidly urbanizing places like Addis Ababa, where private developers have emerged as significant providers of residential housing, it is especially crucial to comprehend developer behavior. Housing affordability, supply responsiveness, and general market

stability are all strongly impacted by their pricing methods, investment choices, and views of market conditions. As a result, analyzing developers' viewpoints offers insightful qualitative data that supports quantitative evaluations of purchasers' opinions and advances a more thorough comprehension of the factors influencing real estate market volatility

2.5. Theoretical Framework

Different theoretical foundations applicable to the real estate sector were reviewed to construct our conceptual framework. These include the efficient market hypothesis, financial and economic indicators, supply and demand theory, housing market cycle, and urban planning and policy frameworks. Their brief description is presented as follows:

The Efficient Market Hypothesis (EMH) is originally developed in the financial economics literature, proposes that asset prices reflect the information available to market participants and that prices adjust as new information becomes available (Fama, 1970). The central proposition of the theory is that when markets have relatively good access to relevant information, prices should provide signals that reflect the underlying fundamentals of an asset. Although EMH was initially developed to explain financial asset markets, its information and price-adjustment principles are relevant to real estate markets because property prices are also influenced by information concerning demand, supply, income, financing conditions, development opportunities, infrastructure, government policies, and expectations about future market conditions. In this sense, a market in which participants have timely and reliable information is expected to adjust more effectively to changes in economic fundamentals. However, the application of EMH to real estate requires caution because property markets are characterized by heterogeneous assets, infrequent transactions, high transaction costs, illiquidity, and

imperfect information. Consequently, real estate prices may not adjust as rapidly or efficiently as prices in highly liquid financial markets (Herath & Maier, 2015).

Information asymmetry is particularly important in understanding real estate market instability. Buyers, sellers, developers, brokers, and government institutions may possess different levels of information regarding actual transaction prices, property quality, future development plans, land availability, and expected market conditions. When market information is incomplete or unevenly distributed, some participants may make decisions based on expectations, rumors, or speculative information rather than reliable market fundamentals. Dong (2023) similarly emphasizes the role of information asymmetry in property-related markets and the importance of regulatory and information mechanisms in improving market functioning. In the context of the present study, EMH therefore provides a theoretical basis for examining information transparency, price volatility, speculative behavior, and regulation of land speculation as factors associated with market instability. The theory does not imply that the Lemi-Kura real estate market is perfectly efficient; rather, it provides a benchmark against which the consequences of information imperfections and speculative behavior can be understood. Accordingly, this study considers improved market information, transparency, and regulation as mechanisms that may reduce uncertainty and contribute to greater market stability.

2.5.1. Financial and Economic Indicators

Financial and Economic Indicators: it provides another important theoretical basis for explaining fluctuations in real estate markets. Real estate demand and investment decisions are affected by households' income, employment conditions, inflation, interest rates, credit availability, exchange-rate movements, and general economic growth. Changes in these conditions influence the affordability of housing, the cost of borrowing, the cost of construction, the expected return on property investment, and the ability of households and developers to

participate in the market. Interest rates are particularly important because they influence the cost of financing property purchases and development. Similarly, inflation can reduce households' real purchasing power while increasing construction and operating costs. Unemployment and income instability may reduce effective housing demand because households become less able to finance property purchases. Thus, financial and economic conditions can transmit broader economic shocks into the real estate market and contribute to fluctuations in property prices and investment activity (Studysmarter Editorial Team, 2024).

The relationship between financial conditions and real estate markets can also be explained through the monetary transmission mechanism. Mishkin (2007) argues that interest rates affect housing through several channels, including the user cost of housing capital, expectations concerning future house prices, housing supply, wealth effects, balance-sheet effects, and credit conditions. Changes in financial conditions can therefore influence both the demand and supply sides of the property market. DiPasquale and Wheaton (1992) similarly demonstrate that real estate asset markets and space markets are interconnected with broader macroeconomic and financial conditions, with economic shocks affecting rents, asset prices, construction, and the stock of real estate. In the Ethiopian context, exchange-rate depreciation may also increase the cost of imported construction materials and equipment and thereby increase development costs and property prices. Yayeh (2025) identifies currency depreciation as an important factor affecting construction costs in Addis Ababa. Accordingly, this theoretical perspective supports the inclusion of economic pressures such as high housing prices, low income and employment insecurity, inflationary pressures, financing conditions, and currency-related cost pressures in explaining real estate market instability.

Supply and Demand Theory: it provides one of the fundamental economic explanations for price formation and market equilibrium. According to this theory, the price and quantity of a good or service are determined by the interaction between demand and supply (Mankiw, 2021). In the real estate market, demand represents households' and investors' willingness and ability to acquire housing or other property, while supply represents the quantity of housing and other properties available or potentially available for occupation and investment. When demand

increases more rapidly than supply, competition among buyers may lead to higher property prices. Conversely, when supply expands sufficiently relative to demand, upward pressure on prices may be reduced. However, housing supply is not perfectly flexible because land is spatially fixed, infrastructure requires time and investment, development approvals may take time, and construction itself involves substantial production lags. Consequently, a rapid increase in demand may create a prolonged imbalance between housing demand and supply.

The concept of housing supply elasticity is particularly relevant to understanding these relationships. Saiz (2010) demonstrates that the responsiveness of housing supply varies according to geographical and regulatory constraints, including the availability of developable land and restrictions affecting development. Where housing supply is relatively inelastic, an increase in demand can result in a comparatively large increase in property prices because producers cannot respond quickly by increasing the quantity of housing. This mechanism is highly relevant to rapidly urbanizing areas such as Lemi-Kura Sub-City, where population growth, urban expansion, and infrastructure development can generate substantial housing demand. If the supply of serviced land and housing does not increase at a comparable rate, demand pressures may contribute to price escalation and market instability. Therefore, Supply and Demand Theory provides the theoretical basis for considering population growth, urbanization, housing supply, infrastructure provision, property prices, and housing conditions in the present study. It also suggests that policies that improve the responsiveness of housing supply may reduce excessive price pressures and enhance market stability.

Housing Market Cycles: Housing Market Cycle Theory explains the tendency of real estate markets to experience periods of expansion, peak, contraction, and recovery. Unlike a static equilibrium perspective, the housing-cycle approach recognizes that real estate markets change over time as demand, prices, investment, construction, credit conditions, and expectations interact. During an expansionary phase, increasing demand and rising property prices may encourage developers and investors to increase construction and investment. However, because real estate development involves long planning and construction periods, new supply may enter the market after demand conditions have already changed. This lag can contribute to repeated

fluctuations in property prices, construction activity, and investment. Wheaton (1999) demonstrates that real estate markets can have different cyclical characteristics and that some cycles are associated with repeated economic shocks while others may involve endogenous processes that generate continuing fluctuations.

Expectations and speculative behaviors can further reinforce housing market cycles. When market participants expect property prices to continue increasing, they may accelerate purchases in anticipation of future gains. This can increase demand and push prices further upward. Case and Shiller (2003) explain that housing bubbles may arise when expectations of future price increases cause property prices to become temporarily elevated. Once expectations change, demand can weaken and market conditions may move toward contraction. Edelstein and Tsang (2007) similarly provide a basis for understanding the relationship between local real estate cycles and broader financial and economic conditions. In the present study, Housing Market Cycle Theory is therefore useful for interpreting market instability as a dynamic process rather than as a single deviation from equilibrium. The theory supports the analysis of high property prices, speculative behavior, changing demand, financing conditions, and other factors that may contribute to expansionary or contractionary market conditions. It also helps explain why market instability may persist when expectations, investment decisions, and supply responses reinforce one another.

Urban Planning and Policy Frameworks: Urban Planning and Policy Frameworks emphasize the role of spatial planning, land-use regulation, infrastructure, governance, and public policy in shaping real estate market outcomes. Real estate differs from many other commodities because properties are fixed in space and their values are strongly influenced by location, accessibility, infrastructure, public services, land-use regulations, and surrounding development. Planning decisions concerning land allocation, road networks, transport, density, zoning, public facilities, and infrastructure provision can therefore influence both the supply of developable property and the attractiveness of different locations. May et al. (2017) emphasize the importance of

planning and policy conditions in shaping urban development and land-market outcomes. Effective planning can facilitate coordinated development, while inadequate planning and infrastructure may create supply constraints, spatial inequalities, congestion, and increased development costs.

Institutional and regulatory arrangements are also important because property development and transactions take place within a framework of land administration, development controls, taxation, construction regulations, investment policies, and other government requirements. Where institutional procedures are unpredictable, inefficient, or insufficiently transparent, uncertainty and transaction costs may increase, potentially discouraging formal development and encouraging speculative behavior. Conversely, effective governance, transparent land administration, appropriate regulation, infrastructure provision, and coordinated urban planning can improve market confidence and the capacity of the housing sector to respond to demand. Armstrong (2015) emphasizes the importance of effective urban planning in managing land-market pressures and reducing conditions that may contribute to speculative outcomes. In addition, technological innovation can strengthen institutional capacity by improving access to information, land administration, property-market monitoring, and transaction processes. Accordingly, this framework supports the inclusion of urban planning, governance, regulation of land speculation, infrastructure-related conditions, and innovative technology adoption as factors that may either exacerbate or mitigate real estate market instability in Lemi-Kura Sub-City.

The Impact of Demographic Drivers on Housing Demand

The relationship between demographic shifts and real estate market pressure is a well-established area of empirical research. Numerous studies confirm that urbanization and population growth are primary determinants of increased housing demand (Gong & Yao,

2021). For instance, empirical analysis of major metropolitan areas (Glaeser & Gyourko, 2018).demonstrates a direct correlation between rural-to-urban migration and a subsequent spike in housing prices due to supply constraints.

2.6. Empirical Framework

2.6.1. The Impact of Demographic Drivers on Housing Demand

The relationship between demographic shifts and real estate market pressure is a well-established area of empirical research. Numerous studies confirm that urbanization and population growth are primary determinants of increased housing demand (Gong & Yao, 2021). For instance, empirical analysis of major metropolitan areas Glaeser & Gyourko (2018) demonstrates a direct correlation between rural-to-urban migration and a subsequent spike in housing prices due to supply constraints.

2.6.2. Economic Drivers and Housing Affordability

Empirical literature extensively documents the negative impact of high housing prices and low income on market accessibility. The ratio of median housing price to median income is a standard metric used in empirical studies to assess affordability by (Malpezzi, Chun, and Green (1998) Research consistently shows that when housing prices rise faster than incomes, the "purchasing power" of potential buyers is significantly reduced Linneman and Megbolugbe (1992)

2.6.3. Institutional Frameworks and the Role of Market Actors

While demographic and economic forces create the fundamental need for housing, their translation into market outcomes is mediated by institutional structures and the strategic responses of key actors. Empirical studies highlight that political instability, and regulatory problems create significant investment uncertainty.

Table 2 *Summary of Previous Empirical Studies on Real Estate Market and Housing Market Conditions*

Author(s) and Year	Study Area	Focus of the Study	Key Empirical Finding	Relevance to the Present Study	Identified Gap
Linneman and Megbolugbe (1992)	United States	Housing affordability and household income	Housing affordability is strongly influenced by the relationship between household income and housing prices.	Supports examination of low income and high housing prices as market-pressure factors.	The study was conducted in the U.S. and did not examine the institutional and market conditions of developing-country cities such as Addis Ababa.
Malpezzi et al. (1998)	International/developing--country housing markets	Housing affordability and price-to-income relationships	Housing affordability is closely associated with the relationship between housing prices and household income.	Provides an empirical basis for examining housing affordability in the Ethiopian context.	Does not specifically examine real estate market instability at the sub-city level in Ethiopia.
Geltner et al. (2014)	International real estate markets	Real estate markets and property characteristics	Property characteristics, market conditions, and real estate investment conditions influence market outcomes.	Supports consideration of property quality and market characteristics.	Provides broad international evidence rather than evidence from Lemi Kura or Addis Ababa.
Glaeser and Gyourko (2018)	U.S. metropolitan housing markets	Housing supply, demand, urbanization, and prices	Housing prices are strongly affected by supply constraints and differences between housing demand and available supply.	Relevant to the study's examination of urbanization, housing prices, and supply-demand imbalance.	Does not address Ethiopia's land administration, regulatory, political, and institutional conditions.
Wheaton (1999)	Real estate markets	Real estate market cycles	Real estate markets experience cyclical movements associated with changes in demand, supply, prices, and investment.	Provides evidence for examining market instability and cyclical price movements.	Developed from established-market conditions and does not capture the institutional characteristics of Addis Ababa.
Paciorek (2013)	U.S. housing markets	Housing supply constraints and market dynamics	Supply constraints influence housing market dynamics and contribute to changes in housing prices.	Supports examination of limited housing supply and housing-price pressures.	Does not examine land supply, planning, and regulatory constraints in Addis Ababa.

Author(s) and Year	Study Area	Focus of the Study	Key Empirical Finding	Relevance to the Present Study	Identified Gap
Dagne (2019)	Addis Ababa, Ethiopia	Challenges of private residential real estate development	Private developers face institutional, regulatory, financial, and development-related challenges.	Directly relevant to developer conditions and institutional factors in Addis Ababa.	Focused mainly on private development challenges rather than measuring overall real estate market instability or its determinants.
Alemu (2021)	Addis Ababa, Ethiopia	Housing demand and business feasibility	Housing demand and development feasibility are affected by economic and market conditions.	Provides Ethiopian evidence concerning housing demand and market conditions.	Does not integrate demographic, economic, institutional, planning, and technological determinants into a single market-instability framework.
Geresu (2023)	Addis Ababa, Ethiopia	Real estate business performance	Real estate business performance is influenced by market and business conditions.	Provides evidence concerning real estate market/business performance in Addis Ababa.	Does not specifically measure perceived market instability or examine Lemi Kura Sub-City.
Yohannes and Dinku (2023)	Addis Ababa, Ethiopia	Housing provision and affordability in private residential real estate	Private residential housing provision is affected by affordability constraints and market conditions.	Directly relevant to housing affordability and private residential supply.	Focuses on housing provision and affordability rather than the broader determinants of real estate market instability.
Henderson and Liu (2023)	Developing/ emerging market context	Macroeconomic and institutional influences on housing markets	Currency depreciation, inflation, and regulatory uncertainty can create pressure and uncertainty in housing markets.	Relevant to economic and political/institutional instability affecting the real estate market.	Does not provide localized empirical evidence for Lemi Kura Sub-City.
Grybauskas and Pilinkienė (2018)	Metropolitan real estate markets	Real estate market stability	Market stability can be assessed through indicators including price-to-income ratios, price-to-rent ratios, population growth, market expectations, construction supply responses, and mortgage conditions.	Provides an empirical basis for measuring and understanding real estate market instability.	The indicators require longitudinal/recorded market data and have not been comprehensively applied to the Lemi Kura context.
Faku and Amadi-	South Africa	Blockchain-based land	Digital land-registration technologies can improve	Supports examination of	Evidence concerns blockchain-based

Author(s) and Year	Study Area	Focus of the Study	Key Empirical Finding	Relevance to the Present Study	Identified Gap
Echendu (2026)		registry and real estate	transparency, land administration, and efficiency.	innovative technology as a potential stabilizing factor.	land administration in South Africa rather than real estate market instability in Ethiopia.
World Bank (2023)	Ethiopia/Addis Ababa	Urbanization, housing, and urban development	Rapid urbanization and housing constraints contribute to affordability and urban development challenges.	Provides important country-level evidence for the Ethiopian context.	Country/city-level evidence does not specifically explain the determinants of market instability in Lemi Kura Sub-City.
UNDP Ethiopia (2024)	Ethiopia	Economic conditions and urban development	Inflation, construction costs, exchange-rate pressures, and limited land affect housing and urban development conditions.	Directly relevant to construction costs, inflation, land constraints, and housing-market pressure.	Provides broader national evidence rather than a systematic empirical assessment of market instability at the sub-city level.

2.7. Conceptual Framework

Derivation of the Conceptual Framework

The conceptual framework was developed through a systematic synthesis of theoretical and empirical literature on real estate market instability. The derivation followed three sequential stages.

First, the theoretical review identified the principal mechanisms responsible for market instability. Supply and Demand Theory explains instability because of persistent disequilibrium between housing demand and housing supply. Housing Market Cycle Theory explains cyclical movements in housing prices, speculative investment, and market expectations. Institutional Theory emphasizes that political stability, regulatory quality, and governance influence investor confidence and market efficiency. The Efficient Market Hypothesis explains how information transparency reduces speculative behavior and improves market efficiency, while Urban Planning Theory highlights the importance of coordinated land-use planning and infrastructure provision in maintaining market stability.

Second, empirical studies conducted in Ethiopia and other developing countries identified numerous determinants of market instability, including urbanization, population growth, housing affordability, mortgage availability, infrastructure, land administration, political instability, construction quality, technological innovation, speculative investment, inflation, and regulatory effectiveness. However, not all variables were equally applicable to the objectives of this study.

Third, variables were selected using three criteria. A variable was retained only if it was consistently supported by empirical evidence, theoretically justified by one or more established theories, and measurable using the survey instrument employed in this study. Applying these criteria resulted in the selection of nine explanatory variables

representing demographic, economic, institutional, market, and technological dimensions of real estate market instability.

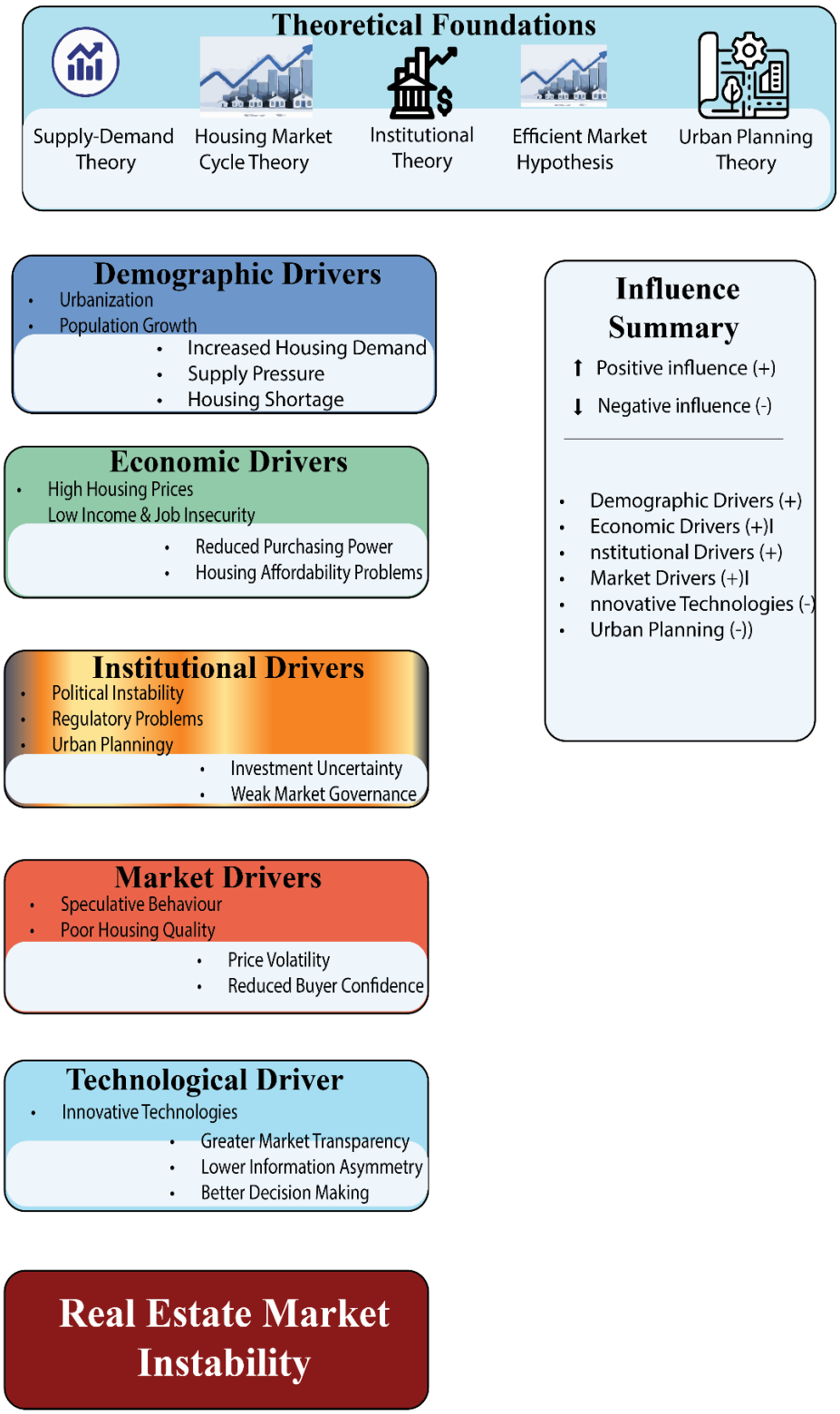

Figure 1 *Theoretically Derived Conceptual Framework*

The framework therefore proposes that these variables influence market instability through identifiable causal mechanisms rather than acting independently. Demographic and economic factors increase housing demand and affordability pressures, institutional factors influence market confidence and investment decisions, market-related factors determine price volatility and buyer confidence, while technological innovations improve transparency and reduce market inefficiencies. Together, these mechanisms determine the overall level of real estate market instability in Lemi Kura Sub-City.

