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# Effect of Housing Investments on the Relationship between Mortgage Financing and Economic Growth in EAC Member Countries

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## Abstract

Mortgage financing is a critical part of financial systems that contribute to financial markets development and deepening and has potential positive effects on a country's financial and economic growth. Housing investment is important in an economy as it influences on savings, employment, labor productivity and total investment. This study sought to establish the effect of housing investments on the relationship between mortgage financing and economic growth in EAC member countries. The study adopted the Theory of Investment Multiplier. The researcher utilized a positivist research philosophy and both a descriptive and explanatory research designs. Secondary data was gathered through country-specific Central Bank reports, World Bank reports, IMF reports, as well as Africa Development Bank (AfDB) reports between January 2001 and December 2020. Descriptive statistics, correlation analysis, and panel data model estimations were conducted. The study concluded that the association is statistically significant. Failure to reject the hypothesis implies that housing investments does not mediate the relationship between mortgage financing and economic growth among EAC member countries. The study recommends decision makers to come with measures aimed at boosting value of mortgage accounts in the EAC community member countries, as this will translate in growth in real estate sector and perhaps other sectors in the economy.

**Keywords:** *Housing Investments, Mortgage Financing & Economic Growth*

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### 1.1 Introduction

Mortgage financing is a major factor determining the quality and tenure of housing uptake, usefulness of the financial system and stability and the general financial portfolio of the public (Olawumi, Adewusi & Oyetunji, 2019). Mortgage financing leads to increased housing investments that act as catalysts for enhanced economic growth (Amidu, Agboola & Musa, 2016). Housing investment is important in an economy as it influences on savings, employment, labor productivity and total investment (Chen & Zhu, 2008). Housing investment consists of purchases of new housing units, whether by households or firms (Deng & Chen, 2019). Housing investment also includes the construction of new residential buildings and major renovations of existing buildings (Okidim & Ellah, 2013). There are two ways in which housing investments are classified; that is: the renovation type and exchange type. The renovation types of investments are those that include new construction projects, reconstruction, renovations, modernization of residential buildings and complete repairs. Housing investments of exchange type are investments in procurement of existing housing units that form the foundation of exchange processes on the secondary housing market (Ovsiannikova, Rabtsevich & Yugova, 2017).

Housing investment comprises of a momentous fraction of fixed investment in all market economies (Hanişoğlu & Azer, 2017). Hence, housing investments is an important source of national capital creation, employment formulation and income generation. Huge investments in housing inspire the demand for labor in the building and construction industries and thus influence income generation in the economy. Thus, housing is a significant component of household consumption and savings (Jagun, Daud & Samsudin, 2019). The housing sector has a considerable influence on other economic sectors and affects some sectors with the multiplier effect such as construction sector, paint industry, furniture sector, retail industry and financial sector (Hanişoğlu & Azer, 2017).

Housing investment involves large capital outlay unlike the investment of probably small sums in some other investment vehicles (Hanişoğlu & Azer, 2017). Thus, housing investment appraisal is an essential element of a reliable security system occurrence that affected the housing delivery outcomes and hence resulted in a loss of the output within the projected growth (Jagun, Daud & Samsudin, 2019). Furthermore, housing investment is perceived as a long-term investment that yields a hedge against high inflation (Ofor & Alagba, 2019). The current study adopted owner occupancy rate as a measure of housing investments due to its wider applicability in previous literature.

### 1.2 Research Problem

Mortgage financing is a critical part of financial systems that contribute to financial markets development and deepening and has potential positive effects on a country's financial and economic growth (Bah, Faye & Geh, 2018). An effective mortgage market guarantees long-term returns since it entices investors. Mortgage financing leads to increased housing investments that act as catalysts for enhanced economic growth (Amidu, Agboola & Musa, 2016). Housing investment is important in an economy as it influences on savings, employment, labor productivity and total investment (Chen & Zhu, 2008). Contextually, in 2017, the EAC grew at a rate of 5.9%, far higher than the world (3.6%) and Sub-Saharan African (3.6%) averages. Meanwhile, EAC and Sub-Saharan Africa as a whole remains the poorest region in the world, with 48.5 percent of the population living per day on less than $1.25. The number of adults with outstanding credit is exceptionally low, at around 5% of adults as of 2017. Mortgage lending is still in its infancy. At

the end of 2017, the amount of outstanding mortgage loans in the region was less than 5% of GDP (World Bank, 2018). The owner occupancy rate which is a measure of housing investments stood at estimated 2% of the adult population (AfDB, 2019). The EAC member countries have also faced macroeconomic volatility challenges such as depreciating currencies, rising inflation rates and fluctuations in lending rates (World Bank, 2018). EAC therefore offered a good context to study the effect of mortgage financing on the economy.

