MACROECONOMIC INDICATORS AND MORTGAGE UPTAKE IN HOUSING FINANCE GROUP PUBLIC LIMITED COMPANY, KENYA.

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (FINANCE) KENYATTA UNIVERSITY

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DECLARATION

This project is my original work and has not been submitted for a degree at any other university.

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Sign………………….…..   Date……………..……..
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Declaration by the supervisor:

This research project has been submitted for examination with my approval as the university

supervisor**.**

Sign…………………………   Date……………........

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DEDICATION

I offer this research project to the divine Creator for guiding me on my journey thus far, and to my parents for their full support.

ACKNOWLEDGEMENT

I want to start by thanking the Almighty God for all of His amazing plans for me and for giving me the chance to enroll in this MBA program. My experience at Kenyatta University has been exciting and full of memorable encounters. I consider myself fortunate to have been able to conduct this study, which serves as a testament to the knowledge I have acquired during my studies.

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In closing, I want to acknowledge the diverse perspectives and unwavering friendship of my classmates and friends. Your presence and support throughout my studies have been invaluable. I wish you all success in your future endeavors.

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ACRONYMS/ ABBREVIATIONS

ARDL-   Autoregressive Distributed Lag

CBK   Central Bank of Kenya

CBR   Central Bank Rate

CPI-   Consumer Price Index

EBIT   Earnings before interest and taxes

FAVAR   Factor vector autoregressive

GDP   Gross Domestic Product

VAR   Vector autoregressive

HFBI-   Housing Finance Bancassurance Intermediary

HFC-   Housing Finance Company

HFDI –   Housing Finance Development and Investment Limited

KBRR-   Kenya Bankers Reference Rate

KMRC-   Kenya Mortgage Refinance Company

KNBS   Kenya National Bureau of Statistics

NPL-   Non-Performing Loans

PLC   Public Limited Company

REITS-   Real Estate Investments Trust

SACCOs   Savings and Credit Cooperative Organizations

SPSS   Statistical Package for Social Sciences

SVAR-   Structural Vector Autoregressive

OPIC-   Overseas Private investment Corporation

OPERATIONAL DEFINITION OF TERMS

Credit market: A marketplace where individuals and businesses can obtain funds through bank loans or bonds.

Credit rating: The assessment of an individual's ability to repay debts promptly.

Exchange Rate Its the rate which one currency can be exchanged for another currency. Essentially its the value of one currency in relation to another. Exchange rates fluctuate continuously as as a result of factors such as interest rates, supply and demand, inflation and market sentiment.

Gross Domestic Product is a macroeconomic indicator that measures the total value of all goods and services produced within a country's borders over a specific period, typically annually or quarterly. It serves as a key metric for assessing the overall performance and economic health of a nation

Group Public Limited Company A Group Public Limited Company, often abbreviated as PLC, is type of corporate structure for companies whose shares are traded in security exchange market used in the Kenya and other jurisdictions

Housing Finance refers to the financial mechanisms and services that facilitate the purchase, construction, renovation, or refinancing of residential properties. It encompasses a wide range of financial products, institutions, and regulations designed to support homeownership and investment in real estate

Inflation: The rate at which products and services prices grow, leading a currency's purchasing power to diminish.

Interest Rate: A fee charged by a lender to a borrower for using their assets, expressed as a percentage of the principal amount.

Macroeconomics: External forces that can impact a company's operations beyond its control.

Monetary policy: The activities done by a central bank, currency board, or regulatory body to manage the quantity and growth rate of the money supply, which affects interest rates.

Mortgage Interest Rate: The cost paid for borrowing money from a lender to acquire a specific real estate asset (mortgage), presented as a percentage of the initial amount borrowed.

Mortgage Uptake refers to the rate at which individuals or businesses acquire mortgages from financial institutions to purchase real estate

properties. It is a key indicator of the housing market's health and reflects the level of demand for home financing.

Mortgage: A financial instrument secured by a specific piece of real estate that compels the borrower to repay it in fixed installments.

Transaction Cost: Expenses incurred during the process of buying or selling securities.

ABSTRACT

Kenya has a significant housing demand that is fueled by urbanization trends and a growing population. As a result, the existence of an effective housing financing system is crucial for meeting both individual housing demands as well as the growth of the construction, financial, and related industries. However, Kenya has faced challenges in providing accessible and affordable home finance options, with fewer than 27,000 mortgage accounts reported as of December 2021. Additionally, financial institutions have often offered limited long-term financing solutions, with only a few utilizing capital markets for mortgage loan financing. The primary objective of this research project was to establish a relationship between macroeconomic indicators and mortgage uptake within HF Group Plc. Specifically, the study aimed to investigate the impact of inflation rates, mortgage interest rates, exchange rates, and GDP growth rates on mortgage uptake within Housing Finance Group Plc. A number of economic theories, including the Purchasing Power Parity Theory, Fisher's theory, the Title theory, the Lien theory of mortgages, and the Classical Theory of Interest Rates, informed the study. A descriptive research design was used to carry out this study. The HF Group Plc made up the study's target population. The study used both secondary and primary data sources. Books, academic publications, online databases, and financial records from HF Group Plc were used to collect secondary data. Primary data was collected through questionnaires administered to 180 employees and 120 customers of HF Group Plc. Data was collected over a five-year period, spanning from 2018 to 2022. Data collected from various sources was meticulously organized and checked for outliers and errors using Microsoft Excel spreadsheets. Afterward, the data was transformed into panel format and imported into SPSS version 26 for analysis. Panel regression analysis was conducted to draw meaningful conclusions regarding the research variables, which include the dependent variable and independent variables. The study further subjected to statistical analysis that entailed Multicollinearity, Heteroscedasticity and normality. The researcher was committed to obtaining valid consent from every individual from whom data was collected. Furthermore, the researcher diligently upheld the confidentiality of the gathered information. The study findings led to conclusion that a statistically significant relationship exists between inflation (CPI) and mortgage loan uptake in Housing Finance Group mortgage interest rates significantly affected mortgage loan uptake in Housing Finance Group, exchange rates insignificantly affected the mortgage loan uptake in Housing Finance Group (HF), and finally was that a significant relationship exists between GDP and mortgage loan uptake in Housing Finance Group (HF). The research findings can assist financial institutions in shaping their marketing strategies and exploring diversification opportunities to enhance profitability and foster growth. This research findings can also aid potential homeowners in making informed decisions about real estate derivatives, potentially leading to significant cost savings The study recommends that the government, through its line ministries and policy institutions, should implement effective inflation control measures to mitigate the effects of inflation on mortgage loan uptake. The study also suggests that the management of Housing Finance (HF) in Kenya should consistently review and evaluate the prevailing economic conditions before extending mortgage loans. The study recommends that individuals considering mortgage loan uptake should regularly review and monitor any increases in lending interest rates.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In an assertion by Basiri, Mahmoudi, and Zhou (2002), a mortgage is a loan that is taken out to buy, construct and is secured by a lien on the property. In many nations around the world, mortgage lending is the main mechanism utilized to fund private ownership of residential and commercial properties. Lenders make the money available, and the asset is used as security. Typically, banks or mortgage firms lend a substantial portion (usually around 80%) of the property's price, which is repaid with interest over a predetermined period. In developed nations, mortgage financing companies have gained prominence (Simón-Moreno & Kenna, 2019).

The issue of mortgage financing is a global concern that affects both developed and developing nations (Udoka & Kpataene, 2017). In America, the Federal Housing Administration (FHA), part of the U.S. Department of Housing and Urban Development (HUD), provides various mortgage loan programs for Americans. An FHA loan has lower down payment requirements and is easier to qualify for than a conventional loan. However, the housing market experienced significant fluctuations over the past decade, from a boom to a bubble and ultimately a bust, with severe repercussions for the global economy and financial system. Numerous risky mortgage loans were issued, and many homeowners struggled to repay them, leading to widespread foreclosures (Wang & Balachandran, 2021). To prevent the formation of a mortgage bubble, Russia's mortgage market, despite considerable growth, still has untapped potential. Russia's mortgage market share remains relatively low at 6%, compared to 25% in other countries (Almosov et al., 2021).

In Europe, mortgage interest rates have risen dramatically since 2022, making home financing more expensive and leading to a worsening homebuyer sentiment. To tackle soaring inflation, the

European Central Bank introduced a series of aggressive interest rate hikes, which resulted in higher interest rates for mortgage loans by banks and other lending institutions. Between 2022 and 2023, mortgage rates in many countries increased more than double (Beck, 2023). In the UK, the value of new mortgage loans in the first quarter of 2023 declined by approximately 34 percent from the same period in 2022. In Germany, mortgage lending more than halved between March 2022 and October 2023 (Whitehead & Glen, 2023).

High interest rates and a disparity between the short-term type of deposits and the long-term type of mortgage lending are suffocating the majority of financial institutions in Africa (Lee, 2018). For example, in Nigeria, mortgage finance accounts for only 0.58% of the country's GDP. The mortgage finance industry in Nigeria primarily caters to middle-income earners and largely excludes low-income earners. To address this gap, the Federal and State governments are actively working on initiatives and funds aimed at promoting affordable and mass housing schemes and improving access to mortgage finance (CAHF, 2016).

In Sub-Saharan Africa, the lack of home finance is even more severe, according to Balele (2019), driving poor and even middle-class households into the unregulated financial system. Banks frequently overlook or refrain from funding low-cost housing because they believe the risks and expenses exceed the advantages. Only 15% of the local population is, at best, qualified for mortgage financing, according to research carried out by the FinMark Trust in a number of African nations and this is before housing affordability is taken into account. There are several African nations with shockingly low mortgage market penetration rates, including Angola (2% of households), Uganda (1% of households), Ethiopia (4% of households), and Rwanda (0.02% of households) (Okereke, 2023).

Tanzania's financial sector has experienced significant expansion and transformation over the past few decades, particularly gaining momentum since early 2000s. This growth can be attributed to several key factors, including advancements in banking technology and the evolution of the mortgage market. However, despite these positive developments, there are certain challenges and knowledge gaps that persist in the Tanzanian financial landscape, particularly concerning the understanding of how fiscal and monetary policy operations influence critical economic elements like Inflation, Interest rates and Exchange rates. This issue was highlighted in a study conducted by Mwankemwa and Ndanshau (2021).

Large banks control almost 90% of the portfolio of outstanding loans in Kenya's mortgage market (Owuor, Githii, & Mwangi, 2018). For medium-sized and smaller banks, this dominance creates hurdles to entrance and significant risks. However, growth rates show that small-sized banks are growing at the highest rate, averaging 38%, followed by medium-sized banks at 25%, and large banks at 24% on average (Mutugi, Muturi & Oluoch, 2021).

1.1.1 Mortgage Uptake

According to Vuyisani (2003), there are severe problems with the African mortgage finance system. These difficulties include lengthy mortgage terms, high default rates, and a shortage of longer period in financing to equal high interest rates. The countries with the greatest mortgage debt to GDP ratios are South Africa (30%) and Namibia (20%). With percentages of 7 percent, 5.9 percent, 3 percent in Morocco, Tunisia and Egypt respectively. North Africa is the region in Africa with the next most developed mortgage markets (OPIC, 2006). Kenya's ratio, on the other hand, is only 2.5% (Walley, 2011), which shows that the country's mortgage market is underdeveloped. This underdevelopment is mostly caused by concerns with affordability, accessibility, and popularity (World Bank, 2019).

Owing to high interest rates, the related expenses of loan financing, and the challenges in obtaining security, particularly land title deeds, the adoption of mortgages as a form of homeownership in Kenya continues to be low. Due to rising real estate costs and historically high interest rates, financial institutions are now focusing on the low-end mortgage market (Koskei, Munyua & Odoyo, 2019). Three organizations recently have created low-cost mortgage options aimed at the avaerage persons working in the unorganized industry, according to current trends.

According to the 2022 KNBS Economic Survey, around 74.5% of Kenya's official employed population earns less than Kshs 50,000 per month. In the same year, the normal mortgage interest rate in Kenya stood at 12.3%, with a range spanning from 8.2% to 17%. This represents an increase compared to the 2021 average of 11.3%, which had a range from 7.1% to 15%, as reported by the Central Bank of Kenya in 2023. Consequently, if we consider an average Kenyan household with a monthly income of Kshs 100,000 (assuming two individuals each earning Kshs 50,000), they would be faced with monthly mortgage payments of Kshs 153,905 under these conditions, that is deemed expensive for this category of income. Nonetheless, given same market elements, the household could secure Kenya shilling 2.8 million homes if monthly mortgage payments were 40% of gross income. Despite these prospective opportunities, Kenya's mortgage market remains underdeveloped, with a ratio of mortgage to GDP of 1.9% in 2022. When compared to more developed mortgage markets such as those in South Africa and the US, this figure remains much lower (Central Bank of Kenya, 2022).

The expansion of the housing and mortgage markets in Kenya is severely hampered by affordability, which also presents a significant barrier to obtaining quality accommodation. Only 21.3% of urban Kenyans own the homes they reside in, according to the 2019–20 KIHBS, partly as a result of the market's high cost of housing. For those who own homes, savings and other

financial resources such mortgage loans, business bank loans, neighborhood investment organizations (generally known as chamas), and SACCOs are their main sources of funding. Only 26,783 mortgage loan accounts existed in Kenya as of June 2022 despite the country having a population of over 54 million (Africa Housing Finance Yearbook, 2022).