The framework integrates five complementary theories to explain the causal mechanisms through which demographic, economic, institutional, market, and technological factors influence real estate market instability. Demographic pressures arising from urbanization and population growth increase housing demand relative to supply. Economic factors, including high housing prices and low household income, reduce affordability and intensify market pressures. Institutional weaknesses, such as political instability and ineffective regulation, increase investment uncertainty and encourage speculative behavior. Poor housing quality and speculative investment further amplify price volatility and reduce market confidence. Conversely, improved urban planning and innovative technologies strengthen market transparency, improve governance, reduce information asymmetry, and contribute to greater market stability. Accordingly, the framework hypothesizes positive relationships between demographic, economic, institutional, and market drivers and real estate market instability, while urban planning and innovative technologies are expected to exhibit negative relationships by reducing instability.

Chapter Three: Methodology and Material

3.1. Description of the Study Area

This study was conducted in Addis Ababa, particularly in Lemi Kura Sub-City. Addis Ababa, founded in 1886 and currently the capital city of Ethiopia, contributes 20% the Ethiopia's GDP and 20% of the total urban development (African Cities Research Consortium (ACRC), 2021). The population of Addis Ababa grows with approximately 4.4% annually from 2016 to 2023 and estimated to be 5.7 and 5.96 million in 2024 and 2025, respectively (Macrotrends, 2024). The city is under rapid transformation, and the real estate sector plays a pivotal role in the transformation process. High demand of the real estate offerings is still due to the cities political, economic and cultural center of the country (Ethiopia UNDP, 2021). Especially, in the past two decades Addis Ababa passed through rapid urbanization and the construction sector showed significant progress (UN-Habitat, 2020). However, in recent years, the construction sector including the real estate encountered significant challenges due to inflation and currency depreciation (Yayeh, 2025).

Addis Ababa has 11 Kifle Ketemas (Sub-cities); this study was conducted in Lemi Kura sub city; it is one of the sub-cities in Addis Ababa established in 2020. The sub city covers an approximate area of 7860.7- hectares. The sub city has total population of 382,843 based on 2024 projections by the federal government census agency. It is bordered by Arada, Bole, Gullible, and Kirkos sub-cities (Gebre-Egziabher, 2025).

Lemi Kura, which is growing rapidly, is a hub for several private real estates, condominium blocks, private apartments, commercial strips and pocket informal settlements (UN-Habitat, 2020). As presented in **Figure 2**, Lemi Kura was selected for this study due to its rapid development, diverse population, and a hub for multiple real

estates, which all makes it the ideal site to study market instability and its influencing factors both from the buyers and developers' perspective.

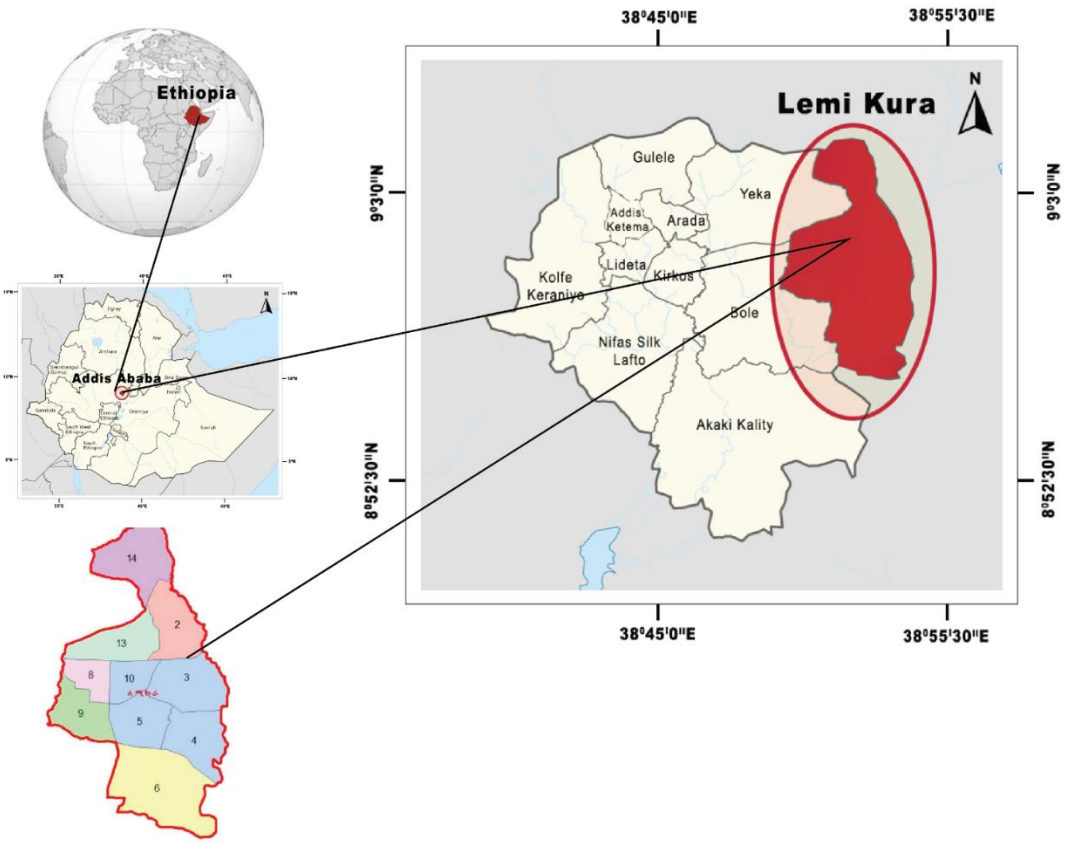

Figure 2 Maps of the Study Area, Lemi Kura, and Addis Ababa

3.2. Research Design

In this study both the quantitative and qualitative approach (mixed method) was applied. An analytical cross-sectional study design was applied for the quantitative part to assess the market instability and its influencing factors from the buyer's perspective. The semi-structured interviews were employed for the qualitative part to explore the view and experience of real estate market instability from the real estate developers. The analysis was done separately for the quantitative and qualitative parts and finally the findings were triangulated to report the overall picture of market instability.

3.3. Study Population

3.3.1. Source population

Source population is defined as the target population or larger pool of population in which the study participants are drawn (Bonita et al., 2006). All the buyers and tenants of the real estate properties located in Lemi Kura-Sub city were considered as the source population in this study for the quantitative component. Real estate developers who have direct involvement in the real estate market were used as the source population for the qualitative part.

3.3.2. Study population

The study population is the subset of the source population that fulfills the inclusion criteria and is feasible for the researcher during the data collection procedure (Bonita et al., 2006). Customers/buyers and tenants residing in Lemi Kura were the study population for the quantitative part and purposively selected of real estate developers were considered as the study population for the qualitative component.

3.3.3. Sampling unit

Individual real estate customers or buyers or tenants in Lemi Kura were the sampling unit for the quantitative part. For the qualitative part, individual real estate developer was the sampling unit.

3.4. Inclusion and Exclusion Criteria

Browner et al. (2022) defines inclusion criteria as the key features of the source population that the researcher will use to answer his research question. On the other hand, exclusion criteria refer to inclusion criteria plus additional characteristics that interfere with the success of the study. In this study, all buyers and tenants of the real estate property in Lemi Kura area were included in this study for the quantitative part. Likewise, real estate developers were included for the qualitative part. Individuals who

were busy and unavailable after three consecutive visits were excluded both for the quantitative and qualitative part.

3.5. Sample Size Determination

Yamane's (1973) formula was used to determine the minimum sample size required for this study. The total population of Lemi Kura Sub-City was estimated at 382,843 (Sifer et al., 2026). For this study, the target population was estimated at approximately 225,000 adults, considered to have the potential to own a house. This target population was used as the population size (N) in determining the required sample size.

Although a 5% margin of error is conventionally adopted in social science research to maximize statistical precision, the present study employed a 7% margin of error after considering practical constraints associated with data collection. Specifically, the study involved household-based surveys conducted across the ten woredas of Lemi Kura Sub-City, requiring substantial financial resources, time, and manpower. Given these logistical and budgetary constraints, a 7% level of precision was considered an appropriate compromise between statistical precision and the feasibility of conducting the field survey. Methodological literature indicates that, particularly for large populations and studies with resource limitations, margins of error ranging from 5% to 10% may be acceptable, provided that the selected level is explicitly justified (Yamane, 1973; Israel, 1992). Accordingly, the sample size was calculated using a precision level of e = 0.07.

$$n = \frac{N}{1 + (e^2)}$$

Where: n = required sample size

N= total population size

e = level of precision (marginal error) in this study at 7%

$$n = \frac{225000}{1 + 225000(0.07)^2} = \sim 204$$

After adding a 10% no response rate, the final sample size for quantitative part of this study was 224. The sample size for the qualitative part was determined based on

information saturation and ten individuals directly involved in Real Estate Company were included for the key informant interview.

3.6. Sampling Technique

For the quantitative part, a two-stage cluster sampling was applied to ensure representatives of the sample size across the ten Weradas of Lemi Kura sub city. After determining the sample size for finite population using Yemane's formula the calculated sample size (224) was proportionally allocated to each woreda based on the total size of eligible population, age 18 and above in each woreda. Then, households were selected using systematic random sampling techniques after taking the list of households from the woreda administrative offices. The sampling fraction (k) was calculated after dividing the total number of households to the sample size. The first household was selected using simple random sampling techniques and the rest were selected every kth interval.

Purposive sampling technique was used to select developers. According to 2017 E.C. data from the Addis Ababa City Administration Trade Bureau Based there are a total of 78 real estate companies in Lemi Kura Sub city. Ten individuals from ten purposively selected developers participated in the qualitative study.

3.7. Data Collection Methods

3.7.1. Data collection tool

The data collection tool for the current study is organized after reviewing similar literature and refining based on the Objectives of the research (Alemu, 2021; Immanuel & Andualem, 2023). Both primary and secondary data sources were used. The data for the quantitative part was collected using a survey questionnaire. The survey had five sections. The first section included the background information of the participants including age, gender, educational level, occupation, experience of living in Addis

Ababa, role in the real estate sector, purchase history, purpose of buying the real estate property, sources of finance to purchase the real estate and average monthly household income. The second section addressed the market dynamic and instability through eleven Likert scale items. It measured the level of agreement of the property owners and tenants about the drivers of market instability. These include the status of the real estate market, the influence of rabid urbanization, impact of government policy change, economic factors including inflation and currency depreciation. It also included market speculation, political instabilities and lack of financing, urban planning, fluctuations, and uncertainty.

Section three addressed the challenges and experiences of the property owners and tenants because of real estate market instability. It was assessed using six questions. The fourth section included the market related factors including the availability of mortgage financing, transparency in transactions, land use and zone regulation, influence of infrastructures, ownership disputes, demand of the real estate property, access to information, government pragmas to stabilize the real estate market, and the influence of population growth. In total eighteen questions were used to assess the Market related factors that influence real estate market instability. The fifth section assessed the customers' perception of the real estate sector.

Moreover, the qualitative data was collected from the real estate developers, urban planners, and other relevant stakeholders using interview guide. The guide had seven sections including background information as mentioned for the quantitative part, contributing factors for the market instability from their perspective, and economic.

3.7.2. Data collection procedure

After the data collection tool was checked for its content, formulation, sequencing and formatting based on the Objectives of the research, it was re-organized using Kobo Toolbox to collect the data electronically using tablets or smart phones. Two-degree holder and trained data collectors and one senior supervisor were hired for the quantitative data collection process. The data collection team received adequate training about the purpose of the study, the tool and how to collect the data using the Kobo Toolbox. Then, the tool was pretested in five percent of the sample size and further amendment was made before the commencement of the actual data collection.

For the qualitative part the investigator of this study and one assistant conduct the in-depth interview with purposively selected stakeholders. Notebook and semi-structured interview guide were used to collect the data. Further, probing questions were asked based on their information. The data collection was continued until information saturation, which was decided when no new additional data was obtained from the key informants. and financial factors. Moreover, the real estate market risks and opportunities, technological advancement in the sector, role of the government and policy, and strategic outlook and recommendations were included in the interview guide. Further prompt questions were asked based on their response. Furthermore, secondary data including the real sector annual reports, the commercial or residential property price, government policies and urbanization plans, and real estate statistics from real estate companies, and government offices were used.

3.7.3 Reliability and Validity of the Instrument

To ensure the robustness of the study findings, the reliability and validity of the research instrument were rigorously tested. Internal consistency of the 10-item Market Instability scale was assessed using Cronbach's alpha coefficient. Construct validity was evaluated through Exploratory Factor Analysis (EFA) using Principal Component

Analysis (PCA) to determine if the items effectively captured the intended theoretical construct of market instability. Furthermore, item-total correlations were calculated to verify the contribution of each individual item to the overall composite score.

3.8. Study variables and measurements

The real estate market instability (the dependent variable) from the buyers' perspective was measured using ten five-point Likert scale questions. The dependent variable was treated as continuous variable with the score ranges from ten to fifty; highest score indicates high market instability. In addition, several independent variables, which were described in detail under the data collection tool, were addressed. Most of the independent variables were categorical and their relationship with the outcome variable was assessed using linear regression. Detail description of how each variable measured, coded and categorized in this study were presented in **Table 3** below.

Table 3*: Measurement and Description of the Variables Included in this Study*

Variable Name	Data Type	Measurement	Label and description of the variables
Dependent Variable			
Overall Real Estate Market Instability Score	Numeric	Scale	Overall real estate market instability score. It is a continuous variable generated from ten ordinal categorical variables including the perceived fluctuation in property or rental price, risk or uncertainty in the real estate market, challenges in managing property, and challenges in renting. First all the items were recorded with 1 (indicating low level of market instability) to 5 (higher level of market instability). Second, the items were computed, and the sum score ranges from 10 to 50; higher indicates highest real estate market instability. The items were prepared based on the Grybauskas and Pilinkienė (2018)qualitative indicators of market instability.
Independent variables			
Age	Numeric	Scale	Age in completed years. This is a continuous variable that assesses the age of the participants in complete years.
Gender	Dummy	Nominal	Gender of the property owner/tenant. The is a dummy variable with a label of 1 and 2; 1 = Male and 2 = Female

Variable Name	Data Type	Measurement	Label and description of the variables
Education	Categorical	Nominal	The highest-level education. It is a categorical variable with a value label of 1 to 8: 1 = "Unable to read and write", 2 = "Able to read write", 3= "Primary" 4= "Secondary" 5= "Diploma" 6= "Bachelor" 7= "Master" and 8= PhD
Occupation	Categorical	Nominal	Occupation of the respondents. It is a categorical variable with 1= Government Employee" 2= Private Employee 3= "Business Owner" 4= "Real Estate Developer", and 5= "Other (Specify)"
Years in Addis	Numeric	Scale	Living experience in Addis Ababa. It is a continuous variable and further recode into different variables to categorize as 1= < 20, 2 = 20-35, and 3 = >35 years.
Real estate role	Categorical	Nominal	Current role in the real estate market. This is a categorical variable with 1 = "Property Owner", 2 = "Tenant", 3 = "Both Owner and Tenant", and 4 = "Other"
Type property	Categorical	Nominal	Type of real estate property purchased. It is a categorical variable and coded and labeled as 1 = "Apartment", 2 = "Villa", 3 = "Commercial Property", and 4 = "Other"
Purpose purchase	Categorical	Nominal	The primary purpose of the purchase is a categorical variable with four attributes as 1 = "Residential", 2 = "Investment", 3 = "Rental Income", and 4 = "Other"
Financing source	Categorical	Nominal	Source of financing is a categorical variable with 1 = "Personal Savings", 2 = "Bank Loan", 3 = "Family Support", and 4 = "Other"
Urbanization impact	Categorical	Ordinal	Extent of agreement with rapid urbanization contributing to market instability. It is an ordinal categorical variable with 1 = "Strongly Agree", 2 = "Agree", 3 = "Neutral", 4 = "Disagree", and 5 = "Strongly Disagree"
Gov. policy change	Categorical	Ordinal	Extent of agreement with government policy changes contributing to market stability. It is an ordinal categorical variable with 1 = "Strongly Agree", 2 = "Agree", 3 = "Neutral", 4 = "Disagree", and 5 = "Strongly Disagree"
Economic impact	Categorical	Ordinal	Extent of agreement with Economic factors (inflation, interest rates) contributing to market instability. It is an ordinal categorical variable with 1 = "Strongly Agree", 2 = "Agree", 3 = "Neutral", 4 = "Disagree", and 5 = "Strongly Disagree"
Speculation impact	Categorical	Ordinal	Extent of agreement with market speculation contributing to market instability. It is an ordinal categorical variable with 1 = "Strongly Agree", 2 =

			"Agree", 3 = "Neutral", 4 = "Disagree", and 5 = "Strongly Disagree"
Variable Name	**Data Type**	**Measurement**	**Label and description of the variables**
Gov. policy impact	Categorical	Ordinal	Extent of agreement with government policy changes contributing to market instability. It is an ordinal categorical variable with 1 = "Strongly Agree", 2 = "Agree", 3 = "Neutral", 4 = "Disagree", and 5 = "Strongly Disagree"
Finance access impact	Categorical	Ordinal	Extent of agreement with lack of access to financing contributing to market instability. It is an ordinal categorical variable with 1 = "Strongly Agree", 2 = "Agree", 3 = "Neutral", 4 = "Disagree", and 5 = "Strongly Disagree"
Planning impact	Categorical	Ordinal	Extent of agreement with inadequate urban planning and infrastructure contributing to market instability. It is an ordinal categorical variable with 1 = "Strongly Agree", 2 = "Agree", 3 = "Neutral", 4 = "Disagree", and 5 = "Strongly Disagree"
Price change observed	Categorical	Ordinal	Observe any significant fluctuations in property or rental prices in the past year. It is an ordinal categorical variable with 1 = "Yes, significant increase", 2 = "Yes, slight increase", 3 = "No change", 4 = "Yes, slight decrease", and 5 = "Yes, significant decrease"
Market risk level	Categorical	Ordinal	Perceived level of risk and uncertainty in Addis Ababa real estate market. It is an ordinal categorical variable with 1= "Very high", 2 = "High", 3 = "Moderate", 4 = "Low", and 5 = "Very low"
Property mgmt. challenges	Dummy	Nominal	Experience of any challenges in managing your property due to market instability; it is a dummy variable with 1 = yes, and 2 = no
Rental challenges	Dummy	Nominal	Experience any challenges related to renting due to market instability. It is a dummy variable with 1 = yes, and 2 = no
Gov. policy effect	Categorical	Ordinal	Government policies and regulations affect the stability of the real estate market. It is an ordinal categorical variable with 1 = "Very positively", 2 = "Positively" 3 = "Neutral", 4="Negatively", and 5="Very negatively"
Gov. urban planning	Dummy	Nominal	Improve urban planning. It is a dummy variable with 1 = yes, and 2 = no
Gov. reg land	Dummy	Nominal	Regulate land speculation. It is a dummy variable with 1 = yes, and 2 = no

Variable Name	Data Type	Measurement	Label and description of the variables
Gov.urban planning	Dummy	Nominal	Improve urban planning. It is a dummy variable with 1 = yes, and 2 = no
Gottardo's	Dummy	Nominal	Enhance access to affordable housing. It is a dummy variable with 1 = yes, and 2 = no
Govtstlzecoplc	Dummy	Nominal	Stabilize economic policies. It is a dummy variable with 1 = yes, and 2 = no
Govttranstrasc	Dummy	Nominal	Improve transparency in transactions. It is a dummy variable with 1 = yes, and 2 = no
Techi2role	Dummy	Nominal	Technology can play a role in stabilizing the real estate market. It is a dummy variable with 1 = yes, and 2 = no
Measures used to minimize market fluctuations and improve stability			
Mortgageeffect	Categorical	Ordinal	Availability of mortgage financing affected your ability to buy or rent property. It is an ordinal categorical variable coded and labeled with 1 = "Significantly increased my ability", 2 = "Slightly increased my ability", 3 = "No effect", 4 = "Slightly decreased me ability", 5 = "Significantly decreased my ability", and 6 "Not applicable"
Markettransparency	Categorical	Ordinal	Transparency of the real estate transactions in Addis Ababa. It is a categorical variable with 1 = "Very transparent", 2 = "Transparent", 3 = "Neutral"", 4 = "Opaque", and 5 = "Very opaque"
Landregieffect	Categorical	Ordinal	Have you been affected by any changes in land use or zoning regulations in your area. It is an ordinal categorical variable with 1 = "Yes, significantly", 2 = "Yes, moderately", 3 = "No", and 4 = "Unsure"
Speculationinfluence	Categorical	Ordinal	Effect of speculation on property prices in Addis Ababa. It is an ordinal categorical variable with 1 = "To a very large extent", 2 = "To a large extent", 3 = "To a moderate extent", 4 = "To a small extent", and 5 = "Not at all"
Developmentfrequency	Categorical	Ordinal	Observe new real estate developments in your vicinity. It is an ordinal categorical variable with 1 = "Very Frequently", 2 = "Frequently", 3 == " occasionally"," ", 4 = "Rarely", and 5 = "Never"
Ownershipdisputes	Categorical	Ordinal	Experience or observe any issues related to property ownership disputes with developers. It is an ordinal variable with 1 = "Yes, frequently", 2 = "Yes, occasionally", and 3 = "No"

