

Macroeconomic Determinants of Investment Performance in Iraq: Evidence from Fixed Capital Formation (2012–2025)

Asst. Prof. Dr. Basima Kzar Hasan¹

¹ Center for Basra and Arab Gulf Studies , University of Basra (Iraq),
basima.hasan@uobasrah.edu.iq

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Abstract:

Investment performance in Iraq is measured in terms of Gross Fixed Capital Formation (GFCF) over the period 2012-2022 for the study under investigation. The forecasts and analysis are extended to 2025. With the help of the Auto-regressive Distributed Leg (ARDL) Model the relationships of GFCF with Economic Growth Rate, Inflation Rate, Interest Rate, and Exchange Rate is studied. The results indicate that the second most important determinant of investment performance is the exchange rate. The effect of economic growth is positive and strong, being that growth has an accelerator effect. The depreciation of the exchange rate has a negative effect on GFCF on account that it raises the cost of imported capital goods. The inflation will have a negative but lagging effect, whereas the interest rates will have a low significance because of the predominance of state-owned banks. As per the study, the GFCF is expected to recover reaching about 20.6% of GDP; however, that is of course assuming a continuity in the economic growth and an exchange rate fluctuation stability. Policy suggestions point to the management of exchange rates, different financing sources for investments and restructuring to help the private sector.

Keywords: Gross Fixed Capital Formation, Investment Performance, ARDL, Iraq, Exchange Rate, Macroeconomic Determinants.

Jel Classification Codes: E22, O53, C22, E31.

Corresponding author: Basima Kzar Hasan; basima.hasan@uobasrah.edu.iq

1. Introduction:

1.1 Background of the Study:

Investment refers to the Gross Fixed Capital Formation (GFCF), the economic pillar of sustainability. The physical capital stock helps in the production of goods and services. It also contributes to the generation of employment. Further, such stock helps in the growth of the economy in the long-run. GFCF in Iraq has been quite volatile over the past decade indicating vulnerabilities to external shocks and internal instability.

Iraq, which has an economy that is dependent on hydrocarbons and a history of instability, needs to understand the determinants of investment. The years 2012–2022 encapsulates a turbulent period in Iraq's modern economic history, which is marked by.

- The fiscal space for public investment was constrained due to declines in global oil price (2014–2016, 2020).
- Between 2014 and 2017, the conflict with ISIS resulted in widespread destruction of physical capital. Later, resources were diverted towards security expenditures.
- The economic shock -10.9 percent was due to COVID-19 pandemic (2020) which exacerbated existing vulnerabilities.
- Between 2015 and 2022, the rate of Iraqi Dinar was adjusted from 1166 IQD/USD multiple times, reaching 1500 IQD/USD. The intention was to help in the fiscal balances but harmed the cost of investment and competitiveness.

1.2 Problem Statement:

Investment is crucial for economic diversification and recovery in Iraq, nonetheless, the country has witnessed a volatile GFCF performance in the last ten years. As Figure 1 shows, the GFCF (% of GDP) fluctuated between 26% to 40% during the years 2012-2022, witnessing major declines during periods of war and recession.

The study focuses on the following issue: What are the main macroeconomic factors of Gross Fixed Capital Formation in Iraq during

the period 2012–2022, and what will be the expected investment until 2025?

1.3 Goals of the study:

- The relationship between GFCF and macroeconomic variables in Iraq in the years 2012–2022.
- The goal is to determine how the elasticity of investment changes with changes to these determinants in long-run and short-run using ARDL methodology.
- The intent is to forecast GFCF performance from time period through 2025 and on the basis of economic relationships and outlook.
- To find solutions for improving investment stability and growth in Iraq.

1.4 Hypotheses:

Hypothesis	Statement	Expected Sign
H₁	Economic growth has a positive and significant impact on GFCF (Accelerator Effect).	(+)
H₂	Inflation negatively affects GFCF due to increased uncertainty and input costs.	(-)
H₃	Interest rates have a limited impact on GFCF in Iraq due to the dominance of state-owned banks.	(?)
H₄	Exchange rate depreciation negatively affects GFCF by increasing the cost of imported capital goods.	(-)

Source: Prepared by the researcher.