1.1.2 Macroeconomic Indicators

According to Weber et al. (2022), Inflation is defined as a long-term rise in the general price level of goods and services. Inflation affects money's purchasing power, with higher inflation often resulting in higher property prices and, as a result, lower mortgage uptake (Rahayu, 2019). Housing prices, along with income and mortgage rates, contribute immensely in determining the amount of credit households seek. Banks also consider housing prices when assessing mortgage applications as they indicate the collateral value of a property (Forster & Sun, 2022). The current unit price of one country's currency in terms of another country's currency is known as the exchange rate. According to Dagume (2022), it reflects the value of a foreign currency relative to the native currency. The rule of supply and demand governs exchange rates, as it does other commodities (Kaboro and Mose, 2021). Exchange rates play a role in mortgage products.

The mortgage interest rate is a crucial factor influencing real mortgage uptake. It represents the cost to the borrower for using borrowed funds, as noted by Steininger & Sturm (2019). Banks determine the interest rate for loans based on factors such as the loan's duration and whether there is collateral provided. The CBR, controlled by the central bank, serves as a reference for setting interest rates. Chong (2020) found that interest rates significantly impact mortgage uptake, with lower rates increasing demand for mortgages and higher rates reducing it. In Kenya, interest rates have been on an uncontrollable rise since October 2011. CBK raised the CBR from 8.75% in January 2023 to 10.5% in August 2023, primarily to combat rising inflation and stabilize the

weakening Kenyan shilling. The Monetary Policy Committee implemented a substantial increase in the CBR during their bi-monthly meetings, from 8.5% to 10.5% (March 2023 CBR rose from 8.75% to 9.5% and further increase in June 2023 to 10.5%) (KMRC, 2023). This was done to keep inflation under control and the currency stable. As a result, commercial banks increased their lending rates, resulting in higher borrowing expenses. Borrowing costs in all banks are strongly related to interest rates, which are controlled by inflation. In Kenya, high interest rates raise housing expenses, notably mortgage rates (CBK, 2022). Lower interest rates enable more individuals to qualify for mortgages and afford homes, while higher rates reduce the number of qualified buyers, which can lead to oversupply and lower property prices (KNBS, 2021).

Exchange rates play a fundamental role in international trade and finance, facilitating transactions between different countries with distinct currencies. They essentially indicate how much of one currency is required to purchase a unit of another currency (Boamah's, 2019). Exchange rates are dynamic and fluctuate constantly due to a multitude of factors such as interest rates, inflation, government policies, geopolitical events, and market speculation. In a floating exchange rate system, which is prevalent in most countries today, market forces of supply and demand determine exchange rates (Ariemba et al. (2015). Exchange rates play a crucial role, especially in economies where mortgages are often denominated in a currency other than the borrower's domestic currency. Fluctuations in exchange rates can significantly impact mortgage borrowers, affecting their monthly.

The GDP measures the size of an economy by expressing the total market value of all legally recognized final goods and services produced inside a country over a given time period. It can be measured in nominal or real terms, with nominal GDP reflecting total output at market prices and real GDP adjusted for price changes and inflation. Economic theory suggests that low GDP implies

low purchasing power, leading to reduced demand for real estate and, subsequently, a decrease in mortgage uptake (Hossain et al., 2020). Conversely, an increase in GDP boosts purchasing power, leading to higher demand for real estate and mortgage financing. Economic growth creates expectations of continued development, encouraging consumer spending and business investment, thus increasing the demand for money circulating in the economy (Muda et al., 2020). Periods of economic growth have significant effects on the mortgage market (Saka & Adegbembo, 2022).

1.2.3 Housing Finance Group Public Limited Company

HF Group Plc, previously known as Housing Finance Limited, is a comprehensive financial solutions provider. It operates as a non-operating holding company and is regulated by CBK. The company is publicly listed on the NSE, a status it has held since 1992. In August 2015, HF Group underwent a significant restructuring, transforming from a single entity, Housing Finance, into a non-operating holding company. This restructuring allowed HF Group Plc to diversify its operations and engage in a broader range of financial activities.

HF Group Plc has four subsidiaries under its umbrella: It is one of HF Group's prominent subsidiaries and is recognized as the second-largest mortgage provider in Kenya's market, trailing only Kenya Commercial Bank (KCB). As of December 31, 2019, HFC had a mortgage loan portfolio valued at Kshs 33.7 billion. Housing Finance Development and Investment (HFDI) is another subsidiary of HF Group Plc. It contributes immensely to the development and investment aspects of the housing and real estate industry. HF Group Plc's subsidiary HF BI offers various banking services and products. HF Foundation is the social and community development arm of HF Group, focusing on corporate social responsibility and initiatives aimed at benefiting the community.

As of December 2020, HF Group Plc's assets were valued at Kshs 55,445,249,000, as reported in the company's 2020 financial statements. This information underscores the company's significant presence in the Kenyan financial sector and its role in providing mortgage and financial services to the population.

1.3 Statement of the Problem

In Kenya, the demand for housing is high due to population growth and urbanization. A robust housing finance system is essential for meeting this demand and fostering economic growth (World Bank, 2022). However, the total value of active mortgage loans in Kenya has declined, indicating limited access to affordable home financing. Only a small percentage of housing debt is financed through mortgage loans, with most coming from SACCO and housing cooperative systems (KMRC, 2021; World Bank, 2022). The high cost of mortgages contributes to the problem, leaving many low-income individuals in inadequate housing.

Previous studies have focused on a small number of institutions and have methodological and contextual limitations (Omondi, 2017; Wanjiku Bosire & Matanda, 2021; Luyali et al., 2021). There is a need for empirical research to understand how macroeconomic factors, such as inflation rate, interest rate, exchange rates, and GDP growth rate, influence mortgage adoption, particularly regarding HF Group Plc.

Kenya faces significant challenges in its housing finance system, including limited access to affordable financing and a lack of comprehensive research on mortgage providers. Addressing these issues requires understanding the effect of inflation rate, interest rate, exchange rates and Gross Domestic Product growth rate on mortgage uptake in Housing Finance Group Plc and filling the methodological and contextual gaps in existing research.

1.4 The Study Objectives

1.4.1 General Objective

The overall goal of this study was to investigate the effects of macro-economic indicators on mortgage uptake in housing Finance Group Plc in Kenya.

1.4.2 Specific Objectives

i.   To assess the effect of inflation rate on mortgage uptake in HF Group Plc.

ii.   To examine the effect of interest rate on mortgage uptake in HF Group Plc.

iii.   To establish the effect of exchange rates on mortgage uptake in HF Group Plc.

iv.   To assess the effect of Gross Domestic Product growth rate on mortgage uptake in HF Group Plc.

1.5 Research Questions

i.   How does the inflation rate affect the demand for mortgages at Housing Finance Group Plc?

ii.   How does interest rate affect mortgage uptake in Housing Finance Group Plc.?

iii.   What is the effect of exchange rates on mortgage uptake in Housing Finance Group Plc.?

iv.   How Gross Domestic Product does affects mortgage uptake in Housing Finance Group Plc.?

1.6 Hypothesis

i.   There is no significant relationship between the inflation rate and mortgage uptake in HF Group Plc.

ii.   There is no significant relationship between interest rate and mortgage uptake in HF Group Plc.

iii.   There is no significant relationship between exchange rates and mortgage uptake in HF Group Plc.

iv.   There is no significant relationship between Gross Domestic Product growth rate and mortgage uptake in HF Group Plc.

1.7 Significance of the Study

The outcomes of this research hold substantial potential benefits, extending far beyond the impact on HF Group Plc. They stand to provide valuable insights to various stakeholders within the financial sector, including commercial banks and entities engaged in mortgage financing. By highlighting the significance of tailoring mortgage products to suit different market income brackets, this research can empower these institutions to customize their offerings, thereby gaining a competitive advantage.

Moreover, the research findings will assist financial institutions in shaping their marketing strategies and exploring diversification opportunities to enhance profitability and foster growth. By providing insights into consumer behavior and preferences, the study can guide lenders and mortgage financing institutions in aligning their products with the policies set by regulatory bodies such as the Central Bank of Kenya (CBK) and the Kenya Mortgage Refinance Company (KMRC), ultimately creating more market-friendly loan and mortgage offerings for the public.

On the consumer side, this research can aid potential homeowners in making informed decisions about real estate derivatives, potentially leading to significant cost savings. It can also illuminate cost-effective methods for purchasing property and uncover additional relationships warranting further investigation, benefiting individuals and families seeking affordable housing solutions.

In the regulatory domain, the outcomes of this study are crucial as they underscore the need for guidelines and policies related to mortgage uptake in Kenya. Such regulations can help steer the housing and mortgage sector toward fulfilling the objectives outlined in Kenya's Vision 2030, particularly in terms of expanding the availability of affordable housing finance.

Furthermore, the contributions of this research are not limited to practical applications but also extend to the academic and research communities. It can serve as a foundational resource for future studies, discussions, and debates on the impact of macroeconomic variables on mortgage adoption within mortgage financing institutions and other financial institutions, not only in Kenya but potentially in other countries as well. As such, it adds to the body of knowledge concerning the financial crisis, mortgage debt crisis, and their implications for global financial stability, aligning with ongoing academic inquiry in these areas.

1.8 Scope of the Study

The primary aim of this research was to assess the correlation between macroeconomic indicators and mortgage uptake within Housing Finance Group Plc. To achieve this objective, a quantitative research approach was adopted. The study focused on gathering quarterly data for five years from HF Group Plc and the Central Bank of Kenya (CBK). Specifically, the researcher collected data on mortgage interest rates, inflation rates, GDP growth rates, and exchange rates on a quarterly basis.

The investigation relied on secondary data sourced from HF Group Plc and CBK quarterly reports, available on their respective websites, covering the period from 2018 to 2022.

The research was executed in the year 2023, providing timely insights into the correlation between macroeconomic indicators and mortgage uptake within Housing Finance Group Plc during the specified period.

1.9 Limitation of the Study

During this research, many key challenges arose, primarily related to data availability, specifically concerning the information upon which the study relied on. The research aimed to examine the adoption of mortgages funded by HF Group Plc. Acquiring comprehensive data directly from this institution was challenging, necessitating reliance on publicly available data, which potentially influenced the study's outcomes. The data obtained from HF Group Plc was considered as a representative sample of mortgage adoption.

Additionally, data regarding macroeconomic factors influencing mortgage uptake in housing finance group was sourced from secondary sources such as Annual Economic Survey Reports and annual Statistical Abstracts published by the KNBS. It is important to note that certain up-to-date information on macroeconomic variables was not readily accessible online, thereby posing a constraint on the study. Consequently, the researcher contacted HF Group Plc and requested recent data that was not readily available via online sources.

1.10 Organization of the Study

The initial chapter addressed the research's contextual backdrop, its objectives, the significance of the investigation, the extent of the study, and potential constraints to be confronted throughout the research. The subsequent chapter encompasses a comprehensive examination of existing literature and presents a conceptual framework and Chapter three the research methodology that was employed in the study. Chapter four entailed presentation of data and analysis while chapter five presented, summary of study findings, discussion, conclusion and recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter furnishes a comprehensive examination of the hypothetical underpinnings and experimental investigation concerning impact of inflation rates on mortgage acquisition, how mortgage interest rates affect mortgage acquisition, consequences of exchange rates on mortgage acquisition, and ramifications of Gross Domestic Product growth rates on mortgage acquisition within HF Group Plc. A succinct overview of research deficiencies and the conceptual framework is presented in the chapter's concluding section.

2.2 Theoretical Framework

2.2.1 Classical Theory of interest rate

The aforementioned hypothesis, which was first put forth by traditional economists Marshall, Senior, and Fisher in 1941 and 1943. The theory emphasizes the supply-side origins of interest rates. J.B. Clark, on the other hand, talked about interest from the standpoint of demand. According to this hypothesis, the current interest rate is affected by the relationship of capital supply and demand. Interest rate is established when the supply and demand of capital are equal. Capital demand is spurred by investments and savings, while capital supply provides the resources. Notably, a lower interest rate translates to higher capital demand (Drumond & Jorge, 2013). Referred to as the 'Real theory' of interest, the classical theory is grounded in the actual dynamics of demand and supply.

Through the Monetary Policy Committee in Kenya, the CBK has control over interest rates. In particular, the CBK, which establishes the interest rate at which the CBK lends to commercial banks, governs interest rates. Because of the dependence of commercial banks' interest rates on

the CBR, the CBR also functions as an indicating instrument for monetary policy, setting the tone for the rates at which they provide loans to their clients. The KBRR, the fundamental rate used to determine mortgage product pricing and to guide lending by commercial banks and microfinance organizations, also has an impact on the mortgage industry (CBK, 2020).

This idea is supported by Kenya's macroeconomics, notably the interest rates supplied by commercial institutions and mortgage financing businesses. It might be claimed that the Central Bank must exert pressure on commercial institutions and mortgage organizations to reduced interest rates on their mortgage elements in order to stimulate mortgage business expansion in Kenya (Njongoro, 2013). Elevated interest rates would heighten mortgage loan repayments, leading to an increase in households grappling with mortgage debt, whereas lower interest rates would incentivize mortgage uptake (Hass Consult, 2013). This theory is intricately tied to the variable of interest rates, aligning with the study's second objective, which seeks to examine the influence of interest rates on mortgage adoption.

2.2.2 Title Theory and Lien Theory of Mortgages

Durfee, Edgar N., first presented the notion in 1913. This idea holds that the title to a property is first retained in the name of the lender until the borrower pays the last payment, at which point the title is transferred or re-conveyed to the borrower. According to the lien theory, the debtor initially has property title, however a lender is given a security interest or lien over it.