### 1.3 Research Objectives

To establish the effect of housing investments on the relationship between mortgage financing and economic growth in EAC member countries

### 2.1 Literature review

### The Theory of Investment Multiplier

The investment multiplier theory was conceptualized by Kahn (1930) and further advanced by Keynes (1936) and postulates that higher income translates into higher consumption at the increased investment level (Bortis, 2008). A detailed association is provided by the theory between the aggregate income and rate of investment, given the marginal propensity to consume (Gechert, 2012). According to the theory, the investment level is basically the discounted future profits, this is a consequence of capital's marginal efficiency measured against the market interest rate, which balances money demand and supply (Wray & Tymoigne, 2008). The theory postulates that it is through economic activities that have great significance to a nation that the housing investments multiplier effect to a great degree can be discovered, for instance: - production of machinery and equipment, construction and provision of personal services and production of building materials (Ovsiannikova, Rabtsevich & Yugova, 2017). The theory also indicates that major sources of wealth in developed countries that is housing and stock markets (Ovsiannikova, Rabtsevich & Yugova, 2017).

The main critique of this theory arises from its proposition that financial resources for investment are appropriated by commercial banks through creation of credit (Bortis, 2008). For instance, the borrower holds a debt and a deposit once a loan is granted, and the borrower spends the money on newly produced capital goods and the producer accepts deposits that can be deemed as transitory saving. Another party earns and transitionally saves the resources if they are spent later on, hence only the investment has created wealth. Thus, finance creates saving through investment (Gechert, 2012). The major critique of this argument is that even though there are more complex expositions that can into take account leakages owed to taxes as well as imports, the actual multiplier size is frequently mechanically calculated as the marginal propensity to save inverse (Wray & Tymoigne, 2008).

In this study, the theory supports that the renovation type of housing investments produce greater multiplier effect thus has larger significance for economic growth, which change the housing investments markets into growing point of a nation's economy. This theory therefore supports objective two of the research study which was the effect of housing investments on the correlation between mortgage financing and housing investments.

### 2.2 Empirical review

Hongyu, Park and Siqi (2022) examined the impact of mortgage financing, housing investments and non-housing investments on economic growth. The study collected secondary data between

1981 and 2000 where analysis was carried out via the Granger causality and the vector autoregression (VAR) approaches. The study found that on the short run housing investment had stronger effect on economic growth while on the long run both housing and non-housing investments had a positive impact on GDP growth. There exists a methodological gap as the study used VAR which has its limitation as it does not shed any light on the underlying structure of the economy. Further, the study did not investigate the mediating effect of housing investment on economic growth as it was considered an independent variable and therefore a conceptual gap.

Yüksel and Kavak (2019) sought to determine whether mortgage loans and housing investments have an influence on economic growth in Turkey. In this context, as the variable of the mortgage, the ratio of the mortgage loans to the total loans is taken into consideration. In addition, the increase ratio in GDP is used as an economic growth variable. On the other hand, Engle-Granger cointegration analysis is considered in this study in order to reach this objective. In the analysis process, firstly, the variables are subjected to the ADF unit root test, and it is understood that both variables become stationary by taking first order differences. It is identified that there is a long-term relationship between mortgage loans and economic growth in Turkey. There exists a conceptual gap as the study treated housing investments and mortgage financing as one variable yet the two variables can be analyzed separately.

In Kenya, Kieti and K'Akumu (2018) examined factors influencing investments in the mortgage-housing segment. Using a multivariate regression technique, the researchers created an empirical model to show the underlying factors affecting housing investments in Kenya. The study documented that investments in the mortgage housing segment in Kenya was significantly driven by a collection of factors that include mortgage loan characteristics for instance: - type of mortgage, loan to value and mortgage cost as well as the macroeconomic environment and property attributes. This study focused only in Kenya and so a gap remains on the other EAC member countries. Further, the intervening influence of housing investments was not established.