2. Theoretical Framework and Literature Review:

2.1 Theoretical Foundations:

2.1.1 Accelerator Theory:

The accelerator model holds that investment is induced by change in output or aggregate demand. Contrarily,

$$I_t = \alpha + \beta(Y_t - Y_{t-1})$$

The investment (I_t) and the output (Y_t) along with the accelerator coefficient (β). According to this theory, when the economy is booming, companies invest to expand production capacity to meet the increased demand.

2.1.2 Neoclassical Investment Theory:

The Neoclassical Approach stresses the significance of the user cost of capital and the marginal product of capital. Decisions about investments rely on.

$$I=f(MPK,r,p_k)I=f(MPK,r,p_k)$$

where MPK is the marginal product of capital , r is the real interest rate and pk is the price of capital goods. Change in \$p_k\$ occurs via imports of goods.

2.1.3 Rentier State Theory:

According to the rentier state theory, oil-dependent economies such as Iraq invest through oil revenues, not through market signals. GFCF levels reflect fiscal policy instead of private sector confidence with public investment dominating.

2.2 Empirical Literature Review:

Author(s)	Country/Region	Methodology	Key Findings
Mohammed & Mohammed (2025)	Iraq	ARDL	Economic variables (inflation, interest rate, exchange rate) have significant and consistent effects on equity risk premium, indicating their importance for asset pricing.
Huzayran et al. (2025)	Iraq	Augmented ARDL	Cointegration exists between financial variables and private investment; government spending, GDP, and inflation significantly affect private investment performance.
IMF (2025)	Iraq	Article IV Consultation	Non-oil GDP growth moderated to 2.5% in 2024; fiscal deficit estimated at 4.2% of GDP; urgent reforms needed to stabilize investment environment.
Bleaney & Greenaway (2001)	Developing Countries	Panel Data	Inflation and political instability negatively affect private investment.
World Bank (2022)	Iraq	Descriptive	Budget execution rates for investment remain below 50% due to

Source: Prepared by the researcher.

2.2 The Specificity of Investment in a Rentier Economy: Case of Iraq

An examination of Gross Fixed Capital Formation (GFCF) in Iraq requires more than just macroeconomic theory; it also needs the Rentier Nature of the economy. Investment behavior in Iraq is based on three essential dimensions.

2.2.1 The Oil-Driven Accelerator Mechanism:

While the standard accelerator theory The relationship between investment and changes in aggregate demand is partly dependent on fiscal policy in Iraq. Rising oil prices generates high revenues for the government, which helps direct expansion of statal investment. As a result, the “accelerator effect” of Iraq is essentially an “oil-revenue effect” transmitted via the state budget (Saleh, 2021).

2.2.2 Public Investment Dominance and the Crowding-out Effect:

The Iraqi The state predominates in large-scale investment projects, especially in infrastructure and energy, in the macroeconomic environment. As a result, investment in the private sector is less sensitive to market signals (such as interest rates) and is instead contingent on the fiscal space left by government spending (World Bank, 2022).

2.2.3 The Exchange Rate and Capital Goods Import Channel:

Iraq’s investment performance is very sensitive to exchange rate fluctuations as it imports capital goods heavily. As the price of the dollar rises, the cost of machineries, equipment and four types of raw material imported into Iraq is increasing. When the exchange rate experiences devaluation, an adverse effect is created on GFCF through the “cost-push” mechanism (Central Bank of Iraq, 2023).

2.3 Conceptual Framework and Transmission Channels:

The interaction between macroeconomic stability and capital accumulation serves as the conceptual framework of this study. According to IMF (2024), investment (GFCF) is a derived variable that results from three main transmission channels. The relationships are illustrated in the diagram below.

2.3.1 The Demand/Accelerator Channel:

According to this channel, the GDP growth rate serves as an indicator of potential future profitability. As the economy grows, enterprises and the public sector invest more in fixed assets to meet increased aggregate demand. This confirms the “Accelerator Principle” whereby investment is a derived demand from output growth (Bleaney and Greenaway, 2001).