Some banks decide to keep the mortgage and treat it according to the title theory. This method assumes that the mortgage holds a title interest. In other words, until the loan is completely repaid, the lender, also known as mortgagee or the bank, has the right to hold onto the title to the property. As per theory, a mortgage is seen as transferring title to a borrower only once a borrower has made

all payments. It is assumed that the mortgagee will hold onto the title until the loan has been paid off and, if necessary, foreclosed. There is often a clear agreement enabling the mortgagor (the borrower) possession rights, even though the lender has legal right to possess the property. The mortgagee holds the title for security purposes only.

In Kenya, commercial banks and other mortgage lenders mainly follow the lien theory. This means that when a client obtains a mortgage, they become the owner of the property. If a more beneficial opportunity comes, customers can sell the home to a 3rd party and completely offset the debt. As a result, it may be claimed that this technique, as taken in Kenya, is enticing to customers and that businesses can use it to attract more clients, hence stimulating mortgage market expansion. The dependent variable in this instance is mortgage uptake, which is integrally tied to this theory (Buckley & Kalarickal, 2004).

2.2.3 Fisher's Theory

The Fisher Effect Theory was developed by Irving Fisher in 1960 to explain the link between inflation, real interest rates, and nominal interest rates. According to this idea, a country's nominal interest rates should be similar to the product of the required real return for investors and a correction for the country's predicted inflation rate (Dimand, 2019). Fama and Schwert (1977) go on to explain that stock prices adjust to represent the anticipated nominal return from time t1 to t in a completely efficient market. The market's estimate of the projected inflation rate for the same time period is included in this expected return as well as the equilibrium expected real rate (Fama & Schwert, 1977).

Stocks are used as a hedge against inflation in accordance with the Fisher Effect Theory since they reflect claims to real assets, which implies that a positive share price is positively connected with

anticipated inflation (Dimand, 2019). Real money loses value over time due to inflation, which is considered when calculating the nominal interest rate. In return, as illustrated by the formula, the nominal interest rate is calculated by adding the real interest rate and the inflation rate: Nominal Rate = Real Rate + Inflation Rate. Given that the inflation rate is a variable in our investigation, this hypothesis was deemed relevant.

2.2.4 Purchasing Power Parity Theory

The theory was initiated by Gustav Cassel in 1918. A concept of exchange rates known as PPP is used to compare typical prices of goods and services between countries. Gustav Cassel's study in 1918 gave this theory its contemporary shape. The underlying tenet of the Purchasing Power Parity Theory is that two countries' prices ought to be comparable to one another. This theory states that after the exchange rate is considered, commodities should cost the same in both countries. According to this idea, variations in the spot exchange rate are caused by importers' and exporters' activities, which are motivated by regional price differences.

Variations in a country's current account transactions, according to the Purchasing Power Parity (PPP) hypothesis, affect the exchange rate in the Forex market. This contrasts with the Interest Rate Parity Theory, which claims that swings in exchange rates are caused by investor actions, which are documented in the capital account. PPP theory is a macroeconomic application of the law of one price (Devereux & Engel, 2016).

PPP theory plays a dual role as both a theory for determining exchange rates and a tool for facilitating precise cross-country data comparisons. Its continued relevance lies in its utility for comparing income and wage data across nations, a practice frequently adopted by global

organizations like the World Bank when providing a significant portion of their global data. This theory is closely intertwined with the variable of exchange rates.

2.2.5 Keynesian Economics Theory

Because prices are relatively stiff, changes in any expenditure component, such as consumption, investment, or government spending, can alter output, according to Keynesian economics, which was established between 1883 and 1946 by the British economist John Maynard Keynes. For example, if government expenditure increases while all other spending aspects remain constant, output will increase. Mortgage interest rates have a significant impact on the long-term cost of house finance. Borrowers often want the lowest mortgage interest rates possible, but lenders must manage their risk by setting appropriate interest rates. Borrowers with good credit frequently get the best mortgage interest rates (Adi et al., 2022).

Mortgage interest rates can be affected by economic indicators like the unemployment rate and GDP. Increased consumer spending and rising incomes enhance the demand for mortgage loans for home purchases. Although this is good for the economy of the nation, the increased demand for mortgages tends to raise rates. Interest rates are impacted by lenders' restricted ability to lend capital (Hossain, 2022). In contrast, the opposite happens when the economy is slowing. The reduction in employment and wages lowers demand for mortgages and puts pressure on mortgage lenders' interest rates to go down. The GDP growth rate variable is directly related to this notion.

2.3 Empirical Review

2.3.1 Mortgage Uptake

According to Kamati (2020), the term "macro-economic" pertains to the external forces affecting a company that can exert an influence on its operations beyond its control. Therefore, macroeconomic factors encompass the broader economic environment, representing the amalgamation of external factors that a company takes into account in its strategic planning. These elements are intricately molded by the intricacies and fluidity of the external environment. They represent patterns, attributes, or circumstances that emerge from or are connected to the broader aspects of an economy, rather than being specific to individual populations (Egbunike & Okerekeoti, 2018).

The field of macroeconomics, as described by Kadochnikova et al. (2020), focuses on the study of how monetary and fiscal policies impact a country's overall production, taking into account general price levels and unemployment rates. Consequently, macroeconomic indicators serve as indicators of economic trends that have the potential to reflect a nation's GDP growth. These indicators provide guidance for making investment decisions, both domestically and globallyAmong these variables are interest rates, inflation rates, stock market prices, demand, foreign investment, money supply, unofficial employment, federal savings rate, GDP growth rate, per capita income, and investment (Wanjiku et al., 2021).

These factors have a variety of effects on the profitability of the real estate sector in the mortgage industry, including property appraisal and pricing. The pricing of each production factor is influenced by macroeconomic factors, impacting how economies determine their value (Shephard, 2016). Consequently, favorable economic growth, both theoretically and practically, leads to increased income and higher consumer spending, including mortgage loans for home purchases.

Conversely, an uptick in overall housing demand tends to elevate mortgage rates, as lenders can extend more credit, particularly mortgages (Egbunike & Okerekeoti, 2018).

The central bank oversees this process, and a key element in calculating the ideal bank revenue levels is the pricing of banking products. Similar to how mortgage interest rates frequently reflect borrowing costs for the entire economy, they have an impact on both the supply and demand of mortgage loans (Hlushchenko, 2021). In return, mortgage rates are decided by the basic laws of supply and demand, which are defined by a laissez-faire philosophy. Factors such as inflation, economic expansion, monetary and fiscal policies, as well as the state of bond and property markets all contribute to this ecosystem. In a laissez-faire mortgage industry, a decrease in home construction or resale availability leads to reduced home purchases, resulting in lower mortgage demand and subsequently lower interest rates.

As the economy and wages expand, individuals typically have more transactional, savings, and investment capacity, resulting in increased spending on homes through mortgage purchases, enhancing implementations, and ultimately driving up prices. Housing demand is often perceived as flexible concerning household financial income, leading to an increase in household incomes (Lou & Yin, 2017). In contrast, a reduction in sales during a recession may discourage people from purchasing homes, and those who lose their employment may fall behind on their mortgage payments and run the risk of foreclosure (Li, 2020). As a result, mortgage loan pricing is highly correlated with an economy's general health and changes along with economic output.

2.3.2 Inflation Rate and Uptake of Mortgage Loans

Ouma (2021) conducted a study aiming to assess the effect of mortgage lending restrictions on the growth of the housing sector in Kenya. Utilizing a descriptive research approach, the study found a high positive correlation between inflation and the growth of the housing sector ($r = 0.868$), as

well as a substantial positive association between interest rates and housing sector growth (r = 0.920). The model's R-square value of 0.851 indicated that fluctuations in inflation and interest rates accounted for 85.1% of variations in housing industry growth. However, the study's focus on mortgage lending restrictions and its descriptive research approach left a gap in directly examining the relationship between inflation rate and mortgage uptake. To address this gap, the current study, adopting a quantitative research approach, aims to specifically assess the effect of inflation rate on mortgage uptake within HF Group Plc. By utilizing detailed data from HF Group Plc and the Central Bank of Kenya, the study intends to provide a comprehensive analysis of this relationship, employing inferential statistical techniques to establish causal relationships where possible.

Omondi (2018) examined the response of various financial institutions in County, Kenya, to the uptake of mortgage loans concerning macroeconomic variables. Employing a descriptive research design, Omondi utilized SPSS for descriptive statistics, correlation analysis, and regression analysis. The findings revealed that changes in per capita income were correlated with fluctuations in inflation rates, while variations in mortgage interest rates significantly influenced the number of mortgage loans taken out. However, changes in tax incentives and currency rates showed no substantial impact on mortgage loan demand. Despite providing valuable insights into the relationship between macroeconomic variables and mortgage loan uptake, Omondi's study did not directly assess the effect of inflation rate on mortgage uptake, leaving a gap in the literature. To address this gap, the current study intends to focus specifically on assessing the impact of inflation rate on mortgage uptake within HF Group Plc, employing similar quantitative research methods and analysis techniques.

Mungai (2022) conducted a study investigating the connection between macroeconomic variables and the expansion of mortgage borrowing in Kenya. The research applied a time series research

design spanning the previous 20 years (2002 to 2022) and employed quantitative techniques based on the positivist research philosophy. The results indicated that lending interest rates had a negative and substantial relationship with the expansion of mortgage finance in Kenya, while inflation rates had a negative relationship but were not statistically significant. This study provides insights into the complex interplay between macroeconomic factors and mortgage borrowing dynamics, although further research was needed to explore the nuanced relationships between inflation rates and mortgage uptake in Kenya.

In the study conducted by Koskei (2019), an investigation was carried out to examine the impact of significant macroeconomic factors on loan delinquency within tea manufacturing enterprises governed by KTGA. The research utilized a comprehensive explanatory research approach, with the Central Bank Rate serving as a moderating variable. Koskei's research findings suggested a notable negative correlation between inflation rates and loan uptake among these tea manufacturing firms. This outcome implies that as inflation rates increased, the propensity for these firms to obtain loans decreased, highlighting the sensitivity of the tea manufacturing sector to changes in inflation. However, while Koskei's study sheds light on the relationship between inflation rates and loan uptake in the tea manufacturing sector, it does not specifically focus on mortgage borrowing or assess the impact of inflation rates on mortgage uptake within financial institutions like HF Group Plc. To address this gap, the current study intends to conduct a focused examination of the effect of inflation rate on mortgage uptake within HF Group Plc, employing quantitative research methods and analysis techniques.

In Njoroge (2021), a causal research approach was employed to investigate the effects of market pricing, tax receipts, and stock market performance on the Kenyan residential real estate market. The outcomes indicated that the performance of the residential real estate market was significantly

negatively impacted by commercial bank lending interest rates, inflation rates, currency rates, and stock market prices. Similarly, in Wanjiku Bosire and Matanda's (2021) study, the performance of Kenyan Registered REITs was examined using a causal research design. Without the moderating variable, the regression model revealed that macroeconomic factors could account for 62.7 percent of the variance in REITs' financial performance. However, when the moderating factor was considered, this explanatory power increased to 70.3 percent. While these studies provide insights into the broader dynamics of the real estate market and the impact of macroeconomic factors on financial performance, they do not specifically focus on the relationship between inflation rates and mortgage uptake within financial institutions like HF Group Plc. Thus, to address this gap, the current study intends to conduct a focused examination of the effect of inflation rate on mortgage uptake within HF Group Plc, employing quantitative research methods and analysis techniques.

In Musiaowski's (2019) study, the influence of inflation on the pricing of adjustable-rate mortgages from the perspective of individual financial conditions was examined. The simulated results from the study indicated that real mortgage costs declined as inflation rose. Specifically, the WIBOR 3M rate and the inflation rate demonstrated strong positive correlations, while the real interest rate and the inflation rate exhibited strong negative correlations. The study also analyzed the effect of inflation on actual mortgage rates, which increased with rising inflation and decreased with lowering inflation. Notably, periods with growing inflation received extra consideration in the study. While Musiaowski's research provides valuable insights into the relationship between inflation and mortgage pricing, it focuses on adjustable-rate mortgages and individual financial conditions rather than assessing the broader impact of inflation on mortgage uptake within financial institutions like HF Group Plc. To address this gap, the current study intends to conduct

a focused examination of the effect of inflation rate on mortgage uptake within HF Group Plc, employing quantitative research methods and analysis techniques.

2.3.3 Mortgage Interest Rate and Mortgage Loan Uptake

In Koome's study (2022), researchers aimed to assess the effect of interest rates on mortgage uptake in HF Group Plc by utilizing yearly quantitative data from 1960 to 2017 to examine the influence of interest rates on Kenyan housing expenses. The study adopted the NARDL model to evaluate how changes in interest rates, both positive and negative, affect house values. The findings revealed that interest rates and home prices do not always correlate linearly. Specifically, both positive and negative interest rate series were found to have a negative impact on housing prices in the short run, while positive and negative interest rate series had positive and negative impacts on housing prices in the long run. However, despite providing insights into the relationship between interest rates and housing expenses, Koome's study did not directly assess the effect of interest rates on mortgage uptake within financial institutions like HF Group Plc. To address this gap, the current study intends to conduct a focused examination of the effect of interest rates on mortgage uptake within HF Group Plc, employing similar quantitative research methods and analysis techniques.

In Maina's (2019) study, the focus was on interest rates and loan repayment in Kenya's Nyeri County commercial banks. The study employed a descriptive method, drawing on both primary and secondary data sources. The research findings highlighted that banks faced challenges with loan default, attributing this issue to the liquidity risk premium, which hindered loan repayment due to the potential for an increase in interest rates. According to the study, a solution to this problem would involve categorizing consumers based on their capacity to repay loans, with loans provided accordingly. While Maina's study offers insights into the relationship between interest

rates and loan repayment in commercial banks, it does not specifically examine the effect of interest rates on mortgage uptake within financial institutions like HF Group Plc. To address this gap, the current study intends to conduct a focused examination of the effect of interest rates on mortgage uptake within HF Group Plc, employing similar quantitative research methods and analysis techniques.

