

Analysis of the Relationship between Domestic Savings and Domestic Investment in Saudi Arabia

BENLARIA HOUCINE¹, MESSEN KERROUMIA², ABDERRAHMANE ABDELKADER³,
TAHA KHAIRY TAHA IBRAHIM⁴, NASARELDEEN HAMED AHMED ALNOR⁴,
HAKIM BERRADIA⁴

¹Business Administration Department,
Jouf University,
SAUDI ARABIA

²Business Administration Department,
Saida University,
ALGERIA

³Adrar University,
ALGERIA

⁴Department of Accounting,
Jouf University,
SAUDI ARABIA

Abstract: - This study aims to examine the relationship between domestic savings and domestic investment in Saudi Arabia for the period 1980-2019. The study uses annual data and employs the simple linear regression model and EViews program for analysis. The results show a positive direct relationship between domestic savings and domestic investment, with approximately 25% of the total domestic investments in the study period attributed to changes in the volume of Saudi financial savings. The study also reveals that other economic variables contribute more significantly to the levels of domestic investment. The findings suggest that Saudi policymakers should focus on increasing the volume of financial savings and implementing policies that encourage domestic investment to boost economic growth. The study has certain limitations, and future research should explore the impact of other economic variables on domestic investment in Saudi Arabia.

Key-Words: - Domestic savings, domestic investment, simple linear regression, equilibrium relationship, economic development, Saudi Arabia

Received: February 28, 2023. Revised: September 2, 2023. Accepted: September 14, 2023. Published: September 22, 2023.

1 Introduction

Scholars have studied the contribution of savings and investment to economic growth, [1], and research on the interaction between investment and saving has taken a fair share, [2]. Domestic savings accelerate the rate of investment and boost productivity, [3]. [4] observed the increase in domestic investment elevates the competitiveness of the country, mainly investments in infrastructure; investment also creates productive capacities and disseminates knowledge and technology. Therefore, due to the importance of the topic, over the years many studies have been conducted on developed and developing countries, Among the studies that were conducted on the Kingdom of Saudi Arabia

found it difficult to accurately define investment and savings at the level of the Kingdom's economy, and they tried to study the relationship between savings and investment and their impact on economic growth, [5]. They concluded that there is a one-way causality extending from private saving to private investment, an obscure relationship between investment and economic growth at both the aggregate and private levels, and they confirmed came with, that the saving-investment relationship would not exist in the case of the perfect capital mobility, [6]. Our study tested the null hypothesis stating that domestic saving does not lead to domestic investment, depending on the gross domestic investment as a dependent variable and the Saudi domestic savings as the independent variable,

results approved and come consistent with economic theory which means that the level of saving impacts the volume of investment in Saudi Arabia. results proved the validity of the study hypothesis i.e. a positive direct relationship does exist between the levels of domestic saving and the level of domestic investments in the period from 1980 to 2019, this coincides with the findings of many scholars, [7], [8], [9], [10], [11]. Despite this, the study reviewed other points of view that emphasized that the relationship between investment and saving is insignificant, [12], [13], [14], as well as studies that attributed the existence of the relationship between investment and saving for certain reasons, [15]. Thus the main objective of this study was to identify the trend of the impact of the relationship between domestic investment and domestic savings in the kingdom. Furthermore, this study presented a conceptual framework that would contribute to clarifying theories and research related to the topic. Moreover, the study aimed to capture the attention of policymakers by offering recommendations to help make an effective and successful investment policy. In contrast to many other studies, this one focused on domestic investment and domestic savings, and the most important thing is that it dealt with the case of the Kingdom of Saudi Arabia, this topic had not previously been tackled, and if any, it is rarely discussed. After this introduction, the remainder of the paper is organized as follows: Section 2 presents studies that dealt with investment, savings, economic growth, and what affects the nexus between them, the next Section discusses the study population, variables, and the study model. While results are presented in section 4, the last Section summarizes some policy implications.

2 Literature Review

In, [16], the study confirmed both Keynesian and classical theories that were based on the assumption that all savings should be invested. Theoretically, savings and investment are the two key intermediate macro variables that play an important role in economic growth, [17]. According to, [18], economic growth included domestic investment in addition to other components such as human capital, government expenditure, etc, [18]. In, [19], the study stated that savings and investment are the engines of growth, [19]. Relatively, in, [20], the study indicated through a study conducted in Vietnam that domestic savings and investment are the driving force of economic growth in the long term, [20]. In, [21], noted that accumulating high