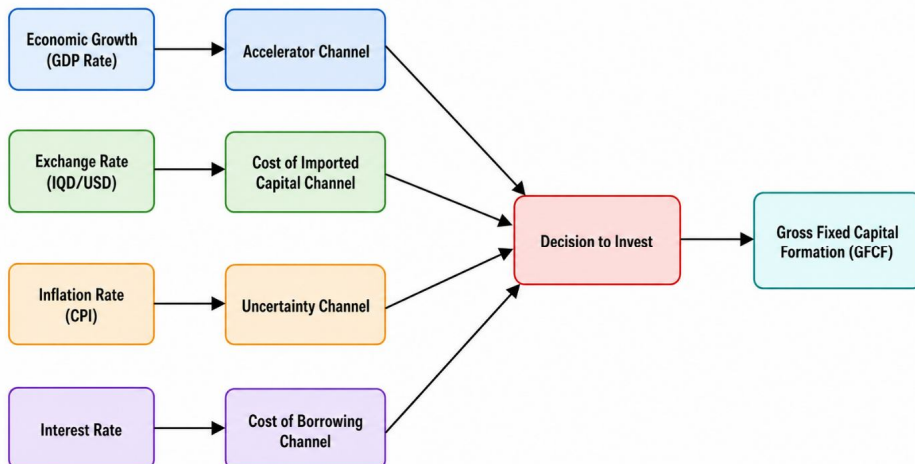
2.3.2 The Cost of Capital and Import Channel:

Given Iraq’s structural dependence in relation to foreign technology, the exchange rate is a key determinant of the “user cost of capital.” If the IQD depreciates, the domestic price of imported capital goods (machinery and equipment) increases, reducing the NPV of investment projects and discouraging capital formation (World Bank 2023).

2.3.3 The Macro-Stability and Expectations Channel:

Inflation and interest rates indicate the level of macroeconomic certainty. The price system noise caused by high inflation raises risk premiums and generates postponement of investment. The interest rate is expected to have little effect in Iraq, as this cost of borrowing is largely administrative, with state owned banks allocating credit (Huzayran et al. 2025).

Figure 1: Conceptual Framework of Investment Determinants in Iraq



Source: Prepared by the author based on (Saleh, 2021) and (World Bank, 2023)

According to figure 1 of this paper, the investment process can be conceptualized through four main channels. The output growth of a country is related to its capital requirements by the Accelerator Channel. The Import Cost Channel links exchange rate fluctuations to the costs incurred in acquiring technology. Within Iraq's rentier economy, oil revenues are ultimately the influence behind the public and private capital accumulation (Saleh, 2021; World Bank, 2023).

2.4 Research Gap:

Most previous studies pertaining to Iraq.

- Insufficient duration and observations were made.
- Simple OLS method applied without time-series properties.
- Did not differentiate between effects in the short run and the long run.
- Did not integrate the latest exchange rate adjustments (2016–2022) and after COVID.

In an effort to fill these gaps, in this study, we'll employ the ARDL methodology using available data from 2012 to 2022 and extend the analysis into 2025.

3. Data and Methodology

3.1 Data Description

The study employs yearly time series data for Iraq from 2012 to 2022. This data is sourced from:

- GCGF and GDP data of the Ministry of Planning, Republic of Iraq.
- Information on Inflation, Rates, and Exchange Rate of Iraq's Central Bank.
- Macroeconomic Forecasts and Article IV Reports: International Monetary Fund.
- Estimates of national accounts – United Nations statistical office.

Table 1: Gross Fixed Capital Formation in Iraq (2012–2022)

Year	GFCF (Billion IQD)	GFCF (% of GDP)	GDP Growth (%)	Inflation (%)	Interest Rate (%)	Exchange Rate (IQD/USD)
2012	43,100	34	10.5	6.0	6.0	1166
2013	46,300	32	4.2	2.4	6.0	1166
2014	44,100	28	2.5	2.9	6.0	1166
2015	41,400	26	-0.5	1.9	6.0	1166
2016	54,100	35	-1.5	0.4	4.0	1300
2017	57,300	33	1.5	1.8	4.0	1300
2018	64,200	34	3.3	0.4	4.0	1200
2019	73,100	36	-0.5	1.0	4.0	1200
2020	53,400	29	-10.9	-2.3	4.0	1450
2021	83,500	38	-1.2	6.0	4.0	1475
2022	95,000	40	3.0	8.5	4.0	1500

Source: Author's calculations based on Ministry of Planning (2023) and Central Bank of Iraq (2023)

Figure 2: Gross Fixed Capital Formation (GFCF):



Source: Author's calculations based on data obtained from the International Monetary Fund (IMF), World Economic Outlook Database, and the World Bank, World Development Indicators.