In Mwenda's (2017) study, the repercussions of lending interest rates on the financial performance of commercial institutions in Kenya were explored. The investigation involved a comprehensive examination of all 43 Kenyan Commercial Banks officially registered with the CBK. Secondary data sources were employed, providing a broad and representative dataset for analysis. The collected data underwent rigorous analysis through multiple regression techniques to assess the association between lending interest rates and financial performance metrics of these financial institutions. The findings derived from the analysis yielded valuable insights, indicating a noteworthy positive impact of lending interest rates on the performance of the banks under scrutiny. Specifically, it was observed that lending interest rates played a significant role in enhancing the performance of these institutions, with a particular emphasis on augmenting interest income as a key aspect of their financial performance metrics. While Mwenda's study provides insights into the relationship between lending interest rates and the financial performance of commercial banks, it does not specifically focus on the effect of interest rates on mortgage uptake within financial institutions like HF Group Plc. To address this gap, the current study intends to conduct a focused examination of the effect of interest rates on mortgage uptake within HF Group Plc, employing similar quantitative research methods and analysis techniques.

In Sichinga's study (2019), which focused on Absa Bank Zambia's Main Branch, the impact of interest rates on loan repayment was investigated. The research employed personal interviews and questionnaires to gather and analyze data. The results revealed that clients occasionally missed loan payments due to changes in interest rates, and the quantity of credit extended to customers affected liquidity risk. Additionally, the study discovered that lending to entrepreneurs had a significant impact on business performance and that banks frequently blacklist loan defaulters. While Sichinga's study provides insights into the relationship between interest rates and loan repayment at a specific bank branch, it does not directly examine the effect of interest rates on mortgage uptake within financial institutions like HF Group Plc. To address this gap, the current study intends to conduct a focused examination of the effect of interest rates on mortgage uptake within HF Group Plc, employing similar research methods and analysis techniques.

In Ngigi's (2015) research study, the primary objective was to comprehensively explore the drivers of mortgage uptake in Kenya. The research design employed was descriptive in nature, enabling a systematic examination of the multifaceted factors influencing the patterns of mortgage adoption within the Kenyan housing market. The findings revealed a strong and unfavorable association between mortgage uptake and current interest rates. It was indicated that increases in interest rates were associated with a significant decrease in the likelihood of individuals and households using mortgages to achieve homeownership. This negative correlation underscored the substantial impact of interest rates on mortgage uptake in the Kenyan context. While Ngigi's study provides insights into the influence of interest rates on mortgage uptake, it does not specifically focus on the operations of financial institutions like HF Group Plc. To address this gap, the current study intends to conduct a focused examination of the effect of interest rates on mortgage uptake within HF Group Plc, employing similar research methods and analysis techniques.

In Kigomo (2022)'s study, the research aimed to investigate the factors of mortgage financing for homeownership in Kenya. This investigation was conducted within a positivist philosophical framework and utilized a descriptive survey design to systematically gather data on the factors influencing mortgage financing in the Kenyan context. The results obtained through regression analysis revealed several substantial findings. First, it was discovered that GDP per capita and inflation rate had a statistically significant beneficial impact on the use of mortgage financing for homeownership. This implies that as GDP per capita increased and inflation rates rose, there was a corresponding increase in the likelihood of individuals and households choosing mortgage financing as a means to achieve their homeownership objectives. In contrast, the study discovered that the pace of population expansion had a considerable negative effect on mortgage financing uptake. This suggests that as the population growth rate in Kenya increased, there was a decrease in the propensity of individuals and households to opt for mortgage financing for their homeownership needs.

Owuor's (2017) research focused on the association between macro-economic factors and the expansion of Kenya's mortgage industry. The study utilized concepts from arbitrage pricing theory, capital asset pricing theory, and mortgage-related topics. Employing a descriptive research approach, Owuor analyzed quarterly secondary data from 2007 to 2016. The study revealed a statistically significant and positive association between interest rates, inflation, and the growth of the mortgage market. Furthermore, the findings indicated a minor positive association between exchange rates, GDP, and mortgage market expansion. While Owuor's study provides valuable insights into the relationship between macroeconomic factors and the expansion of Kenya's mortgage industry, it does not specifically focus on the operations of financial institutions like HF Group Plc. To address this gap, the current study intends to conduct a focused examination of the

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effect of macroeconomic factors, particularly interest rates, on mortgage uptake within HF Group Plc, employing similar research methods and analysis techniques.

2.3.4 Exchange Rates and Mortgage Loan Uptake

Kigamwa's (2023) study focused on investigating the impact of macroeconomic elements on loans that are not performing in Kenyan financial institutions. The research employed a sample frame of 210 items, with 42 commercial banks comprising the target population. Secondary data from the Kenya KBA and the CBK annual supervisory reports was utilized for analysis. The findings revealed that non-performing loans and real interest rates for GBP, EUR, and USD showed a positive link, indicating an association between higher real interest rates in these currencies and an increase in non-performing loans. Conversely, non-performing loans and inflation exhibited a negative relationship, suggesting that higher inflation rates were associated with a decrease in non-performing loans. While Kigamwa's study offers insights into the relationship between macroeconomic elements and non-performing loans in Kenyan financial institutions, it does not specifically focus on mortgage uptake or the operations of institutions like HF Group Plc. To address this gap, the current study intends to conduct a focused examination of the effect of macroeconomic elements, particularly exchange rates, on mortgage uptake within HF Group Plc, employing similar research methods and analysis techniques.

Luyali's (2021) study aimed to investigate the influence of inflation and currency rates on the rise in mortgage borrowing in Kenya's commercial banking industry. Employing an explanatory survey design, the study comprehensively surveyed all 35 commercial banks involved in mortgage loan financing from 1985 to 2019. Secondary data derived from financial statements and financial institution reports was utilized for analysis. The research results indicated that both the inflation rate and the currency rate had a substantial impact on the increase of mortgage borrowing among

Kenyan commercial banks. However, while Luyali's study sheds light on the influence of currency rates on mortgage borrowing in commercial banks, it does not specifically focus on the effect of exchange rates on mortgage uptake within financial institutions like HF Group Plc. To address this gap, the current study intends to conduct a focused examination of the effect of exchange rates on mortgage uptake within HF Group Plc, employing similar research methods and analysis techniques.

Owuor, Githii, and Mwangi (2018) conducted a comprehensive examination of the effect of exchange rates on the expansion of the mortgage market in Kenya. Opting for a descriptive research approach, they aimed to provide a detailed account of the association between exchange rates and the growth of the mortgage market within the Kenyan context. The researchers collected their data from secondary sources, specifically quarterly data spanning the period from 2007 to 2016, obtained from the Central Bank of Kenya. This extensive time frame allowed for a thorough exploration of the dynamics at play. To analyze the data and ascertain the connection between exchange rates and the growth of the mortgage market, the researchers applied multiple linear regression. This statistical technique enabled them to investigate the potential influence of exchange rates while controlling for other relevant variables. The outcomes of their study unveiled a noteworthy observation: a positive association existed between exchange rates and the development of the mortgage market in Kenya.

Ariemba et al. (2015) conducted a comprehensive examination of the financial crisis that unfolded in the wake of the devaluation of the Thai baht. This pivotal event triggered a chain reaction that ultimately resulted in the abandonment of the currency's peg to the US dollar. As a consequence, numerous economies in the Southeast Asian region, specifically Thailand, South Korea, Hong Kong, Indonesia, and Malaysia, were profoundly impacted by the ensuing currency contagion. The

currency contagion, which refers to the rapid spread of financial turmoil from one nation to others, had far-reaching consequences for these affected nations. It precipitated severe economic contractions and a series of interconnected crises. Among the notable effects was a sharp decline in the demand for various financial products, including loans, particularly mortgage loans. This reduced demand for mortgage loans was a reflection of the broader economic turmoil and uncertainty that had gripped the region. Households and businesses, grappling with financial instability and uncertainty, were less inclined to take on additional debt, including mortgage debt, during this tumultuous period.

Boamah's (2019) research underscored the significance of a stable currency for a functional mortgage market. According to Boamah, excessive exchange rates and the prevalence of mortgages denominated in foreign currencies have driven native Ghanaians out of the mortgage market. However, the study did not explore the impact of exchange rate changes on individuals whose loans are denominated in local currency, nor did it address the role of central banks in determining foreign exchange movements through monetary policy measures. These gaps in the research highlight areas where further investigation is warranted to provide a more comprehensive understanding of the dynamics shaping the mortgage market in Ghana.

2.3.5 Gross Domestic Product and Mortgage Loan Uptake

Owuor, Githii, and Mwangi (2018) investigated the link between macroeconomic conditions and mortgage market expansion in Kenya, focusing on theories such as the mortgage lien theory and the capital assets pricing theory. The study discovered a substantial relationship between inflation, GDP, and mortgage market growth. Specifically, they found that inflation rates and GDP growth are important drivers of mortgage demand in Kenya. This research provides valuable insights into the factors influencing mortgage market expansion in Kenya's economic landscape. However, the

study does not delve deeply into the specific mechanisms through which inflation rates and GDP growth impact mortgage demand. Addressing this gap, the current study aims to conduct a more detailed analysis of the relationship between GDP growth and mortgage uptake, particularly within the context of HF Group Plc. By employing a quantitative research approach and utilizing data from HF Group Plc's records and official reports, the study intends to provide a deeper understanding of how GDP growth influences mortgage uptake in a specific financial institution.

Agao (2018) delved into the factors influencing the adoption of mortgages, analyzing monthly secondary data from 2004 to 2013 to investigate this phenomenon comprehensively. This extensive data set allowed for a detailed examination of the dynamics surrounding mortgage uptake over a decade. To derive meaningful insights from the data, the research employed two key analytical methods: descriptive analysis and multiple regression analysis. Descriptive analysis provided a clear overview of the data, highlighting key trends and patterns, while multiple regression analysis was applied to identify the determinants of mortgage uptake and quantify their respective impacts. The findings of the study revealed valuable insights into the factors influencing mortgage uptake, with interest rates emerging as the most influential determinant, significantly affecting the likelihood of individuals or households taking up mortgages. Additionally, GDP (Gross Domestic Product) and the level of money supply were found to have noteworthy associations with mortgage adoption. However, while Agao's study provides insights into the determinants of mortgage uptake, it does not specifically focus on the operations of financial institutions like HF Group Plc. To address this gap, the current study aims to conduct a focused examination of the effect of GDP growth rate on mortgage uptake within HF Group Plc, employing similar research methods and analysis techniques.

In Xu's (2017) study, an in-depth exploration was undertaken to analyze the intricate relationship between economic growth and housing prices in China, specifically focusing on cities categorized as first-tier, second tier, and third-tier within the Chinese urban landscape. To unravel the complex dynamics at play, Xu's research employed a sophisticated analytical tool known as the Vector Auto-Regression model (VAR). This statistical model is particularly well-suited for assessing the interdependencies and temporal dynamics among various economic variables. One of the key findings that emerged from Xu's study is the crucial role played by China's GDP growth in influencing property prices. The study observed that an increase in GDP growth had a positive impact on housing prices, indicating a beneficial relationship between economic growth and the housing market. This positive relationship can be attributed to several factors. Firstly, as the economy grows, it leads to an expansion in consumer expenditure, potentially increasing demand for real estate holdings. Additionally, the study highlighted the significant contribution of rising GDP to property prices, emphasizing the deep interconnection between economic prosperity and the housing market in China. However, while Xu's study provides insights into the relationship between GDP growth and housing prices in China, it does not specifically focus on mortgage uptake within financial institutions. To address this gap, the current study aims to conduct a focused examination of the effect of GDP growth rate on mortgage uptake within HF Group Plc, employing similar research methods and analysis techniques.

In their research, Kipyegon and Wephukulu (2019) embarked on an investigation to understand the repercussions of interest rate volatility on mortgage uptake within specific commercial banks in Kenya. Their study was motivated by the need to comprehend the intricate dynamics surrounding mortgage adoption in a financially dynamic environment. One of the key findings of their research was a compelling revelation regarding the relationship between Kenya's GDP

growth and the uptake of mortgages. It unveiled a statistically strong and positive association between these two factors. This outcome implies that as Kenya's GDP experiences growth and expansion, there is a simultaneous increase in the uptake of mortgages among selected commercial banks in the country. This noteworthy discovery underscores the pivotal role that economic prosperity, as measured by GDP growth, plays in facilitating the accessibility and utilization of mortgage financing. A growing GDP typically signifies improved economic conditions, greater job opportunities, and enhanced consumer confidence, all of which contribute to individuals and households feeling more secure and comfortable in taking on mortgage loans. However, while Kipyegon and Wephukulu's study provides valuable insights into the relationship between GDP growth and mortgage uptake in specific commercial banks, it does not specifically focus on the operations of financial institutions like HF Group Plc. To address this gap, the current study aims to conduct a focused examination of the effect of GDP growth rate on mortgage uptake within HF Group Plc, employing similar research methods and analysis techniques.