levels of investment in a country achieves higher and faster rates of economic growth and development, [21]. In, [22], the study investment and saving rates are linked and determined by the rate of economic growth, and this is in the case of imperfect international labor mobility, [22]. In the same context, [23], demonstrated that by reducing domestic savings rates and capital formation, growth rates also reduced. In, [24], the study noted that in developing countries growth is positively associated with domestic savings and foreign capital inflows, [24]. [6], also emphasized that the similarity between national saving and investment does not necessarily lead to equality in local saving and investment, and the difference between the two may be for a long time and the reason the international capital flows. [25], emphasized the relationship between investment, domestic savings, and long-term economic growth, at the same time he indicated that economic growth is what leads to saving and not the other way around. While, [10], explained that an elevation in savings achieves an elevation in domestic investment level and therefore in growth. [26], explained that savings funds and self-export revenues may be better than external funding, [9], Determined economic growth is achieved only if savings are allocated to productive investment, they added, developing countries adopted self-financing and domestic savings during the 1990s, and these countries were able to score faster growth rates compared to peers, [27], supplemented domestic savings in developing countries are important for innovation and then for growth. [28], proved the positive impact of domestic savings on real income in the Turkish economy. [8], found that saving and investment are correlated with China's economy. Indicated that the strength of the link between domestic savings rates and domestic investment increased when resources did not flow between countries, [29]. In their study, [7], introduced gross domestic product GDP into the link between savings and domestic investment, where they identified the positive relationship between GDP and savings, adding that the latter has a positive effect on investment and that increasing investment also has a positive effect on GDP. [30], tried to relate the rates of domestic investments and GDP as dependent variables to the rate of domestic savings and GDP as independent variables. explained how saving and investment are related to consumption, international labor mobility, and population growth, [30]. [31], demonstrated the role that real interest may play in determining the relationship between domestic saving and investment. [32], added, in the long-term

technological advancement or population growth, imperfect labor mobility may be involved in explaining the relationship between investment and saving. [6], examined the relationship of the domestic saving rate to the rate of domestic investment in the major industrialized countries, they concluded that the existence of a relationship between the two variables necessitated taking into account the perfect world capital mobility. The results of, [1], study were consistent with the findings i.e. there is a lack of cointegration between investment and savings, and according to them, this situation is likely to prevail in developing countries, where there is a high mobility of capital and where domestic investment is not financed by domestic saving. In several studies, the relationship between saving and investment has been interpreted as a positive correlation, and this was under the conditions of perfect international capital mobility, whereas, [8], and other scholars have reconsidered the saving-investment relationship that, [33], deduced, including which pointed out that this was not necessarily the correct explanation. [6], also examined the strength of the country's economy, the degree of its openness, and its impact on the strength of the link between domestic savings and domestic investment; they concluded that the difference between countries in the relationship between investment and saving does not necessarily mean that the reason is the size of the economy. According to the, [34], model, the strongest and most positive correlations between investment and savings belong to larger countries. [35], explained that the size of the country has a role in determining the relationship between investment and savings, especially if it is linked to the size of the effect on the global interest rate. [36], clarified the nexus between investment and saving by introducing another variable, namely the real exchange rate. Various studies have examined what might affect the relationship between the two variables such as, [33] which analyzed accurately the impact of production technology perturbations on the nexus between saving and investment. On his side, [23], stated that foreign direct investment may negatively affect saving trends in developing countries. Philip (1995) considered Structural factors as influential factors that have a significant impact on both investment and saving. For, [37], even the number of children headed by a typical family is one of the factors affecting the saving rate. [38], stated that the country's dependence on foreign capital weakens the role of domestic savings and investment, as well as leads to external shocks. Other factors could influence domestic saving rates such as

demographic factors, income level, financial development, and some other relevant determinants. In addition to the aforementioned, [39], [40], worked on studies that identified this relationship and they concluded the one-way causal link between saving and investment. In a study conducted on 23 OECD countries, [32], demonstrated a positive correlation between saving and domestic investment in the long and short term. [41], proved the two-way causal relationship between these variables. [42], proved positive bidirectional causality between savings and domestic investment, in the short and long-run and this study was conducted on 16 Sub-Saharan African countries. While some studies have concluded that there is no causal relationship between saving and investment, [14], and, [15], indicated that in many studies the correlation between investment and saving is due to the currency premium, otherwise, the correlation between them is insignificant.

3 Data and Methods

The applied part of this study seeks to explore and measure the impact of the equilibrium relationship between domestic savings and domestic investment in Saudi Arabia, through employing the simple linear regression model and EVIEWS.8 program.

3.1 Source of Data

This study adopts the data represented in variables extracted from human development indicators issued by the World Bank and updated on 07/07/2020. These data are periodically updated and are also downloadable from the following website: www.worldbank.org

3.2 Study Population

The study population is composed of some time series which includes reviewing the period from 1980 through 2019. The statistical series data under study are illustrated in Appendix No. 01. To realize the study objectives, the following points should be considered:

- The time series under study representing a variable of the Saudi macroeconomic indicators must be in effect during the study period.
- All data and information explaining the variables under study should be available during the study period.

3.3 Study Variables and Model

To verify and test the study hypotheses to realize the objective of identifying the trend of the impact of the relationship between domestic investment and domestic savings in Saudi Arabia. To this end, the following variables have been identified:

- The dependent variable: it is represented by the gross domestic investment chain and it is denoted as INVEST; it is also expressed in the current prices of the national currency.

- The independent variable: To build a good standard model for our study, the following independent variables have been introduced:

* Saudi domestic savings: as a variable, it is referred to as "Saving" and is expressed in the current prices of the national currency.

3.4 Description of the Study Model

The study model is written in the following logarithmic formula; therefore, we can write the model obtained from the calculation of elasticity that shows the percentage of the impact of each variable on the other in the Saudi economy. So, we can write the model according to the following mathematical equation:

$$L. Invest = C_0 + C_1 L. Saving + \varepsilon$$

Where: C1: parameters of the estimated model. C0: constant L: logarithm function

e: It expresses the value of the random error resulting from measurement errors, or the miscalculation of the standard model by neglecting some external variables that cannot be measured at times, especially concerning qualitative variables such as (good governance, business climate,

democracy, and other variables that can explain the estimated model).