Variable Name	Data Type	Measurement	Label and description of the variables
Housingsupply	Categorical	Ordinal	Perceived supply for residential properties in Addis Ababa. It is an ordinal categorical variable with 1= "very high supply", 2 = "High supply", 3 = "moderate supply", 4 = "low supply", and 5 ="very low supply"
Housingdemand	Categorical	Ordinal	Perceived demand for residential properties in Addis Ababa. It is an ordinal categorical variable with 1="very high demand", 2="high demand", 3="moderate demand", 4="low demand", and 5="very low demand"
Infoaccessimpact	Categorical	Ordinal	Impact of access to information regarding real estate market trends in Addis Ababa real estate market. It is an ordinal categorical variable with 1 = "Positively impacting", 2 = "Not impacting", and 3 = "Negatively impacting"
Govtprogamsawareness	Dummy	Nominal	Awareness about any government programs designed to stabilize the real estate market. It is a dummy variable with 1 = yes, and 2 = no
Populationimpact	Categorical	Ordinal	Impact of population on the real estate market. Is an ordinal categorical variable with 1 = "very large level", 2 = "large level" 3 = "moderate level", 4 = "small level", and 5 = "Not at all"
Housing cost_Percen t	Numeric	Scale	Percentage of monthly income is spent on housing costs (rent or mortgage) in %. This is a continuous variable expressed in percentage.
Goodtimetobuy_Sell	Dummy	Nominal	Good time to buy or sell real estate property. It is a dummy variable with 1 =yes, and 2 = no
Priceexpectation	Categorical	Ordinal	House price expectation in the next few months in Addis Ababa. It is an ordinal categorical variable with 1 = "Increase significantly", 2 = "Increase slightly", 3 ="Stay same", 4 = "Decrease slightly", and 5 = "Decrease significantly"
Cashpurchaselikelihood	Categorical	Ordinal	Ability to pay in cash over using a mortgage. It is ordinal variable with 1= "Very unlikely", 2 = "Somewhat unlikely", 3 = "Undecided", 4 = "Somewhat likely", and 5 = "Very likely"
Approvalconfidence	Dummy	Nominal	Confident on bank loan approval. It is a dummy variable with 1 = yes, and 2 = no

Variable Name	Data Type	Measurement	Label and description of the variables
Inflationimpact	Dummy	Nominal	Currency devaluation and inflation have significant influence on real estate market. It is a dummy variable with 1 = yes, and 2 =no
Developerconfidence	Dummy	Nominal	Confident enough in local real estate developers/sellers to deliver quality housing. It is a dummy variable with 1 = yes, and 2 = no
Purchasepostponed	Dummy	Nominal	Postponed property purchase in the last year due to uncertainty. It is a dummy variable with 1 = yes, and 2 = no
Buyinglikelihood	Categorical	Ordinal	Buy property in the next one year. It is a categorical variable with 1 = "Very unlikely", 2 = "Somewhat unlikely", 3 = "Undecided", 4 = "Somewhat likely", and 5 = "Very likely"
Main reasons influencing the decision to buy/sell the real property			
Price	Dummy	Nominal	High Price. It is a dummy variable with 1 = yes, and 2 = no
Intersrat	Dummy	Nominal	High interest rates. It is a dummy variable with 1 = yes, and 2 = no
Lw_Income	Dummy	Nominal	Low income/job stability. It is a dummy variable with 1 = yes, and 2 = no
Porhosing	Dummy	Nominal	Poor housing quality/developer trust. It is a dummy variable with 1 = yes, and 2 = no
Resell	Dummy	Nominal	Resale/rental potential. It is a dummy variable with 1 = yes, and 2 = no
Poleticalinstbility	Dummy	Nominal	Political/regulatory stability. It is a dummy variable with 1 = yes, and 2 = no
Deprtiation	Dummy	Nominal	Currency devaluation
Inflation	Dummy	Nominal	Inflation influence. It is a dummy variable with 1 = yes, and 2 = no

3.9. Data Quality Assurance

The quality of the data was ensured in several ways including providing intensive training for the data collection team and pretesting the tool. In addition, the data were collected electronically through kobo toolbox, which is vital to avoid missing data. Moreover, the primary investigator and the supervisor monitor the data collection on daily basis till the end. Furthermore, the investigator double-checks the files sent to the server. Finally, the completed data set was a CVS file and imported to STATA for statistical analysis. The quality of the qualitative data was ensured using appropriate note taking and the recordings were taken place in quite settings, which improves the quality of the recordings.

3.10. Statistical Analysis

3.10.1. Quantitative Data Analysis

Once the data collection is complete, the final data set was downloaded as an excel file from the KOBO toolbox and imported into STATA version 17 for analysis. Data cleaning, coding, and recording were done before the actual analysis.

Descriptive statistics: Frequency with percentage and means with standard deviation (SD) were used to present categorical and continuous variables, respectively. Inferential statistics: One-way Analysis of Variance (ANOVA) was used to identify differences in property value among groups with different independent variables. Linear regression assumptions: multicollinearity, linearity of variables, normality, and homoscedasticity were tested using the variance inflation factor (VIF), scatterplots, histogram, and the Cook–Weisberg test**,** respectively. Variables with a p-value of ≤ 0.25 in unadjusted analysis were included in the final model. Statistical significance was declared at a P-value of < 0.05.and Multiple Linear Regression analysis also used as dependent variable (Market Instability Score) is derived from 10 ordinal Likert-scale items, it was treated

as a continuous interval-level variable for this study. Methodological literature (e.g., Boone & Boone, 2012; Sullivan & Artino, 2013) supports the use of parametric tests like OLS regression for composite scores (sums or means) of Likert items, as these aggregates provide a wider range (10–50 in this study) that more closely approximates an interval scale compared to single ordinal items. Furthermore, OLS was chosen over ordinal regression because it allows for direct interpretation of regression coefficients as marginal effects and is robust when the assumptions of normality, linearity, and homoscedasticity are met.

3.10.2. Qualitative Data Analysis

The key in-depth interviews collected from the real estate developers were transcribed verbatim by the investigators and his assistance. Then the data were analyzed using thematic analysis approach. Each line of the narrative was read, and the texts were divided into sections. Each section was labeled with a code word or phrase that conveyed the meaning of the section. The codes with a common meaning were grouped into sub themes, which were in turn combined to form themes. An independent coder, who has experience in qualitative data analysis, was used to ensure trustworthiness. Credibility, dependability, and conformability of the data were ensured through audio taping the interviews, more experienced coder, using participants' own words to describe phenomena, and through member checking, respectively. Finally, the findings were triangulated with the quantitative findings to ensure the validity and consistency of results across different data sources and methods.

3.11. Ethical Considerations

Ethical approval for this study was obtained from the Department of Urban and regional Planning Addis Ababa University. Moreover, permission was obtained from each real estate developer before the commencement of the study. The rights of the participants

for this study were protected and respected; they received clear information about the purpose of the study, the right to participate voluntarily, the right to ask questions, the right to stop responding at any time during the interview, and the right to choose not to respond to any questions. Furthermore, the information received from the respondents remained confidential and is not shared with any third party.

Chapter Four: Results

This section presents the results of both the descriptive and inferential statistics. It is organized in eight subsections: In the first section background characteristics of the respondents were presented in frequency and percentage. The second part described the experience of the participants in the real estate sector; the third and fourth subheading described perception of the participants about the real estate market instability and future intention, respective, the fifth part addresses the real estate market instability from the developers perspective, the sixth one address the level of market instability from the buyers perspective, the seventh and last part address the influencing factors of market instability using simple and multiple linear regress and the last section address the liner regression diagnostics including multicollinearity, linearity, normality and homoscedasticity.

4.1. Background characteristics of the study participants

A total of 224 individuals participated in this study. The mean age of the participants was 42.32 years with a standard deviation (SD) of 13.80 years and a minimum and maximum of 18 and 78, respectively. Table 3 presents detail description of the socio-demographic characteristics of the respondents. Among the total participants, 44.64% were grouped under the age of 35 to 50 years, 70.09% were male, and 32.14% hold a Bachelor of Science degree. Regarding their occupation, 77 (34.38%) were private employees and 23.66% were business owners (**See Table 4**).

Table 4 *Description of the Study Participants Using Descriptive Statistics*

Variables	Categories	Frequency	Percent
Age	<20	70	31.25
	20-35	100	44.64
	>35	54	24.11
	Total	224	100.00
Gender	Male	157	70.09
	Female	67	29.91
	Total	224	100.00
Highest-level education	Able to read and write	25	11.16
	Primary	10	4.46
	Secondary	19	8.48
	Diploma	46	20.54
	Bachelor	72	32.14
	Master	46	20.54
	PhD	6	2.68
	Total	224	100.00
Occupation	Government employee	45	20.09
	Private employee	77	34.38
	Business owner	53	23.66
	Real estate developer	49	21.88
	Total	224	100.00

4.2. Participants Experience in the real estate market

Participants involved in this study lived in Addis Ababa for an average 25.03 years with a SD of 12.82 and a minimum and maximum of 3 and 55 years. As presented in Table 4, two-thirds, 90 (40.18%), of the respondents lived in Addis Ababa for 20 to 35 years. Out of the participants, 91 (40.63%) were involved in the real estate market as a tenant followed by property owners that accounted for 52 (23.21%). Among the participants, 151 (67.41%), reported that they had not purchased real estate in Addis Ababa and the rest 73 (32.59%) mentioned they had prior purchase experience. Out of those who had purchase experience, 33 (45.21%) purchased apartments and the primary purpose of the purchase was mainly residential, accounting 36 (49.32%). Personal savings were the primary source of financing, which was reported by 38 (52.05%) of participants who had purchased from the real estate developers.

Out of the respondents, 161 (71.88%) encountered challenges in managing their real estate property due to market instability. Likewise, 171 (76.34%) experienced renting difficulties. Although 156 of the participants (69.64%), were neutral response about the influence of government policies and regulations on the real estate market stability, a significant number of participants reported that government policies had negative influence on market stability. On the other hand, 171 (76.34%) of the respondents acknowledged that use of innovative technology in the real estate sector has positive influence on market stability. Regarding the percentage of monthly income spent on housing costs, the largest proportion of respondents (66; 29.46%) spent less than 25% of their monthly income on rent or mortgage, while 48 (21.43%) spent over 40% of their income **(See Table 5)**.

Table 5 *Participants' Experience in the Real Estate Market, 2025.*

Variables	Categories	Frequency	Percent
How long have you been living in Addis Ababa?	<20	84	37.50
	20-35	90	40.18
	>35	50	22.32
	Total	224	100.00
Current role in real estate market	Property owner	52	23.21
	Tenant	91	40.63
	Both owner and tenant	19	8.48
	Other	62	27.68
	Total	224	100.00
Have you purchased real estate in Addis Ababa?	Yes	73	32.59
	No	151	67.41
	Total	224	100.00
Type of real estate property do you purchased	Apartment	33	45.21
	Villa	10	13.70
	Commercial property	14	19.18
	Other	16	21.92
	Total	73	100.00

Variables	Categories	Frequency	Percent
Primary purpose of your purchase	Residential	36	49.32
	Investment	19	26.03
	Rental income	2	2.74
	Other	16	21.92
	Total	73	100.00
Source of financing	Personal savings	38	52.05
	Bank loan	12	16.44
	Family support	17	23.29
	Other	6	8.22
	Total	73	100.00
Experienced challenges in managing property due to market instability	Yes	161	71.88
	No	63	28.13
	Total	224	100.00
Experienced challenges related to renting due to market instability	Yes	171	76.34
	No	53	23.66
	Total	224	100.00
Effect of government policies to stabilize the real estate market	Very positively	5	2.23
	Positively	24	10.71
	Neutral	156	69.64
	Negatively	15	6.70
	Very negatively	24	10.71
	Total	224	100.00
Technology can play a role in stabilizing the real estate market	Yes	171	76.34
	No	53	23.66
	Total	224	100.00
Percentage of monthly income spent on housing costs (rent or mortgage)	<25%	66	29.46
	25-30%	55	24.55
	31-40%	55	24.55
	>40%	48	21.43
	Total	224	100.00

As shown in Figure 3, individuals involved were asked about the measures to be considered to minimize real estate market instability. Of the total participants, nearly two-fifths (37.5%) responded that regulating land speculation as an effective measure, and over half (51.79%) reported that improving transparency in the real estate transaction is a key measure to

overcome market instability. Majority of the participants (82.0%) emphasized that improving urban planning has paramount importance to stabilize the real estate market. Likewise, 87.95% of participants mentioned that enhancing access to affordable housing would contribute to market stability. Furthermore, 91.96% of the participants stressed that stabilizing economic policies is crucial for controlling instability in the real estate market (**Figure 3**).

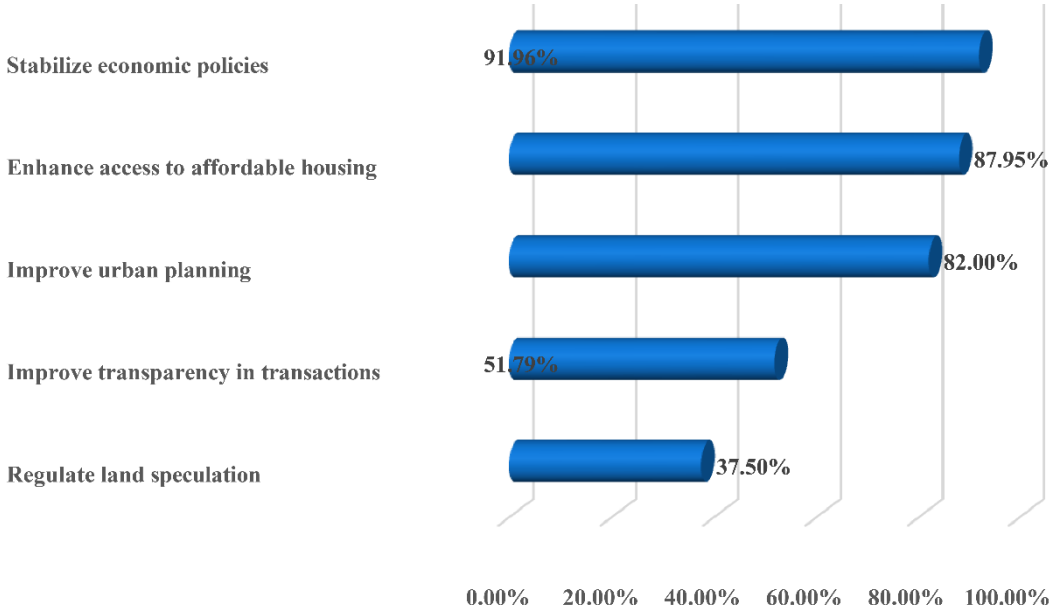

Figure 3 *Proposed Measures to Minimize Market Fluctuations and Improve Stability*

4.3. Perceptions of the participants about the real estate market

As shown in Table 5 the perception of the participants about the real estate market was presented. The availability of mortgage financing and its impact to buy real estate property was highly varied among participants; 88 (39.29%) indicated that mortgage financing decreased their ability whereas 52 (23.22%) reported that it significantly and slightly increases their ability to buy a property. Regarding transparency, 62 (27.68%) of the participants perceived that the real estate property transactions were either very transparent or transparent. However, over one-third (85; 37.95%) of the participants had neutral perception of real estate transactions.

Regarding the effect of changes on land use and zoning, 20 (8.93%) and 52 (23.21%) of the participants were significantly and moderately affected by the changes in land

use or zoning regulations. On the other hand, 87 (38.84%) of the participants perceived that speculation influenced property prices to a very large extent.

The participants were also asked about the availability of new real estate developers in their area and most, 94 (41.96%), of them reported frequent observation. The same proportion of participants. At the same time, 159 (70.98%) of the participants reported frequent issues related to property ownership disputes with developers. Participants also noted that there is a significant imbalance between the supply and demand as very low supply was reported by 97 (43.30%) and very high demand was reported by 175 (78.13%) of the participants. Two-third (150; 66.96%) of the participants perceived that information access about the trends of the real estate market negatively impacted the real estate market. On the other hand, political instability was reported to affect the market to a very large or large extent by 141 (62.95%) of participants. Likewise, population growth was perceived to influence the market to a very large extent by 156 (69.64%) of respondents. In contrast, 139 (62.05%) of the respondents were not aware of the government strategies to stabilize the real estate market (**Table 6**).

Table 6 *Perception of the Study Participants in the Real Estate Market, 2025*

Perception/Market issue	Main response	Frequency	Percent (%)
Effect of mortgage financing availability on ability to buy/rent property	Decreased ability	88	39.29
Transparency of real estate transactions	Neutral	85	37.95
Effect of land-use/zoning changes	No effect	86	38.39
Influence of speculation on property prices	To a very large extent	87	38.84
Observation of new real estate developments	Frequently	94	41.96
Infrastructure supports existing and future development	Yes	159	70.98
Issues related to property ownership disputes	Yes, frequently	159	70.98

4.4. Respondents' Future Intentions Toward the real estate market

Table 7 presents detailed descriptions of the participants' current evaluation and future

intention to participant in the real estate sector. Of the total participants, 161 (71.88%) believed that now is a good time to buy or sell real estate property. On the other hand, 167 (74.55%) of respondents expect the house prices in Addis Ababa will slightly or significantly increase in the coming few months. Likewise, 85 (37.95%) of the participants were very unlikely to pay in cash over using a mortgage, while confidence in bank loan approval was generally low, with 98 (43.75%) reporting being very doubtful. Most participants (182; 81.25%) perceived currency devaluation or inflation significantly influenced the real estate market. Nearly half (111; 49.55%) of the respondents expressed very doubt on the quality of houses developed by the real estate developers. A significant number of participants (36; 16.07%) reported that they postponed or cancelled real estate property purchases in the previous year due to market uncertainty while over three-fifth (137; 61.16%) had no purchase plans. Furthermore, two-thirds of the participants, 145 (64.73%), reported that it is very unlikely to buy property in the next year (**Table 7**).

Table 7 *Future Intention of the Study Participants Towards the Real Estate Sector, 2025*

Variables	Categories	Frequency	Percent
Do you believe now is a good time to buy or sell real estate property?	Yes	161	71.88
	No	63	28.13
	Total	224	100.00
In the next few months, what house prices do you expect in Addis Ababa?	Increase significantly	79	35.27
	Increase slightly	88	39.29
	Stay same	57	25.45
	Total	224	100.00
How likely are you to pay in cash over using a mortgage?	Very unlikely	85	37.95
	Somewhat unlikely	70	31.25
	Undecided	48	21.43
	Somewhat likely	15	6.70
	Very likely	6	2.68
	Total	224	100.00
How confident are you that bank loan would be approved if you applied	Very doubtful	98	43.75
	Somewhat doubtful	50	22.32
	Neutral	62	27.68

today?	Somewhat confident	14	6.25
	Total	224	100.00
Variables	**Categories**	**Frequency**	**Percent**
Do you think currency devaluation or inflation has significant influence on real estate market?	Yes	182	81.25
	No	42	18.75
	Total	224	100.00
Are you confident enough in local real estate developers/sellers to deliver quality housing?	Very doubtful	111	49.55
	Somewhat doubtful	47	20.98
	Neutral	39	17.41
	Somewhat confident	9	4.02
	Very confident	18	8.04
	Total	224	100.00
Have you postponed or canceled a property purchase in the last year due to uncertainty?	Yes	36	16.07
	No	51	22.77
	No plan	137	61.16
	Total	224	100.00
How likely are you to buy property in the next one year?	Very unlikely	145	64.73
	Somewhat unlikely	52	23.21
	Undecided	13	5.80
	Somewhat likely	14	6.25
	Total	224	100.00

As presented in Figure 4, respondents identified the main influencing factors that affect the decision to buy or sell real estate property. Among the participants, 203 (90.63%) reported high prices as the most significant factor affecting real estate property buying decisions. Low income or job instability (176; 78.57%), and political or regulatory instability (165; 73.66%), and high interest rates (125; 55.80%) were other main reasons mentioned by the respondents that affect their decision to buy a real estate property. Inflation (81; 36.16%), poor housing quality or lack of trust in developers (80; 35.71%), and currency devaluation (79; 35.27%), and resale or rental potential (43; 19.20%) are also mentioned by the respondents as the main reason that affect their decision to buy a real estate property (**Figure 4**).