User

In Ng'ang'a's (2017) study, a comprehensive examination of macroeconomic variables and their influence on the mortgage market in Kenya was undertaken. In addition to investigating the effects of exchange rates, inflation, and GDP per capita, this research expanded the understanding of how these factors interplay with the mortgage market dynamics within the Kenyan context. Utilizing a regression model, Ng'ang'a's research produced noteworthy findings that shed light on the intricate relationships between these macroeconomic drivers and the performance of the mortgage market in Kenya. One of the primary outcomes of the study highlighted a positive correlation between GDP per capita and the mortgage market's performance. This positive relationship suggests that as GDP per capita increases, indicating higher average income levels, it tends to have a favorable

impact on the mortgage market, potentially driving greater demand for mortgage financing. Moreover, the study also revealed a positive relationship between exchange rates and mortgage market performance

From 2012 to 2018, Shi et al. (2021) evaluated the effectiveness of China's financial institutions, with a focus on the impact of GDP on funding and capital effectiveness. The study employed dynamic slacks-based measurements and Kernel density curve analysis to assess financial institution performance. According to the statistics, equity financial institutions exhibited the highest total productivity. Furthermore, state-owned and urban financial institutions outperformed joint-stock financial institutions in terms of funding productivity gains. The study recommended that financial institutions prioritize non-performing loans (NPLs) and profit margins to enhance their overall performance. Specifically, state-owned financial institutions were advised to improve internal procedures, reduce non-performing loans (NPLs), and increase profit margins as part of their strategy for improvement. While Shi et al.'s study provides insights into financial institution performance in China, it does not specifically focus on mortgage uptake within the context of housing finance. To address this gap, future research could investigate the relationship between GDP and mortgage uptake within financial institutions, potentially shedding light on factors influencing housing finance dynamics in China.

Table 2.1 Summary of Research Gaps

Author	Study Objective	Research Methodologies	The Findings of the study	The Research Gaps

Kigamwa,Jacqueline,2023)	The effect of macroeconomic factors on non performing loans in Commercial Banks in Kenya	It used secondary data from CBK annual supervision reports and KBA.	Results established that real interest rate, exchange rate had a positive relationship with non performing loans while inflation rate had a negative relationship.	The research was very generalized as it focused on all commercial banks in Kenya and thus it did not look at the effect of macro economic factors in a particular institution.
Kigomo (2022)	The study aimed at assessing the determinants of uptake of mortgage financing for homeownership in Kenya	Data collection sheets were used for collection of secondary data from published sources.	The findings from the regression analysis were that GDP per capita and inflation rate had a statistically significant positive influence on uptake of mortgage financing for home ownership,	The study was very generalized as it focused on uptake of mortgage financing for homeownership in Kenya with no focus on a particular institution.

			while population growth rate had a significant negative effect.
Koome (2022)	The study focused on the effect of interest rate on housing prices in Kenya.	The study used annual quantitative data from 1960 to 2017. Nonlinear Autoregressive Distributed Lag (NARDL) was used.	A non-linear relationship between interest rates and housing prices was confirmed. Both the negative series and positive series of interest rate portrayed a negative effect on housing prices in short run.	The study was very generalized as it focused on housing prices in Kenya and thus it did not look at the mortgage uptake in a particular institution.
Mungai (2022)	Examined a relationship between macroeconomic factors and growth of mortgage financing in Kenya	A quantitative approach drawn from the positivism research	The findings indicate that lending interest rate, inflation rate and growth of mortgage	The study focused on all mortgage finance providers in Kenya and therefore the results are too

		philosophy was adopted.	financing in Kenya are negatively related.	general and cannot be individualized.

Source: Researcher (2023)

2.4 Conceptual Framework

Van der Waldt (2020) asserts that conceptual framework serves as a visual tool that helps researchers visualize and understand the proposed relationships among variables. Conceptual frameworks are essential in research as they provide a clear structure and direction for the study, outlining likely courses of action or presenting a right approach to addressing a research question or hypothesis. In the context of this study, the conceptual framework entails the following elements: Independent Variables: These are factors that are believed to influence the dependent variable. The independent variables are Inflation Rate, Interest Rate, Exchange Rates and GDP Growth Rate. Dependent Variable: This is the outcome or variable of interest that the research aims to explain or predict. In this study, the dependent variable is Mortgage Uptake in housing finance group Plc. A moderating variable is one that influences the strength or direction of the relationship between the independent and dependent variables. In this study, the moderating variable are the Government Policies.

Inflation rate Quarterly Inflation Rate (measured by CPI)		Dependent variable
Interest rate Quarterly Mortgage Interest Rate (Interest Rate)		**Mortgage uptake** Number of mortgages taken Income
Exchange rates The annual average rate of depreciation of the local currency (Kenyan shillings) against the US dollar.	**CBK Policies** Tax incentives	
GDP growth rate Quarterly GDP Growth Rate (ratio of GDP of the successive years)		
Independent Variables	**Intervening variable**	

Source: Author (2023)

Figure 2.1 Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The research strategy is outlined in this chapter. First, an overview of the research design has been presented. The target population is next detailed, a description of the sample design then follows, research tools, methods of collecting data, and data processing processes.

3.2 Research Design

In this study, a descriptive research design was chosen for several reasons. Descriptive research is particularly appropriate when the aim is to establish connections among variables or describe characteristics of a phenomenon without manipulating or intervening in the situation (Neuman, 2014). Given that the objective of this investigation is to assess the effect of macroeconomic variables on mortgage uptake in HF Group Plc, a descriptive approach allows for the comprehensive examination and description of these variables and their relationship to mortgage uptake within the specific context of the financial institution. It further facilitated the collection and analysis of quantitative data pertaining to macroeconomic indicators and mortgage uptake, allowing for a thorough understanding of the relationships between these variables.

3.3 Target Population

In this study, the population of interest was clearly defined as consisting of two distinct groups within Housing Finance Group Plc: employees and mortgage loan customers. The unit of observation for employees was typically individuals, while for mortgage loan customers, was individual customers or households. Therefore, the population comprised 180 employees and 120 mortgage loan customers. This specification ensured clarity regarding the individuals or items subject to examination within the research domain, as outlined by Mbwesa (2006). By clearly

delineating the population of interest, the study focused its data collection efforts and analysis on these specific groups, allowing for a targeted investigation into the effects of macroeconomic variables on mortgage uptake within HF Group Plc.

3.4. Sampling Design

Sampling as described by Kothari (2011), is the process which entails selecting a population sub-set which inferences and conclusions can be drawn from a sample for the purposes of generalizing the study population. The Census approach was ideal for this study since the target group of this study comprised of a relatively one-mortgage provider. According to Cooper and Schidler (2007), a census is a statistical enumeration where all the members within a given population are subjected to a study. One advantage of using a census is that it ensures accuracy in that each member in a population is surveyed (Saunders, 2003). The researcher employed a census since the population of HF group Plc is relatively small and easily accessible. The information which was not available from secondary sources was obtained from primary sources where questionnaires were administered to 180 employees and 120 customers of HF Group Plc where stratified random sampling was employed in selecting the number of employees and customers.

3.5 Data Collection Procedures

The majority of the data for this study came from secondary sources. Secondary data, as defined by Mugenda and Mugenda (2003), is the data that was initially acquired and is now being used by someone or something other than the original data collector. This data was sourced from various outlets, including books, journals, and electronic materials. The study gathered panel data spanning a 5-year duration, specifically from 2018 to 2022. This time frame was selected due to the robust performance of the Kenyan economy during this period, characterized by positive outcomes such

as increased money supply, lower interest rates, and decreasing inflation. Throughout these years, key macro-economic indices remained unchanged and constantly enhanced economic expansion. Furthermore, the chosen study period allowed for the detection of trends and is feasible considering the research timeframe limits.

Data was procured primarily from secondary sources, with a substantial focus on the published financial reports of HF Group Plc for the years 2018 to 2022. Supplementary data was gathered from the internet, government agencies such as the CBK and KNBS, as well as commercial sources such as newspapers. Furthermore, data from the annual reports of the Kenya Bankers Association and the KBS was also gathered for the purpose of comparison. Structured questionnaires were prepared and delivered to the respondents who are employees and customers of HF Group Plc to get the information which was not be available online.

Table 4.1: The Target Population

Strata	F	%	Sample size
Management at the top levels	30	10	30
Sales Executives	150	50	150
Customers	120	40	120
Total	**300**		**300**

3.6 Validity and reliability of study

3.6.1 Validity

Validity, according to Cooper and Schindler (2006), relates to how well the results of an analysis of a given set of data reflect the underlying reality. Research was conducted to evaluate the tool's validity using the content validity test to guarantee its accuracy and usefulness. The study assessed the degree to which data obtained using a particular tool effectively reflects the unique domain of indicators and content linked to the macroeconomic indicators using the content validity test. A content validity evaluation was performed. The Expert was asked to comment on the questions' suitability and appropriateness as well as make recommendations for how to arrange the tools to ensure their representativeness and suitability. By involving subject experts, the content validity of the collected data was enhanced, leading to improved quality. Additionally, conducting a comprehensive literature review contributed to achieving construct validity, ensuring that the study accurately measures the intended constructs.

3.6.2 Reliability

A reliability assessment measures how consistently the research instruments yield reliability (Kothari, 2010). The study determined if data is reliable to ascertain factors such as the time when the data was collected, methods of data collection, sources, and biasness presence and accuracy levels. The reliability test determined how consistent the outcomes were over time. According to Hair, Celsi, Ortinau, and Bush (2013) proposed that the reliability evaluation is tested using the internal consistency test using the Cronbach alpha coefficient. The establishment of internal consistency of data involves the examination of the correlation between scores obtained from one instance and scores obtained from subsequent instances within the research instrument. The result

of the correlation analysis is indicated by the Cronbach alpha coefficient, which is a numeric measure that falls within the range of -1 to 1. A coefficient is considered high when its absolute value equals or exceeds 0.7, while a lower value indicates a low coefficient. A high coefficient indicates a strong correlation among the items, suggesting consistency. In instances of this nature, it is advisable to maintain these items within the research apparatus. This study examined the correlation between items within the instruments to establish their relationship. If the coefficient exhibits a meager value, the corresponding item was omitted from the analysis. The study employed an alpha value of 0.7 or more significant to evaluate reliability.

3.6 Data Analysis and Presentation

The process of analyzing data is done with an aim of transforming data into a useable form that may aid the researcher to make viable conclusions as well as suggestions (Wooldridge, 2013). Microsoft excel spreadsheet was used in arranging data as sourced from financial statements of HF Group Plc and CBK. Collected data was cleaned as well as thoroughly checked for outliers and errors. Upon extraction of data in panel format, it was transferred to SPSS version 26 for analysis.

According to Greene (2012), where correlation coefficient is equal to Zero (0), it means there is no correlation, if positive one (+1) or negative one (-1) it implies strong perfect positive and negative correlation respectively. If the correlation coefficient is positive or negative zero point sixty (+/- 0.60), it implies that the correlation is moderate. If lower than positive or negative zero point forty (+/- 0.40), it implies a low correlation. The dependent variable (mortgage uptake) and the independent factors (macroeconomic variables such as mortgage interest rate, inflation rate, exchange rate, and GDP growth rate) was used in panel regression analysis to derive conclusions. Tables were provided with the findings for easy comparison and inference.

3.6.1 Empirical Model

Mortgage uptake, mortgage interest rate, inflation rate, exchange rate, and GDP growth rate are all the variables considered. The following panel regression model was used to represent the study:

$$Y_t = \alpha + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} \; e_t$$

Where: t refers to the time;

Y_t is the uptake of Mortgage loans

α = Regression constant

$\beta_1\ \beta_2\ \beta_3$ and β_4 = are the coefficients of the independent variables in the regression model

X_{1t}= Average Inflation rate at time, t.

X_{1t} = Average interest rate.

X_{3t} = Exchange Rate.

X_{3t}=GDP growth rate

e_t = Error term.

t = Time. =5 years

3.7 Diagnostic tests

The data was subjected to diagnostic tests as part of the study.

3.7.1 Multicollinearity

Multicollinearity is a condition that arises when two or extra independent variables within a multiple regression model exhibit strong linear relationships with each other. This study looked at

the interrelationships between the four variables to see if there was multicollinearity. This research involved conducting a Pearson correlation analysis, and the results were comprehensively explained.

3.7.2 Heteroscedasticity Test

Heteroscedasticity denotes a condition in which the variances of the model's residuals are not consistent. To assess whether heteroscedasticity was present, this study employed the Breusch-Pagan-Godfrey test, commonly referred to as the B-P-G Test.

3.7.3 Normality Test

A normality test was used to determine whether data was a normal distribution pattern. Since the results of correlation and regression studies can be misleading when applied to non-normally distributed data, this test was performed before correlation and regression studies were performed. To determine data normality, the Kolmogorov-Smirnov and Shapiro-Wilk tests are frequently used. If the Shapiro-Wilk test has a p-value greater than 0.05, the data is most likely normal. If the p-value is less than 0.05, the data is significantly deviating from a normal distribution pattern (Shapiro and Wilks, 1965).

Table 3.1 Operationalization and measurement of variables

Variable	Type	Operationalization	Measurement	Hypothesized Direction
Mortgage Uptake	Dependent	No. of mortgages taken	Number of mortgages taken	None

Inflation rate	Independent	Consumer Price Index (CPI) annual percentage change.	Inflation Rate (as measured by the Consumer Price Index)	None
Mortgage Interest Rate	Independent	The rate of interest charged on a mortgage loan.	Mortgage Interest Rates (Interest Rate) Quarterly	None
Exchange Rate	Independent	Average quarterly rate of depreciation of native currency (Kenyan shillings) vs the US dollar	The average rate of depreciation of Kenyan shillings versus the US dollar per quarter.	None
GDP growth rate	Independent	Quarterly GDP Growth Rate (ratio of GDP of the successive years)	Quarterly GDP Growth Rate (ratio of GDP of the successive years)	None
Government Policy	Moderating	Regulations set by the CBK	Tax incentive changes	None

3.8 Ethical Considerations

These acts are consistent with the ethical norms that governed the entire research process, from conception to completion and dissemination of research findings. The researcher was committed to obtaining valid consent from every individual from whom data was collected. Furthermore, the researcher diligently upheld the confidentiality of the gathered information.