4 Results of the Study

4.1 Determining the Lag Time

Table 1 shows the regression analysis's optimal lag selection test. The log-likelihood (LogL), likelihood ratio (LR), final prediction error (FPE), Akaike Information Criterion (AIC), Schwarz Criterion (SC), and Hannan-Quinn Criterion (HQ) have been used in regression analysis for lags 0–3.

The lowest criterion determines the appropriate number of delays. Since most measures have the lowest values for this lag selection, it suggests that 1 is the ideal number of lags.

For one lag, the LogL, LR, FPE, AIC, SC, and HQ are -74.83309, 67.42446, 3.934067, 4.207194, 4.337809, and 4.253242, respectively.

LR tests the null hypothesis that residuals are serially uncorrelated. The regression uses a lagged dependent variable since the LR value is significant for one lag, showing a serial correlation in the residuals.

4.2 Studying Stationarity of Time Series

To test the stationarity of time series, we adopt the augmented Dickey-Fuller test (ADF). Table 2 illustrates the impact of this test on the three models studied (in the presence of a constant, in the presence of a constant and a trend, and in the absence of a constant and a trend).

Table 1. Optimal Lag Selection

Lags	LogL	LR	FPE	AIC	SC	HQ
0	-111.5199	NA	27.07040	6.136212	6.223289	6.166911
1	-74.83309	67.42446*	3.934067*	4.207194*	4.337809*	4.253242*
2	-74.79535	0.067325	4.146146	4.259208	4.433361	4.320605
3	-74.78821	0.012340	4.378310	4.312876	4.530568	4.389623

* indicates lag order selected by the criterion, LR: sequential modified LR test statistic (each test at 5% level), FPE: Final prediction error, AIC: Akaike information criterion, SC: Schwarz information criterion, HQ: Hannan-Quinn information criterion

Table 2. Stationarity of Time Series Using ADF

Variable	At the level			The first difference			Degree of Stationarity
	Intercept	Intercept and trend	None	Intercept	Intercept and trend	None	
Linvest	0.88	0.61	0.90	0.00	0.00	0.00	I(1)
LSaving	0.37	0.17	0.47	0.00	0.00	0.000	I(1)

Source: Prepared by the researchers using EViews

Table 2 provides the results of an Augmented Dickey-Fuller (ADF) test for stationarity on two variables, Linvest and LSaving. The ADF test is a statistical test used to determine whether a time series is stationary or not. Stationarity is an important property of time series data that is required for many statistical analyses.

The Table 2 presents the test results for both the level and first difference of the variables, with the degree of stationarity indicated in the final column. The ADF test is performed with both an intercept and trend term (Intercept and trend), and without (None).

The results show that both Linvest and LSaving are integrated in one order, denoted by I(1), which means that they are non-stationary in their original form. However, after taking the first difference, both variables become stationary, as evidenced by the p-value of 0.00 in all cases.

For example, for Linvest, the p-value for the test at the level is 0.88 with an intercept term and 0.61 with an intercept and trend term. However, after taking the first difference, the p-value is 0.00, indicating that the series is now stationary.

As shown in the graphical method illustrated below, time series are non-stationary at the level as they take the form of an increasing trend over time (Figure 1), but when the first difference is conducted, it was observed that the oscillation of the time series under study go around the zero value, making them stationary at a first degree as proven by ADF (Figure 2).

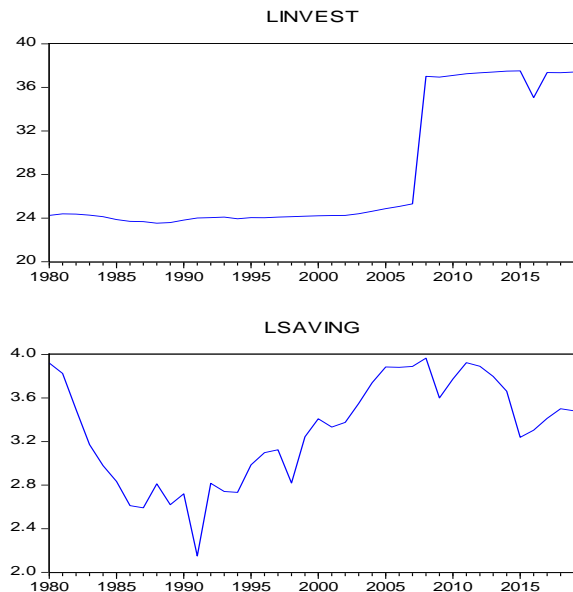


Fig. 1: Non-stationarity of both time series at the level

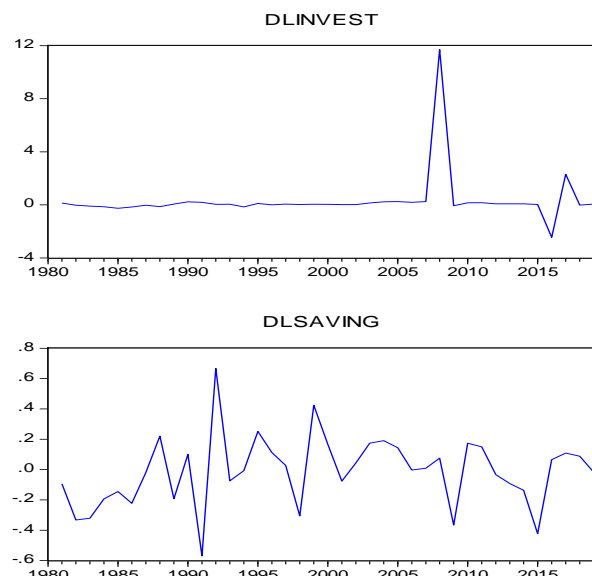


Fig. 2: Stationarity of both time series at first difference

Studying the causal relationship between both variables under study: To identify the trend of the impact of the relationship between domestic investment and volume of the domestic savings in Saudi Arabia during the study period, Pairwise Granger Causality Test was employed as illustrated in Table 3.

