



Size Of Savings and Its Impact on Private Investment In The Iraqi Economy For The Period (2004-2023): An Econometric Study

Marwa Allawi Naji*

University of Al-Qadisiyah, College of Administration and Economics, Department of Economics

DOI:

<https://doi.org/10.47134/jea.v3i3.1053>

*Correspondence: Marwa Allawi Naji

Email: Marwa.A.Naji@qu.edu.iq

Received: 19-01-2026

Accepted: 10-02-2026

Published: 27-02-2026



Copyright: © 2026 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license

(<http://creativecommons.org/licenses/by/4.0/>).

Abstract: The research was based on identifying the theoretical and conceptual framework for both saving and private investment, in addition to analyzing and measuring the reality and impact of saving on private investment in Iraq during the period (2004-2023). Given the importance of these two variables from an economic perspective, the research aimed to identify some economic variables represented by savings and private investment, as well as to analyze the reality of changes in savings and private investment in Iraq during the period (2004-2023). Also, the study addressed the standard aspect to determine the size of the impact that savings can have on private investment during the research period in Iraq. The ARDL distributed interval model was used based on the stability results, where both savings and private investment were stable at the specified level. Furthermore, there is long-term cointegration between them, in addition to the absence of an autocorrelation problem. Accordingly, the null hypothesis was accepted and the alternative hypothesis was rejected because the probability values were greater than 0.05. Then, a set of results and suggestions were reached, the most important of which was raising awareness among individuals and encouraging them to reduce their level of consumption and increase their savings so that they can grow their investments. The research also recommended the need to provide government support to the private sector by increasing bank financing, which in turn would increase the volume of private investment.

Keywords: Private Investment, Size Of Savings, Iraqi Economy.

Introduction

Both saving and private investment are economic topics that have received considerable attention in economic studies. Many economists have noted that high savings rates are accompanied by growth in private investment. Therefore, many developing countries, including Iraq, strive to achieve the highest savings growth rates. Therefore, the growth of savings is reflected in the growth of private investment, as Iraq is characterized by an abundance of natural and human resources, and in order for them to be invested, it is necessary to achieve broad growth in savings in order to grow some of the important key sectors in Iraq.

- **Research Problem:** The research problem is about the impact of savings on private investment, Based on this, be the research problem: will savings have a positive or negative repercussion on private investment in Iraq during the 2004-2023?
- **Research hypothesis:** that saving has a positive effect on private investment in Iraq during the period under study.
- **Research Objectives:**
 1. Identifying some of the economic variables under study, namely savings and private investment, as well as the types and objectives related to these variables.
 2. Analyzing changes in savings and investment in Iraq during the 2004-2023.
 3. Demonstrating the impact of savings on private investment in Iraq during 2004-2023.
- **Temporal boundaries: 2004-2023**
- **Spatial boundaries: Iraq**

Methodology

In this research, the descriptive method was used to analyze economic data, and the quantitative method was used based on the ARDL model in order to test the research assumption.

Result and Discussion

Section One

Theoretical and Conceptual Aspects of Saving and Private Investment

First: The theoretical framework of saving (concept, types, factors)

1. Concept of saving:

Saving is defined as the difference between income and consumption, i.e., a portion of income allocated for saving and not spent on consumption known time range. It is known that savings are usually hoarded, i.e., not entirely allocated for investment. This is the case in most developing countries (Salami, 2008: 13), Saving can also be defined as reducing expenses, because saving is a tool for keeping a portion of money to use in times of need. This process is carried out by people at the present time for the purpose of securing their ability to achieve their future goals (Hussam Ali, 2011: 78).

From what has been explained above, it is clear that saving does not mean setting aside a portion of income, but rather it is refraining from spending a large portion of income. In most cases, individuals save money in specific places such as homes, banks, and financial institutions (Hassan, 2012: 187), Individual savings in banks depend on the availability of banking institutions and their ability to provide appropriate banking services that give individuals the ability and confidence to save with them (Ali, 2015: 181).

2. Types of savings: There are several types of savings, including:

- a. Voluntary saving: This is the type of saving in which individuals are free, i.e., without any compulsion. At the same time, the state provides support to individuals to encourage them to save in the productive sector, represented by the family sector and the private business sector (Al-

Yaqeen, 2012: 62). There are several factors for this type of saving, including (Al-Ubaidi, 2011: 63):

- Improving the performance and services of some savings institutions.
- Conducting awareness campaigns or workshops to increase savings awareness among individuals.
- Increasing savers' confidence as a result of the transparent practices adopted by some savings institutions.