CHAPTER FOUR:DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter offers a comprehensive analysis and interpretation of the data gathered for the study. The secondary data sources encompass published reports from reputable entities such as Housing Finance Group (HF), the Kenya National Bureau of Statistics, the Central Bank of Kenya, Hass Consult Ltd, and the World Bank. The assumption of the reliability, validity, and accuracy of the data is grounded in the esteemed credibility of these sources, which are recognized as reliable providers of market information.

To analyze the data, it was input into the Statistical Package for the Social Sciences (SPSS) version 26.0. The aim was to investigate the impact of inflation rate, interest rate, exchange rate and Gross Domestic Product (GDP) growth rate on mortgage uptake in Housing Finance Group. Both descriptive and multivariate regression models were employed in the analysis to gain a comprehensive understanding of the relationships and effects of these variables on mortgage uptake. The utilization of these statistical methods allows for a nuanced exploration of the data, facilitating the identification of patterns, trends, and potential correlations between the variables of interest.

4.2 Questionnaire Response Rate

Following the data collection process, an assessment of the research tools was conducted to ensure their appropriateness in addressing the research question. A total of 300 questionnaires were distributed among different categories of respondents, comprising 30 individuals in top-level management, 150 Sales Executives, and 120 customers. However, the number of returned questionnaires totaled 258, resulting in an 86% response rate. According to Idrus and Newman

(2002), a response rate of 50% is considered sufficient for analysis. Therefore, the questionnaire

return rate of 86% for this study was deemed appropriate.

The breakdown of the response rate among the different categories of respondents is detailed in

Table 4.1 below. This table provides an overview of the participation levels from each group,

shedding light on the extent to which the study engaged with the targeted audience. This response

rate is considered robust and should contribute to the reliability and validity of the study's findings,

given that it surpasses the generally accepted threshold for adequacy in survey research.

Table 4.1 Questionnaire Response Rate

Target Category	Number of respondents	Number returned	Percentage
Management at the top levels	30	25	83.3
Sales Executives	150	128	85.3
Customers	120	105	87.5
Total	**300**	**258**	**86**

Source: Researcher (2023)

4.3 Statistical Summary of Variables

The table 4.4 shows the responses on how inflation rate, interest rates, exchange rates and GDP affected mortgage uptake in Housing Finance Group.

Table 4.2 Statistical Summary of Variables

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
	%	%	%	%	%
Inflation Rate					
The country's inflation rate has an impact on mortgage demand.	2	3	1	49	45
Over the years, the inflation rate has remained steady.	37	58	2	2	1
The country's GDP growth is owing to the high inflation rate that the economy has been facing.	35	38	10	8	9
Because of the high inflation rate, consumer confidence is high.	44	46	5	4	1
Interest Rate					
Mortgage uptake is highly correlated to mortgage interest rates	7	7	11	46	29
Mortgage Interest rates have been stable over the years	29	41	10	13	7

Exchange Rates					
Mortgage uptake is highly affected by exchange rates in the country.	31	35	10	15	9
Kenya Shillings currency has been stable over the years	44	45	6	3	2
Exchange rates have no effect on mortgage prices	28	44	14	9	5
GDP Growth					
Mortgage uptake is affected by GDP growth in the country.	18	12	13	24	33
GDP has been increasing over the years	25	26	4	30	15

A combined 94% of respondents either agreed or strongly agreed that inflation rate influences mortgage demand, indicating a widespread acknowledgment of this relationship. Furthermore, majority of respondents (95%) expressed disagreement with the notion that inflation rate has remained steady over the years, highlighting the perceived volatility of inflation in the country. This perception aligns with economic indicators that often show fluctuations in inflation rates over time. Additionally, the findings suggest a diverse range of opinions regarding the relationship between the country's GDP growth and its high inflation rate. While 73% disagreed or strongly disagreed with the idea that GDP growth is solely attributable to high inflation, a notable proportion (17%) agreed or strongly agreed with this assertion, indicating differing perspectives on the drivers of economic growth. Regarding consumer confidence, a substantial majority of respondents (90%) disagreed or strongly disagreed with the notion that high inflation leads to high

consumer confidence. This finding implies a prevailing belief among respondents that high inflation may negatively impact consumer sentiment and confidence levels.

A considerable proportion of respondents (94%) agreed or strongly agreed that inflation rate influences mortgage demand, indicating a widespread recognition of the impact of inflation on mortgage uptake. This finding suggests that fluctuations in inflation rates may significantly affect the demand for mortgages, potentially influencing borrowing behavior and housing market dynamics. Additionally, the results indicate a mixed perception regarding the stability of mortgage interest rates over time. While a majority of respondents (70%) disagreed or strongly disagreed with the notion that mortgage interest rates have been stable over the years, a notable proportion (20%) agreed or strongly agreed with this assertion. This divergence in opinions highlights the perceived variability in mortgage interest rates, which could potentially impact mortgage uptake and affordability for borrowers. Overall, these findings underscore the importance of considering inflation rate dynamics and mortgage interest rate stability in assessing their effects on mortgage uptake, emphasizing the need for policymakers and financial institutions to monitor and manage these factors to support a healthy housing market and facilitate access to mortgage financing

While a significant proportion of respondents (24%) either strongly agreed or agreed that mortgage uptake is highly affected by exchange rates, a considerable number (66%) also disagreed with this notion. This diversity in opinions underscores the complexity of the relationship between exchange rates and mortgage uptake, indicating a need for further research to comprehensively understand the dynamics at play. Additionally, the majority of respondents (89%) disagreed or strongly disagreed with the idea that the Kenya Shilling currency has been stable over the years. This finding reflects widespread concerns about currency stability, which could have implications for mortgage financing and overall economic stability. Moreover, a substantial proportion of

respondents (72%) disagreed or strongly disagreed with the assertion that exchange rates have no effect on mortgage prices, highlighting a prevailing belief among respondents that exchange rate fluctuations do indeed impact mortgage pricing.

4.4 Inflation Rate

This section presents the summary and describes the features of the data collected with regard to the inflation rate. The findings are as presented in Table 4.3

Table 4.3: Summary of the Descriptive Statistics of the Variables

Year	Average mortgage inflation rates
2018	6.78%
2019	6.77%
2020	5.40%
2021	6.11%
2022	7.66%

Source: Author (2023)

Average inflation rates kept fluctuating over the five-year period. The highest inflation rate was registered in the year 2022 at 7.66% and the lowest inflation rate was registered during the year 2020 at 5.40%. The high inflation rate was caused by the high food and fuel prices witnessed during the year 2022. During the year 2021 an average inflation rate of 6.11% was registered. This was occasioned by reduction in fuel and food prices. During the year 2019, inflation was contained within the government's target of 6.77%. The average annual inflation was 6.78% in 2018 down from a high of 7.01% recorded in the year 2017. The decline in inflation rate was mainly because

of favorable weather, which led to low food prices emanating from improved agricultural, competition between the financial service providers which led to reduction in inflation rates.

The findings align with Omondi (2018) examined the response of various financial institutions in Country, Kenya, to the uptake of mortgage loans concerning macroeconomic variables. The findings revealed that changes in per capita income were correlated with fluctuations in inflation rates, while variations in mortgage interest rates significantly influenced the number of mortgage loans taken out. However, changes in tax incentives and currency rates showed no substantial impact on mortgage loan demand.

In 2022, annual inflation surged to 7.66% from 6.11% in 2021, primarily driven by several factors. The sharp increase in oil prices, coupled with inadequate rainfall in the first half of the year, led to upward pressure on staple food prices. Additionally, the weakening of the Kenyan shilling against major currencies contributed to the inflationary pressures observed during this period. Conversely, in 2020, annual inflation declined from 6.77% to 5.44%. This decrease was largely attributed to improved food supply stemming from favorable weather conditions, which bolstered agricultural output and helped alleviate inflationary pressures on food prices.

The findings align with previous research conducted by Walley (2018), who utilized regression analysis to demonstrate a negative and significant association between inflation and mortgage market development. Similarly, Warnock and Warnock (2019), in a study encompassing 61 countries, affirmed that a stable macroeconomic climate characterized by low and stable inflation is conducive to the growth of deeper mortgage markets. Huybens (1998), who argued that an increase in the inflation rate initially yields negative consequences on financial sector performance due to credit market frictions, leading to credit rationing and reduced intermediary activity, thereby

hindering capital formation, further support this assertion. Additionally, the Fisher effect theory

posits that real estate prices are correlated with expected inflation (Demand, 2018).

4.5 Interest Rate

Table 4.4 Interest Rate

Year	Average mortgage interest rates
2018	12.9%
2019	13.4%
2020	12.45%
2021	12.32%
2022	12.47%

Source: Author (2023)

The research findings reveal a consistent decline in average interest rates for mortgage loans over

the five-year period, from 12.9% in 2018 to 12.47% in 2022, as illustrated in Table 446 suggesting

a corresponding increase in mortgage debt each year. The weighted average mortgage interest rate,

ranging between 12-13%, reported by the company aligns with lending institutions' rates,

reflecting the higher risk premium associated with mortgage financing. This trend underscores the

dynamic nature of interest rates in influencing mortgage debt accumulation and highlights the

importance of monitoring and managing interest rate fluctuations in the mortgage market.

4.6 Exchange Rates

Table 4.5 Exchange rates

Year	Average annual exchange rates (Ksh-USD)
2018	101
2019	103
2020	108
2021	109
2022	117

Source: Author (2022)

From the table 4.5 above, the Kenya shilling has been depreciating against the USD for the last five years loosing against the dollar from 101-117. Between 2018 to 2019, the Kenya shilling exchange against the USD moved from 101 to 103, between 2019-2020 the exchange rate moved from 103-108. It was also worth noting that the Kenya shilling was on a free fall moving from 108 in 2020 to 117 in 2022. This has a significant effect on the loan uptake.

In their study Owuor, et al., (2018) on the effect of exchange rate on the mortgage loan uptake found that exchange rate had a positive relationship with mortgage loan uptake in Kenya. The study was descriptive and used secondary data similar to the current study. However, the study used quarterly data from 2007 to 2016 obtained from the central bank while the current study used annual data from 2018 to 2022 from central bank of Kenya.

4.7 Gross Domestic Product

Table 4.6 Gross Domestic Product

Year	Average GDP rates

2018	5.60%
2019	5.10%
2020	-0.30%
2021	7.6%
2022	4.8%

Source: Author (2023)

Kenya's average economic growth grew in 2018 by 5.60%. In 2019, the GDP grew by 5.10% while in 2020 due to shocks caused by COVID-19, the economic growth was highly affected reducing to -0.30%. In 2021 the economy rebounded back growing by 7.6% and 4.8% in 2022. A negative value of GDP, as observed in 2020 (-0.30%), indicates a contraction or decline in the overall economic output of the country. This contraction can have several implications for various sectors of the economy and the population as a whole. Firstly, a negative GDP growth signifies a slowdown in economic activity, which can lead to reduced business investment, decreased consumer spending, and a decline in employment opportunities. Consequently, this downturn may result in decreased income levels for individuals and households, potentially leading to financial strain and reduced standards of living. Ariemba, Mboya, and Kamau (2015) discovered that GDP per capita and exchange rates played a significant role in explaining the variance in mortgage market value. In a similar vein, Faida (2013) determined that economic growth and the duration of mortgage loan disbursement had an impact on mortgage growth in Tanzania.

Contrastingly, the results of this study indicate an insignificant yet positive relationship between exchange rates and mortgage loan uptake in Kenya. This suggests that there is no substantial association between exchange rates and the growth of the mortgage market in Kenya. However,

Boamah's (2011) investigation into the mortgage market in Ghana identified exchange rates as a key factor influencing mortgage growth in the country. Boamah (2009) additionally pointed out 8that currency stability in a given nation contributes to the successful uptake of mortgage loans.

4.8 Regression analysis

Regression analysis is a statistical technique used to predict a dependent variable by considering multiple independent variables (Frees, 2014). The primary objective of regression is to explore whether any of the predictor variables can effectively predict the dependent variable. In this study, multiple regression analysis was performed to ascertain the relationships among examined macroeconomic variables and the mortgage uptake in housing Finance Group Plc. The outcome of the model summary is presented in Table 4.7.

Table 4.7: Model Summary

Model	Coef.	R Square	Adjusted R Square	P>t	Std. Error of the Estimate
1	.852a	.3096993	0.60	0.021	-.1185042

    a. Predictors: (Constant), Average annual Inflation rate, Interest rate, US Dollar Annual Exchange Rate, GDP

From the results presented in Table 4.7, the value of R-Square (R2) was calculated to be 0.3096993. This implies that the analyzed macroeconomic variables account for approximately 31% of the variation observed in mortgage uptake. However, it's crucial to note that this percentage represents the proportion of variance explained by the independent variables included in the model and it's essential to acknowledge that additional factors not accounted for in the model may also influence mortgage uptake which account to 69%.

This findings showed a correlation value of 0.852 and this implies a linear relationship between independent and dependent variables thus Average annual Inflation rate, Interest rate, US Dollar Annual Exchange Rate and GDP affected the mortgage uptake in housing finance group Plc.