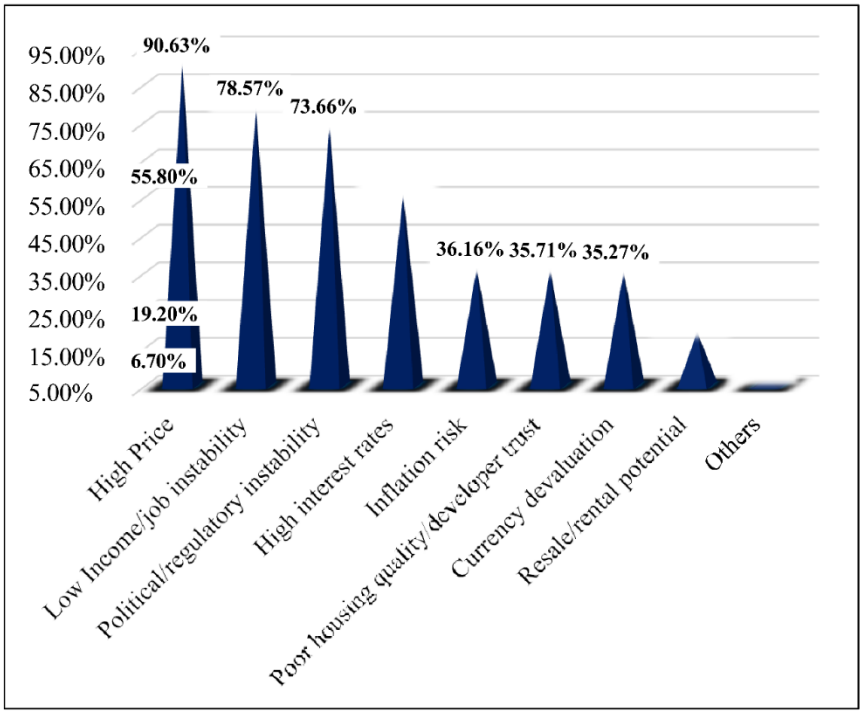

Figure 4 *Main Reason that Influence the Decision to Buy the Real Property (n=224)*

4.5. Real estate market instability from the developer's perspective

In addition to the buyers/property owners, this study explored the perception of the real estate developers about the status of the real estate market using a structured interview guide. The key informant interviews (KII) were conducted among ten, eight male and two female, real estate developer representatives. The age of the key informants (KI) was ranged from 25 to 62 years, which helps us to assess the market instability both from fresh and senior real estate sector professionals. Regarding their level of education, all the KI hold a master's degree. Concerning their role in the real estate sector, they participated in multiple roles including as developers, employee-managers, business owners, with most of the KIs participating in hybrid functions within their respective companies. Seven of the total KIs reported that they continuously involved in the real estate market in Addis Ababa for more than five years. These participants were selected purposively as their experience lends credibility to their evaluation of the market dynamics and instability from different perspectives. The KIs

were also asked about the source of financing for their real estate company, almost all of them reported that financial arrangements rely on personal savings, internally generated funds and developers' capital from the outset. They also stressed that limited access, delayed response, and tedious bureaucracy were the main barriers to getting access to formal financial institutions and this is one of the main bottlenecks to further expand their investment.

Based on the responses of the KIIs three main themes were generated including 1) perceived real estate market trends; 2) drivers of real market instability; and 3) strategies to overcome market instability.

Table 8 *Real Estate Companies Represented by the Ten Key Informant*

No	Name of Real Estate Company
1	Ayat Real Estate
2	Noah Real Estate
3	Gift Real Estate
4	Sunshine Real Estate
5	Flintstone Homes
6	Temer Properties
7	Ovid Real Estate
8	Tsehaye Real Estate
9	Metropolitan Real Estate
10	Jumbo Real Estate

Figure 6 *Sunshine construction Head Office*

Figure 5 *Flintstone Homes Head Office*

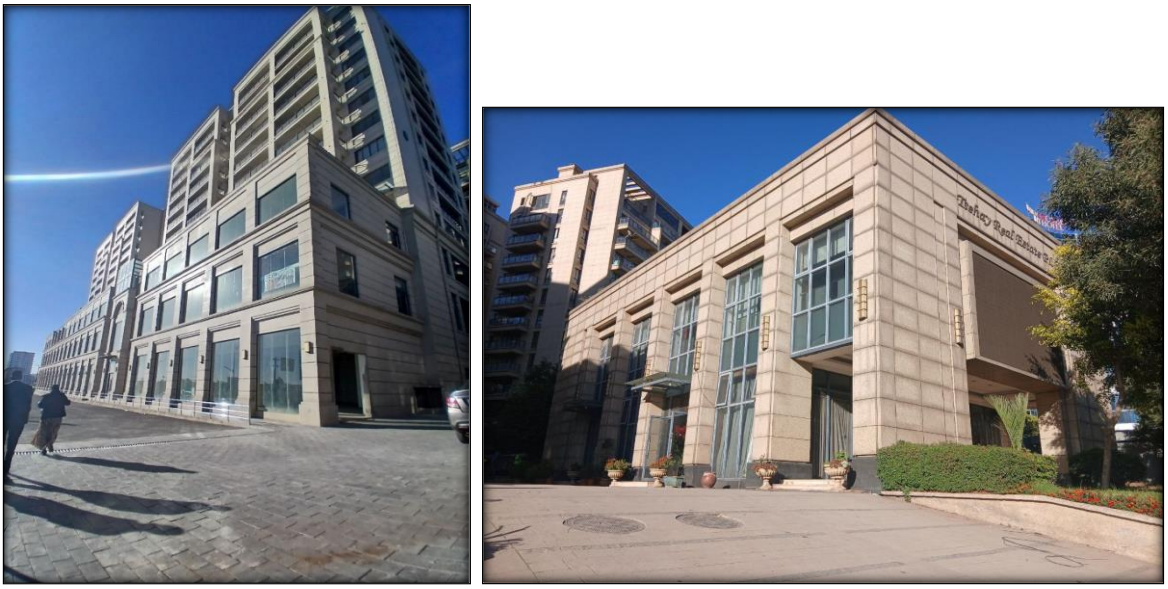

Figure 7 *Tsehaye Real Estate Head Office*

Figure 8 *Ayat Real Estate Head Office*

Figure 9 *Noah Real Estate Head Office*

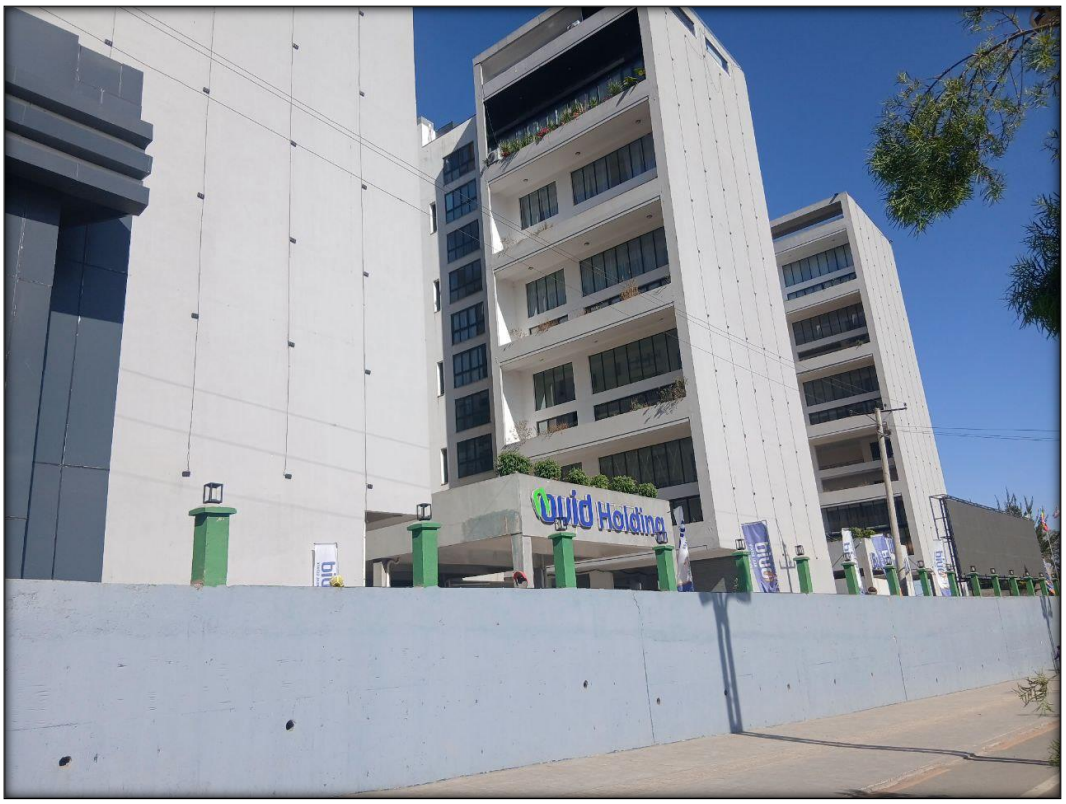

Figure 8 *Ovid Real Estate Head Office*

4.6. Theme 1: Perceived real estate market trends

100% of the KIs agreed that the real estate property prices in Addis Ababa are consistently increasing. As mentioned by most of the participants, such upward trend is the mirror image of inflation, currency depreciation, speculative investment behavior, and ineffective market regulations. Kis mentioned that price growth has become continuously detached from the purchasing power of the ordinary citizen, particularly the middle- and low-income residents. There is an imbalance in supply and demand, at the same time available houses mainly targeted the high-income households and the diaspora community, which makes the real estate market sustainability under pressure. One of the senior KI noted:

"The housing prices continue to rise, but real estate demand is not increasing at the same rate, mainly due to the absence of affordable housing for low- income residents. Simply, much of the activity is driven by speculation without considering the type of

housing need and the purchasing power of the customers." (Male, 58 years, Business Owner.

Most of the KIs also rated that the land availability for real estate development was generally perceived as low to moderate, and the land access restricted with several reasons including administrative inefficiencies and regulatory uncertainty. One participant mentioned that:

*"Land availability is not merely a supply problem; it is about procedures, approvals, and unpredictability in the system. It takes too much time to finish paperwork and commence the actual constructions. In the process the row materials for to build quality house also steadily increased." (Female, 37 years, Employee, Manager)*Theme 2: Drivers of the real estate market instability

The second theme that emerged from the key informant interviews concerns the major drivers of real estate market instability in Lemi Kura Sub-City. Throughout the interviews, participants consistently identified rapid urbanization, political instability, speculative land transactions, inadequate urban planning, infrastructure deficiencies, inflation, currency depreciation, and financing conditions as the principal factors contributing to market instability. Although participants emphasized different aspects of these challenges, there was broad agreement that these factors interact to creating an uncertain and volatile real estate market.

Rapid urbanization was the most frequently discussed driver of market instability. Participants explained that rapid population growth, coupled with increasing rural-to-urban migration, has generated housing demand that substantially exceeds the capacity of existing urban planning systems and infrastructure provision. As one developer explained:

"As urban growth is happening faster than planning and infrastructure, the demand keeps rising, but supply is not arranged based on the needs and purchasing power of the residents." (Male, 42 years, Real Estate Developer)

This statement suggests that developers perceive rapid urbanization not merely as population growth but as a structural factor that intensifies the imbalance between housing demand and housing supply. Similar concerns were expressed by several interviewees, indicating that urban expansion without corresponding improvements in planning and infrastructure has intensified pressure on land markets and housing prices. These qualitative findings reinforce the quantitative results, in which high housing prices emerged as the strongest determinant of real estate market instability ($\beta = 0.823$). From a theoretical perspective, this finding supports the Supply and Demand Theory**,** which argues that persistent excess demand relative to housing supply leads to rising prices and market disequilibrium (Mankiw, 2021). The finding is also consistent with previous studies reporting that rapid urbanization contributes to housing shortages and market instability in rapidly developing cities (United Nations Human Settlements Programme [UN-Habitat], 2020; World Bank, 2023).

Inadequate infrastructure and ineffective urban planning were also identified as major contributors to market instability. Participants emphasized that insufficient transportation networks, utility services, and public infrastructure increase development costs while limiting the availability of serviced land suitable for residential development. Poor coordination between urban expansion and infrastructure provision was perceived to reduce investor confidence, delay project implementation, and constrain the efficient functioning of the real estate market.

4.7. Theme 3: Strategies to overcome market instability

The third theme that emerged from the key informant interviews relates to the strategies that developers believe are necessary to improve the stability and performance of the real estate market in Lemi Kura Sub-City. Participants identified several challenges affecting the operation of the real estate sector, including regulatory uncertainty, financing constraints, declining property values, increasing construction costs, and reduced purchasing power among prospective homebuyers. According to the participants, the combined effect of these challenges has contributed to market instability by discouraging investment, delaying project implementation, and reducing housing affordability. To address these challenges, the key informants proposed several strategic interventions, including project diversification, cost-reduction measures, and delayed investment decisions during periods of uncertainty, strategic partnerships, and the adoption of innovative technologies.

One participant emphasized the importance of collaboration among developers, stating:

"The real estate sector needs cooperation. Operating alone has become too risky; partnerships help spread both financial and regulatory risks." (Male, 47 years, Business Owner)

This statement illustrates that developers increasingly perceive collaboration as an important strategy for managing financial uncertainty and regulatory risks. Rather than relying solely on individual investment decisions, strategic partnerships and joint ventures enable developers to share financial resources, distribute project risks, and improve their capacity to respond to changing market conditions. Similar views were expressed by several participants, indicating a shared perception that collaborative business models enhance resilience during periods of market uncertainty. This finding extends previous studies by highlighting that cooperation among developers is becoming an increasingly important strategy for sustaining investment and maintaining business continuity within Ethiopia's evolving real estate sector.

All key informants also agreed that the adoption of innovative technologies plays an important

role in improving the efficiency and stability of the real estate market. Property management systems, digital marketing platforms, market analytics tools, and prefabrication techniques were identified as some of the technologies currently being utilized by developers. Participants explained that these technologies improve operational efficiency, reduce project costs, enhance market responsiveness, and support more informed investment decisions.

4.8. Validation of the Dependent Variable

Before conducting the regression analysis, the 10-item composite Likert scale used as the dependent variable (Market Instability Score) was validated to ensure its appropriateness as a continuous measure. The results of the reliability and validity tests are summarized below.

Table 9 *Internal Consistency and Reliability of the Market Instability Scale*

Construct	Number of Items	Cronbach's Alpha
Market Instability Score	**10**	**0.884**

Cronbach's alpha for the Market Instability scale was 0.884 (Table 9), which is well above the recommended threshold of 0.70, indicating excellent internal consistency. This justifies the aggregation of the 10 items into a single composite score.

Table 10 *Factor loadings and Item-Total Correlations for Market Instability Scale*

Item Code	Item Description	Factor Loading	Item-Total Corr.
MI1	Stability description	0.72	0.58
MI2	Urbanization impact	0.68	0.52
MI3	Economic factors impact	0.81	0.71
MI4	Market speculation impact	0.75	0.64
MI5	Gov policy changes impact	0.64	0.48
MI6	Political instability impact	0.78	0.69
MI7	Finance access impact	0.70	0.55
MI8	Infrastructure impact	0.62	0.45
MI9	Price fluctuations observed	0.84	0.74
MI10	Risk and uncertainty perception	0.86	0.78

Exploratory Factor Analysis (EFA) revealed that all 10 items loaded onto a single factor (Eigenvalue = 5.42), accounting for 54.2% of the total variance. All factors exceeded 0.50, and total correlations were above 0.30 (Table 10). These results support the

validity, one-dimensional construct suitable for OLS regression.

4.9. Level of the real estate market instability from the buyers' perspective

Regarding property and rental price fluctuations over the past year, 140 (62.50%) of the respondents reported significant increases, while 68 (30.36%) reported slight increases. Regarding risk and uncertainty, 153 (68.30%) of respondents perceived the level as very high, 57 (25.45%) as high, and 14 (6.25%) as moderate. These findings indicate that most respondents perceived substantial instability in real estate market (Table 11).

Table 11 *Study Participants' View on Real Estate Market Instability, 2025*

Variables	Categories	Frequency	Percent
Observed fluctuations in property or rental prices in the past year	Yes, significant increase	140	62.50
	Yes, slight increase	68	30.36
	No change	16	7.14
	Total	224	100.00
Perceived level of risk and uncertainty in the Addis Ababa real estate market	Very high	153	68.30
Variables	**Categories**	**Frequency**	**Percent**
	High	57	25.45
	Moderate	14	6.25
	Total	224	100.00

4.10. Factors associated with the real estate market instability

Influencing factors that exacerbate real estate market instability were assessed using both simple and multiple linear regressions.

4.10.1. Simple linear regression (SLR)

As shown in table 10 and 11, the influencing factors for the real estate market were assessed using linear regression. The SLR allows us to examine the influence of each predicator on market instability. It showed both the direction and strength of the association although the coefficients are crude and needs further analysis using multiple

linear regressions to avoid misleading results. Under the SLR analysis, several factors were significantly associated with real estate market instability. For instance, the recent currency depreciation increases the real estate market instability by 67.4% (β: 0.674, p = 0.010). Similarly, a unit increase in housing prices increased real estate market instability by 1.36-fold (β: 1.355, p = 0.002). On the other hand, high interest rate was negatively (β: -0.564, p = 0.026) associated with real estate market instability. In addition, low income/job instability (β: 1.051, p = 0.001), and inflation (β: 0.569, p = 0.030) increases market instability. Furthermore, poor housing quality (β: 1.185, p < 0.001), and political instability (β: 1.088, p < 0.001) were significantly and positively associated with real estate market instability.

In contrast, availability of infrastructure around the area decreases the real estate market instability score by 0.751 units (β: -0.751, p = 0.007). Likewise, improved urban planning decreases market instability by two units (β: -1.992, p < 0.001).

Furthermore, regulation of land speculation (β: -0.783, p = 0.002), enhancing access to affordable housing (β: -1.396, p < 0.001), and stabilizing economic policies (β: - 1.617, p = 0.001) were significant effect on the reduction in market instability. Lastly, the application of innovative technology demonstrated decreases market instability by 1.35-fold market instability (β: -1.354, p < 0.001) (**see Table 12**).

Table 12 *Simple Linear Regression Assesses the Influencing Factors of Real Estate Market Instability, 2025, (n=224). Prices*

Variables coeffic.	β	St. Err	t-value	p-value	95% CI	
.					LL	UL
Currency devaluation	.674	.261	2.58	.01**	.159	1.188
High Price	1.355	.424	3.19	.002***	.518	2.191
High interest rate	-.564	.252	-2.24	.026**	-1.061	-.068
Low Income/job instability	1.051	.3	3.50	.001***	.46	1.643
Inflation influence	.569	.261	2.18	.03**	.055	1.082

Poor housing quality	1.185	.252	4.71	0.001***	.689	1.681
Resale/rental potential	.43	.32	1.34	.181	-.201	1.06
Political instability	1.088	.278	3.92	.001	.541	1.636
Infrastructure availability	-.751	.274	-2.74	.007***	-1.291	-.21
Improve urban planning	-1.992	.302	-6.60	0.001***	-2.588	-1.397
Regulate land speculation	-.783	.256	-3.06	.002	-1.288	-.279
Enhance access to affordable housing	-1.396	.377	-3.70	<0.001***	-2.139	-.652
Stabilize economic policies	-1.617	.453	-3.57	0.001***	-2.508	-.725
Improve transparency in transactions	-.457	.251	-1.82	.07*	-.952	.038
Apply innovative technology	-1.354	.283	-4.78	0.001***	-1.913	-.796

*** p<.01, ** p<.05, * p<.1

4.10.2. Linear regression diagnostics

The validity of the multiple linear regression models was checked using common linear regression assumptions. The Variance inflation factor (VIF), scatter plot, histogram, and the Cook–Weisberg test were carried out to check multicollinearity, linearity of variables, normality, and homoscedasticity, respectively.

4.10.2.1 Multicollinearity diagnostics

In this study, VIF and Tolerance (1/VIF) were used to check multicollinearity among the independent variables. As shown in Table 13, the result showed that the VIF values range from 1.07 to 3.62 with a mean VIF of 1.45. The VIF values are far below the scientific recommendation and accepted thresholds, which is 5 that considered as moderate correlation and 10 that indicate sever multicollinearity (Gujarati, 2009).

Moreover, all the Tolerance values are above 0.2 that indicated none of the independent variables are excessively explained by other independent variables. Scholars also suggest a tolerance value below 0.1 shows serious multicollinearity issues, which is not the case in our study (Hair et al., 2019). Hence, the estimated regression coefficients in this study are reliable for inference and the validity of this model ensures individual effect of each independent variable on real estate market instability can be interpreted without any bias (**Table 14**).

Table 13 *Multicollinearity Assessment Among the Independent Variables Included in the Final Linear Regression Model.*

Independent Variables	VIF	Tolerance
Currency devaluation	3.572	.28
High Price	1.117	.895
High interest rate	1.072	.933
Low Income/job instability	1.087	.92
Inflation influence	3.621	.276
Poor housing quality	1.145	.873
Resale/rental potential	1.069	.936
Political instability	1.126	.888
Infrastructure availability	1.163	.86
Improve urban planning	1.116	.896
Regulate land speculation	1.133	.883
Enhance access to affordable housing	1.188	.842
Stabilize economic policies	1.186	.843
Improve transparency in transactions	1.085	.922
Apply innovative technology	1.11	.901
Mean VIF	1.453	.

4.10.2.2 . Linearity

As presented in **Figure 11,** linearity assumption was checked using the partial regression (added variable) plots. The figure showed a linear relationship between the real estate market instability and the independent variables included in the final regression model which includes currency devaluation, high price, high interest rate, low income/job instability, inflation influence, poor housing quality, resale/rental potential, political instability, infrastructure availability, improve urban planning,

regulate land speculation, enhance access to affordable housing, stabilize economic policies, improve, transparency in transactions, and application of innovative technology. The result demonstrated that there is no systematic curvature, which indicate the linear regression model is valid and reliable (Gujarati, 2009).