Table 3. Granger causality test

<i>Lags:1</i>				
	<i>Null Hypothesis:</i>	Obs	F-Statistic	Prob.
	<i>LSAVING does not Granger Cause LINVEST</i>	39	3.55167	0.0676
	<i>LINVEST does not Granger Cause LSAVING</i>		0.12975	0.7208

Source: Eviews (author's computation)

Table 3 shows the Granger causality test findings. The Table 3 shows LSAVING and LINVEST paired Granger causality test results. One period elapses between tests. Each test assumes one variable does not Granger cause the other. If the null hypothesis is rejected, the first variable does Granger cause the second variable? Each test's F-statistic and probability value (Prob.) are listed. If the probability value is less than a pre-determined significance level (typically 0.05 or 0.01), the null hypothesis is rejected and Granger causality exists. At 0.05 significance, LSAVING does not Granger induce LINVEST. The probability value is 0.0676, which exceeds 0.05. LSAVING Granger may cause LINVEST.

The likelihood value of 0.7208 exceeds the 0.05 significance level, indicating that LINVEST does not Granger induce LSAVING. Table 3 shows weak Granger causation from LSAVING to LINVEST in the Saudi Arabian economy over the research period. LINVEST-LSAVING Granger causality is not supported. Granger causality implies a predicted link between two variables, not a causal relationship.

4.3 Estimating the Model Parameters

The least squares method was utilized to estimate the linear relationship between the levels of domestic investment and the size of financial savings in Saudi Arabia during the study period. With the help of the standard software adopted, the following estimates shown in Table 4 have been obtained.

The linear regression model assesses the association between domestic investment (LINVEST) and domestic savings (LSAVING) in Saudi Arabia over the study period in Table 4. Table 4 contains numerous statistical measures to evaluate the model's fit and the calculated coefficients' statistical significance. The coefficient of LSAVING is 6.318566, meaning that a 1-unit

increase in domestic savings increases domestic investment by 6.318566 units. With a p-value of 0.0010, the coefficient is statistically significant at 1%. We may reject the null hypothesis that the coefficient is zero and conclude that domestic savings and domestic investment in Saudi Arabia throughout the study period are positively correlated. The model explains 25.20% of the dependent variable (LINVEST) variation with an R-squared value of 0.252036. The approach may miss additional Saudi domestic investment determinants.

The regression standard error (S.E.L) is 5.270028, indicating the average deviation of observed data from model predictions. The Durbin-Watson score is 0.206152, suggesting model residual autocorrelation.

Through Table 4, the linear relationship that links the dependent variable representing the levels of domestic investment and the volume of domestic savings can be formulated as follows:

$$L. Invest = 7.221 + 6.318L. Saving + \epsilon$$

Table 4. Estimation of the linear relationship

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
C	7.221159	5.882763	1.227511	0.2272
LSAVING	6.318566	1.765777	3.578349	0.0010
R-squared	0.252036	Mean dependent var		28.05950
Adjusted R-squared	0.232353	S.D. dependent var		6.014950
S.E. of regression	5.270028	Akaike info criterion		6.210655
Sum squared resid	1055.381	Schwarz criterion		6.295099
Log likelihood	-122.2131	Hannan-Quinn criteria.		6.241187
F-statistic	12.80458	Durbin-Watson stat		0.206152
Prob(F-statistic)				0.000965

Source: Prepared by the researchers using Eviews

4.4 Statistical and Economic Study of the Model

The statistical significance of a model is often evaluated by analyzing the coefficient of determination R2 and the Fisher coefficient. In this study, the R2 value is equal to 0.252, indicating that 25.2% of the total investments during the study period can be explained by changes associated with the volume of Saudi financial savings. Additionally, the Fisher coefficient has a probability associated with it that is less than the critical value at 5%, indicating that the independent variable is significant and better able to explain the dependent variable. The other independent factors explain 75% of domestic investments. The Student's t-test determined each variable's probability error to establish each parameter's significance. The software shows that the Student's t-test probability for total domestic savings is less than the crucial value at 5%, validating its statistical importance and contribution to the calculated model. The constant is not statistically significant in the analyzed model since the chance of error for the student's t-test statistic is more than the critical value, i.e., less than 5%. Thus, the constant does not explain Saudi Arabia's 1980–2019 total domestic investment–domestic savings relationship.

The model's statistical and economic analysis shows that Saudi Arabia's total domestic investment and domestic savings were positively correlated during the defined period. These findings support economic theory on the direct relationship between these two factors and can inform regional strategy.

4.5 Cointegration and Error Correction Model

Since both time series under study have been found stationary at the first difference, this confirms that an interrelation of cointegration does exist. This

illustrates the existence of a long-run equilibrium relation. Accordingly, this model allows for proving the existence of a short-run equilibrium relation, which can be proved by the error correction model. The following Table 5 illustrates the residuals series which were found to be stationary at the level; this is considered to be a condition necessary for proving the existence of the error correction model.