Table 4.8: Coefficients Results

Loan uptake	Coef.	Robust Std.Err	T	P>t	[95% Conf. Interval]	[95% Conf. Interval]
Inflation rate	-.7472271	.3096993	-2.41	0.021	-.1185042	-1.37595
Interest rate	.2706923	.0503632	-6.24	0.000	-.416475	-.2119894
Exchange rate	-.0607616	.0846491	-0.72	0.478	-.2326084	.1110852
GDP	-.3142322	.0335587	8.07	0.000	.2025647	.338820
Const	1.215996	.1197457	10.15	0.000	.9728995	.1.459093

In the given analysis, it was observed that inflation (CPI) exhibited a negative (B=-0.7472271) and statistically significant (P value=0.021<0.05) correlation with mortgage loan uptake. This implies that a unit increase in inflation (CPI) significantly and negatively influenced mortgage loan uptake by 0.7472271 units. This aligns with similar findings by Petkovski, Kjosevski, and Jovanovski (2018), who demonstrated the significant impact of inflation on non-performing loans (NPLs), and Ofori-Abebrese et al. (2016), who highlighted the influence of inflation on loan performance in Ghana.

Additionally, the study revealed a positive (B=0.2706923) and significant (P value = 0.000<0.05) relationship between interest rates and mortgage loan uptake in Housing Finance Group (HF). This indicated that a unit increase in lending interest rates positively and significantly affected mortgage

loan repayment by retail borrowers by 0.2706923 units. Supportively, Makorere (2014) in Tanzania emphasized the role of interest rates in driving mortgage loan uptake, while Maina (2018) in Kenya identified a positive association between interest rate risk analysis and mortgage loan uptake.

On the other hand, exchange rates were found to have no significant effect (P value = 0.478>0.05) on mortgage loan uptake in Housing Finance Group (HF). This suggested that a unit depreciation in exchange rates negatively but insignificantly influenced mortgage loan uptake by -0.0607616 units. This lack of significance may be attributed to the fact that retail borrowers primarily borrow in the local currency (Ksh). Supporting this, Temesgen (2016) in Ethiopia also found that exchange rates and cash reserve ratios had no effect on the lending behavior of Ethiopian banks.

Lastly, the study indicated a negative (B=-0.3142322) and significant (P value = 0.000<0.05) relationship between GDP and mortgage loan uptake in Housing Finance Group (HF). This implies that a unit weakening in real GDP value negatively and significantly impacts mortgage loan uptake by 0.3142322 units. Correspondingly, Sandica and Dudian (2018) associated GDP growth with a reduction in NPLs, while Tomas, Žiković, and Arbula (2015) linked high NPL levels in Croatia to a decline in real GDP growth.

In conclusion, the research findings suggested a statistically significant and negative relationship between inflation (CPI) and mortgage loan uptake, a statistically significant and positive relationship between lending interest rates and mortgage loan uptake, an insignificant and negative relationship between exchange rates and mortgage loan uptake, and a statistically significant and negative relationship between economic growth (GDP) and mortgage loan uptake in Housing Finance Group (HF).

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this chapter a summary of key findings, conclusion, and recommendations as well as areas of further interest have been presented.

5.2 Summary of the Key findings

A combined majority of respondents expressed agreement that inflation rate influences mortgage loan uptake highlighting widespread recognition of this relationship. Additionally, perceptions regarding the stability of mortgage interest rates varied among respondents, with a majority disagreeing with the notion of stable rates over the years. Further, opinions were mixed regarding the impact of exchange rates on mortgage uptake, indicating the complexity of this relationship. Additionally, respondents generally disagreed with the idea that the Kenya Shilling currency has been stable over the years. Moreover, a considerable proportion of respondents disagreed with the assertion that exchange rates have no effect on the mortgage uptake in housing finance group Plc.

Over a five-year period, average inflation rates fluctuated, reaching a peak in 2022 and a low point in 2020. In 2022, inflation rose from the previous year due to various factors including increased oil prices, poor rainfall affecting staple food prices, and depreciation of the Kenyan shilling. Conversely, in 2020, inflation decreased due to improved food supply from favorable weather conditions, boosting agricultural output and reducing inflation pressures.

The research findings suggest a consistent decline in average interest rates for mortgage loans over a five-year period, with a gradual decrease from 2019 to 2021. However, there's an upward trend in interest rates between 2018 and 2019 and also slight increase between 2021 and 2022 indicating

a corresponding decrease in mortgage uptake each year. The weighted average mortgage interest rate reported by the company aligns with lending institutions' rates, reflecting the higher risk premium associated with mortgage financing. This trend emphasizes the significance of monitoring and managing interest rate fluctuations in the mortgage market, given their influence on mortgage debt accumulation.

According to the data provided, the Kenya shilling has consistently depreciated against the USD over the last five years. Between 2018 and 2020. However, between 2020 and 2022, there was a significant depreciation in Kenyan currency. This depreciation affected mortgage loan uptake although it was not significant.

Kenya experienced fluctuations in economic growth in recent years. In 2018 and 2019, the GDP s growth rate was 5.6% and 5.10%, however in 2020, the economy faced challenges due to the COVID-19 pandemic, resulting in a decline in economic output with a negative GBP of (-0.30%). This contraction had significant implications, including reduced business investments, decreased consumer spending, and a decline in employment opportunities, leading to financial strain for individuals and households and eventual low mortgage uptake. It's crucial for policymakers to address these challenges and implement strategies to stimulate economic recovery.

5.3 Discussion

The regression analysis of the model reveals that the independent variables, namely GDP growth rate and inflation rate, hold significance in explaining the variation in the mortgage loan uptake in Housing Finance Group (HF), whereas the exchange rate deemed not significant. GDP growth rate representing the output per person in a country, exhibits a positive relationship with mortgage loan uptake in Housing Finance Group (HF), as indicated by the regression model. This economic sense

suggests that individuals are more inclined to take out mortgages when the GDP rate is higher. In Kenya, where mortgages are known to be relatively expensive, a higher GDP rate implies that individuals have more financial capacity, making them more willing to consider mortgage loans. This connection between economic prosperity and mortgage uptake is in line with the general understanding that higher income levels contribute to increased willingness to engage in mortgage transactions (Estate, 2016).

Similarly exchange rates and mortgage values align with economic principles. A higher exchange rate leads to increased value in foreign exchange earned from Foreign Direct Investment (FDI). FDI is recognized as a significant source of financing and a means of transferring technology and know-how between countries (Stephen S Golub, 2011). In Kenya a higher exchange rate encourages foreign investors to invest in the market. When these investors secure mortgages, the favorable exchange rate contributes to more substantial funds being withdrawn from banks. However, according to this study exchange rates do not have a significant influence on the mortgage uptake in Housing finance group Plc.

5.4 Conclusion

The research findings support the first conclusion that there is a statistically significant relationship between inflation and the mortgage loan uptake in Housing Finance Group (HF). This suggests that changes in inflation have a measurable impact on the ability of retail borrowers to repay their mortgage loans thus the higher the inflation the lower the mortgage loan uptake.

The study results affirm the second conclusion, indicating that lending interest rates significantly influence mortgage loan uptake in Housing Finance Group (HF). This implies that variations in

interest rates have a substantial effect on the demand for mortgage loans within Housing Finance Group. The higher the mortgage interest rate the lower the mortgage loan uptake.

The research findings led to the third conclusion that exchange rates have an insignificant effect on the mortgage loan uptake in Housing Finance Group (HF). This implies that fluctuations in exchange rates did not have a notable impact on the demand for mortgage loans within Housing Finance Group (HF).

The study concludes that there is a significant relationship between GDP growth rate and mortgage loan uptake in Housing Finance Group (HF). This suggests that a decline in GDP growth rate, reflecting poor economic growth, adversely affects the uptake of mortgage loans and also increase in GDP growth rate results in increase in mortgage loan uptake within Housing Finance Group.

5.5 Recommendations

The study recommends that the government, through its line ministries and policy institutions, should implement effective inflation control measures to mitigate the effects of inflation on mortgage loan uptake. By doing so, the government can create a more stable economic environment, making it conducive for individuals to pursue and sustain mortgage loans without being unduly burdened by inflation-related challenges.

The study suggests that the management of Housing Finance (HF) in Kenya should consistently review and evaluate the prevailing economic conditions before extending mortgage loans. This proactive approach ensures that loans are granted under favorable economic circumstances, where household and business incomes are growing, and debtors have adequate resources to service their debts. This strategy can contribute to a higher repayment rate and overall loan portfolio performance.

The study recommends that individuals considering mortgage loan uptake should regularly review and monitor any increases in lending interest rates. Borrowers are advised to be vigilant about changes in interest rates and, if necessary, consider repaying their mortgages promptly. Rising interest rates can elevate borrowing costs and impact the borrower's ability to service flexible mortgage loans. Staying informed and responsive to such changes can help borrowers manage their financial commitments more effectively.

5.6 Suggestions for further study

A study can be designed to find out on the impact of taxation on the mortgage uptake in various financial institutions this will help in shading some light on whether introduction of other taxes within a country can impact real estate developments.

From the findings of this study another study can be carried out to study the relationship between inflation and the time taken to complete big construction projects especially the once financed via mortgages.

REFERENCES

Adi, R., Indra, S., Sulaiman, M., & Rusmita, S. (2022).The effect of inflation on gross domestic International Research Journal of Economics and Management Studies. (2014). Product with interest rates as a moderating variable, 2(1), 40-49. https://doi.org/10.56472/25835238/irjems-v2i1p106

Agao, E. A. (2014). The effect of macroeconomic variables on the mortgage uptake for the mortgage industry in Kenya (Doctoral dissertation, University of Nairobi).

Akkoc, U., & Kizilirmak, B. (2021). Household level inflation rates and inflation inequality in Turkey. Business and Economics Research Journal, 12(1), 17-32. https://doi.org/10.20409/berj.2021.308

Almosov, A., Brekhova, Y., Bondareva, S., & Sevostyanova, S. (2021). Globalization of mortgage-backed securities market in Russia: legal impact on transaction economy. SHS Web of Conferences, 129, 10001. https://doi.org/10.1051/shsconf/202112910001

Ariemba, J. M., Kimeu, R. M., & Riri, K. (2015). The Influence of Macro Economic factors on Mortgage Growth in Kenya. Journal of Finance and Accounting, 4(3), 77-85.

Arisa. (2020). The impact of external debt on inflation and exchange rate in Kenya. Research Project submitted to Kenyatta University.

Balele, N. P. (2019). The impact of financial inclusion on economic growth in Sub-Saharan Africa. Journal of Applied Economics and Business, 7(4), 51-68.

Basiri, K., Mahmoudi, B., & Zhou, C. (2022). Who benefits the most? Risk pooling in mortgage loan insurance: evidence from the Canadian mortgage market. Real Estate Economics, 51(2), 311-337. https://doi.org/10.1111/1540-6229.12405

Boamah, N. A. (2019). Secondary Mortgage Market (SMM): Is it Right for Financing Housing in Ghana? Journal of Science and Technology, 29(1).

Central Bank of Kenya. (2022). Annual Report & Financial Statements 2020/21. https://www.centralbank.go.ke/uploads/cbk_annual_reports/569264497_Annual%20repo rt%202020-2021.pdf

Centre for Affordable Housing. (2020). Housing Finance in Africa. A review of Africa's housing finance markets. https://housingfinanceafrica.org/app/uploads/2021/02/2020_CAHF_YEARBOOK_COM P-2.pdf

Chege, S., & Bett, S. (2019). Total Quality Management Practices and Performance of Organizations in the Real Estate Industry, Case of Property Developers in Nairobi City County, Kenya. International Journal of Current Aspects, 3(IV), 14-31. https://doi.org/10.35942/ijcab.v3iIV.44

Chong, F. (2020). Housing price, mortgage interest rate and immigration. Real Estate Management and Valuation, 28(3), 36-44. https://doi.org/10.1515/remav-2020-0022

Dagume, A. (2022). Exchange rate volatility and macroeconomic variables in South Africa. International Journal of Economics and Financial Issues, 12(6), 1-14. https://doi.org/10.32479/ijefi.13446

Dimand, R. W. (2019). Revitalizing the Quantity Theory of Money: From the Fisher Relation to the Fisher Equation. In Irving Fisher (pp. 45-73). Palgrave Macmillan, Cham.

Drumond, I., & Jorge, J. (2013). Loan interest rates under risk-based capital requirements: The impact of banking market structure. Economic Modelling, 32, 602-607.

Egbunike, C. F., & Okerekeoti, C. U. (2018). Macroeconomic factors, firm characteristics and financial performance: A study of selected quoted manufacturing firms in Nigeria. Asian Journal of Accounting Research, 3(2), 142-168. https://doi.org/10.1108/AJAR-09-2018-0029

Forster, R., & Sun, X. (2022). Heterogeneous effects of mortgage rates on housing returns: evidence from an interacted panel var. the Journal of Real Estate Finance and Economics. https://doi.org/10.1007/s11146-022-09902-3

Hass Consult Survey. (2013). Kenyan Property Market. Nairobi: Hass Consult. Retrieved from: https://www.hassconsult.co.ke/images/Q42013/Annual%2520Report.pdf

Hlushchenko, S. (2021). Bank lending in Ukraine and simulation of credit activity by methods of system dynamics. Economics of Development, 19(4), 35-47. doi:10.21511/ed.19(4).2020.04.