4.10.2.3 Normality

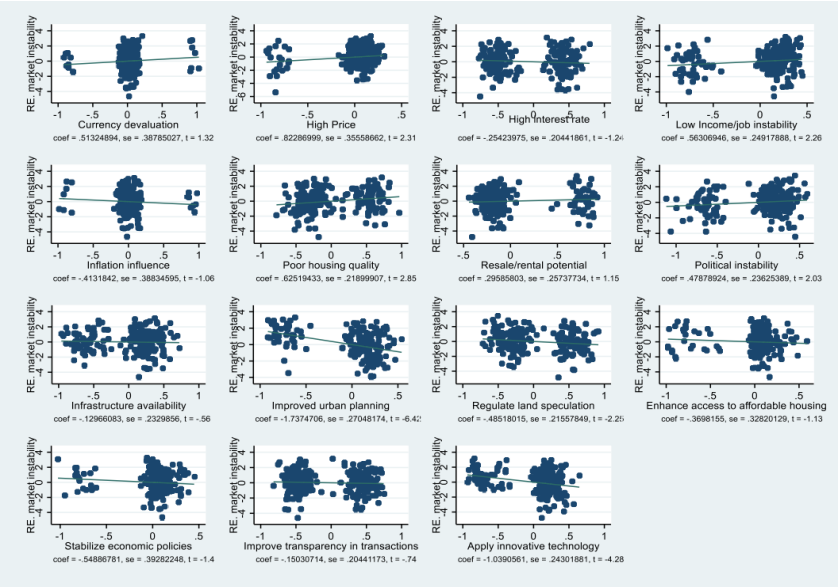

Figure 9 *Added-variable plots used to assess the linearity assumption in the multiple linear regression models*

In this study both statistical tests using the Shapiro–Wilk test and graphical visualization using histogram and Q_Q plot were used to check the normality of the regression residuals. As shown in **table 15,** the result of the Shapiro–Wilk test statistic of W = 0.990 with p = 0.127, which is greater than the 0.05 significance level, suggesting that the residuals are approximately normally distributed. In addition, the visual inspection of the histogram and Q–Q plot presented in **Figure 12 and 13**, respectively, confirms that the normality assumption of the multiple linear regression model is satisfied (Wooldridge, 2016).

Table 15 *Shapiro Wilk W test for Normal Data*

Variable	Obs.	W	V	z	Prob>z
Residual	224	0.990	1.638	1.141	0.127

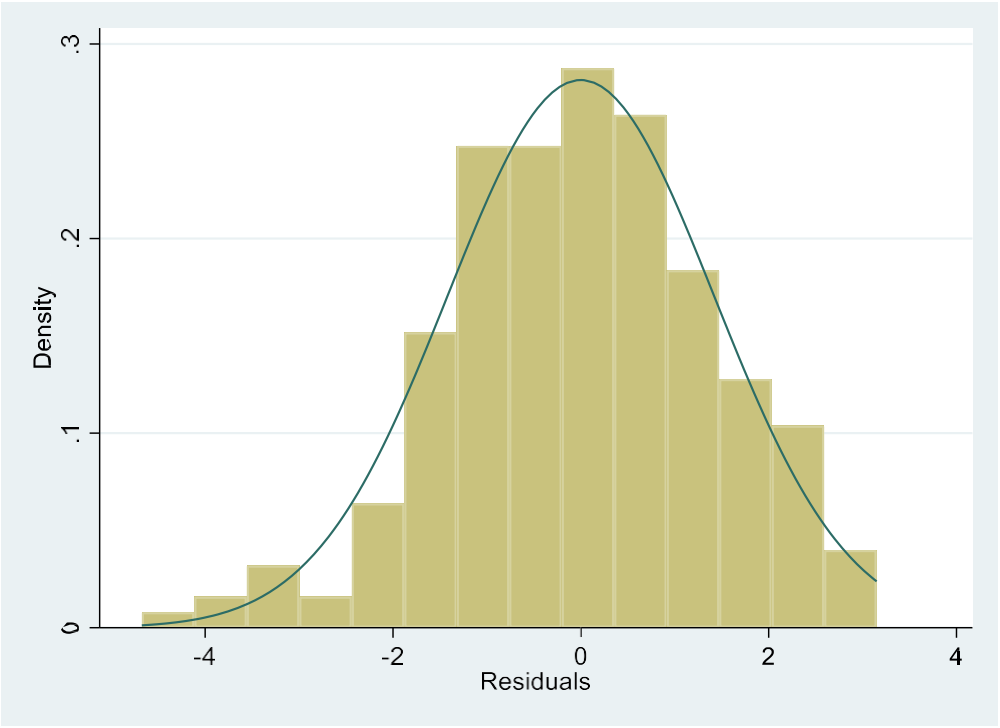

Figure 12 *Histogram of regression residuals overlaid with a normal density curve*

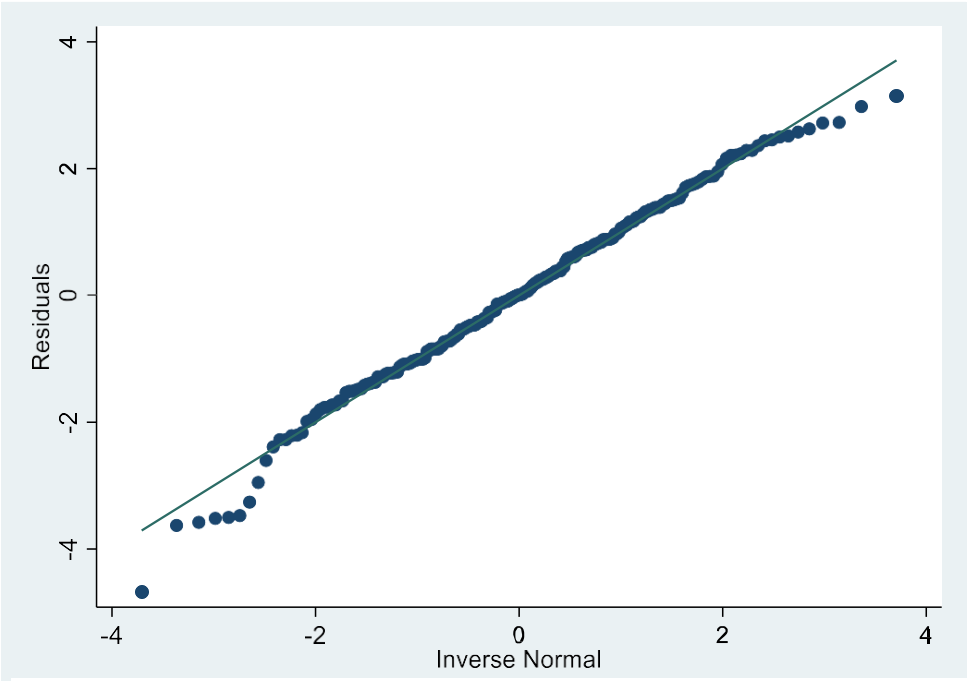

Figure 10 *Normal Probability (Q–Q) Plot of Regression Residuals.*

4.10.2.4 Homoscedasticity

In our study, the Breusch–Pagan/Cook–Weisberg test was carried out to check homoscedasticity or constant variance assumption. The test yielded chi² (1) = 3.66 with

p = 0.056, suggesting that there is no strong evidence of heteroscedasticity. In addition, as displayed in **Figure 14**, the residuals-versus-fitted values plot, showed randomly scattered residuals around zero, the results support the assumption of homoscedasticity in the regression model (Gujarati, 2009; Wooldridge, 2016).

In general, all the linear regression assumptions were fulfilled with. Multicollinearity was low (mean VIF = 1.45), relationships were approximately linear, residuals were normally distributed (Shapiro–Wilk W = 0.990, p = 0.127), and variance was constant (Breusch–Pagan chi² = 3.66, p = 0.056), which all indicates the final model is valid and reliable for inference.

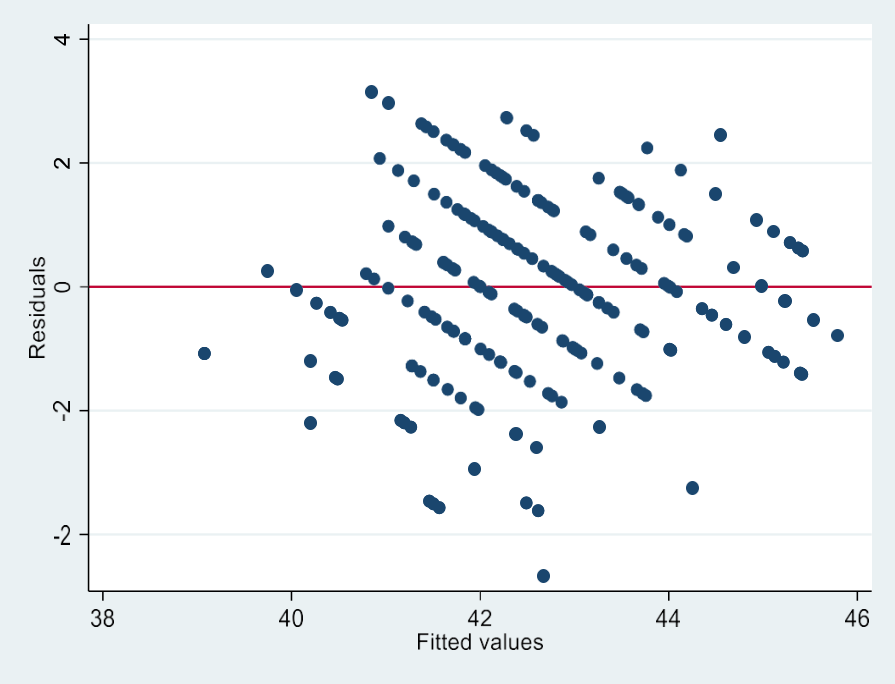

Figure 11 *Residuals-Versus-Fitted Values Plot Showing that the Spread of Residuals is Approximately Constant Across Fitted Values*

4.10.3. Multiple Linear Regression (MLR)

In this study I computed, the MLR, which is used to assess the strength and direction of multiple predictors on the outcome variable, real estate market instability in our case. MLR is crucial to control for confounding variables that over or underestimate effect of each predictor on the outcome variable that overcomes the limitations of the simple

linear regression, which estimated the unstandardized coefficients (Field, 2024; Frost, 2019; Montgomery et al., 2021).

The MLR analysis was computed using 224 observations and the result showed that showed that the model was significant with $F(15, 208) = 10.77$, $p < .001$, which indicates that the risk factors jointly explained a significant portion of the variance in the real estate market instability. In addition, 83.73% of the total variance in the real estate market instability could be explained by variation in the fifteen predictor variables including currency devaluation, high price, high interest rate, low income/job instability, inflation influence, poor housing quality, resale/rental potential, political instability, infrastructure availability, improve urban planning, regulate land speculation, enhance access to affordable housing, stabilize economic policies, improve, transparency in transactions, and application of innovative technology. This MLR model was well fitted as it had higher R^2 above 0.837, which indicates the proportion of variability in the outcome variable was well explained. Furthermore, the analysis of variance (ANOVA) the results confirm the adequacy and robustness of the regression model. The model sum of squares (SS = 348.03) is substantially larger than the residual sum of squares (SS = 447.93), suggesting that a considerable share of the total variation in the outcome variable is captured by the explanatory variables. The mean square for the model (MS = 23.20) is also markedly higher than the mean square of the residuals (MS = 2.15), further supporting the overall significance of the model.

After controlling for the confounding seven variables including high price, low income or job instability, poor housing quality, political instability, improve urban planning, regulate land speculation, and application of innovative technology were significantly associated with the real estate market instability. For instance, a unit increase in high housing prices significantly and positively increases the market instability score by

0.823 units (β: 0.823, p = 0.022). Likewise, low income and job instability increase the market instability score by 0.563 units (β: 0.563, p = 0.025), which indicates household level economic problems aggravate the real estate market instability. On the other hand, poor housing quality also showed a strong positive association (β: 0.625, p = 0.005) with market instability. In addition, political instability increases the real estate market instability score by 0.479 units (β: 0.479, p = 0.044), implying that unstable political conditions intensify uncertainty within the real estate market.

On the contrary, policy-related and structural interventions showed a significant negative association with the real estate market instability. For instance, improved urban planning (β: -1.737, p < 0.001), regulating land speculation (β: -0.485, p = 0.025), and application of innovative technology (β: -1.039, p < 0.001) had significant contribution to stabilizing the real estate market (**Table 13**).

Table 14 *Multiple Linear Regression that Assesses the Influencing Factors of Real Estate Market Instability, 2025, (n=224).*

Sources	**SS**	**Df**	**MS**	Number of obs = 224
Model	666.460000	15	44.43	F (15, 208) = 71.36.
Residual	129.500000	208	0.623.	Prob > F = 0.0000
Total	795.959821	223	3.56932655	R-squared = 0.8373 Adj R-squared = 0.7967 Root MSE = 1.4675

Akaike crit. (AIC)	822.913	Bayesian crit. (BIC)	877.499

Variables	**β coefficient**	**St. Err.**	**t-value**	**p-value**	**95% CI**	
					LL	**UL**
Currency devaluation	.513	.388	1.32	.187	-.251	1.278
High Price	.823	.356	2.31	.022**	.122	1.524
High interest rate	-.254	.204	-1.24	.215	-.657	.149
Low Income/job instability	.563	.249	2.26	.025**	.072	1.054
Inflation influence	-.413	.388	-1.06	.289	-1.179	.352
Poor housing quality	.625	.219	2.85	.005***	.193	1.057
Resale/rental potential	.296	.257	1.15	.252	-.212	.803
Political instability	.479	.236	2.03	.044**	.013	.945

Variables	β coefficient	St. Err.	t-value	p-value	95%CI LL	UL
Infrastructure availability	-.13	.233	-0.56	.578	-.589	.33
Improve urban planning	-1.737	.27	-6.42	<0.001***	-2.271	-1.204
Regulate land speculation	-.485	.216	-2.25	.025**	-.91	-.06
Enhance access to affordable housing	-.37	.328	-1.13	.261	-1.017	.277
Stabilize economic policies	-.549	.393	-1.40	.164	-1.323	.226
Improve transparency in transactions	-.15	.204	-0.74	.463	-.553	.253
Apply innovative technology	-1.039	.243	-4.28	<0.001***	-1.518	-.56
Constant	44.205	.675	65.51	<0.001***	42.875	45.535

*Significant at *** p<.01, ** p<.05, * p<.1*

Chapter Five: Discussion

This section highlights the key findings, compares the findings with previous empirical studies, and addresses the practical implications and scientific contribution of this study. In addition, it acknowledges the limitations of the study and suggests future studies. This study demonstrated that the customers perceived that is high level of real estate market instability with an average score of 42.51 SD = 1.89) across a Likert scale indicator ranging from 10 to 50, highest score indicating high market instability. In addition, the qualitative data from the developers' perspective showed similar findings with all the KIs reported that the real estate property prices are consistently increasing and that result in supply-demand imbalance. These findings of this study are consistent with previous empirical studies as rapidly urbanizing cities are prone to volatility mainly due to population growth, economic pressure and speculative investments (Grybauskas & Pilinkienė, 2018). Such market instability is probably due to currency depreciation, inflation, and poor regulatory problems (Henderson & Liu, 2023). Imbalance in the supply of affordable housing and demand, affordable housing, cost of the construction materials, and limited land have significant contribution for the real estate market instability (Berhanu, 2004; UNDP Ethiopia, 2024).

The findings of this study are interpreted using the theoretical frameworks presented in Chapter Two. Specifically, the Efficient Market Hypothesis (EMH), Supply and Demand Theory, Housing Market Cycle Theory, Financial and Economic Indicators Framework, and Urban Planning and Policy Framework provide complementary perspectives for explaining the determinants of real estate market instability identified in Lemi Kura Sub-City. These theories provide a conceptual basis for interpreting how housing prices, household income, political conditions, urban planning, technological innovation, and institutional factors interact to influence market stability.

This study identified the influencing factors for real estate market instability using multiple linear regressions. Our study found that a unit increase in high housing prices increases market instability. This finding is consistent with the Supply and Demand Theory, which argues that when housing demand persistently exceeds available supply, prices rise above equilibrium levels, reducing affordability and creating market disequilibrium (Mankiw, 2021). In Lemi Kura Sub-City, rapid urbanization and limited housing supply appear to have intensified these market pressures. Furthermore, the finding supports the Housing Market Cycle Theory, which explains that prolonged housing price appreciation often encourages speculative investment, resulting in increased market volatility and instability (Wheaton, 1999). Similar findings have been reported by Alemu (2022) and Berhanu (2018). This indicates that higher housing costs exacerbate uncertainty for both developers and buyers. This finding is congruent with recent study which demonstrated that financial uncertainty is a triggering factor that influences real estate investment around the globe (Gomez-Gonzalez et al., 2024). The possible justification is that as the high prices increase the speculative behavior and affordability decreases over time. Huang and Tang (2015) also noted that housing price surges create volatility and heighten market risk. In addition, inflation and currency depreciation have significant impact on the increment of the property price. The developers emphasized that the housing price continuously increased both the purchasing power of the customers and the developers to build new property decreased due to high cost of construction materials, which all contributed to the market instability due to supply-demand imbalance.

This study found that low income and job instability increase the market instability score by 0.563 units. The positive relationship between low household income and

market instability supports the Supply and Demand Theory. The theory suggests that effective demand depends not only on housing needs but also on households' purchasing power. When income levels decline, many households become unable to afford available housing, creating imbalances between housing demand and market transactions (Mankiw, 2021). The finding also aligns with the Financial and Economic Indicators Framework, which identifies income and employment as major determinants of housing affordability and market performance. This finding indicated that household level economic difficulties have significant impact on the real estate market instability. Developers' focus is to build quality houses with advanced technologies on many of the customers are struggling for survival and always looking for affordable housing. The Brueckner (2011) urban economic models, which emphasize income as a central determinant of housing demand and market adjustment. Income volatility weakens households' ability to sustain housing consumption, thereby increasing turnover and instability within housing markets. Desmond and Gershenson (2016) also found that housing instability and employment insecurity, highlighting a reinforcing cycle between unstable incomes and housing outcomes. Furthermore, Kang (2019) demonstrated that income volatility and employment instability are key predictors of housing instability among low-income households.

This study demonstrated that poor housing quality showed a strong positive association with a 62.5% increase in market instability. This finding undermines the customers' confidence in the real estate market and emphasizes that substandard

Living conditions Mathur (2019) demonstrated that construction quality has direct effect on housing prices and poorly constructed real estate properties depress price performance and can contribute to market instability. Ooi et al. (2014) also reported construction quality as key determinants for future sale price and future capital growth,

which ties to potential instabilities in pricing.

This study noted that political instability increases the real estate market instability score by 0.479 units. This finding indicated that the real estate market is very sensitive and directly affected by the governance and policy uncertainties. This is because of the influence of political decisions on land management, construction approvals, and investment. Previous empirical studies also support this finding. For instance, Nguyen and Vergara-Alert (2023) emphasized that political uncertainty reduces house price growth and transaction volumes. Similarly heightened geopolitical risk increases real estate firms' crash risk. Moreover, (Ozkan et al., 2025) demonstrate that geopolitical shocks transmit to housing markets globally, affecting prices and demand through confidence and expectations. The significant effect of political instability is consistent with the Efficient Market Hypothesis (EMH), which assumes that efficient markets require transparent, stable, and predictable information environments (Fama, 1970). Political uncertainty reduces investor confidence, disrupts information flow, increases investment risk, and weakens market efficiency. Consequently, instability within the political environment contributes directly to instability in the real estate market.

Structural and policy intervention significantly decreases the real estate market instability. For instance, improved urban planning decreases the market instability by 1.74-fold. This finding is supported by previous studies (Ayub et al., 2020; Lu et al., 2024; Wang et al. (2022) as well-planned urban environment enhances to maintain the housing supply-demand equilibrium. The negative relationship between improved urban planning and market instability supports the Urban Planning and Policy Framework. Effective planning enhances land-use efficiency, infrastructure provision, and regulatory certainty, thereby reducing market distortions and improving housing supply responsiveness Adams & Tiesdell (2013).Likewise, land speculation regulation

reduces market instability score by 0.485 units which is supported by a few empirical studies (Manochehri et al., 2025; Poghosyan, 2016; Zhao & Liu, 2023) that showed regulating speculative behaviors through high property tax eliminates artificial inflation and volatility. The finding also supports the Housing Market Cycle Theory, which recognizes speculative investment as one of the major drivers of housing bubbles and market volatility. Effective regulation of speculative land transactions contributes to stabilizing prices and reducing excessive market fluctuations.

Furthermore, this study demonstrated that the application of innovative technologies reduces real estate market instability by approximately 1.04-fold. This finding is consistent with previous empirical studies, which have shown that digital land administration systems, online property platforms, geographic information systems (GIS), Building Information Modeling (BIM), and other digital technologies improve market transparency, reduce information asymmetry, enhance decision-making, and increase the efficiency of real estate transactions (Geltner et al., 2014; World Bank, 2023; United Nations Human Settlements Programme [UN-Habitat], 2020). From a theoretical perspective, this finding supports the Efficient Market Hypothesis (EMH), which posits that efficient markets depend on the timely availability and transparent dissemination of information to market participants (Fama, 1970). By reducing information asymmetry and improving access to reliable market information, innovative technologies strengthen investor confidence, enhance market efficiency, and contribute to a more stable and transparent real estate market.