Table 5 presents the results of the Error Correction Model (ECM) test, which is used to investigate the short-run dynamics of the relationship between the dependent variable (DV) and the independent variable (IV). The DV in this case is the domestic investment and the IV is the domestic savings. The ECM model tests for the existence of a short-run equilibrium relationship between the two variables, which is reflected in the coefficient of the lagged error term (E(-1)) in the model.

The results of the ECM test show that the coefficient for the constant term (C) is 0.347667, with a t-statistic of 1.058802 and a p-value of 0.2969. This suggests that the constant term is not statistically significant at the 5% level, which means that it does not contribute significantly to explaining the variability in the DV. The coefficient for the IV (DLSAVING) is 0.541126, with a t-statistic of 0.376197 and a p-value of 0.7090. This suggests that the IV is not statistically significant at the 5% level, which means that it does not have a significant effect on the DV in the short run.

It is evident from the outputs of the standard software that the error parameter, which is lagged by one period, is negative, and this verifies the validity of the error correction model since the disequilibrium that takes place, in the long run, is corrected in the short term by 4.7%.

Table 5. The Error Correction Model Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
C	0.347667	0.328358	1.058802	0.2969
DLSAVING	0.541126	1.438412	0.376197	0.7090
E(-1)	-0.047329	0.173455	-0.272858	0.7866
R-squared	0.007858	Mean dependent var		0.342440
Adjusted R-squared	-0.048835	S.D. dependent var		1.974959
S.E. of regression	2.022608	Akaike info criterion		4.322309
Sum squared resid	143.1830	Schwarz criterion		4.451592
Log likelihood	-79.12387	Hannan-Quinn criteria.		4.368307
F-statistic	0.138612	Durbin-Watson stat		1.997878
Prob(F-statistic)			0.871041	

Source: Prepared by the researchers using Eviews

4.6 Verifying the Quality of the Model

The quality of the model is associated with studying the following three tests:

1. Normality Distribution Test for Errors:

Based on the graph shown below, it is evident that the error series associated with the estimated model takes the shape of a normal distribution.

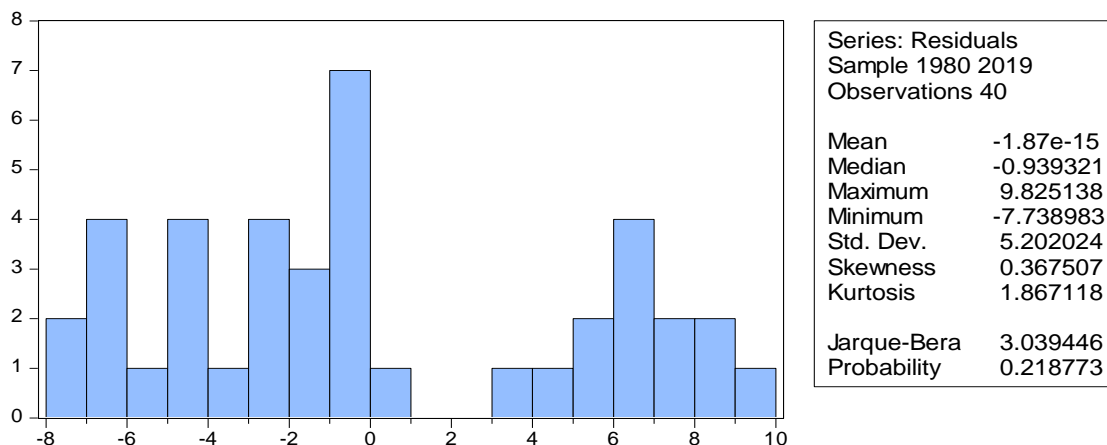


Fig. 3: Residuals Normality Distribution

Source: Prepared by the researchers based on the standard software outputs

Based on the Figure 3, the probability of error distribution is 0.21 which is greater than the critical value of 5%. This proves that errors follow the normal distribution law.

4.7 Serial Correlation Test

Through Breusch-Godfrey Serial Correlation LM Test, it has been found that the probability corresponding to Fisher's Statistic as well as the coefficient of determination is greater than the critical value at 5%. This shows that there is no correlation between errors as illustrated in Table 6.

The Breusch-Godfrey Serial Correlation LM Test, which tests model error terms for serial correlation, is shown in Table 6. The null hypothesis is no serial correlation in error terms, while the alternative hypothesis is a serial correlation. F-

statistics and p-values show the test findings. The F-statistic and p-value measure the test's significance. F-statistic 1.774620, p-value 0.1590.

The model error terms show no serial correlation. The Obs R-squared statistic, which measures the correlation between the dependent variable and fitted values, supports this. The ObsR-squared statistic is 4.044893 with a p-value of 0.1198, indicating that the dependent variable and fitted values are not correlated.

Through Autoregressive conditional heteroskedasticity (ARCH) as shown below, the probability corresponding to Fisher's Statistic as well as the coefficient of determination is greater than the critical value at 5% which makes errors heteroskedastic.