Hossain, B. (2022). Determining the impact of economic factors on the gross domestic product in Bangladesh. International Journal of Economics and Financial Issues, 12(1), 37-40. https://doi.org/10.32479/ijefi.12686

Hossain, S., Chin, L., Said, R., & Ishak, S. (2020). Role of remittances on gross domestic product (gdp) growth in developing countries: the case of Bangladesh. Journal of Reviews on Global Economics, 9, 242-248. https://doi.org/10.6000/1929-7092.2020.09.23

Kaboro, J., & Mose, N. (2021). Impact of macroeconomic variables on exchange rate uncertainty. Financial Internet Quarterly, 17(3), 47-55. https://doi.org/10.2478/fiqf-2021-0018

Kadochnikova, E., Boulatova, E., Safiullina, A., & Suycheva, D. (2020). Macroeconomic Determinants of the Mortgage Loan. Utopía Y Praxis Latinoamericana: Revista Internacional De Filosofía Iberoamericana Y Teoría Social, (12), 333-345. https://dialnet.unirioja.es/servlet/articulo?codigo=8132492

Kamati, K. N. (2020). An Analysis of Macroeconomic Determinants of House Price Volatility in Namibia (Doctoral Dissertation, University of Namibia).

Kigomo, J. (2022). Determinants of uptake of mortgage financing for homeownership in Kenya. A Thesis Submitted to Kenya Methodist University.

Kim, Y., & Park, C. (2018). Are exchange rates disconnected from macroeconomic variables? evidence from the factor approach. Empirical Economics, 58(4), 1713-1747. https://doi.org/10.1007/s00181-018-1596-3

Kipyegon, C. N., & Wephukulu, J. M. (2019). Effect of interest rate volatility on mortgage uptake among selected commercial banks in Kenya. The Strategic Journal of Business & Change Management, 6(2), 1887–1901.

KMRC. (2021). 2020 Annual Report Unlocking Liquidity for Affordable Housing. https://kmrc.co.ke/wp-content/uploads/2021/06/Kmrc-Annual-Report-For-Year2020.pdf

KNBS. (2021). Economic Survey, 2021 - Kenya National Bureau of Statistics. https://www.knbs.or.ke/wp-content/uploads/2021/09/Economic-Survey-2021.pdf

Koome, R. (2022). The effect of interest rate on housing prices in Kenya. International Journal of Economics, 7(1), 32-62.

Koskei, I. (2019). Macroeconomic variables and loan delinquency of tea manufacturing companies managed by Kenya Tea Growers Association. A thesis submitted to Kenyatta University.

Koskei, J., Munyua, J., & Odoyo, F. (2019). Effect of economic factors on mortgage uptake in housing finance corporation in Eldoret town, Kenya. The International Journal of Business & Management, 7(1). https://doi.org/10.24940/theijbm/2019/v7/i1/bm1812-001

La Cava, G., Hughson, H., & Kaplan, G. (2016). The household cash flow channel of monetary policy. RBA Research Discussion Papers rdp2016-12, Reserve Bank of Australia.

Lee, K. (2018). Fixed-rate mortgages, labor markets, and efficiency. Journal of Money Credit and Banking, 50(5), 1033-1072. https://doi.org/10.1111/jmcb.12516

Li, J. (2020, November). The Effects of Macroeconomic Factors on Housing Prices in China: Empirical Research and Linear Regression Analysis. In 2020 2nd International Conference on Economic Management and Cultural Industry (ICEMCI 2020) (pp. 471-474). Atlantis Press.

Lou, W., & Yin, X. (2017). The impact of the global financial crisis on mortgage pricing and credit supply. Journal of International Financial Markets, Institutions & Money, (29), 336-363.

Luyali, C. N., & Gekara, M. (2021). Inflation Rate, Exchange Rate and Growth of Mortgage Financing among Commercial Banks in Kenya. International Research Journal of Economics and Finance, 3(3).

Maina, I. (2018). Interest rate and loan repayment in commercial banks in Nyeri county, Kenya. A Research Project Submitted to Kenyatta University.

Marsi, G., & Wardani, D. (2020). The influence of sharia capital market, sharia bonds (sukuk), and bi rate on gross domestic products (gdp) in Indonesia. Journal of Economics Research and Social Sciences, 4(2), 149-162. https://doi.org/10.18196/jerss.v4i2.10156

Muda, I., Dharsuky, A., Asriana, N., & Ridhani, D. (2020). Contribution of real estate activities and financial/insurance industry activities to the formation of gross domestic product. Research in World Economy, 11(3), 192. https://doi.org/10.5430/rwe.v11n3p192

Mugenda, O. M., & Mugenda, A. G. (2003). Research Methods: Quantitative and Qualitative Approaches. Nairobi: Acts Press.

Mungai, E. (2022). Relationship between macroeconomic factors and growth of mortgage financing in Kenya. A research Project Submitted to KCA University.

Mungai, E. (2022). The relationship between macroeconomic factors and growth of mortgage financing in Kenya. KCA University.

Musiałowski, T. (2019). The impact of inflation on the cost of adjustable-rate mortgages. The Central European Review of Economics and Management, 3(4), 113-134. http://dx.doi.org/10.29015/cerem.356

Mutugi, M., Muturi, W., & Oluoch, O. (2021). Residential mortgage price risk and market returns of publicly listed mortgage originators in Kenya. RJFA. https://doi.org/10.7176/rjfa/12-10-10

Mwankemwa, L. P., & Ndanshau, M. O. (2021). Asymmetric Effects of Fiscal Deficit on Monetary Policy Transmission in Tanzania. African Journal of Economic Review, 9(4), 1-22.

Ngigi, K. (2015). Determinants of Real Estate Mortgage Uptake in Kenya. United States International University Africa.

Njongoro, J. N. (2013). The effect of mortgage interest rate on the growth of mortgage financing in Kenya. Unpublished MBA Project. University of Nairobi.

Njoroge, G. M., Koori, J., & Warui, F. (2021). Financing Options and Growth Rate of Real Estate Development Companies in Kenya. International Journal of Current Aspects in Finance, Banking and Accounting, 3(2), 79-103. https://doi.org/10.35942/ijcfa.v3i2.201

Nyoni (2019). Modeling the long-run relationship between inflation and economic growth in Zimbabwe: a bi-variate cointegration (Engle-Granger Two-Step) approach.

Okereke, S. (2023). Access to finance and human development in sub-Saharan Africa. International Journal of Research and Innovation in Social Science, VII(VII), 1222-1233. https://doi.org/10.47772/ijriss.2023.70797

Omondi, O. B. (2018). The effects of macro-economic variables on mortgage loan uptake in selected financial institutions in Nairobi City County, Kenya. A research project submitted to Kenyatta University.

Omondi, P. O. (2017). The Effect of Interest Rates on the Funding of Mortgages by Banks in Kenya (Doctoral dissertation, University of Nairobi).

Omondi, P. O. (2019). The Effect of Interest Rates on the Funding of Mortgages by Banks in Kenya (Doctoral dissertation, University of Nairobi).

Ouma, B. O. (2021). Mortgage financing constraints and housing sector development in Kenya. International Journal of Economics, Commerce and Management United Kingdom, Vol. IX, Issue 4, April 2021.

Owuor, N. D., Githii, W., & Mwangi, M. (2018). The relationship between macroeconomic factors and mortgage market growth in Kenya. European Scientific Journal, 14(10), 68-82.

Rahayu, Y. (2019). Analysis of the effect of mortgage income, gold price, and inflation rate on rahn financial distribution with return on assets as intervening variable. https://doi.org/10.2991/iconies-18.2019.10

Saka, N., & Adegbembo, F. (2022). An assessment of the impact of the construction sector on the gross domestic product (gdp) of Nigeria. Journal of Surveying, Construction & Property, 13(1), 42-65. https://doi.org/10.22452/jscp.vol13no1.4

Shepherd, S. (2016). Systematic global macro. White paper, Research Affiliates.

Shi, Z., Qin, S., Chiu, Y. H., Tan, X., & Miao, X. (2021). The impact of gross domestic product on the financing and investment efficiency of China's commercial banks. Financial Innovation, 7(1), 1-23.

Shi, Z., Qin, S., Chiu, Y. H., Tan, X., & Miao, X. (2021). The impact of gross domestic product on the financing and investment efficiency of China's commercial banks. Financial Innovation, 7(1), 1-23.

Sichinga, J. (2019). Effect of Interest Rates on Loan Repayment: Case Study of Absa Bank Zambia Main Branch.

Simón-Moreno, H., and Kenna, P. (2019). Towards a new EU regulatory law on residential mortgage lending. Journal of Property Planning and Environmental Law, 11(1), 51-66. https://doi.org/10.1108/jppel-06-2018-0017

Steininger, B., and Sturm, M. (2019). interest rate risk, term spreads, and the mortgage contract term. https://doi.org/10.15396/eres2019_227

Udoka, C., and Kpataene, M. (2017). Mortgage financing and housing development in Nigeria. International Journal of Research - Granthaalayah, 5(5), 182-206. https://doi.org/10.29121/granthaalayah.v5.i5.2017.1850

Wang, R., and Balachandran, S. (2021). Inclusionary housing in the united states: dynamics of local policy and outcomes in diverse markets. Housing Studies, 38(6), 1068-1087. https://doi.org/10.1080/02673037.2021.1929863

Wanjiku, K. L. (2015). Determinants of mortgage uptake. Unpublished MBA Project. University of Nairobi.

Wanjiku, S., Bosire, J., & Matanda, J. (2021). Effect of macro-economic factors on financial performance in Kenya of registered real estate investments trusts. International Journal of Finance and Accounting, 6(1), 72–92. https://doi.org/10.47604/ijfa.1381

Weber, Michael, Francesco D'Acunto, Yuriy Gorodnichenko, and Olivier Coibion (2022) "The Subjective Inflation Expectations of Households and Firms: Measurement, Determinants, and Implications." Journal of Economic Perspectives, 36 (3): 157-84.

World Bank. (2017). Kenya Economic Update -World Bank Document: Housing Unavailable and Unaffordable.
https://documents1.worldbank.org/curated/en/988191491576935397/pdf/114115

World Bank. (2022). Kenya Economic Update -World Bank Document: Housing Unavailable and Unaffordable.
https://documents1.worldbank.org/curated/en/988191491576935397/pdf/114115

Xu, T. (2017). The relationship between interest rates, income, GDP growth and house prices. Research in Economics and Management, 2(1), 30-37

APPENDICES

Please complete the following survey in its entirety. The information collected will be utilized solely for the purposes of this research and will not be disclosed to any third parties.

PART I: Personal Information (For Customers)

1. Please specify your gender.

    Male [ ]

    Female [ ]

2. Provide details about your educational background.

    Primary [ ]

    Secondary [ ]

    College/Polytechnic [ ]

    University [ ]

    Other (please specify) _____

3. Have you received any formal training?

    Yes [ ]

    No [ ]

4. If yes, please describe your professional education: _____

PART II: Employment Information (For Employees Only)

5. Which department do you supervise?

    Human Resource [ ]

    Strategic Management [ ]

    Operations/Sales Department [ ]

6. The period in years of real estate investing experience do you have

Less than Five years [ ]

5-10 years [ ]

10-15 years [ ]

15-20 years [ ]

Over 20 years [ ]

7. Indicate your educational level.

University [ ]

College [ ]

Secondary [ ]

8. Please indicate whether you agree or disagree with the following statements by selecting the appropriate box: 5 = strongly agree, 4 = agree, 3 = unsure, 2 = disagree, and 1 = strongly disagree.

Inflation Rate	1	2	3	4	5
The country's inflation rate has an impact on mortgage demand.					
Over the years, the inflation rate has remained steady.					
The country's GDP growth is owing to the high inflation rate that the economy has been facing.					
Because of the high inflation rate, consumer confidence is high.					
Interest Rate					
Mortgage uptake is highly correlated to mortgage interest rates					
Mortgage Interest rates have been stable over the years					
Exchange Rates					

Mortgage uptake is highly affected by exchange rates in the country.					
Kenya Shillings currency has been stable over the years					
Exchange rates have no effect on mortgage prices					
GDP Growth					
Mortgage uptake is affected by GDP growth in the country.					
GDP has been increasing over the years					
Tax Incentive changes					
Mortgage uptake is affected by Tax incentives induced by the government					
The government has been giving tax incentives to home owners over the years					

9. Suggest methods for lowering mortgage interest rates in order to entice more people to

   take out mortgage loans …………………………………………………………

   …………………………………………………………………………………………

PART III: (To be completed by the customer)

10. Are you satisfied with steps put forward by HF Group Plc to increase mortgage uptake?

    …………………………………………………………………………………………

    ………………………………………………………………………………………

11. What, in your opinion, should HF Group Plc do to reduce the cost of mortgages?

…………………………………………………………………………………………………

………………………………………………………………………………………………

Appendix II :Data Extraction Tool

Year	2018	2019	2020	2021	2022
Quarterly Inflation Rate (measured by CPI)					
Quarterly Mortgage Interest Rate (Interest Rate)					
Average quarterly rate of depreciation of native currency (Kenyan shillings) against US dollar					
Quarterly GDP Growth Rate (ratio of GDP of the successive years)					
Number of Mortgages taken					
Tax Incentive changes					

Appendix III: Research Budget

Budget Items	Number	Cost Per Unit	Total Cost
Internet and transportation services are available.		9,000	9,000
Software Licensing	1 SPSS version 26 month rental	6,000	6,000
Other		26,000	26,000
Total			41,000

Appendix IV: Research Work Plan

Activity	June	Jul	Aug	Sept	Sept	Oct	Nov	Dec

Task									
Determine the research topic.	🟥								
Write the first chapter of the study proposal.		🟥							
Review of the literature			🟥						
Create a research technique.				🟥					
Prepare to defend of the proposal.					🟥				
Data gathering and analysis						🟥			
Finalise the draught.							🟥		
Final submission of the project								🟥	