In general, the findings of this study have several contributions for urban planners, policy makers, developers and customers in Addis Ababa. Controlling the housing price and working on affordable housing have paramount importance to minimizing market instability. Active surveillance on the quality of the housing quality, regular regulatory

measures and adoption of innovative technologies for land management transactions, and monitoring to the real estate sector are key strategies noted by this study. Moreover, this study has significant contribution for the scientific community as it addresses the current level of the real estate market instability and its influencing factors both from the customers and developers' perspective. Scholars with similar interests will use the findings as reference for their own work in the future.

Despite this study having several strengths including the utilization of a mixed study design approach, data collection using Kobo toolbox, and rigorous data analysis, it has its own limitations. The first limitation was the tool used for the market instability measure; although Grybauskas and Pilinkienė (2018) suggested market instability assessment indicators (the price-to-income ratio, the price-to-rent ratio, city center versus suburban price differentials, population growth impacts, market expectations, construction supply responses, and the mortgage-to-GDP ratio), I did not apply these as these indicators need recorded data and need long standing data. In this case, I measure the instability both from the customers and developers' perspective using self-reported, which may under or overestimate the market instability. In the future, recording such data will benefit both researchers and other stakeholders to see the trends of the real estate mar Contribution to Knowledge

The present study makes both theoretical and empirical contributions to the existing body of knowledge on real estate market instability. From a theoretical perspective, the study demonstrates that no single theoretical framework sufficiently explains market instability in the Ethiopian real estate sector. Instead, the findings indicate that the Efficient market hypothesis, supply and demand theory, and housing market cycle Theory complement one another in explaining the interactions among housing prices, household income, political conditions, urban planning, and technological innovation.

By integrating these theoretical perspectives, the study provides a more comprehensive understanding of real estate market instability within rapidly urbanizing cities.

From an empirical perspective, this research provides one of the few mixed-method studies examining real estate market instability in Addis Ababa. Unlike previous studies that focused primarily on housing affordability, land markets, or residential demand independently, the present study combines quantitative evidence from 224 household respondents with qualitative insights from real estate developers. Consequently, the study identifies both market demand factors and developer perspectives as complementary explanations of market instability.

Methodologically, the study demonstrates the value of integrating multiple linear regression with thematic qualitative analysis to investigate complex real estate market problems. This mixed-method approach provides richer evidence than relying solely on quantitative or qualitative methods.

Practically, the findings provide evidence-based recommendations for policymakers, urban planners, developers, and financial institutions by identifying priority areas for improving market stability, including housing affordability, urban planning, regulation of land speculation, technological innovation, and political stability.

Chapter Six: Conclusions and Recommendations

6.1. Conclusion

This study assessed the level of real estate market instability and its influential factors in Lemi Kura Sub-City, Addis Ababa, using a mixed-methods research approach. By integrating quantitative evidence from residential property buyers with qualitative insights from real estate developers, the study provides a comprehensive understanding of the structural, economic, institutional, and technological factors influencing market instability.

The findings demonstrate that real estate market instability in Lemi Kura is not driven by a single factor but rather by the interaction of housing affordability constraints, macroeconomic pressures, institutional weaknesses, and supply-demand imbalances. Together, these factors reduce effective housing demand, discourage investment, and increase uncertainty among both buyers and developers.

The findings support the Supply and Demand Theory by demonstrating that rapid urbanization, population growth, and limited housing supply create persistent disequilibrium within the housing market. Likewise, the Efficient Market Hypothesis was supported through the observed stabilizing effect of innovative technologies, which improves market transparency and reduces information asymmetry. The Housing Market Cycle Theory also explains how inflation, political uncertainty, and declining purchasing power contribute to cyclical fluctuations in investment activity and housing demand.

The qualitative findings complemented the quantitative analysis by demonstrating that developers experience the same challenges identified by buyers, particularly rising construction costs, regulatory uncertainty, declining purchasing power, and

infrastructure deficiencies. This convergence strengthens the credibility of the study and indicates that market instability is experienced consistently across different stakeholder groups.

This study contributes to the existing body of knowledge in three important ways. First, it provides empirical evidence on the determinants of real estate market instability within the context of Lemi Kura Sub-City, where limited previous research exists. Second, by integrating buyers' perceptions with developers' experiences, the study offers a more comprehensive understanding of market instability than studies relying on a single stakeholder perspective. Third, the study demonstrates how demographic, economic, institutional, and technological factors jointly influence market stability, thereby extending the application of Supply and Demand Theory, the Efficient Market Hypothesis, and the Housing Market Cycle Theory within

Ethiopia's emerging real estate market.

6.2. Recommendations

Recommendations for the Addis Ababa City Administration and the Ministry of Urban and Infrastructure

The study identified high housing prices as the strongest determinant of real estate market instability. Therefore, the Addis Ababa City Administration, in collaboration with the Ministry of Urban and Infrastructure, should strengthen affordable housing policies by increasing the supply of serviced land, encouraging medium- and low-income housing developments, and providing incentives such as tax reductions, expedited permit approvals, and infrastructure support for developers who invest in affordable housing projects. These interventions would help reduce housing price pressures, improve housing affordability, and promote a more balanced real estate market.

Since improved urban planning significantly reduced market instability, the City Administration should strengthen integrated land-use planning by ensuring that urban expansion is coordinated with transportation networks, water supply, electricity, drainage systems, and other essential infrastructure. Priority should be given to rapidly expanding areas such as Lemi Kura Sub-City to minimize speculative development and improve market efficiency.

Recommendations for the Addis Ababa Land Administration Bureau

The study found that land speculation contributes significantly to real estate market instability. Accordingly, the Addis Ababa Land Administration Bureau should strengthen land administration through transparent land allocation procedures, digital cadastral systems, and continuous monitoring of land transactions. In addition, stronger enforcement mechanisms should be introduced to discourage speculative land holding and ensure that allocated land is developed within the prescribed timeframes. Such measures would improve transparency, reduce speculative behavior, and promote more efficient utilization of urban land.

Recommendations for the National Bank of Ethiopia and Financial Institutions

The qualitative findings revealed that financing constraints and unfavorable lending conditions discourage investment and delay real estate development. Therefore, the National Bank of Ethiopia, in collaboration with commercial banks and housing finance institutions, should promote affordable mortgage financing by encouraging longer repayment periods, reducing borrowing constraints, and developing financial products specifically designed for first-time homebuyers and residential developers. Improving access to housing finance would enhance effective housing demand and contribute to greater market stability.

Recommendations for Real Estate Developers

The study found that declining purchasing power, increasing construction costs, and changing market conditions have reduced demand for high-end residential developments. Consequently, developers should diversify their housing portfolios by increasing the production of affordable and middle-income housing rather than concentrating predominantly on luxury developments. Furthermore, developers should strengthen strategic partnerships, improve cost-management practices, and expand the use of innovative construction technologies, including Building Information Modeling (BIM), prefabricated construction methods, and digital project management systems. These measures would improve operational efficiency, reduce construction costs, and enhance market responsiveness.

Recommendations for Property Buyers and Investors

The findings indicate that housing affordability, income instability, and market uncertainty significantly influence purchasing decisions. Therefore, prospective property buyers should undertake comprehensive financial assessments before purchasing residential properties by considering long-term affordability, financing conditions, property quality, and future maintenance costs. Investors should also rely on verified market information and professional property valuation rather than speculative expectations when making investment decisions. Such practices would reduce investment risks and contribute to a more stable real estate market.

Recommendations for the Ethiopian Investment Commission and Policymakers

Given that political and regulatory uncertainty emerged as important contributors to market instability, policymakers should establish a more predictable regulatory environment by ensuring consistency in land administration policies, investment

regulations, taxation, and housing development programs. Stable and transparent regulatory frameworks would increase investor confidence, encourage long-term investment, and reduce uncertainty within the real estate sector.

Recommendations for Technology and Digital Transformation

The study demonstrated that the application of innovative technology significantly reduces real estate market instability. Therefore, the Ministry of Urban and Infrastructure, the Addis Ababa Land Administration Bureau, and real estate developers should accelerate the adoption of digital technologies such as electronic land registration systems, Geographic Information Systems (GIS), Building Information Modeling (BIM), online property transaction platforms, and digital property management systems. These technologies improve market transparency, reduce information asymmetry, enhance decision-making, and strengthen public confidence in real estate transactions.

Recommendations for Researchers

Future studies should expand the geographical scope beyond Lemi Kura Sub-City by conducting comparative analyses across multiple sub-cities or regions of Ethiopia to improve the generalizability of the findings. Researchers should also adopt longitudinal research designs to examine how real estate market instability evolves over time under changing economic and policy conditions. Furthermore, Future research should examine additional determinants, including mortgage development, taxation, foreign investment, demographic change, construction costs, and environmental sustainability, using advanced methods such as structural equation modeling, spatial econometrics, and panel data analysis to better understand real estate market instability.

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APPENDIX

Appendix I: Data collection tool for customers and data collection tool for real estate developers and relevant stakeholders

Survey Questionnaire

Declaration of informed consent

Dear participant! Good morning/afternoon; my name is Bezawit Mulugeta. I am a student from Department of Urban and regional Planning School of Built Environment (SBE), Addis Ababa University. I am conducting research on the topic "**Perceived Level and Determinants of Real Estate Market Instability: Evidence from Lemi Kura Sub-City, Addis Ababa**." I would like to ask you few questions about market instability in urban real estate sector in the case of Addis Ababa. The information you provide is highly confidential, only used for this stud y, and not disclosed to third party. Your honest participation and answers to the questionnaire will help us in better understanding of the problem and to give guidance on how to do the solution within the study area. You have full right to refuse part of or whole of the questionnaires and no one forces you to do so.

Investigator's Contact information:

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Part I: Data collection tool for customers

S/n.	Questions	Response
Section I: Background/general information		
101.	Age in completed years?	_____
102.	Gender	1. Male 2. Female
103.	What is your highest-level education?	1. Unable to read and write. 2. Able to read and write. 3. Primary 4. Secondary 5. Diploma 6. Bachelor's 7. Master's 8. PhD
104.	What is your Occupation?	1. Government Employee 2. Private Employee 3. Business Owner 4. Real Estate Developer 5. Other (Specify: ------- -)
105.	How long have you been living in Addis Ababa?	
106.	What is your current role in the real estate market?	1. Property Owner 2. Tenant 3. Both Owner and Tenant 4. Other
107.	Have you purchased real estate in Addis? Ababa?	1. Yes 2. No, jump to Qn. 111
108.	If yes for QNo.107. What type of real estate property have you purchased?	1. Apartment 2. Villa 3. Commercial Property 4. Other (Specify: ------- -)
109.	What was the primary purpose of your purchase?	1. Residential 2. Investment 3. Rental Income 4. Other (Specify:
110.	What was the source of financing?	1. Personal Savings 2. Bank Loan 3. Family Support 4. Other (Specify: -------

S/n.	Questions	Response
Section II: Market dynamics and instability		
201.	To what extent do you agree with Rapid urbanization contributing to market instability?	1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree
202.	To what extent do you agree with Economic factors (inflation, interest rates) contributing to market instability?	1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree
203.	To what extent do you agree with Market Speculation contributing to market instability?	1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree
204.	To what extent do you agree with Government policy changes contributing to market instability?	1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree
205.	To what extent do you agree with Political instability affects the market contributing to market instability?	1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree
206.	To what extent do you agree with Lack of access to financing contributing to market instability?	1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree
207.	To what extent do you agree with Inadequate urban planning and infrastructure contributing to market instability?	1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree
208.	Have you observed any significant fluctuations in property or rental prices in the past year?	1. Yes, significant increase. 2. Yes, slight increase. 3. No change 4. Yes, there is a slight decrease. 5. Yes, significant decrease
209.	How do you perceive the level of risk and uncertainty in Addis Ababa real estate market?	1. Very high 2. High 3. Moderate 4. Low 5. Very low

S/n.	Questions	Response
Section III: Impact and Experiences (Owners/Tenants)		
301.	Have you experienced any challenges ? managing your property due to market instability?	1. Yes 2. No
302.	Have you experienced any challenges related to renting due to market instability?	1. Yes 2. No
303.	How do you believe government policies and regulations affect the stability of the real estate market?	1. Very positively 2. Positively 3. Neutral 4. Negatively 5. Very negatively
304.	What measures do you think the government should take to minimize market fluctuations and improve stability? (Select all that apply)	1. Improve urban planning 2. Regulate land speculation 3. Enhance access to affordable housing 4. Stabilize economic policies 5. Improve transparency in transactions 6. Other
305.	Do you believe technology can play a role in stabilizing the real estate market?	1. Yes 2. No
Section IV: Market related Factors		
401.	How has the availability of mortgage financing affected your ability to buy property?	1. Significantly increased my ability 2. Slightly increased my ability 3. No effect 4. My ability slightly decreased 5. Significantly decreased my ability 6. Not applicable
402.	In your opinion, how transparent are real estate transactions in Addis Ababa?	1. Very transparent 2. Transparent 3. Neutral 4. Opaque 5. Very opaque
403.	Have you been affected by any changes in land use or zoning regulations in your area?	1. Yes, significantly 2. Yes, moderately 3. No 4. Unsure
404.	To what extent do you believe that speculation is influence property prices in Addis Ababa?	1. To a very large extent 2. To a large extent 3. To a moderate extent 4. To a small extent 5. Not at all

S/n.	Questions	Response
405.	How frequently do you observe new real estate developments in your vicinity?	1. Very Frequently 2. Frequently 3. Occasionally 4. Rarely 5. Never
406.	Have you experienced or observed any issues related to property ownership disputes with developers?	1. Yes, frequently 2. Yes, occasionally 3. No
407.	How do you perceive supply for residential properties in Addis Ababa?	1. very high supply 2. high supply 3. moderate supply 4. low supply 5. very low supply
408.	How do you perceive demand for residential properties in Addis Ababa?	1. very high demand 2. high demand 3. moderate demand 4. low demand 5. very low demand
409.	How much impact does access to information regarding real estate market have on the Addis Ababa real estate market?	1. Positively impacting 2. Not impacting. 3. Negatively impacting
410.	To what level do you think political instability is affecting the real estate market in Addis Ababa?	1. very large level 2. large level 3. moderate level 4. small level 5. Not at all
411.	Are you aware of any government programs designed to stabilize the real estate market?	1. Yes 2. No
412.	How much do you believe that the growth of the population within Addis Ababa is influencing the real estate market?	1. very large level 2. large level 3. moderate level 4. small level
413.	What percentage of your monthly income is spent on housing costs (rent or mortgage)? In %	_____
Section V: Customers perception of the real estate market sector		
501	Do you believe now is a good time to buy or sell real estate property?	1. Yes 2. No
502	In the next few months, what house prices do you expect in Addis Ababa?	1. Increase significantly 2. Increase slightly 3. Stay same 4. Decrease slightly 5. Decrease significantly

S/n.	Questions	Response
503	If want to buy a real estate property right now, how likely are you to pay in cash over using a mortgage?	1. Very unlikely 2. Somewhat unlikely 3. Undecided 4. Somewhat likely 5. Very likely
504	How confident are you that bank loan would be approved if you applied today?	1. Very doubtful 2. Somewhat doubtful 3. Neutral 4. Somewhat confident 5. Very confident
505	Do you think currency devaluation or inflation has significant influence on real estate market?	1. Yes 2. No
506	Are you confident enough in local real estate developers/sellers to deliver quality housing?	1. Very doubtful 2. Somewhat doubtful 3. Neutral 4. Somewhat confident 5. Very confident
507	Have you postponed or cancelled a property purchase in the last year due to uncertainty?	1. Yes 2. No 3. No plan
508	How likely are you to buy property in the next one year?	1. Very unlikely 2. Somewhat unlikely 3. Undecided 4. Somewhat likely 5. Very likely
509	What do you think about the main reasons influencing the decision to buy/sell the real property (multiple response allowed)	1. High Price 2. High interest rates 3. Low Income/job stability, 4. Currency devaluation 5. inflation risk 6. Poor housing quality/developer trust 7. Resale/rental potential, 8. Political/regulatory stability 9. Other (specify--------)

Part II: Data collection tool for real estate developers and relevant stakeholders

S/n.	Questions	Response
101.	Age in completed years?	_____
102.	Gender	1. Male 2. Female
103.	What is your highest-level education?	1. No formal education 2. Primary 3. Secondary 4. Diploma 5. Bachelor's 6. Master's 7. PhD
104.	How long have you been involved in the real estate market in Addis Ababa?	_____
105.	Type of Real Estate Business you are involved currently?	1. Residential Development, 2. Commercial Development 3. Mixed-Use Development 4. Property Management 5. Other (specify)_____
106.	Your role in this real estate company?	6. Employee 7. Business Owner 8. Real Estate Developer 9. Other (Specify: _____)
107.	What is the company's source of financing?	5. Personal Savings 6. Bank Loan 7. Family Support 8. Other (Specify: _____)
108.	Average monthly business income in Ethiopian birr?	_____
109.	Name of the real estate?	_____
201.	How would you describe the availability of land for real estate development in Addis Ababa?	1. Very High 2. High 3. Moderate 4. Low 5. Very Low
202.	To what extent does rapid urbanization contribute to market instability in Addis Ababa?	1. Not at all 2. Small extent 3. Moderate extent 4. Great extent 5. Very great extent

S/n.	Questions	Response
203.	To what extent does inadequate infrastructure contributes to market instability in Addis Ababa?	1. Not at all 2. Small extent 3. Moderate extent 4. Great extent 5. Very great extent
204.	To what extent do land tenure and ownership issues contribute to market instability in Addis Ababa?	1. Not at all 2. Small extent 3. Moderate extent 4. Great extent 5. Very great extent
205.	To what extent does lack of access to mortgage financing contribute to market instability in Addis Ababa?	1. Not at all 2. Small extent 3. Moderate extent 4. Great extent 5. Very great extent
206.	To what extent does Political instability contribute to market instability in Addis Ababa?	1. Not at all 2. Small extent 3. Moderate extent 4. Great extent 5. Very great extent
207.	To what extent do Construction quality and safety standards contribute to market instability in Addis Ababa?	1. Not at all 2. Small extent 3. Moderate extent 4. Great extent 5. Very great extent
208.	Which of these factors has most impacted your company's operations? Select top 3.	1. Rapid urbanization 2. Inadequate infrastructure 3. Land tenure and ownership issues 4. Lack of access to mortgage financing 5. Government policy/regulation changes 6. Political instability 7. Construction quality and safety standards
301.	How do interest rates influence your investment decisions in the real estate sector?	1. Strongly influence 2. Some influence 3. No influence
302.	Have you faced any challenges in accessing financing for real estate projects?	1. Yes 2. No
303.	How do you rate the effect of currency devaluation on the real estate market?	1. Very high 2. High 3. No effect
304.	How do you rate the effect of inflation on the real estate sector?	1. Very high 2. High 3. No effect

S/n.	Questions	Response
Section IV: Market Risks and Opportunities		
401.	Have you experienced any fluctuations in property values in the last year?	1. Yes 2. No
402.	How often do you adjust property prices in response to market volatility?	1. Monthly 2. Quarterly 3. Annually 4. Rarely
403.	What are the major risks your business faces in the current real estate market?	1. Declining property values 2. Limited access to land 3. Regulatory uncertainty 4. Financing difficulties 5. Buyer affordability issues 6. Other
501.	Have you adopted any technological tools to enhance your real estate business?	1. Yes 2. No
502.	If yes for the previous question. Which technologies did you adopt or plan to adopt?	_____
503.	How do you perceive the role of technology in stabilizing the real estate market?	1. Very positive 2. Somewhat positive 3. Neutral 4. Somewhat negative 5. Very negative
601.	Are you satisfied with the current zoning regulations in Addis Ababa?	1. Yes 2. No
602.	How would you rate the current regulatory environment for real estate in Addis Ababa?	1. Very favorable 2. Favorable 3. Neutral 4. Unfavorable 5. Very unfavorable
603.	What policies do you think should be prioritized by the government to address market instability? (Select all that apply)	1. Improving infrastructure 2. Expanding affordable housing 3. Enhancing regulatory frameworks 4. Addressing speculation 5. Other (specify----------)

S/n.	Questions	Response
701.	What strategies has your company used to cope with market instability? (Select all that apply)	1. Diversification of projects 2. Partnerships or joint ventures 3. Delaying new investments 4. Cost cutting and efficiency measures 5. Other (specify ----------)

Appendix II: Publishable Manuscript

Perceived Level and Determinants of Real Estate Market Instability: Evidence from Lemi Kura Sub-City, Addis Ababa.