Udoka and Kpataene (2017) examined mortgage financing and housing development in Nigeria. To achieve this objective, data were extracted from CBN statistical bulletin and National Bureau of Statistics from 1990 to 2014. The Error Correction Model established causal links and dynamic interactions between variables by granger causality test. The result of the findings showed a significant relationship between mortgage financing and housing development in Nigeria. Variables such as mortgage loan and interest rate had positive and significant impact on housing development while cost of building had a negative effect on housing development in Nigeria. There exists a conceptual gap, as the study did not address the mediating effect of housing investments on the relationship between mortgage financing and economic growth.

### 2.3 Conceptual Framework

This study conceptual model comprises of mortgage financing and economic growth as the independent and dependent variables while housing investments as the mediating variables respectively.

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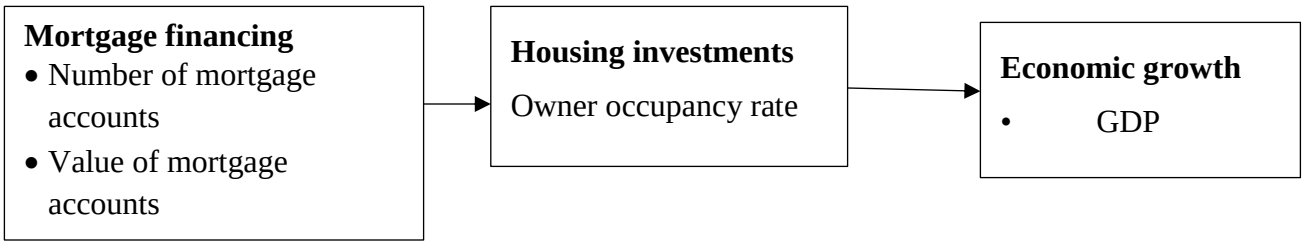


**Figure 1: Conceptual Model**

### 2.4 Research Hypotheses

**$H_1$**: There is no significant intervening effect of housing investments on the relationship between mortgage financing and economic growth of EAC member countries

### 3.1 Research Methodology

The study prescribed to the positivist beliefs. Predictions were made on the basis of established theories and actual observations of realities. The study sought to establish empirical facts and through statistical methods to determine relationships among variables. Formulated hypotheses in the study were tested and confirmed or rejected through statistical methods leading to recommendations according to the study findings.

Both descriptive and explanatory research designs were used for this research. This study's population comprised of the six countries that form the EAC namely; Kenya, Tanzania, Uganda, Burundi, Rwanda and South Sudan. Due to the aspect of the population is moderately small, a census of the 6 countries was undertaken for the study. The study used unbalanced panel data due to some states such as South Sudan that have newly been incorporated into EAC.

Secondary data was used in this research. Secondary data was gathered through country-specific Central Bank reports, World Bank reports, IMF reports, as well as Africa Development Bank (AfDB) reports between January 2001 and December 2020 and captured in a data collection sheet. The 20-year period was considered long enough to provide adequate data to achieve the research objectives.

The data obtained on housing investments and economic growth was analyzed using descriptive statistics (mean, standard deviation, skewness and kurtosis). Regression analysis (simple regression analysis, multiple regression analysis and stepwise regression analysis) were used to establish the nature and magnitude of the relationships between the variables of the study and to test the hypothesized relationships. Descriptive statistics such as frequencies and percentages were computed. Data was presented in form of tables. Pearson's correlation analysis was used to measure the degree of linear relationship between the variables of the study.

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### 4.1 Results and Findings

### 4.2 Descriptive Statistics

In order to arrive to the conclusion of the general understanding of the secondary data obtained from EAC country-specific Central Bank reports, World Bank reports, IMF reports, as well as Africa Development Bank (AfDB) reports for the period between January 2001 and December 2020, the researcher calculated the mean, standard deviation, minimum and maximum of the study variables.