Voluntary savings also has different means, which are represented by deposits that cannot be disposed of and only their owner has the right to dispose of them, and the bank may use them if there are investment loans. There is also another means for this type of savings, which is current accounts that individuals turn to in order to achieve savings, the goal of which is to obtain interest and achieve economic development (Toros, 2010: 17).

b. **Compulsory savings:** This is a type of savings that lacks freedom and forces individuals to deduct a portion of their income, meaning that the government is responsible for savings (Al-Barishi, 2016: 358). Compulsory savings can be obtained through a range of means or methods, including (Sulaiman, 2016: 17):

- Taxes.
- Inflationary financing.
- Domestic loans.
- Retirement savings.
- Corporate savings.

This type of savings also includes (savings for the government, social security savings, and public debt savings).

Factors affecting savings

There are a number of economic factors that influence savings, including:

- a. **Income:** In order for each individual to have savings, income must be available because saving is considered part of income. Since disposable income is the basic basis for saving and consumption, according to Keynes's view, which came in a way contrary to the traditionalists who were very concerned with the interest rate and considered it an independent variable and the only determinant of savings variables (Amara, 2016: 315).
- b. **Interest rate:** It is the return that the consumer receives due to his deprivation for a short period of time, as the effect of the interest rate on savings has caused many problems among economists, The classical view is that the interest rate is the return achieved from saving, as they showed that when the interest rate rises, saving will rise and consumption will fall. This is acceptable if the purpose of saving is to achieve income in the future. However, in the case of future emergencies, the opposite happens, i.e., an increase in the interest rate reduces saving and thus increases consumption (Al-Khatib, 2013: 35).

- c. **Wealth size:** Studies indicate a direct relationship between consumption, saving, and wealth size. When two people have the same monthly income, but one receives their income from their job while the other receives their income from wealth they own, such as land, then in this case, the second person consumes a larger percentage of their income than the first person. Because the first must save part of his income to cope with life's circumstances, while the second saves a small percentage because he has a permanent source of income. Therefore, when the size of wealth increases, it is accompanied by an increase in consumption and a decrease in savings (Certainty, previous source: 62).

Second: Private Investment (Concept, Importance, Obstacles).

1. concept of private investment:

It is an investment owned or made by an individual or a group of individuals who invest their money in a specific activity represented by capitalist or personal companies from investors belonging to different classes of society, Studies have shown that this type of investment is not limited to short-term investments, and projects undertaken by private investment are often large projects with wide areas and use modern machinery (Kazem, 2013: 35).

Private investment is also a key factor in the economic growth process through capital accumulation, as well as the costs and competition prevalent in the markets that the investor bears, The quality of work and the precision of organization are the path followed to obtain profits and control its position in the market. This has a positive impact on economic growth (Hasan, 2018:37).

2. The importance of private investment:

Private investment is of great importance in many countries, which we summarize as follows:

- a. Private investment has a large and clear role in the economic growth process because investment is able to achieve clear growth in GDP. When private investment increases in a country, it increases the volume of productive capacity and thus increases the volume "of goods and services, as well as the volume of income" for individuals. As a result, there can be no economic growth without private investment (Rashid, 2025: 146).
- b. Private investment is one of the important foundations for preserving savings in a way that ensures investment in productive and human capacities. This includes preparing financial instruments for investment and includes macroeconomic, microeconomic and public finance policies.
- c. The increase in the volume of private investment works in turn to raise the gross domestic product, as private investments work to develop the productive capacity and efficient employment of the resources of a country, as there is an agreement among economists that private investment is more effective and performs better than public investment (Sahib, 2025: 131).
- d. Challenges facing private investment: Investment challenges include a number of points, among them:

- Systemic challenges: which are challenges that arise in the financial environment and affect all investors. This type of challenge includes the following:
 - a. Interest rate challenges, as frequent changes in interest rates increase the disparity between the returns that an investor is able to achieve.
 - b. Changes in market prices and the crises that accompany them as a result of speculation.
 - c. Inflation and credit operations and the resulting decline in assets and investment holdings (Al-Hanawi and Mustafa, 2007: 35).
- Non-systematic challenges: This type of challenge affects the price and performance of the project's stock in the market, and includes the following:
 - a. Operational challenges to industrial production arise from advancements in science and competition from new machinery.
 - b. Legal and social difficulties, including those related to establishing certain projects and the customs and traditions that influence consumption patterns.
 - c. Failure of some projects to meet their obligations due to weak management, poor planning, and other financial difficulties (Al-Khudairi, 2000: 66).