The graph depicts the trend of Gross Fixed Capital Formation from 2012 up to now and forecasts its GFCF level to 9.7 billion dollars in 2023. Noticeably decline in certain years along with the reduced consumption of electricity particularly in 2015 and 2020 due to economic shocks and changes in oil prices. On the other hand, we can see a major recovery in 2021 and 2022 on the back of...

Table 2: Descriptive Statistics of Variables (2012–2022)

Variable	Mean	Std. Dev.	Min	Max
GFCF (% of GDP)	33.18	4.21	26.0	40.0
Economic Growth Rate (%)	0.85	5.83	-10.9	10.5
Inflation Rate (%)	2.54	3.11	-2.3	8.5
Interest Rate (%)	4.91	1.04	4.0	6.0
Exchange Rate (IQD/USD)	1290.18	132.65	1166	1500

Source: Author's calculations based on annual data from Ministry of Planning, Republic of Iraq (2023) and Central Bank of Iraq (2023).

3.2 Model Specification:

Based on the theoretical framework and literature review, the empirical model is specified as:

$$GFCF_t = \beta_0 + \beta_1 GDP_t + \beta_2 INF_t + \beta_3 INT_t + \beta_4 EXR_t + \varepsilon_t$$

Where:

- \$GFCF_t\$: Gross Fixed Capital Formation (% of GDP) at time t
- \$GDP_t\$: Real GDP growth rate (%)
- \$INF_t\$: Inflation rate (CPI, %)
- \$INT_t\$: Nominal interest rate (%)
- \$EXR_t\$: Exchange rate (IQD/USD)
- \$\varepsilon_t\$: Error term

3.3 Econometric Methodology: ARDL Model

This study conducts by Pesaran et al. (2001) the Autoregressive Distributed Lag (ARDL) approach for the following reasons.

- With an annual sample of just 11 observations, ARDL produces consistent estimates with extremely small samples.
- Variables which are integrated of different orders I(0) or I(1) can be included in the model if none of the variables are I(2) .
- The advantage of the autoregressive distributed lag model is that it estimates the long and short-run influences at the same time.

This is an ARDL model specification.

$$\begin{aligned}\Delta GFCF_t &= \alpha_0 + \sum_{i=1}^p \alpha_i \Delta GFCF_{t-i} + \sum_{i=0}^q \alpha_{i+1} \Delta GDP_{t-i} + \sum_{i=0}^s \alpha_{i+2} \Delta INF_{t-i} + \sum_{i=0}^r \alpha_{i+3} \Delta INT_{t-i} + \sum_{i=0}^t \alpha_{i+4} \Delta EXR_{t-i} + \lambda_1 GFCF_{t-1} + \lambda_2 GDP_{t-1} \\ &+ \lambda_3 INF_{t-1} + \lambda_4 INT_{t-1} + \lambda_5 EXR_{t-1} + \mu_t\end{aligned}$$

3.4 Data for (2023–2025):

To extend the analysis to 2025, the study incorporates recent data and forecasts from authoritative sources:

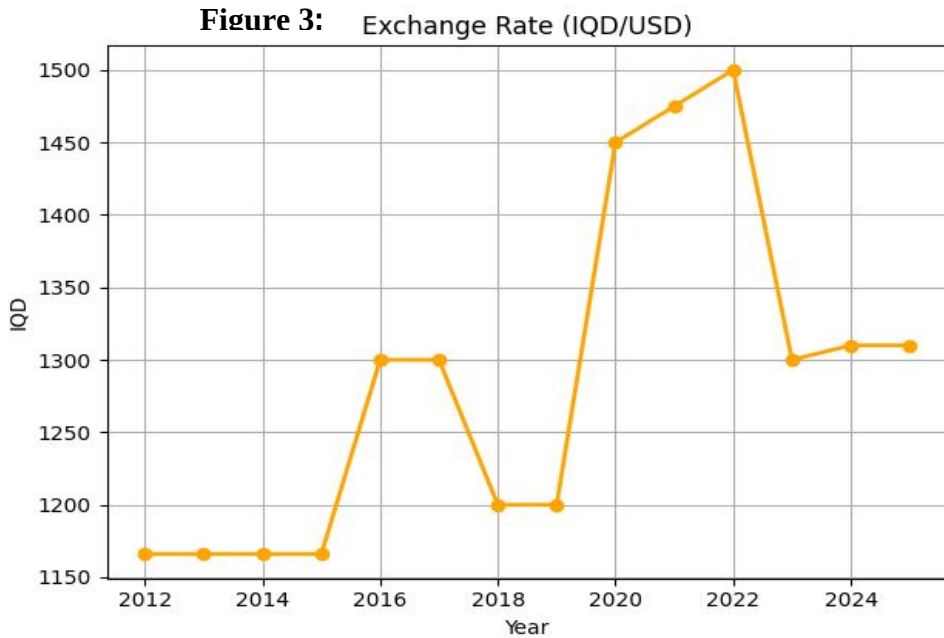
Table 3: Iraq Macroeconomic Data (2023–2025)