**Table 1: Summary of Descriptive Statistics of Study Variables**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| GDP growth rate | 109 | -46.1 | 13.2 | 4.334 | 6.1979 |
| Number of mortgage accounts | 109 | 110.0 | 27993.3 | 5919.100 | 6661.0551 |
| Log no. of mortgage accounts | 109 | 2.0 | 4.4 | 3.525 | .4948 |
| Value of mortgage loans | 109 | 562.8 | 237715.0 | 53644.359 | 57212.3800 |
| Log value of mortgage accounts | 109 | 2.8 | 5.4 | 4.463 | .5597 |
| Owner occupancy rate | 109 | 17.7 | 61.3 | 38.155 | 9.5498 |
| Interest rate | 109 | 10.1 | 26.2 | 16.687 | 2.9271 |

These outcomes presented in Table 1 display that economic growth as measured by GDP growth rate had a mean of 4.334 and standard deviation of 6.198 as well as a minimum and maximum values of -46.1 and 13.2, in the order given. The outcomes indicated that the GDP growth rate averaged 4.334. The results are coherent in line with study conducted by Mogaka et al. (2015); UNCTAD (2017) and World Bank (2017) who all said that EAC growth rate averages between 3% and 5%. This indicated that EAC member countries economic growth have been consistent with slight increase over the years. The variation in the results of the research can be traced backed to the market situation when the study was conducted.

The study also sought to establish the descriptive statistics of mortgage financing over the last 20 years (2001 to 2020). The measures of mortgage financing were the number of mortgage accounts and the value of mortgage accounts in each EAC country. The results revealed that the number of mortgage accounts had a mean of 5919.1 and a standard deviation of 6661.1 while the value of mortgage finance had a mean of 53,644 million dollars and a standard deviation of 57,212. This finding is in line with AfDB (2019) and Centre for Affordable Housing Finance in Africa (2020) who found that mortgage financing is scarce in EAC member countries owing to restricted access to capital markets and strict collateral requirements.

The findings relating to GDP growth rate and mortgage financing in EAC member countries could be based on the nature of the data and the macroeconomic situation that prevailed in the country. The interest rate in EAC member countries over the last 20 years had a mean of 16.68 and a standard deviation of 2.93 and minimum and maximum of 10.1 and 26.2 respectively.

The study also focused on housing investments that can act as mediators in this study. Housing investments were measured using owner occupancy rate. The results revealed that owner

occupancy rate in EAC for the last 20 years (2001 to 2020) had a mean of 38.155% and a standard deviation of 9.55, and a min and max of 17.7% and 61.3% as indicated. This confirms the study conducted by Ofor and Alagba (2019) which concluded that African countries have a low level of housing investments compared to other economies. The findings are also in line with Kieti and K'Akumu (2018) who examined factors influencing investments in the mortgage-housing segment in Kenya and concluded that owner occupancy rate in Kenya is still low. The current study has extended the findings of this study to cover other East African Community member countries.

### 4.3 Hypothesis Testing

The second objective of the study looked into the intervening impact of housing investments on the relation between mortgage financing and the economic growth of the EAC member countries. The following hypothesis was put to the test.

*Ho: Housing investments have no significant intervening impact on the relation between mortgage financing and the economic growth of the EAC member countries.*

The researcher utilized Baron and Kenny's (1986) technique to explore the intervention impact. Multiple regression analyses were carried out in four phases, with the significance of the coefficients assessed at each stage. The first two phases utilize simple linear regression, whereas the third and fourth steps used multiple regressions.

**Step 1:** Evaluate the independent and dependent variables' correlations. Show that the predictor and dependent variables are related. A statistically significant relationship should exist. This step determines that a relationship exists that can be mediated.

**Step 2:** Estimate the association between the independent and mediator variables. Demonstrate that the independent variable and the mediator are correlated. This stage essentially requires treating the mediator as an outcome variable.

**Step 3:** Control for the independent variable and estimate the connection among the intervening and the criterion variable. Show that the mediator affects the dependent variable.

**Step 4:** The connection among the independent and criterion variables is insignificant in the mediator's presence. The impact of the independent variable on the dependent variable should be zero when controlling for the mediator, demonstrating that the mediator mediates the independent-dependent variable relationship.

The Baron and Kenny (1986) approach for testing mediation presumes that the independent variable predicts the dependent variable significantly. The researcher used the Hausman specification test to decide between fixed and random effects. The Hausman specification test outcomes are shown in Table 2. Since P-value is less than 0.05, the Fixed-Effects regression model is preferred.