Table 6. Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.774620	Prob. F(2,24)	0.1590
Obs*R-squared	4.044893	Prob. Chi-Square(2)	0.1198

Source: Prepared by the researchers based on the standard software outputs

Table 7. Heteroskedasticity Test ARCH

F-statistic	0.136176	Prob. F(1,27)	0.7150
Obs*R-squared	0.145529	Prob. Chi-Square(1)	0.7028

Source: Prepared by the researchers based on the standard software outputs

Table 7 reports the results of the heteroskedasticity test using the ARCH (Autoregressive Conditional Heteroskedasticity) model. The null hypothesis is that there is no heteroskedasticity in the residuals, while the alternative hypothesis is the presence of heteroskedasticity. The test statistic is an F-statistic, with its associated probability value (Prob. F). The results indicate that the F-statistic is 0.136176 and the associated probability value is 0.7150, indicating that there is no evidence of heteroskedasticity in the residuals. Additionally, the test statistic based on the Chi-Square distribution is 0.145529, with a probability value of 0.7028, which is also greater than the significance level of 0.05. This suggests that there is no significant evidence of heteroskedasticity.

5 Discussion

The study results suggest a significant relationship between the volume of Saudi financial savings and domestic investment in Saudi Arabia. The R² coefficient of determination value of 0.252 indicates that approximately 25.2% of the total investments during the study period can be attributed to changes in the volume of Saudi financial savings. The Fisher coefficient confirms the statistical significance of the independent variable and its ability to explain the dependent variable. Therefore, policymakers should focus on increasing the volume of financial savings to boost domestic investment in Saudi Arabia.

The study also found that the total domestic savings variable is statistically significant and contributes to explaining the estimated model. However, the constant variable was not statistically significant, implying that other factors are playing a more significant role in explaining the relationship between Saudi financial savings and domestic investment. Policymakers and investors in Saudi Arabia should focus on identifying and addressing other variables that can help improve the domestic investment scenario.

The study employed the Error Correction Model to analyze the existence of a short-run equilibrium relation and found that the residual series were stationary at the level, which is necessary for proving the existence of the error correction model. The results of the Breusch-Godfrey Serial Correlation LM Test and the Heteroskedasticity Test ARCH indicate that the model's residuals are free from serial correlation and heteroskedasticity, respectively, which confirms the validity of the model's results.

The standard model confirms the study's hypothesis that a positive direct relationship exists between domestic savings and domestic investments. The study found that domestic savings in Saudi Arabia during the study period only contributed 25% to the total domestic investments, while other economic variables made significant contributions to the levels of domestic investment by more than 75%.

While the findings of this study provide valuable insights into the relationship between Saudi financial savings and domestic investment, several limitations should be acknowledged. Firstly, the study only covers the period from 1980 to 2019, and therefore, the results may not apply to other periods. Additionally, the study only considers a limited number of economic variables that can affect domestic investment, and there may be other important variables that have not been included in the analysis. Furthermore, the study relies on secondary data sources, and there may be issues with the accuracy or completeness of the data. Finally, the study does not take into account external factors, such as global economic conditions, that can impact domestic investment in Saudi Arabia. Therefore, caution should be exercised when interpreting the results of this study, and further research is needed to address these limitations and provide a more comprehensive understanding of the relationship between Saudi financial savings and domestic investment.

6 Conclusion

In conclusion, this study provides valuable insights into the relationship between domestic savings and domestic investment in Saudi Arabia. The results show a positive and significant relationship between the two variables, indicating that an increase in domestic savings can boost domestic investment. However, the contribution of domestic savings to total domestic investment is relatively low, with other economic variables playing a more significant role. The study also highlights the importance of addressing factors beyond domestic savings to improve the domestic investment scenario in Saudi Arabia. The use of statistical tests to check the model's validity adds further confidence to the findings. While this study provides valuable insights, it is important to note its limitations, such as the use of a single regression model and data from a limited period. Future research can build on these findings by using a more comprehensive set of variables and exploring the relationship between domestic savings and investment in different

economic contexts. The recommendations offered to Saudi policymakers in this study can help guide efforts to improve the domestic investment scenario and promote sustainable economic development in the country.

7 Recommendations and Suggestions

Based on the Findings of the study, the following recommendations and suggestions can be made:

Further research is needed to explore the factors that may be affecting the relationship between Saudi financial savings and domestic investment. This may include investigating the impact of macroeconomic variables such as interest rates, inflation, and exchange rates on the relationship between financial savings and domestic investment. Domestic savings in Saudi Arabia constitute a cornerstone in bringing about comprehensive economic development, through providing funds to investment projects as well as initiating small and medium enterprises that serve as stimuli to the economic life of the Kingdom. Therefore, public authorities must take the following considerations into account to help make an effective investment policy:

- Providing more incentives to the Saudi citizen, especially about depositing money with public and private banks.
- Creating the legal and economic environment necessary for employers to carry out their investment activities.
- Stimulating the private sector, by encouraging the entrepreneurial spirit among Saudi youth.
- Providing additional facilities for introducing manpower into Saudi Arabia that could make considerable contributions to accelerating investment activities.
- Establishing financial banks for financing investment activities, along with giving them the facilities necessary to finance the activities of Saudi youth.
- Hiring external expertise in the domain of initiating small and medium enterprises between Saudis and their foreign counterparts, to create a sense of competitiveness in the quality of Saudi products.