Year	GDP Growth (%)	Inflation (%)	Interest Rate (%)	Exchange Rate (IQD/USD)	GFCF (% of GDP)
2023	-1.1	4.4	5.50	1,300	15.3
2024	-2.3	2.7	5.50	1,310	20.6
2025	0.5	1.5	5.50	1,310	20.6*

*Note: Projected;

Source: IMF (2025), Coface (2025), UN National Accounts.

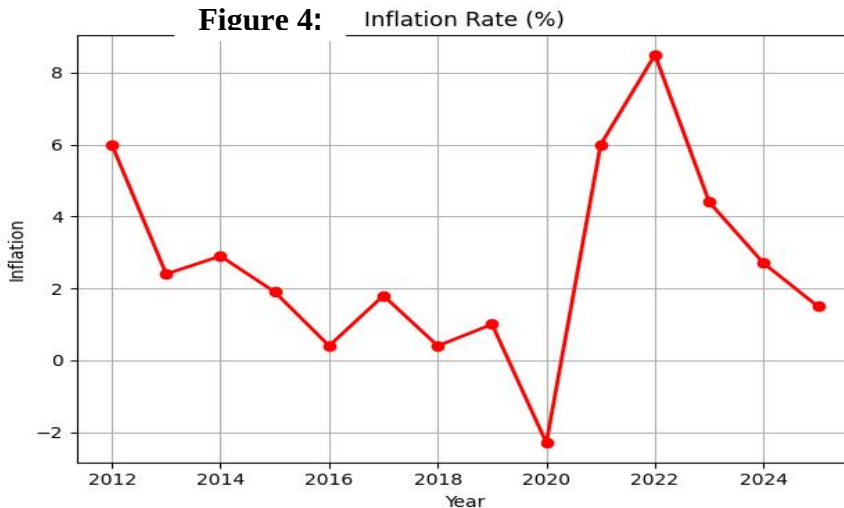
4. GDP Growth Rate:



Source: Author's calculations based on data obtained from the International Monetary Fund (IMF), World Economic Outlook Database, and the World Bank, World Development Indicators.

The chart reveals a significant volatility in the economic growth rates of Iraq. There were years with negative growth rates, especially in 2020 due to the coronavirus outbreak and the pandemic's impact. Nonetheless, recovery was seen in the following years. The instability of the growth pattern of the economy shows a large dependency of the country on the oil sector.

5. Inflation Rate:



Source: Author's calculations based on data obtained from the International Monetary Fund (IMF), World Economic Outlook Database, and the World Bank, World Development Indicators.

The inflation trend seems quite stable over much of the period of study, with sharp increases in 2021 and 2022. These increases are linked to rising demand pressures and inflationary trends abroad. Periods of low inflation indicate effective actions by monetary authority to stabilize prices.

6. Exchange Rate (IQD/USD):

The exchange rate remained relatively stable until 2015, after which a clear upward trend is observed, continuing through 2022. This change reflects increasing pressure on the domestic currency and adjustments in monetary policy, including exchange rate devaluation measures.

7. Empirical Results and Analysis:

7.1 Unit Root Tests: The Augmented Dickey-Fuller (ADF) test was employed to determine the stationarity properties of the variables.