Section Two

Analysis of the reality of changes in the size of private savings and investment in Iraq for the (2004-2023)

Table (1) shows the size of changes in private savings and investment in Iraq for the (2004-2023). From the data in Table (1), we find that savings in 2004 amounted to 1,387,579.7 million dinars, while private investment amounted to 4,009,546 million dinars. The ratio of savings to private investment was 34.6%, which is a low percentage, This is due to the weak savings capacity of individuals during that period, as Iraq was in the reconstruction phase and the conditions were unstable, which led investment to rely on other sources of financing at that time. In 2005, savings reached 8,228,016.8 million dinars with an annual growth rate of (492.9)%, and private investment rose to 7,287,169 million dinars with an annual growth rate of 81.74%, The ratio of savings to private investment this year reached approximately 112.9%. This ratio is high, meaning that savings exceeded investment as a result of the rise in oil prices and the subsequent increase in the volume of savings due to the difficulty of individuals having confidence in the investment climate in Iraq during that period.

Table 1. reality of some economic variables in Iraq for the period (2004-2023) million dinars

years	Savings	Annual growth rate%	Private investment	Annual growth rate%	Savings-to-private-investment ratio%
2004	1387579.7	4009546	34.6
2005	8228016.8	492.9	7287169	81.74	112.9
2006	19119446.4	132.3	11605334	59.25	1.6
2007	18480742.0	-3.3	14005378	20.68	131.9
2008	41710145	125.6	16936223	20.9	246.2
2009	2353657.9	-94.3	19403559	14.56	12.1

years	Savings	Annual growth rate%	Private investment	Annual growth rate%	Savings-to-private-investment ratio%
2010	15766720.1	569.8	20111749	3.64	78.4
2011	42416223.4	169.0	23517553	16.9	180.3
2012	40390900.8	-4.7	29301251	24.59	137.8
2013	52311773.5	29.5	35036225	19.57	149.3
2014	38908708.4	-25.6	41403226	18.17	93.9
2015	18637749.0	-52.0	38925333	5.98-	47.8
2016	18692103.9	0.2	42198765	8.4	44.3
2017	34633301.2	85.2	49109223	16.37	70.5
2018	47557238.3	37.3	61592332	25.41	77.2
2019	52943035.0	11.3	73396112	19.16	72.1
2020	50823800.4	-4.0	69367223	5.48-	73.2
2021	64423011.7	26.7	65309265	5.84-	98.6
2022	44941132.3	-30.2	68398154	4.72	65.7
2023	66413133.1	47.7	69238015	12.28	95.9

Source: Iraqi Ministry of Planning, Central Statistical Organization, National Accounts Directorate, various pages, different years.

Meanwhile, savings in Iraq decreased during 2007, reaching 18,480,742.0 million dinars, down from 19,119,446.4 million dinars in 2006, representing a negative annual growth rate of -3.3% during 2007. Similarly, private investment fell to 14,005,378 million dinars, with a low annual growth rate of 20.68%. The reason for this is due to the low rentier incomes, which negatively affected the size of savings, while the ratio of savings to private investment for the same year reached 131.9% as a result of the raw prices are surging, he worked to climbing public revenues at that time.

We note from Table (1) the continued increase in the volume of savings until 2014, as it decreased to 38,908,708.4 million dinars after it reached 52,311,773.5 million dinars in 2013, with a negative annual growth rate of -25.6%. Meanwhile, the ratio of savings to private investment decreased in the same year to 93.9% after it was 149.3% in 2013. This decrease is due to the war that Iraq waged against the ISIS terrorist gangs, which greatly affected the reality of Iraq.

Savings decreased to 50,823,800.4 million dinars and private investment to 69,367,223 million dinars in 2020, "with a negative growth rate for both savings and private investment as a result of the Corona pandemic, in addition to the decline in oil prices", while the ratio of savings to private investment amounted to 73.2% , After that, private savings and investment increased again until 2023, reaching 66,413,133.1 million dinars for savings and 69,238,015 million dinars for private investment, with growth rates of 47.7% and 12.28% respectively. The savings-to-investment ratio reached 95.9%. This improvement is due to the rise in oil prices and revenues, as well as the economic stability in Iraq after the Corona crisis, which gave individuals the ability to save and invest.