The study has some limitations that should be taken into consideration. The sample size used in the study is relatively small, and the data is only available up to 2019. Therefore, further studies using a larger sample size and more recent data are needed to confirm the validity of the findings. Additionally, the study only focuses on the

relationship between financial savings and domestic investment and does not consider the impact of other variables such as government spending, taxes, and regulations. Therefore, future research should take into account these variables to provide a more comprehensive analysis of the domestic investment scenario in Saudi Arabia.

References:

- [1] Masauso, N., Venkatesh, S. (2019). The Relationship between Domestic Savings and Investment in Zambia with Special Reference to the Feldstein-Horioka Puzzle. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB)*. 8(1). pp.2724-2742
- [2] Itoe, B., Atangana, E. M. (2015). Savings-investment relationship in Cameroon: Vector autoregressive analysis. *International Invention Journal of Arts and Social Sciences*. 2(3). pp.33–43.
- [3] Ben, O., Gobna O.W., Auta, E. M. (2012). Savings, Investment and Economic Growth in Nigeria: An Empirical Analysis, *The IUP Journal of Monetary Economics*. 5(1). pp.16-38. <https://ssrn.com/abstract=2152366>
- [4] Szent-Iványi, B., Vigvári, G. (2012). Spillovers from Foreign Direct Investment in Central and Eastern Europe. *Society and Economy*. 34(1). pp.51-72.
- [5] Abdulelah, A., Hamed, A. (2019). The Relationship between Saving and Investment: The Case of Saudi Arabia. *International Journal of Economics and Finance*. 11(11). 64-71. DOI: 10.5539/ijef.v11n11p64.
- [6] Feldstein, M., Horioka, C. (1980). Domestic Saving and International Capital Flows; *The Economic Journal*. 90(358). pp.314-329.
- [7] Katircioğlu, S., Naraliyeva, A. (2006). Foreign Direct Investment, Domestic Savings and Economic Growth in Kazakhstan: Evidence from Co-integration and Causality Tests. *Investment Management and Financial Innovations*. 3(2). pp.34-45. https://www.researchgate.net/publication/285706981_Foreign_Direct_Investment_Domestic_Savings_and_Economic_Growth_in_Kazakhstan_Evidence_from_Cointegration_and_Causality_Tests
- [8] Pares, K.N. (2005), The saving and investment nexus for China: evidence from cointegration tests. *Applied Economics*. 37 (17). pp.1979-1990

- <http://dx.doi.org/10.1080/00036840500278103>
- [9] Aizenman, J., Pinto, B., and Radziwill, A. (2007). Source for financing domestic capital: Is Foreign saving a viable option for developing countries? *Journal of International Money and Finance*. 26 (5). pp.682-702.
- [10] Domar, E. (1946). Capital Expansion, Rate of Growth, and Employment. *Econometrica*. 14(2). pp.137-147. <https://www.jstor.org/stable/1905364?seq=1>
- [11] Huifang, C., Manuchehr, S., and Zbang, S. (2005). The Crowding-Out Effects Of Foreign Direct Investment On China's Domestic Investment. *The International Journal of Finance*. 17(2). pp.3486-3511
- [12] Obstfeld, M. (1986). Capital Mobility in the World Economy Theory and Measurement. *Carnegie-Rochester Conference Series on Public Policy*.
- [13] Taylor, A. M. (1994). Domestic Saving and International Capital Flows Reconsidered. *National Bureau of Economic Research Working Paper 4892*.
- [14] Ramakrishna, G, and Rao, SV., "The long-run relationship between savings and investment in Ethiopia: a cointegration and ECM approach", 2012, *Developing Country Studies*, Vol.2, no.4, pp.1-7.
- [15] Nobuyoshi, Y. 1995. The relationship between domestic savings and investment: The Feldstein-Horioka test using Japanese regional data. *Economics letters*. 48(3_4). pp.361-366, [https://doi.org/10.1016/0165-1765\(94\)00616-A](https://doi.org/10.1016/0165-1765(94)00616-A)
- [16] Osaretin, K., Fredrick, I. (2017). Dynamic interaction between savings, investment and economic growth in Nigeria: a vector autoregressive (var) approach, *The Journal of Developing Areas*. 51 (3). pp.267-280. <https://doi.org/10.1353/jda.2017.0072>.
- [17] Kinnalane, P. (2017). Impacts of Foreign Capital Inflows on Domestic Savings in 6 ASEAN Countries: A Panel Data Analysis. *International Journal of Management, Accounting, and Economics*. 4(5). pp.486-517.
- [18] Borensztein, E., De Gregorio, J., and Lee, J.-W. (1998). How Does Foreign Direct Investment Affect Economic Growth? *Journal of International Economics*. 45(1). pp.115-135. [https://doi.org/10.1016/S0022-1996\(97\)00033-0](https://doi.org/10.1016/S0022-1996(97)00033-0)
- [19] Lewis, W.A., 1955. *The theory of economic growth*. Homewood, Ill: R. D. Irwin.
- [20] Nhung, N., Hiep H. N. (2017). Impacts of domestic savings on the economic growth of Vietnam. *Asian Journal of Economic Modelling*. 5(3). pp.245-252.
- [21] Shiimi, I. W., Kadhikwa, G. (1999). Savings and Investment in Namibia, *BON Occasional Paper*. 2. Windhoek.
- [22] Maxwell J. (1986). Terms-of-Trade Dynamics in Asia : An Analysis of National Saving and Domestic Investment Responses to Terms-of-Trade Changes in 14 Asian LDCs. *Journal of International Money and Finance*. 5(1). pp.57-73. [https://doi.org/10.1016/0261-5606\(86\)90050-1](https://doi.org/10.1016/0261-5606(86)90050-1)
- [23] Weisskoff, T. E. (1972) An econometric test of alternative constraints on the growth of underdeveloped countries, *Review of Economics and Statistics*, 54(1), Part II, pp. 67-78.
- [24] Stoneman, C. (1976) Foreign capital and economic growth. *World Development*, 3, pp. 11-26. Weisskoff, T. E. (1972) An econometric test of alternative constraints on the growth of underdeveloped countries, *Review of Economics and Statistics*, 54(1), Part II, pp. 67-78.
- [25] Verma, R., 2007. Savings, investment and growth in India: An application of the ARDL bounds testing approach. *South Asia Economic Journal: Journal of the Institute of Policy Studies, Sri Lanka and Research and Information System for NonAligned and Other Developing Countries, India, for the SAARC Research Network*, 8(1): pp.87-98.
- [26] Wong, H. K., Jomo, K. S. (2005). Before the Storm: The Impact of Foreign Capital Inflows on the Malaysian Economy, 1966-1996, *Journal of the Asia Pacific Economy*. 10 (1). pp.56-69 .
- [27] Philippe, A., Diego, C., Peter, H., and Isabel, T. (2016). When does domestic savings matter for economic growth. *IMF Economic Review & 2016 International Monetary Fund IMF Economic Review* Vol. 64, No. 3, 2016 *International Monetary Fundm*, DOI: 10.3386/w12275.
- [28] Nigar, T. (2014). Foreign Direct Investment, Domestic Savings, and Economic Growth: The Case of Turkey. *International Journal of Economic Perspectives*. 8(1). pp.12-21.
- [29] Penati, A., Dooley, M. (1984). Current Account Imbalances and Capital Formation in Industrial Countries 1949-81. *International Monetary Fund Staff Papers*. pp.31. 1-24.