Bezawit Mulugeta Adamu[1*], Teshome Tefera[2]

Abstract

Real estate market instability, characterized by price volatility, supply-demand imbalance and investment uncertainty, poses a significant challenge in rapidly urbanizing cities of developing countries. Despite the growing importance of the real estate sector in Ethiopia, empirical evidence on the magnitude and determinants of market instability remains limited. This study therefore assessed the perceived level and determinants of real estate market instability in Lemi Kura sub-city, Addis Ababa. A mixed-method study design was employed; an analytical cross-sectional survey of 224 buyers/tenants and semi-structured interviews of 10 real estate developers. Purposive sampling and Two-stage cluster sampling techniques were used to select participants for the qualitative and quantitative study, respectively. Quantitative data were collected using structured questionnaires and analyzed using descriptive statistics and multiple linear regressions. Qualitative data were analyzed thematically and triangulated with the quantitative findings. The inferential statistics using multiple linear regressions showed that high property prices, income and employment insecurity, poor housing quality, and political instability were significant drivers of market instability. Conversely, improved urban planning, regulation of land speculation, and application of innovative technologies were significantly associated with lower market instability. Qualitative insights further highlighted those macroeconomic and market pressures such as inflation, currency depreciation, speculative investment behavior, and ineffective market regulations as critical contributors to the real estate market instability. In conclusion, these findings indicate that market instability in Lemi Kura is not a market failure alone but a governance failure, driven primarily by speculative behavior, weak regulatory enforcement, and planning deficits.

Keywords: *Real estate, housing price, drivers of housing market instability, Ethiopia*

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1. Introduction

Real estate market instability involves price volatility, supply–demand imbalances, and investment uncertainty. In rapidly urbanizing cities, these conditions can be intensified by population growth, inflation, limited housing supply, weak regulation, and speculative activity.

Ethiopia is experiencing rapid population growth and urbanization, increasing pressure on formal housing supply. Addis Ababa, the country's major economic and administrative center, faces growing housing demand alongside inflation, currency depreciation, and constraints in the real estate sector (World Bank, 2023).

Lemi Kura Sub-City is among Addis Ababa's rapidly developing areas, with expanding residential construction and private real estate investment. However, rising prices, affordability constraints, infrastructure limitations, and regulatory uncertainty create concerns about market stability.

These conditions make Lemi Kura an appropriate setting for examining the perceived level of real estate market instability and its influencing factors from buyers' and developers' perspectives.

Therefore, this study assessed the perceived level and determinants of real estate market instability in Lemi Kura Sub-City, Addis Ababa.

The primary objective was to assess the perceived level and determinants of real estate market instability in Lemi Kura Sub-City, Addis Ababa, Ethiopia.

2. Research Methodology

2.1.Description of the Study Area

This study was conducted in Lemi Kura Sub-City, Addis Ababa. Addis Ababa is Ethiopia's political, economic, and cultural center, with high demand for real estate and rapid urbanization and construction-sector growth over the past two decades (Ethiopia UNDP, 2021; UN-Habitat, 2020). However, the real estate and construction sectors have recently faced challenges associated with inflation and currency depreciation (Yayeh, 2025).

Lemi Kura is one of Addis Ababa's 11 sub-cities, established in 2020, covering approximately 7,860.7 hectares with a projected population of 382,843 in 2024 (Gebre-Egziabher, 2025). The sub-city has experienced rapid development and contains private real estate projects, condominium blocks, private apartments, commercial areas, and informal settlements (UN-Habitat, 2020). As shown in **Figure 1**, Lemi Kura was selected because of its rapid urban development and diverse real estate activities, making it suitable for assessing real estate market instability and its influencing factors from both buyers' and developers' perspectives

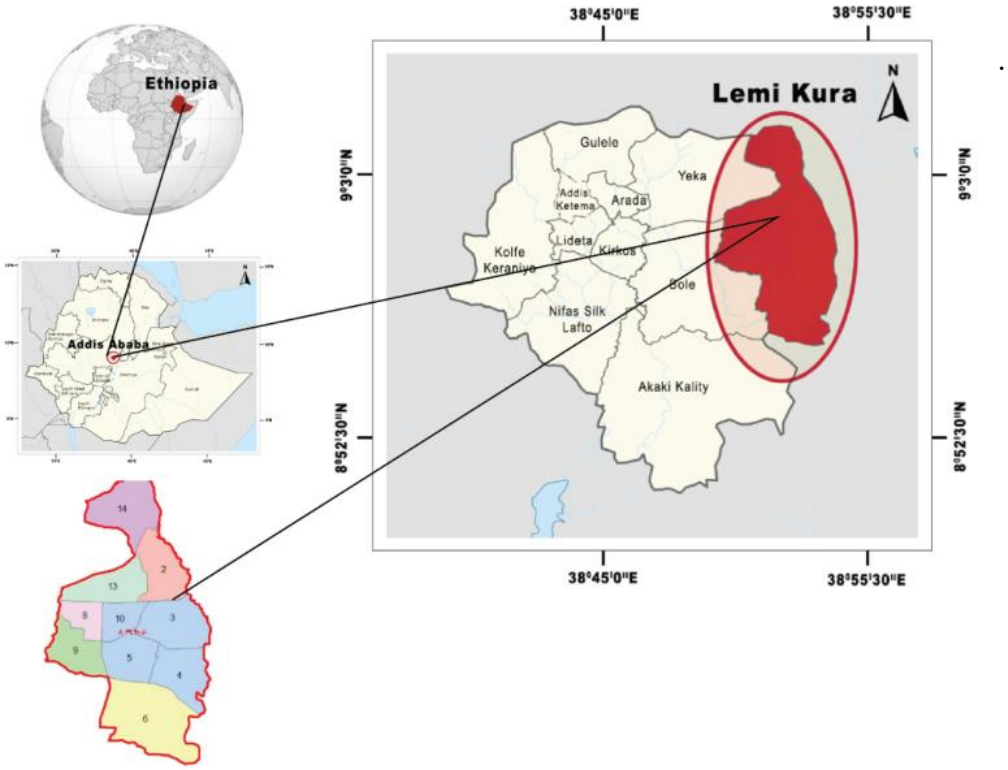

Figure 1. Map of the study area, Lemi Kura, Addis Ababa

2.2.Research Study Design

In this study both the quantitative and qualitative approach (mixed method) was applied. An analytical cross-sectional study design was applied for the quantitative part to assess the market instability and its influencing factors from the buyer's perspective. The semi-structured interviews were employed for the qualitative part to explore the view and experience of real estate market instability from the real estate developers. The analysis was done separately for the quantitative and qualitative parts and finally the findings were triangulated to report the overall picture of market instability.

2.3.Study Population

2.3.1. Source Population

Source population is defined as the target population or larger pool of population in which the study participants are drawn (Bonita et al., 2006). All the buyers and tenants of the real estate properties located in Lemi Kura-Sub city were considered as the source population in this study for the quantitative component. Real estate developers who have direct involvement in the real estate market were used as the source population for the qualitative part.

2.3.2. Study Population

The study population is the subset of the source population that fulfills the inclusion criteria and is feasible for the researcher during the data collection procedure (Bonita et al., 2006). Customers/buyers and tenants residing in Lemi Kura were the study population for the quantitative part and purposively selected of real estate developers were considered as the study population for the qualitative component.

2.3.3. Sampling Unit

Individual real estate customers or buyers or tenants in Lemi Kura were the sampling unit for the quantitative part. For the qualitative part, individual real estate developer was the sampling unit.

2.3.4. Study Unit

Study unit refers to the units of analysis where the actual data are collected (Bonita et al., 2006). Individual buyers and tenants were the study unit for the quantitative part and selected individual real estate developers were the study units for qualitative part.

2.4.Inclusion and Exclusion Criteria

Browner et al. (2022) defines inclusion criteria as the key features of the source population that the researcher will use to answer his research question. On the other hand, exclusion criteria refer to inclusion criteria plus additional characteristics that interfere with the success of the study. In this study, all buyers and tenants of the real estate property in Lemi Kura area were included in this study for the quantitative part. Likewise, real estate developers were included for the qualitative part. Individuals who were busy and unavailable after three consecutive visits were excluded both for the quantitative and qualitative part.

2.4.1. Sample Size Determination

Yamane's (1973) formula was used to determine the minimum sample size required for this study. The total population of Lemi Kura Sub-City was estimated at 382,843 (Sifer et al., 2026). For this study, the target population was estimated at approximately 225,000 adults, considered to have the potential to own a house. This target population was used as the population size (N) in determining the required sample size.

Although a **5% margin of error** is conventionally adopted in social science research to maximize statistical precision, the present study employed a **7% margin of error** after considering practical constraints associated with data collection. Specifically, the study involved household-based surveys conducted across the ten woredas of Lemi Kura Sub-City, requiring substantial financial resources, time, and manpower. Given these logistical and budgetary constraints, a **7% level of precision** was considered an appropriate compromise between statistical precision and the feasibility of conducting the field survey. Methodological literature indicates that, particularly for large populations and studies with resource limitations, margins of error ranging from **5% to 10%** may be acceptable, provided that the selected level is explicitly justified (Yamane, 1973; Israel, 1992). Accordingly, the sample size was calculated using a precision level of **e = 0.07**.

$$n = \frac{N}{1 + (e^2)}$$

Where: n = required sample size

N= total population size

e = level of precision (marginal error) in this study at 7%

$$n = \frac{225000}{1 + 225000(0.07)^2} = \sim 204$$

After adding a 10% no response rate, the final sample size for quantitative part of this study was 224. The sample size for the qualitative part was determined based on information saturation and ten individuals directly involved in Real Estate Company were included for the key informant interview.

2.4.2. Sampling Technique

For the quantitative part, a two-stage cluster sampling was applied to ensure representatives of the sample size across the ten Weradas of Lemi Kura sub city. After determining the sample size for finite population using Yemane's formula the

calculated sample size (224) was proportionally allocated to each woreda based on the total size of eligible population, age 18 and above, in each woreda. Then, households were selected using systematic random sampling techniques after taking the list of households from the woreda administrative offices. The sampling fraction (k) was calculated after dividing the total number of households to the sample size. The first household was selected using simple random sampling techniques and the rest were selected every kth interval.

Purposive sampling technique was used to select developers. According to 2017 E.C. data from the Addis Ababa City Administration Trade Bureau Based there are a total of 78 real estate companies in Lemi Kura Sub city. Ten individuals from ten purposively selected developers participated in the qualitative study.

2.5.Data Collection Methods

2.5.1. Data Collection Tool

The data collection tools were developed based on a review of related literature and aligned with the study objectives (Alemu, 2021; Immanuel & Andualem, 2023). Both primary and secondary data were used.

For the quantitative component, data were collected using a structured questionnaire consisting of five sections. Qualitative data were collected through semi-structured interviews with real estate developers, urban planners, and other relevant stakeholders.

Secondary data were obtained from real estate reports, property price information, government policies and urban plans, real estate statistics, and relevant records from government offices and real estate companies.

2.5.2. Data Collection Procedure

After the data collection tool was checked for its content, formulation, sequencing and formatting based on the objectives of the study, it was re-organized using Kobo Toolbox to collect the data electronically using tablets or smart phones. Two-degree holder and trained data collectors and one senior supervisor were hired for the quantitative data collection process. The data collection team received adequate training about the purpose of the study, the tool and how to collect the data using the Kobo Toolbox. Then, the tool was pretested in five percent of the sample size and further

amendment was made before the commencement of the actual data collection.

For the qualitative part the investigator of this study and one assistant conduct the in-depth interview with purposively selected stakeholders. Notebook and semi-structured interview guide were used to collect the data. Further, probing questions were asked based on their information. The data collection was continued until information saturation, which was decided when no new additional data was obtained from the key informants.

2.6.Studying Variables and Measurements

The real estate market instability (the dependent variable) from the buyers' perspective was measured using ten five-point Likert scale questions. The dependent variable was treated as continuous variable with the score ranges from ten to fifty; highest score indicates high market instability. In addition, several independent variables, which were described in detail under the data collection tool, were addressed. Most of the independent variables were categorical and their relationship with the outcome variable was assessed using linear regression. Detail description of how each variable measured, coded and categorized in this study were presented in **Table 1** below.

Table 1 Measurement and description of the variables included in this study.

Variable Name	**Data Type**	**Measurement**	**Label and description of the variables**
Dependent Variable			
Overall Real Estate Market Instability Score	Numeric	Scale	Overall real estate market instability score. It is a continuous variable generated from ten ordinal categorical variables including the perceived fluctuation in property or rental price, risk or uncertainty in the real estate market, challenges in managing property, and challenges in renting. First all the items were recorded with 1 (indicating low level of market instability) to 5 (higher level of market instability). Second, the items were computed, and the sum score ranges from 10 to 50; higher indicates highest real estate market instability. the items were prepared based on the Grybauskas and Pilinkienė (2018) qualitative indicators of market instability.
Independent variables			
Age	Numeric	Scale	Age in completed years. This is a continuous variable that assesses the age of the participants in complete years.

Variable Name	Data Type	Measurement	Label and description of the variables
Gender	Dummy	Nominal	Gender of the property owner/tenant. The is a dummy variable with a label of 1 and 2; 1 = Male and 2 = Female
Education	Categorical	Nominal	The highest-level education. It is a categorical variable with a value label of 1 to 8: 1 = "Unable to read and write", 2 =
			"Able to read write", 3= "Primary" 4= "Secondary" 5= "Diploma" 6= "Bachelor" 7= "Master" and 8= PhD
Occupation	Categorical	Nominal	Occupation of the respondents. It is a categorical variable with 1= Government Employee" 2= Private Employee 3= "Business Owner" 4= " Real Estate Developer", and 5= "Other (Specify)"
Years in Addis	Numeric	Scale	Living experience in Addis Ababa. It is a continuous variable and further recode into different variables to categorize as 1= < 20, 2 = 20-35, and 3 = >35 years.
Real estate role	Categorical	Nominal	Current role in the real estate market. This is a categorical variable with 1 = "Property Owner", 2 = "Tenant", 3 = "Both Owner and Tenant", and 4 = "Other"
Purchased property	Dummy	Nominal	Experience of real estate purchase in Addis Ababa: it is a dummy variable with 1 = yes, and 2 = no
Type property	Categorical	Nominal	Type of real estate property purchased. It is a categorical variable and coded and labeled as 1 = "Apartment", 2 = "Villa", 3 = "Commercial Property", and 4 = "Other"
Purpose purchase	Categorical	Nominal	The primary purpose of the purchase is a categorical variable with four attributes as 1 = "Residential", 2 = "Investment", 3 = "Rental Income", and 4 = "Other"
Financing source	Categorical	Nominal	Source of financing is a categorical variable with 1 = "Personal Savings", 2 = "Bank Loan", 3 = "Family Support", and 4 = "Other"
Urbanization impact	Categorical	Ordinal	Extent of agreement with rapid urbanization contributing to market instability. It is an ordinal categorical variable with 1 = "Strongly Agree", 2 = "Agree", 3 = "Neutral", 4 = "Disagree", and 5 = "Strongly Disagree"
Gov. policy change	Categorical	Ordinal	Extent of agreement with government policy changes contributing to market stability. It is an ordinal categorical variable with 1 = "Strongly Agree", 2 = "Agree", 3 = "Neutral", 4 = "Disagree", and 5 = "Strongly Disagree"

Variable Name	Data Type	Measurement	Label and description of the variables
Economic impact	Categorical	Ordinal	Extent of agreement with Economic factors (inflation, interest rates) contributing to market instability. It is an ordinal categorical variable with 1 = "Strongly 4 = "Negatively", and 5 = "Very negatively"
Measures used to minimize market fluctuations and improve stability			
Gov. urban planning	Dummy	Nominal	Improve urban planning. It is a dummy variable with 1 = yes, and 2 = no
Gov. reg land	Dummy	Nominal	Regulate land speculation. It is a dummy variable with 1 = yes, and 2 = no
Govtafrdhous	Dummy	Nominal	Enhance access to affordable housing. It is a dummy variable with 1 = yes, and 2 = no
Govtstlzecoplc	Dummy	Nominal	Stabilize economic policies. It is a dummy variable with 1 = yes, and 2 = no
Govttranstrasc	Dummy	Nominal	Improve transparency in transactions. It is a dummy variable with 1 = yes, and 2 = no
Gov. urban planning	Dummy	Nominal	Improve urban planning. It is a dummy variable with 1 = yes, and 2 = no
Gov. reg land	Dummy	Nominal	Regulate land speculation. It is a dummy variable with 1 = yes, and 2 = no
Govtafrdhous	Dummy	Nominal	Enhance access to affordable housing. It is a dummy variable with 1 = yes, and 2 = no
Govtstlzecoplc	Dummy	Nominal	Stabilize economic policies. It is a dummy variable with 1 = yes, and 2 = no
Govttranstrasc	Dummy	Nominal	Improve transparency in transactions. It is a dummy variable with 1 = yes, and 2 = no
Techi2role	Dummy	Nominal	Technology can play a role in stabilizing the real estate market. It is a dummy variable with 1 = yes, and 2 = no
Gov. urban planning	Dummy	Nominal	Improve urban planning. It is a dummy variable with 1 = yes, and 2 = no
Gov. reg land	Dummy	Nominal	Regulate land speculation. It is a dummy variable with 1 = yes, and 2 = no
Govtafrdhous	Dummy	Nominal	Enhance access to affordable housing. It is a dummy variable with 1 = yes, and 2 = no
Govtstlzecoplc	Dummy	Nominal	Stabilize economic policies. It is a dummy variable with 1 = yes, and 2 = no
Govttranstrasc	Dummy	Nominal	Improve transparency in transactions. It is a dummy variable with 1 = yes, and 2 = no
Techi2role	Dummy	Nominal	Technology can play a role in stabilizing the real estate market. It is a dummy variable with 1 = yes, and 2 = no

Variable Name	Data Type	Measurement	Label and description of the variables
Gov. urban planning	Dummy	Nominal	Improve urban planning. It is a dummy variable with 1 = yes, and 2 = no
Mortgageeffect	Categorical	Ordinal	Availability of mortgage financing affected your ability to buy or rent property. It is an ordinal categorical variable coded and labeled with 1 = "Significantly increased my ability", 2 = "Slightly increased my ability", 3 = "No effect", 4 = "Slightly decreased me ability", 5 = "Significantly decreased my ability", and 6 "Not applicable"
Markettransparency	Categorical	Ordinal	Transparency of the real estate transactions in Addis Ababa. It is a categorical variable with 1 = "Very transparent", 2 = "Transparent", 3 = "Neutral", 4 = "Opaque", and 5 = "Very opaque"
Housingsupply	Categorical	Ordinal	Perceived supply for residential properties in Addis Ababa. It is an ordinal categorical variable with 1= "very high supply", 2 = "High supply", 3 = "moderate supply", 4 = "low supply", and 5 ="very low supply"
Housingdemand	Categorical	Ordinal	Perceived demand for residential properties in Addis Ababa. It is an ordinal categorical variable with 1="very high demand", 2="high demand", 3="moderate demand", 4="low demand", and 5="very low demand"
Infoaccessimpact	Categorical	Ordinal	Impact of access to information regarding real estate market trends in Addis Ababa real estate market. It is an ordinal categorical variable with 1 = "Positively impacting", 2 = "Not impacting", and 3 = "Negatively impacting"
Politicalinstability	Categorical	Ordinal	Level of political instability affects the real estate market in Addis Ababa. Is an ordinal categorical variable with 1 = "very large level", 2 = "large level" 3 = "moderate level", 4 = "small level", and 5 = "Not at all"
Govtprogamsawareness	Dummy	Nominal	Awareness about any government programs designed to stabilize the real estate market. It is a dummy variable with 1 = yes, and 2 = no
Populationimpact	Categorical	Ordinal	Impact of population on the real estate market. Is an ordinal categorical variable with 1 = "very large level", 2 = "large level" 3 = "moderate level", 4 = "small level", and 5 = "Not at all"
Housing cost_Percent	Numeric	Scale	Percentage of monthly income is spent on housing costs (rent or mortgage) in %. This is a continuous variable expressed in percentage.

Variable Name	Data Type	Measurement	Label and description of the variables
Goodtimetobuy_Sell	Dummy	Nominal	Good time to buy or sell real estate property. It is a dummy variable with 1 = yes, and 2 = no
Priceexpectation	Categorical	Ordinal	House price expectation in the next few months in Addis Ababa. It is an ordinal categorical variable with 1 = "Increase significantly", 2 = "Increase slightly", 3 ="Stay same", 4 = "Decrease slightly", and 5 = "Decrease significantly"
Cashpurchaselikelihood	Categorical	Ordinal	Ability to pay in cash over using a mortgage. It is ordinal variable with 1= "Very unlikely", 2 = "Somewhat unlikely", 3 = "Undecided", 4 = "Somewhat likely", and 5 = "Very likely"
Approvalconfidence	Dummy	Nominal	Confident on bank loan approval. It is a dummy variable with 1 = yes, and 2 = no
Inflationimpact	Dummy	Nominal	Currency devaluation and inflation have significant influence on real estate market. It is a dummy variable with 1 = yes, and 2 = no
Developerconfidence	Dummy	Nominal	Confident enough in local real estate developers/sellers to deliver quality housing. It is a dummy variable with 1 = yes, and 2 = no
Purchasepostponed	Dummy	Nominal	Postponed property purchase in the last year due to uncertainty. It is a dummy variable with 1 = yes, and 2 = no
Buyinglikelihood	Categorical	Ordinal	Buy property in the next one year. It is a categorical variable with 1 = "Very unlikely", 2 = "Somewhat unlikely", 3 = "Undecided", 4 = "Somewhat likely", and 5 = "Very likely"
Main reasons influencing the decision to buy/sell the real property			
Price	Dummy	Nominal	High Price. It is a dummy variable with 1 = yes, and 2 = no
Intersrat	Dummy	Nominal	High interest rates. It is a dummy variable with 1 = yes, and 2 = no
Lw_Income	Dummy	Nominal	Low income/job stability. It is a dummy variable with 1 = yes, and 2 = no
Porhosing	Dummy	Nominal	Poor housing quality/developer trust. It is a dummy variable with 1 = yes, and 2 = no
Resell	Dummy	Nominal	Resale/rental potential. It is a dummy variable with 1 = yes, and 2 = no
Poleticalinstblty	Dummy	Nominal	Political/regulatory stability. It is a dummy variable with 1 = yes, and 2 = no
Deprtiation	Dummy	Nominal	Currency devaluation

2.7.Data Quality Assurance

Data quality was ensured by intensively training the collection team and pretesting the tool. Collecting data electronically via Kobo Toolbox prevents missing entries. The primary investigator and supervisor monitored daily progress, and the investigator double-checked all server files. The finalized CSV dataset was then imported into STATA for analysis. For qualitative data, quality was maintained through proper notetaking and recording in quiet settings.