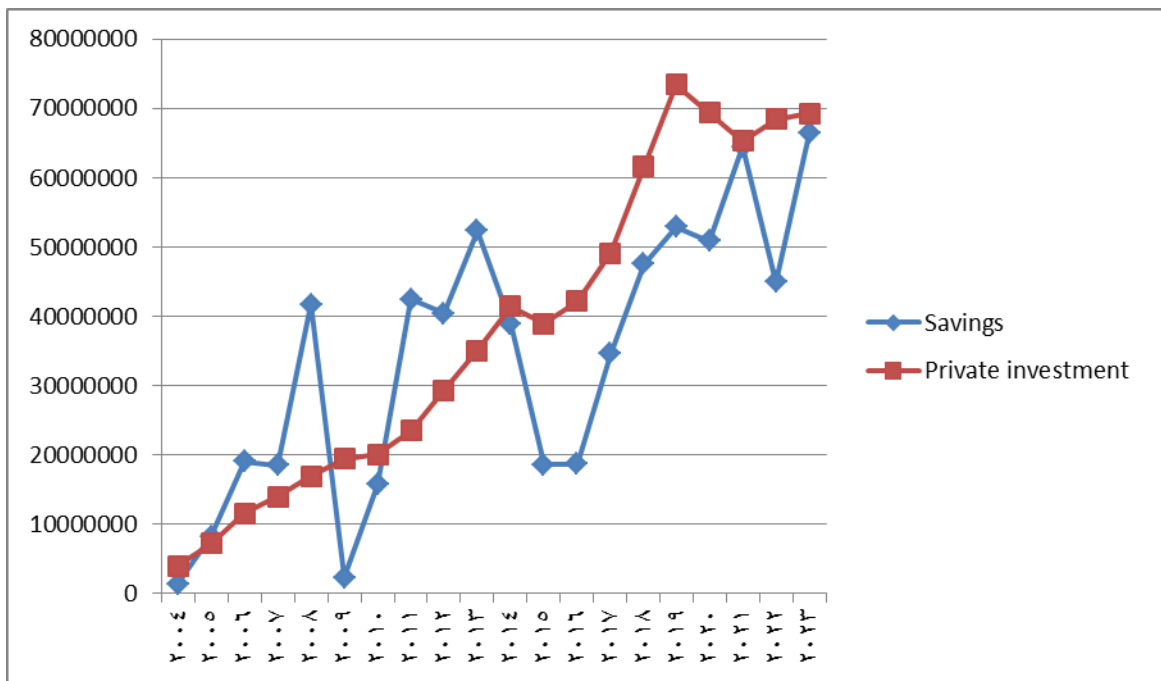


Figure 1. The size of private savings and investment in Iraq for the (2004-2023)

Source: From the researcher's work based on the data in Table (1).

Third Section

Measuring the size of changes in savings and their impact on private investment in Iraq for the period (2004-2023)

In this study, the standard ARDL model was used to determine the magnitude of the impact of the change in savings, as an independent variable, on private investment, as a dependent variable, in Iraq for the period (2004-2023).

First: The stationary test for the variables (I,S).

Here, the static nature of private savings and investment is tested using the extended Dickey-Fuller ADF test. Table (2) shows that the estimated t is exceeds tabulated value of t at a significance level of 10%, thus indicating that it is stationary at the level with a fixed limit and a general trend. This means that the "series does not contain a unit root and is an integral of degree $I\sim(0)$. Therefore, we reject the null hypothesis and accept the alternative hypothesis".

Table 2. Static Test for Variables (I,S) according to the ADF test

Significance levels of the variables S,I	level			first difference		
	Fixed limit	A fixed limit and a general trend	Without a fixed limit and general trend	Fixed limit	A fixed limit and a general trend	Without a fixed limit and general trend
T-Statistic for S	-2.085649	-3.508082				

Moral level	%1	-3.831511	-4.532598			
	%5	-3.029970	-3.673616			
	%10	-2.655194	-3.277364			
T-Statistic for I		-5.109982				
Moral level	%1	-4.200056				
	%5	-3.175352				
	%10	-2.728985				

Source: The researcher's work was based on the Eviews10 statistical program.