- [30] Frankel, Jeffrey A., Michael Dooley, and Donald Mathieson, 1987, "International Capital Mobility: What do Saving-Investment Correlations Tell Us? International Monetary Fund Staff Papers. Vol. 34, September, pp. 503-530 .
- [31] Cardia, E., (1991). The Dynamics of a Small Open Economy in Response to Monetary, Fiscal and Productivity Shocks. Journal of Monetary Economics, forthcoming. 28(3). pp.411-434. [https://doi.org/10.1016/0304-3932\(91\)90033-K](https://doi.org/10.1016/0304-3932(91)90033-K)
- [32] Linda L. T. (1991). Saving, investment and international capital flows. Journal of International Economics. 31(1-2). pp.55-78. [https://doi.org/10.1016/0022-1996\(91\)90056-C](https://doi.org/10.1016/0022-1996(91)90056-C)
- [33] Mary G. F. (1990). On savings and investment dynamics in a small open economy. Journal of International Economics. 29(1-2). pp.1-21. [https://doi.org/10.1016/0022-1996\(90\)90061-P](https://doi.org/10.1016/0022-1996(90)90061-P)
- [34] Baxter, M. (1995). International trade and business cycles. Handbook of international economics, 3, pp.1801-1864.
- [35] Philip, M. B. (1995). National Savings and Domestic Investment in the Long Term: Some Time Series Evidence from the Oecd. International Economic Journal. 9(2). pp.37-60.
- [36] Engel, C., Kletzer, K. (1989). Saving and Investment in an Open Economy with Non Traded Goods. International Economic review. 30(4). pp.735-752. <https://www.jstor.org/stable/2225181?origin=JSTOR-pdf&seq=1>
- [37] Fry, M.J., Andrew, M. (1982). The Variable Rate-of-Growth Effect in the Life-Cycle Saving Model: Children, Capital Inflows, Interest and Growth in a New Specification of the Life-Cycle Model Applied to Seven Asian Developing Countries. Economic Inquiry. 20(3). pp.426-442.
- [38] Harrod, H. F. (1939). An Essay in Dynamic Theory. The Economic Journal. 49(193). pp.14-33.B, <https://www.jstor.org/stable/2225181?origin=JSTOR-pdf&seq=1>
- [39] Dritsaki, C. (2015). The long-run relationship between saving and investment in Greece. International Journal of Economics and Finance. 7(9). pp.179-192. DOI: 10.5539/ijef.v7n9p178.
- [40] Ogbokor, C.A., Musilika, OA. (2014). Investigating the relationship between aggregate savings and investment in Namibia: A causality analysis. Research Journal of Finance and Accounting. 5(6). pp.82-89.
- [41] Mishra, PK, Das, JR, and Mishra, SK. (2010).The Dynamics of Savings and Investment Relationship in India. European journal of economics, finance and administrative sciences, 18. pp.163-172.
- [42] Nurudeen. A., Mohd, Z. A. (2016).THE relationships between foreign direct investment, domestic savings, domestic investment, and economic growth: the case of Sub-Saharan Africa. Society and Economy. 38 (2). pp.193-217, DOI: 10.1556/204.2016.38.2.4.

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy).

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

No funding was received for conducting this study.

Conflict of Interest

The authors have no conflict of interest to declare.

Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)

This article is published under the terms of the Creative Commons Attribution License 4.0 https://creativecommons.org/licenses/by/4.0/deed.en_US