**Table 2: Hausman Specification Test for Objective Two**

| chi2(3) | P-Value |
|---|---|
| 12.26 | 0.0001 |

Null Hypothesis: The appropriate mode is the Fixed Effects Model

Source: Research Findings (2022)

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To determine whether housing investments has a mediating effect on the relationship between mortgage financing and economic growth, the study utilized Baron and Kenny's (1986) four-step approach for testing mediation effects. In Step 1, the association between number of mortgage accounts and economic growth was estimated using a Fixed-Effects regression model.

Table 3 shows the results of the regression analysis. F-test statistic was statistically significant, F (1, 107) = 7.68, $p<0.05$, which means that the regression model was statistically significant. Based on these results, number of mortgage accounts ($\beta = 1.316$, $p<0.05$) is a significant predictor of economic growth. R- Squared =0.031, suggests that number of mortgage accounts accounts for 3.1% of the variance in the economic growth of EAC member countries.

**Table 3: Number of Mortgage Accounts and Economic Growth**

| **Economic growth** | **Coef.** | **Std. Err.** | **P>t** |
|---|---|---|---|
| Number of mortgage accounts | 1.316** | 0.497 | 0.007 |
| _cons | 4.218** | 0.123 | 0.000 |
| R-squared | 0.031 | | |
| F(1, 107) | 7.68 | | |
| Prob > F | 0.0069 | | |

* $p<0.05$

Source: Research Findings (2022)

Regression Equation:

$$\text{Economic growth}_{it}=\beta_0+\beta_1\text{Number of mortgage accounts}_{it}+\varepsilon_{it}$$

The Regression equation can be rewritten as follows:

$$\text{Economic growth}_{it}=4.218+1.316\ \text{Number of mortgage accounts}_{it}+\varepsilon_{it}$$

In Step 2, the relationship between the independent variable (number of mortgage accounts) and the mediator variable (housing investments) was investigated using a fixed-effects regression model. In this step, the mediator is treated as the outcome variable. F-test statistic was statistically non-significant, F (1, 107) = 2.01, $p>0.05$, which means that the regression model was not statistically significant. Number of mortgage accounts ($\beta = 0.322$, $p>0.05$) insignificantly predicts housing investments based on these results.

**Table 3: Number of Mortgage Accounts and Housing Investments**

| **Housing Investments** | **Coef.** | **Std. Err.** | **P>t** |
|---|---|---|---|
| No. of mortgage accounts | 0.322 | 0.691 | 0.118 |
| _cons | 1.944* | 0.276 | 0.000 |
| R-squared | 0.01 | | |
| F(1, 107) | 2.01 | | |
| Prob > F | 0.1180 | | |

* $p<0.05$

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In step 3 of the mediation model, economic growth was regressed on housing investments to evaluate the association between the dependent variable and housing investments (mediator). Table 4 presents the results of the Fixed-effects regression analysis.

**Table 4: Housing Investments and Economic Growth**

| **Economic growth** | **Coef.** | **Std. Err.** | **P>t** |
|---|---|---|---|
| Housing investments | 0.144 | 0.546 | 0.101 |
| _cons | 1.399* | 0.216 | 0.000 |
| R-squared | 0.011 | | |
| F(1, 107) | 2.07 | | |
| Prob > F | 0.1009 | | |

* p<0.05

Source: Research Findings (2022)

F-test statistic was not statistically significant, F (1, 107) = 2.07, p>0.05, which means that the regression model was statistically not significant. Based on these results, housing investments (β = 0.144, p>0.05) insignificantly predicts economic growth. The R-squared (R2) value was 0.011, indicating that housing investments account for 1.1 percent of the change in the economic growth of EAC member countries.

Economic growth was regressed on number of mortgage accounts and housing investments in step 4 of the mediation model (Model 4). The outcomes of the fixed-effects regression analyses are shown in Table 5. The regression model was statistically significant, with F (2, 106) = 45.1, p<0.05, indicating that the F-test statistic was statistically significant. Number of mortgage accounts (β = 1.426, p<0.05) is a significant predictor of economic growth based on these findings. However, housing investments (β = 0.053, p>0.05) insignificantly predicts economic growth. The R-squared ($R^2$) value was 0.041, signifying that number of mortgage accounts and housing investments together account for 4.1 percent of the variance in economic growth of EAC member countries.