As for the results of the stationary test for private investment (I), the estimated t value was exceeds tabulated t at all significance levels (1, 5, 10)%, meaning that it is stationary at a fixed level and that the data does not contain a unit root and is an integral of order $I\sim(0)$. In this situation, we accept the null hypothesis and oppose the alternative hypothesis.

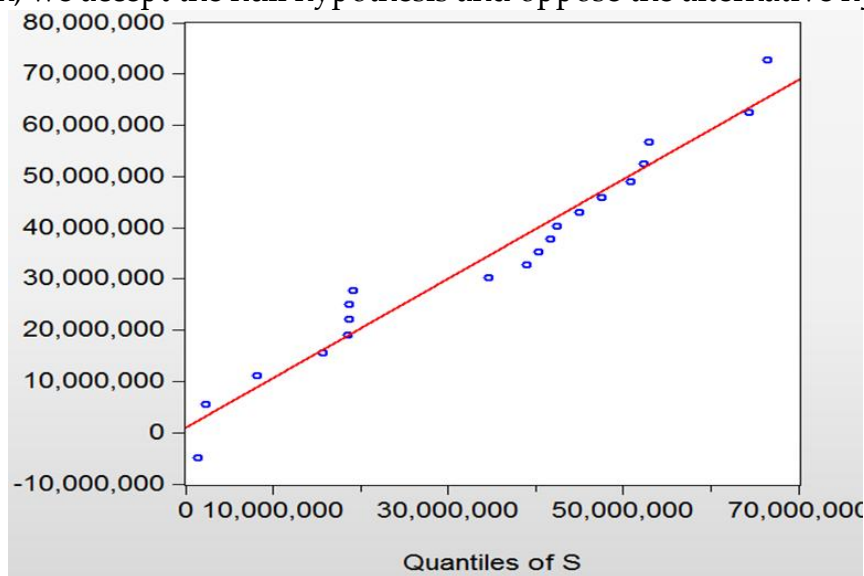


Figure 2. Graphs of the variables s,i

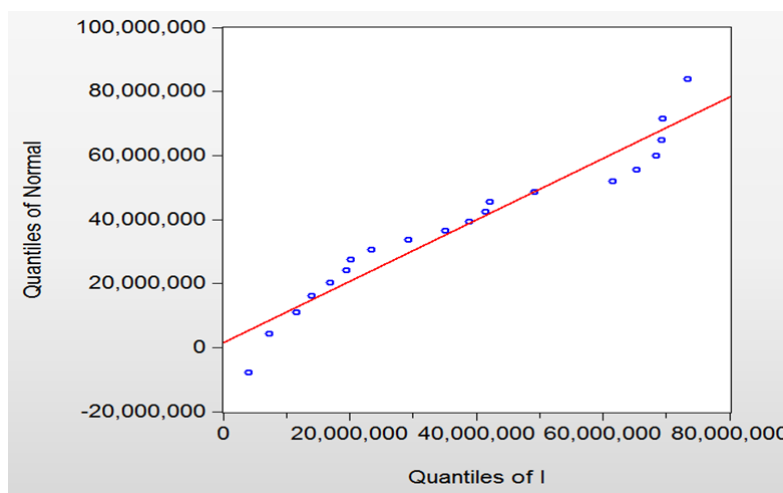


Figure 3. The researcher's work was based on the Eviews10 statistical program.

Second: Correlation coefficient matrix for the impact of savings on private investment in Iraq for the period (2004-2023):

The matrix below shows the relationship of the correlation coefficients between savings S and private investment I. From Table (3), we note that the relationship is direct between savings and private investment, with varying degrees reaching (0.776753) for private investment. This means that an increase in savings is accompanied by an increase in private investment, and this is consistent with the logic of economic theory.

Table 3. Coefficient matrix for the variables (I,S)

		Correlation	
	S	I	
S	1.000000	0.776753	
I	0.776753	1.000000	

Source: program EViews10

Third: The ARDL Model

After obtaining the results from the ADF test for the variables of savings (S) and investment (I), it was found that they were stable at the level. Therefore, the ARDL distributed lag model was chosen to determine the magnitude of the effect of savings on private investment in Iraq for the (2004-2023), as shown below:

Measuring the magnitude of the impact of savings on the level of private investment in Iraq for the (2004-2023):

From the results in Table (4), which shows the ARDL model test, we note that R² achieved a value of (0.97), while Adj R² = 0.95. F was 62.5 with a significance level of (0.00), indicating the significance of the model used. D.W reached 2.11. From this, it is clear that the model is in the region of no autocorrelation.