2.8.Statistical Analysis

2.8.1. Quantitative Data Analysis

After data collection, the Kobo Toolbox dataset was exported to STATA 17 for cleaning and analysis. Categorical variables were summarized using frequencies and percentages, while continuous variables were presented as means with standard deviations. A one-way ANOVA compared property values across groups.

Linear regression assumptions were verified: multicollinearity via variance inflation factor (VIF), linearity via scatterplots, normality via histograms, and homoscedasticity via the Cook–Weisberg test. Variables with $p \leq 0.25$ in unadjusted analysis entered the final model, with statistical significance set at $p < 0.05$.

2.8.2. Qualitative Data Analysis

The key in-depth interviews collected from the real estate developers were transcribed verbatim by the investigators and his assistance. Then the data were analyzed using thematic analysis approach. Each line of the narrative was read, and the texts were divided into sections. Each section was labeled with a code word or phrase that conveyed the meaning of the section. The codes with a common meaning were grouped into sub themes, which were in turn combined to form themes. An independent coder, who has experience in qualitative data analysis, was used to ensure trustworthiness. Credibility, dependability, and conformability of the data were ensured through audio taping the interviews, more experienced coder, using participants' own words to describe phenomena, and through member checking, respectively. Finally, the findings were triangulated with the quantitative findings to ensure the validity and consistency of results across different data sources and methods.

3.Results and Discussion

3.1.Participants Experience in the Real Estate Market

Table 2 Perception of the study participants in the real estate market, 2025

Perception/Market issue	Main response	Frequency	Percent (%)
Effect of mortgage financing availability on ability to buy/rent property	Decreased ability	88	39.29
Transparency of real estate transactions	Neutral	85	37.95
Effect of land-use/zoning changes	No effect	86	38.39
Influence of speculation on property prices	To a very large extent	87	38.84
Observation of new real estate developments	Frequently	94	41.96
Infrastructure supports existing and future development	Yes	159	70.98
Issues related to property ownership disputes	Yes, frequently	159	70.98

Table 2 summarizes participants' perceptions of market conditions, including mortgage access, land-use changes, developer activity, information access, political conditions, and other market-related factors. Responses indicate substantial variation in access to finance and exposure to land-use and zoning changes, while many participants perceived information gaps and political instability as affecting market performance. Participants also reported noticeable changes in land-use and zoning conditions, indicating that regulatory changes are relevant to real estate decisions.

Many respondents frequently observed new real estate developers, while a large proportion reported increasing market activity and changes in property conditions. Most respondents perceived limited or negative effects from inadequate market information, while political and economic conditions were also viewed as important influences on the market.

3.2. Future Intentions of Respondents towards the Real Estate Market

Table 3 Future intention of the study participants towards the real estate sector, 2025

Variables	Categories	Frequency	Percent
Do you believe now is a good time to buy or sell real estate property?	Yes	161	71.88
	No	63	28.13
	Total	224	100.00
In the next few months, what house prices do you expect in Addis Ababa?	Increase significantly	79	35.27
	Increase slightly	88	39.29
	Stay same	57	25.45
	Total	224	100.00
How likely are you to pay in cash over using a mortgage?	Very unlikely	85	37.95
	Somewhat unlikely	70	31.25
	Undecided	48	21.43
	Somewhat likely	15	6.70
	Very likely	6	2.68
	Total	224	100.00
Variables	**Categories**	**Frequency**	**Percent**
How confident are you that bank loan would be approved if you applied today?	Very doubtful	98	43.75
	Somewhat doubtful	50	22.32
	Neutral	62	27.68
	Somewhat confident	14	6.25
	Total	224	100.00
Do you think currency devaluation or inflation has significant influence on real estate market?	Yes	182	81.25
	No	42	18.75
	Total	224	100.00
Are you confident enough in local real estate developers/sellers to deliver quality housing?	Very doubtful	111	49.55
	Somewhat doubtful	47	20.98
	Neutral	39	17.41
	Somewhat confident	9	4.02

	Very confident	18	8.04
	Total	224	100.00
Have you postponed or canceled a property purchase in the last year due to uncertainty?	Yes	36	16.07
	No	51	22.77
	No plan	137	61.16
	Total	224	100.00
How likely are you to buy property in the next one year?	Very unlikely	145	64.73
	Somewhat unlikely	52	23.21
	Undecided	13	5.80
	Somewhat likely	14	6.25
	Total	224	100.00

Table 3 indicates that most respondents considered real estate participation important, although expectations about future buying and selling conditions varied. Affordability and prevailing market conditions influenced respondents' intentions.

3.3. Real Estate Market Instability from the Developer's Perspective

Ten key informants representing real estate developers (eight male and two female) were interviewed to complement the buyers' findings. The interviews focused on market trends, instability drivers, and strategies for improving market performance.

Table *4* Real Estate Companies Represented by the Ten Key Informant

No	Name of Real Estate Company
1	Ayat Real Estate
2	Noah Real Estate
3	Gift Real Estate
4	Sunshine Real Estate
5	Flintstone Homes
6	Temer Properties
7	Ovid Real Estate
8	Tsehaye Real Estate
9	Metropolitan Real Estate
10	Jumbo Real Estate

3.4. Theme 1: Perceived Real Estate Market Trends

All key informants reported continued increases in property prices, which they

associated with inflation, currency depreciation, speculation, and affordability constraints.

Developers emphasized that prices were rising faster than the purchasing power of many low- and middle-income households, contributing to an imbalance between effective demand and available affordable housing.

Land availability for development was generally perceived as low to moderate.

Developers noted that land supply constraints were compounded by lengthy procedures, approvals, and uncertainty, while rising construction-material costs further delayed development.

3.5. Theme 2: Drivers of the Real Estate Market Instability

Key informants identified rapid urbanization, political instability, speculative transactions, inadequate planning, infrastructure deficiencies, inflation, currency depreciation, and financing conditions as major drivers of instability.

Rapid urbanization was the most frequently discussed driver because population growth and migration have increased housing demand faster than planning and infrastructure capacity.

“As urban growth is happening faster than planning and infrastructure, the demand keeps rising, but supply is not arranged based on the needs and purchasing power of the residents.” (Male, 42 years, Real Estate Developer)

Overall, developers viewed rapid urbanization as a structural source of demand–supply imbalance and pressure on land and housing prices. Inadequate infrastructure and ineffective urban planning were also identified as important contributors because they increased development costs and restricted serviced land availability. Poor coordination between urban expansion and infrastructure provision was perceived to delay projects and reduce investor confidence.

3.6. Theme 3: Strategies to Overcome Market Instability

Developers identified regulatory uncertainty, financing constraints, rising construction costs, declining purchasing power, and property-market risks as major challenges. Suggested responses included stronger cooperation, improved planning, better financing, and technological adoption.

Developers also emphasized collaboration as a way of sharing financial and regulatory risks. "The real estate sector needs cooperation. Operating alone has become too risky; partnerships help spread both financial and regulatory risks." (Male, 47 years, Business Owner) This view indicates that partnerships can help developers manage uncertainty and investment risk.

All key informants also considered innovative technologies important for improving market efficiency and stability. Developers reported using property-management systems, digital marketing, market analytics, and prefabrication to improve efficiency, access to information, and project management.

3.7. Validation of the Variable Dependent

The 10-item Market Instability Scale was assessed for reliability and construct validity before regression analysis.

Table 5 Internal consistency and reliability of the Market Instability Scale

Construct	Number of Items	Cronbach's Alpha
Market Instability Score	**10**	**0.884**

Cronbach's alpha was 0.884, indicating strong internal consistency and supporting aggregation of the 10 items into a composite Market Instability Score.

Table 6 Factor loadings and Item-Total Correlations for Market Instability Scale

Item Code	Item Description	Factor Loading	Item-Total Corr.
MI1	Stability description	0.72	0.58
MI2	Urbanization impact	0.68	0.52
MI3	Economic factors impact	0.81	0.71
MI4	Market speculation impact	0.75	0.64
MI5	Gov policy changes impact	0.64	0.48
MI6	Political instability impact	0.78	0.69
MI7	Finance access impact	0.70	0.55
MI8	Infrastructure impact	0.62	0.45
MI9	Price fluctuations observed	0.84	0.74
MI10	Risk and uncertainty perception	0.86	0.78

Exploratory factor analysis produced one factor (Eigenvalue = 5.42) explaining 54.2% of total variance; all factor loadings exceeded 0.50 and item-total correlations exceeded 0.30, supporting construct validity.

3.8. Level of the real estate market instability from the buyers' perspective

Most respondents reported increases in property and rental prices, with 62.50% reporting significant increases and 30.36% slight increases. Overall responses indicated high perceived risk and uncertainty in the market.

Table 7 Study participants' view on the real estate market instability, 2025

Variables	Categories	Frequency	Percent
Have you observed any significant fluctuations in property or rental prices in the past year?	Yes, significant increase	140	62.50
	Yes, slight increase	68	30.36
	No change	16	7.14
	Total	224	100.00
How do you perceive the level of risk and uncertainty in the Addis Ababa real estate market?	Very high	153	68.30
	High	57	25.45
	Moderate	14	6.25
	Total	224	100.00

3.9. Factors Associated with the Real Estate Market Instability

Influencing factors were examined using regression analysis, with the multiple linear regression model used to identify the independent contribution of predictors while controlling the others.

3.9.1. Simple Linear Regression (SLR)

The simple regression results showed positive associations for several market pressures, while infrastructure, improved planning, land-speculation regulation, affordable housing, and economic-policy stability were associated with lower instability. The multiple regression model was therefore used for the main interpretation.

Infrastructure availability improved urban planning, regulation of land speculation, affordable housing, and economic-policy stability showed negative associations with market instability in individual models. These results indicate that both market pressures and policy or structural interventions are relevant to market stability.

Table 8 Simple linear regression that assesses the influencing factors of real estate market instability, 2025, (n=224). Prices

Variables coeffic.	β	St.Err	t-value	p-value	95% CI	
.					LL	UL
Currency devaluation	.674	.261	2.58	.01**	.159	1.188
High Price	1.355	.424	3.19	.002***	.518	2.191
High interest rate	-.564	.252	-2.24	.026**	-1.061	-.068
Low Income/job instability	1.051	.3	3.50	.001***	.46	1.643
Inflation influence	.569	.261	2.18	.03**	.055	1.082
Poor housing quality	1.185	.252	4.71	0.001***	.689	1.681
Resale/rental potential	.43	.32	1.34	.181	-.201	1.06
Political instability	1.088	.278	3.92	.001	.541	1.636
Infrastructure availability	-.751	.274	-2.74	.007***	-1.291	-.21
Improve urban planning	-1.992	.302	-6.60	0.001***	-2.588	-1.397
Regulate land speculation	-.783	.256	-3.06	.002	-1.288	-.279
Enhance access to affordable housing	-1.396	.377	-3.70	<0.001***	-2.139	-.652
Stabilize economic policies	-1.617	.453	-3.57	0.001***	-2.508	-.725
Improve transparency in transactions	-.457	.251	-1.82	.07*	-.952	.038
Apply innovative Technology	-1.354	.283	-4.78	0.001***	-1.913	-.796

*** p<.01, ** p<.05, * p<.1

3.10. Multiple Linear Regression (MLR)

Multiple linear regression was used to estimate the strength and direction of the predictors while controlling other variables.

Using 224 observations, the model was statistically significant, $F(15, 208) = 10.77$, $p < .001$, indicating that the predictors jointly explained a significant proportion of variation in market instability.

High housing prices (β = 0.823, p = .022), low income and job instability (β = 0.563, p = .013), poor housing quality (β = 0.625, p = .018), and political instability (β = 0.479, p = .031) significantly increased market instability.

Conversely, improved urban planning (β = −1.737, p < .001), regulation of land speculation (β = −0.485, p = .001), and innovative technology (β = −1.039, p < .001) significantly reduced market instability.

Table 9 Multiple linear regression that assesses the influencing factors of real estate market instability, 2025, (n=224).

Sources	**SS**	**Df**	**MS**	Number of obs = 224 F (15, 208) = 71.36.Prob > F = 0.0000 R-squared = 0.8373 Adj R-squared = 0.7967 Root MSE = 1.4675
Model	666.460000	15	44.43	
Residual	129.500000	208	0.623.	
Total	795.959821	223	3.56932655	

Akaike crit. (AIC)	822.913	Bayesian crit. (BIC)	877.499

Variables	**β coefficient**	**St.Err.**	**t-value**	**p-value**	**95% CI**	
					LL	**UL**
Currency devaluation	.513	.388	1.32	.187	-.251	1.278
High Price	.823	.356	2.31	.022**	.122	1.524
High interest rate	-.254	.204	-1.24	.215	-.657	.149
Low Income/job instability	.563	.249	2.26	.025**	.072	1.054
Inflation influence	-.413	.388	-1.06	.289	-1.179	.352
Poor housing quality	.625	.219	2.85	.005***	.193	1.057
Resale/rental potential	.296	.257	1.15	.252	-.212	.803
Political instability	.479	.236	2.03	.044**	.013	.945
Infrastructure availability	-.13	.233	-0.56	.578	-.589	.33
Improve urban planning	-1.737	.27	-6.42	<0.001***	-2.271	-1.204
Regulate land speculation	-.485	.216	-2.25	.025**	-.91	-.06

Enhance access to affordable housing	-.37	.328	-1.13	.261	-1.017	.277
Stabilize economic policies	-.549	.393	-1.40	.164	-1.323	.226
Improve transparency in transactions	-.15	.204	-0.74	.463	-.553	.253
Apply innovative technology	-1.039	.243	-4.28	<0.001***	-1.518	-.56
Constant	44.205	.675	65.51	<0.001***	42.875	45.535

*Significant at *** p<.01, ** p<.05, * p<.1*

Table 9 Multicollinearity Assessment Among the Independent Variables Included in the Final Linear Regression Model.

Independent Variables	**VIF**	**1/VIF**
Currency devaluation	3.572	.28
High Price	1.117	.895
High interest rate	1.072	.933
Low Income/job instability	1.087	.92
Inflation influence	3.621	.276
Poor housing quality	1.145	.873
Resale/rental potential	1.069	.936
Political instability	1.126	.888
Infrastructure availability	1.163	.86
Improve urban planning	1.116	.896
Regulate land speculation	1.133	.883
Enhance access to affordable housing	1.188	.842
Stabilize economic policies	1.186	.843
Improve transparency in transactions	1.085	.922
Apply innovative technology	1.11	.901
Mean VIF	1.453	.

Regression diagnostics indicated that the model assumptions were satisfied: mean VIF = 1.45, Shapiro–Wilk W = 0.990 (p = .127), and Breusch–Pagan χ^2 = 3.66 (p = .056). The final model was therefore considered suitable for inference.

4. Discussion

The study found a high perceived level of real estate market instability (mean = 42.51, SD = 1.89). Developer interviews reinforced this finding, highlighting rising prices, supply–demand imbalance, inflation, currency depreciation, speculation, and regulatory constraints.

High housing prices significantly increased instability (β = 0.823), supporting Supply and Demand Theory: persistent demand relative to limited supply increases prices and reduces affordability. Similar evidence links urbanization, speculation, and limited housing supply to market pressure (Grybauskas & Pilinkienė, 2018; Berhanu, 2004).

Low income and job instability also increased instability (β = 0.563), indicating that reduced purchasing power weakens effective housing demand and affordability, consistent with Supply and Demand Theory.

Poor housing quality increased instability (β = 0.625), suggesting that inadequate quality reduces market confidence and perceived value.

Political instability increased market instability (β = 0.479), consistent with evidence that political and geopolitical uncertainty can reduce investor confidence and housing-market activity (Nguyen & Vergara-Alert, 2023; Abakah et al., 2025).

4.1. Contribution to Knowledge

The study contributes theoretically, empirically, methodologically, and practically by integrating the Efficient Market Hypothesis, Supply and Demand Theory, and Housing Market Cycle Theory; combining buyer and developer evidence; applying regression and thematic analysis; and identifying priorities for housing affordability, planning, land-speculation regulation, technology, and political stability.

5. Conclusions and Recommendations

5.1. Conclusion

This study assessed the level of real estate market instability and its influential factors in Lemi Kura Sub-City, Addis Ababa, using a mixed-methods approach that combined quantitative data from residential property buyers with qualitative insights from real estate developers. The findings indicate that market instability is driven by the combined effects of housing affordability challenges, macroeconomic pressures, institutional weaknesses, and supply-demand imbalances, which reduce effective housing demand, discourage investment, and increase market uncertainty.

The results support the Supply and Demand Theory by showing that rapid urbanization and limited housing supply create market disequilibrium. They also support the Efficient Market Hypothesis, as the adoption of innovative technologies improves market transparency and reduces information asymmetry, while the Housing Market Cycle Theory explains the influence of inflation, political uncertainty, and declining purchasing power on housing demand and investment fluctuations.

The qualitative findings reinforced the quantitative results by revealing that developers face similar challenges, including rising construction costs, regulatory uncertainty, declining purchasing power, and infrastructure limitations. This consistency across stakeholder groups enhances the credibility of the findings.

This study contributes to the literature by providing empirical evidence on the determinants of real estate market instability in Lemi Kura Sub-City, integrating the perspectives of both buyers and developers, and demonstrating how economic, institutional, demographic, and technological factors jointly influence market stability. It also extends the application of the Supply and Demand Theory, Efficient Market Hypothesis, and Housing Market Cycle Theory within the context of Ethiopia's emerging real estate market.

5.2. Recommendations

Recommendations for the Addis Ababa City Administration and the Ministry of Urban and Infrastructure

Since high housing prices were identified as the strongest contributor to real estate market instability, the Addis Ababa City Administration and the Ministry of Urban and Infrastructure should expand affordable housing programs by increasing the supply of serviced land, supporting medium- and low-income housing, and providing incentives for affordable housing developers. They should also strengthen integrated urban planning by coordinating land use with infrastructure development, particularly in rapidly growing areas such as Lemi Kura Sub-City.

Recommendations for the Addis Ababa Land Administration Bureau

To reduce land speculation and improve market stability, the Bureau should strengthen transparent land allocation, expand digital land administration systems, and enforce regulations that discourage speculative land holding and ensure timely land development.

Recommendations for the National Bank of Ethiopia and Financial Institutions

The National Bank of Ethiopia and financial institutions should improve access to affordable housing finance by promoting long-term mortgage products, easing borrowing constraints, and developing financing schemes for first-time homebuyers and residential developers.

Recommendations for Real Estate Developers

Developers should diversify their projects by increasing affordable and middle-income housing, strengthen cost-management practices, and adopt innovative construction technologies such as Building Information Modeling (BIM), prefabrication, and digital project management to improve efficiency and reduce construction costs.

Recommendations for Property Buyers and Investors

Property buyers should assess affordability, financing conditions, and property quality before making purchasing decisions. Investors should rely on verified market information and professional property valuation rather than speculative expectations to minimize investment risks.

Recommendations for the Ethiopian Investment Commission and Policymakers

Policymakers should establish stable and transparent land, taxation, and investment policies to improve investor confidence, reduce regulatory uncertainty, and encourage sustainable real estate investment.

Recommendations for Technology and Digital Transformation

The Ministry of Urban and Infrastructure, the Addis Ababa Land Administration Bureau, and real estate developers should accelerate the adoption of digital technologies, including GIS, electronic land registration, BIM, and online property transaction systems, to improve transparency, efficiency, and market confidence.

Recommendations for Researchers

Future studies should include additional regions beyond Lemi Kura Sub-City, employ longitudinal research designs, and investigate other factors such as mortgage markets, taxation, foreign investment, demographic change, and construction costs. The use of advanced analytical methods, including structural equation modeling and spatial econometric analysis, is also recommended to provide a deeper understanding of real estate market instability.

5.3. Author Contributions

Author 1: Bezawit Mulugeta Adamu (Postgraduate Student)

- Contributed to the conception and design of the study, the acquisition of data, Or the analysis and interpretation of data
- Drafted the article or critically revised its important intellectual content
- Approved the final version submitted

Author 2: Teshome Tefera2 (Ph.D., Assistant Professor)

- Contributed to the conception and design of the study, the analysis and Interpretation of data
- Drafted the article or critically revised its important intellectual content
- Approved the final version submitted.

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