**Table 5: No. of Mortgage Accounts, Housing Investments and Economic Growth**

| Economic growth | Coef. | Std. Err. | P>t |
|---|---|---|---|
| No. of mortgage accounts | 1.426** | 0.511 | 0.004 |
| Housing investments | 0.053 | 0.038 | 0.165 |
| _cons | 1.851** | 0.256 | 0.000 |
| R-squared | 0.041 | | |
| F(2, 106) | 5.1 | | |
| Prob > F | 0.0062 | | |

** p<0.05

Source: Research Findings (2022)

Regression Equation:

$$\text{Economic growth}_{it}=\beta_0+\beta_1\text{No. of mortgage accounts}_{it}+\beta_2\text{Housing investments}_{it}+\varepsilon_{it}$$

The regression equation can be rewritten as follows:

$$\text{Economic growth}_{it}=1.851+1.426\text{No. of mortgage accounts}_{it}$$

To determine if the Mediator (housing investments) mediates the relationship between economic growth and number of mortgage accounts, step 1 of the mediation model must be statistically significant. According to the findings ($p<0.05$), the association is statistically significant. The mediator should be statistically significant and correlated with the independent variable (number of mortgage accounts) (step 2). Model 2 was not statistically significant according to the study outcomes. Step 3 requires that the mediator and the dependent variable have a statistically significant relationship. According to the outcomes, there was statistically not significant association between economic growth and housing investments ($p>0.05$). There was no statistically significant relationship between economic growth, number of mortgage accounts, and housing investments ($p>0.05$). Because the independent variable and the mediator had no significant relationship (step 2) and the mediator variable (housing investments) is not a significant predictor of economic growth (step 3), the relationship between number of mortgage accounts and economic growth is not mediated by housing investments.

To determine whether housing investments mediates on the relation between value of mortgage accounts and economic growth, the four-step approach provided by Baron and Kenny (1986) for investigating mediation effects was employed. Economic growth was regressed on value of mortgage accounts in step 1 of the mediation model to determine the link between value of mortgage accounts and economic growth. Table 6 displays the results of the fixed-effects regression analysis. The regression model was statistically significant, with $F(1, 107) = 10.66$, $p<0.05$, indicating that the F-test statistic was statistically significant. Value of mortgage financing ($=1.754$, $p<0.05$) is a significant predictor of economic growth based on these findings. The R-squared ($R^2$) was 0.045, indicating that value of mortgage accounts is responsible for 4.5 percent of the variance in the economic growth of EAC member countries.

**Table 6: Value of Mortgage Accounts and Economic Growth**

| Economic growth | Coef. | Std. Err. | P>t |
|---|---|---|---|
| Value of mortgage accounts | 1.754* | 0.532 | 0.001 |
| _cons | 3.268* | 0.466 | 0.000 |
| R-squared | 0.045 | | |
| F(1, 107) | 10.66 | | |
| Prob > F | 0.0005 | | |

* $p<0.05$

Source: Research Findings (2022)

Regression Equation:

$$\text{Economic growth}_{it}=\beta_0+\beta_1\text{Value of mortgage accounts}_{it}+\varepsilon_{it}$$

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The regression equation can be rewritten as follows:

$\text{Economic growth}_{it} = 3.268 + 1.754\text{Value of mortgage accounts}_{it}$

In Step 2, the relationship between the independent variable (value of mortgage accounts) and the mediator variable (housing investments) was investigated using a fixed-effects regression model. In this step, the mediator is treated as the outcome variable. F-test statistic was statistically non-significant, F (1, 107) = 0.09, p>0.05, which means that the regression model was statistically not significant. Table 7 presents these results indicating that value of mortgage accounts (β = 0.185, p>0.05) insignificantly predicts housing investments.

**Table 7: Value of Mortgage Accounts and Housing investments**

| Housing investments | Coef. | Std. Err. | P>t |
|---|---|---|---|
| Value of mortgage a/c | 0.185 | 0.671 | 0.112 |
| _cons | 3.688 | 0.562 | 0.000 |
| R-squared | 0.008 | | |
| F(1, 107) | 0.09 | | |
| Prob > F | 0.1118 | | |

* p<0.05

Source: Research Findings (2022)

In step 3 of the mediation model, economic growth was regressed on housing investments to evaluate the association between the dependent variable and housing investments (mediator).

Table 8 summarizes the results of the fixed-effects regression analysis.