Table 4. ARDL test for the effect of S on I in Iraq for the period (2004-2023)

Dependent Variable: I				
Method: ARDL				
Date: 09/07/25 Time: 22:43				
Sample (adjusted): 2007 2023				
Included observations: 17 after adjustments				
Maximum dependent lags: 4 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (4 lags, automatic): S				
Fixed regressors: C				
Number of models evaluated: 20				
Selected Model: ARDL(3, 2)				
Note: final equation sample is larger than selection sample				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
I(-1)	1.379265	0.261836	5.267664	0.0004
I(-2)	-0.754819	0.399932	-1.887366	0.0884
I(-3)	0.398883	0.247737	1.610108	0.1385
S	0.043522	0.081112	0.536573	0.6033
S(-1)	0.017805	0.086015	0.206997	0.8402
S(-2)	-0.140423	0.086384	-1.625567	0.1351
C	5002716.	3076157.	1.626287	0.1349
R-squared	0.974036	Mean dependent var	43367623	
Adjusted R-squared	0.958458	S.D. dependent var	21038903	
S.E. of regression	4288112.	Akaike info criterion	33.67349	
Sum squared resid	1.84E+14	Schwarz criterion	34.01658	
Log likelihood	-279.2247	Hannan-Quinn criter.	33.70760	
F-statistic	62.52559	Durbin-Watson stat	2.115940	
Prob(F-statistic)	0.000000			

Source: The researcher's work was based on the Eviews10 statistical program.

Bound Test:

The results of Table (5) show that there is cointegration between savings S and private investment I because the rated F exceeds the critical F, as it reached a value of (6.653874), meaning that it is greater than the F critical at the upper and lower limits and for all levels of significance. On this basis, we "reject the null hypothesis and accept the alternative hypothesis, which states that there is a long-term cointegration relationship between S and I during the mentioned period".

Table 5. Bound Test

Test Statistic	Value	Signif.	I(0)	I(1)
Asymptotic: n=1000				
F-statistic	6.653874...	10%	3.02	3.51
k	1	5%	3.62	4.16
		2.5%	4.18	4.79
		1%	4.94	5.58

Source: The researcher's work was based on the Eviews10 statistical program.

Test LM Test & Heteroskedasticity Test

Table (7) shows the results of the Sequential link test and the instability of homogeneity for savings and private investment. Accordingly, we find that the probability value of F estimated (0.70) according to the LM Test, i.e., not significant greater than (0.05). While the probability according to the Obs R-squared test for F reached 0.49, which is not significant. Thus, we will accept the null assumption, which includes that there is no Sequential link problem, and We reject the alternative hypothesis.

Table 7. LM Test and Heteroskedasticity Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.359791	Prob. F(2,8)	0.7086
Obs*R-squared	1.402924	Prob. Chi-Square(2)	0.4959
Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	3.529565	Prob. F(6,10)	0.0884
Obs*R-squared	11.54733	Prob. Chi-Square(6)	0.0729
Scaled explained SS	2.535984	Prob. Chi-Square(6)	0.8644

Source: The researcher's work was based on the Eviews10 statistical program.

We also note from Table (7) the lack of homogeneity stability between S and I according to the probability of R2 and F, where the percentages reached 0.08 and 0.07, because those values are not significant greater than (0.05).

Conclusions

It became clear that private savings and investment were in a state of instability, i.e., between rising and falling, during the research period (2004-2023) in Iraq As a result of the country's internal turmoil and It became clear at the end of the research period, specifically in 2023, that there was a clear improvement in the ratio of savings to private investment in

Iraq. This is due to security stability as well as the improvement in oil prices, as these conditions combined help individuals to save and invest. And The results of the stationary test showed that the economic variables for both savings and private investment were stable at a fixed level and a fixed level in a general direction. And There is a long-term and positive link between private savings and investment in Iraq during the research period. And The model used in the research does not have a problem of heterogeneity of variance because the probability of chi-sq for both saving and investment was greater than (0.05)%. As a result, we accept the null hypothesis and reject the alternative hypothesis.

Recommendations:

Encouraging individuals to reduce their consumption and working to raise awareness among the population about the importance of saving so that they can expand the size of their investments and The need to find ways and means to help increase savings and stimulate private investment. Savings must also be developed by the competent monetary institutions with the aim of increasing the volume of savings deposits. And The government should provide support to the private sector in Iraq by increasing the volume of bank financing, which will result in increased private investments. And The need to avoid public investment competing with private investment by developing credit facilities for the public sector at the expense of the private sector. And The need to provide incentives for the private sector by adopting laws such as increasing wage levels and guaranteeing retirement in order to increase the volume of employment in the private sector and thus reduce unemployment rates in society and not rely heavily on government jobs.

References

- Ahmed Salami, Estimating the Family Savings Function in Algeria for the period 1970-2005, *Al-Bahith Journal*, Issue 6, 2008.
- Farouk bin Saleh Diab Al-Khatib, 1st edition, *Advanced Studies in Macroeconomic Theory*, Amna Publishing House, 2013.
- Fathi Ahmed Ali, *The Impact of Domestic Savings on Growth in Sudan 1990-2013*, PhD Thesis, Sudan University of Science and Technology, Graduate School, 2015.
- Hamed Al-Arabi Al-Khudairi, *Investment Evaluation*, Dar Al-Kutub Al-Ilmiya for Publishing and Distribution, Cairo, 2000.
- Hasan, S. Q., & Dhnoun, M. A. ,Al-'alaqa bayn al-istithmar al-hukumi wa al-khas wa atharuha 'ala al-numuw al-iqtisadi fi 'ayna min al-duwal al-Asyawiyya – Dirasah qiyasiyyah lil-fatrah 1980–2009. *Tanmiyat Al-Rafidain*, 37(119), (2018).
- Hussam Ali Daoud, *Principles of Macroeconomics*, 2nd ed., Dar Al-Maysara, Jordan, 2011.
- Hussein Ajlan Hassan, *Evaluating Investment Decisions: A Theoretical and Applied Approach to Financial and Real Investment*, House of Books and Documents, Baghdad, 2012.

- Ibrahim Abdul Latif Al-Obaidi, *Saving: Its Legitimacy and Fruits with Contemporary Applied Models*, 1st Edition, Department of Islamic Arts and Charitable Work, Dubai, United Arab Emirates, 2011.
- Imran Suleiman, *An Economic Study of the Causal Relationship between Saving and Investment in Algeria for the Period 1990-2014*, University of Umm al-Bawaki, Faculty of Administration, Economics, Commercial Sciences and Management Sciences, 2016.
- Iraqi Ministry of Planning, Central Statistical Organization, Directorate of National Accounts, various pages, different years.
- Ismail Muhammad Al-Barishi, *Saving in Islamic Financial Jurisprudence: Its Concept, Legitimacy, and Controls*, *The Jordanian Journal of Islamic Studies*, Volume 12, Issue 3, 2016.
- Kamel Alawi Kazem and Hussein Latif Al-Zubaidi, *Principles of Economics*, Dar Al-Safa for Publishing and Distribution, Amman, 2013.
- Khaladi Iman Nour El Yakine, *Family Savings in Financing Economic Development: The Case of Algeria*, Published Master's Thesis, Faculty of Economic Sciences and Management Sciences, Department of Economic Sciences, Algeria, 2012.
- Miami Salal Saheb and Basem Ahmed Khaloun, *The Impact of Private Investment on Economic Growth in Iraq: A Case Study for the Period (2004-2022)*, *Al-Riyada Journal for Finance and Business*, Volume 6, Issue 1, 2025.
- Muhammad Al-Hanawi and Nihal Farid Mustafa, *Introduction to Investment, Securities Analysis and Risk Management*, Dar Al-Fikr Al-Jami'i, Alexandria, 2007.
- Mustafa Kamel Rashid, *Analysis of the relationship between private investment and the imbalance in the structure of exports in Iraq for the period (2005-2022)*, *Iraqi Journal of Economic Sciences*, Issue 85, 2025.
- Rania Mahmoud Abdel Aziz Amara, *Principles of Economics*, 1st Edition, Arab Studies Center for Publishing and Distribution, 2016.
- Statistical programme Eviews10.
- Wadih Toros, *Macroeconomics*, 1st ed., Modern Book Foundation, Tripoli, 2010.