**Table 8: Housing Investments and Economic Growth**

| Economic growth | Coef. | Std. Err. | P>t |
|---|---|---|---|
| Housing investments | 0.144 | 0.546 | 0.101 |
| _cons | 1.399* | 0.216 | 0.000 |
| R-squared | 0.011 | | |
| F(1, 107) | 2.07 | | |
| Prob > F | 0.1009 | | |

* p<0.05

Source: Research Findings (2022)

The regression model was statistically not significant, with F (1, 107) = 2.07 and p>0.05. According to these findings, housing investments (= 0.144, p>0.05) insignificantly predicts economic growth. The R-squared ($R^2$) value was 0.011, indicating that housing investments account for 1.1 percent of the variance in the economic growth of EAC member countries.

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In step 4 of the mediation model (Model 4), economic growth was regressed on value of mortgage accounts and housing investments. The fixed effects regression analysis outcomes are shown in Table 9.

**Table 9: Value of Mortgage A/Cs, Housing Investments and Economic Growth**

| Economic growth | Coef. | Std. Err. | P>t |
|---|---|---|---|
| Value of mortgage financing | 1.322* | 0.379 | 0.001 |
| Housing investments | 0.049 | 0.211 | 0.175 |
| _cons | 4.061* | 0.162 | 0.000 |
| R-squared | 0.061 | | |
| F(2, 106) | 7.33 | | |
| Prob > F | 0.0006 | | |

* $p<0.05$

Source: Research Findings (2022)

The F-test statistic, F (2, 106) = 7.33, $p<0.05$, was statistically significant. Value of mortgage accounts (= 1.322, $p<0.05$) is a significant predictor of economic growth based on these findings. However, housing investments (= 0.049, $p>0.05$) does not significantly predict economic growth. The R-squared ($R^2$) value was 0.061, indicating that value of mortgage accounts and housing investments account for 6.1% of the variance in the economic growth of EAC member countries.

Step 1 of the mediation model must be statistically significant to establish whether housing investments mediates the association between economic growth and value of mortgage accounts. Moreover, according to the findings of the study, the correlation is statistically significant (p0.05). The mediator and the independent variable (value of mortgage accounts) must be correlated, and the relationship must be statistically significant (step 2). According to the outcomes, model 2 was not statistically significant in this investigation. Step 3 requires a statistically significant association between the mediator and the dependent variable (economic growth). According to the study, the association between the housing investments and the economic growth was statistically not significant ($p>0.05$). Economic growth, value of mortgage accounts, and housing investments had a statistically significant connection ($p<0.05$). The independent and dependent variables had a statistically insignificant association (step 2). Step 3 requires that the mediator and the dependent variable have a statistically significant relationship (economic growth). According to the study's findings, there was no statistically significant relationship between economic growth and housing investments ($p>0.05$). There was a statistically significant relationship between economic growth, value of mortgage accounts, and housing investments ($p<0.05$). Because the independent variable and the mediator have no significant relationship (step 2), and the mediator variable predicts economic growth insignificantly (step 3), housing investments has an insignificant mediating impact on the association between value of mortgage accounts and the economic growth.

H1 investigated whether housing investments have a mediation effect on the link between mortgage financing and economic growth by suggesting that housing investments insignificantly mediate the association between mortgage financing and economic growth of EAC member countries. Two mortgage financing indicators were analyzed separately. This study indicates that housing investments have no mediation influence on the link among mortgage financing indicators

and the economic growth of EAC member countries since none of the mortgage financing indicators fulfilled the entire Baron and Kenny's (1986) steps for testing the mediating influence as indicated in tables 3 to 9. Therefore, the research failed to reject H1.

### 6.3 Conclusions

The study evaluated the intervening influence of housing investments on the connection between mortgage financing and economic growth of EAC member countries. The research hypothesized that the intervening influence of housing investments on the connection between mortgage financing and economic growth of EAC member countries is not significant. The study concluded that the association is statistically significant. Failure to reject the hypothesis implies that housing investments does not mediate the relationship between mortgage financing and economic growth among EAC member countries.

### 6.5 Recommendations

The findings showed that the value of mortgage accounts had a positive and significant influence on economic growth among EAC member countries. This implies that if value of mortgage accounts were to increase, it would imply that more people now own their houses which reduce their expenditure on rent and this eventually translates to increased economic growth. The study recommends decision makers to come with measures aimed at boosting value of mortgage accounts in the EAC community member countries, as this will translate in growth in real estate sector and perhaps other sectors in the economy.

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