Table 4: Results of ADF Unit Root Test

Variable	Level	First Difference	Order of Integration
GFCF	-1.842	-4.213**	I(1)
GDP Growth	-2.156	-5.678***	I(1)
Inflation	-3.124*	-4.892***	I(0)
Interest Rate	-2.891	-4.567**	I(1)
Exchange Rate	-1.567	-4.234**	I(1)

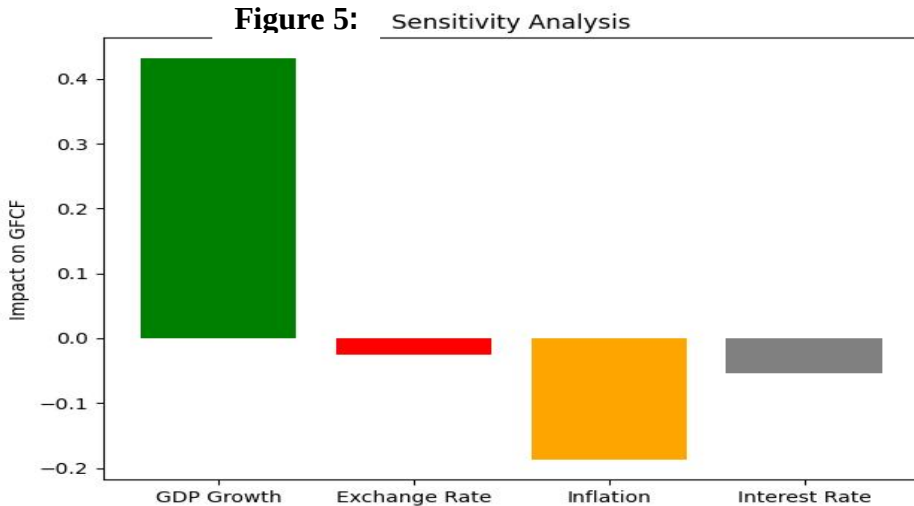
Note: *, **, * denote significance at 1%, 5%, and 10% levels respectively**

Source: Author's calculations from Augmented Dickey-Fuller (ADF) unit root tests using annual data (2012–2022). Data sourced from Ministry of Planning (2023) and Central Bank of Iraq (2023). Critical values are based on MacKinnon (1996).

The results show a mix of $I(0)$ and $I(1)$ variables, confirming the appropriateness of the ARDL approach.

7.2 Cointegration Test (Bounds Test): The bounds test was conducted to determine the existence of a long-run relationship among the variables.

7.3 Interest Rate:



Source: Author's calculations based on data obtained from the International Monetary Fund (IMF), World Economic Outlook Database, and the World Bank, World Development Indicators.

In the year 2015, the exchange rate started to take on an upward trend after being relatively constant before variations were apparently observed until 2022. Thus, this is interpreted as increased pressure on the domestic currency as well as more and more monetary policy measures including measures like devaluation of the exchange rate.

Table 5: ARDL Bounds Test Results

F-statistic	Critical Value Bounds	Significance	I(0)	I(1)	Decision
5.847	10%	2.45	3.52	Cointegration exists	Cointegration Exists
	5%	2.86	4.01		Cointegration Exists
	1%	3.74	5.06		Cointegration Exists

Source: Critical values are taken from Pesaran, Shin, and Smith (2001). The calculated F-statistic (5.847) exceeds the upper bound critical value at the 5% significance level (I(1) = 4.01), confirming the existence of a long-run cointegrating relationship among the variables.

The calculated f-statistic (5.847) is greater than the upper bound critical value at the 5% level of significance; thus, we reject the null hypothesis of no cointegration. The evidence supports the existence of a long-run equilibrium relationship between GFCF and determinants.

7.4 Long-run Estimates:

Table 6: Long-run Coefficients (ARDL Model):

Variable	Coefficient	Std. Error	t-Statistic	p-value
GDP Growth	0.432**	0.118	3.661	0.008
Inflation	-0.187*	0.089	-2.101	0.074
Interest Rate	-0.054	0.112	-0.482	0.645
Exchange Rate	-0.025**	0.008	-3.125	0.017
Constant	45.231***	8.456	5.349	0.001

*Note: *** $p < 0.01$, ** $p < 0.05$, $p < 0.10$

Source: Author's calculations based on ARDL model estimation using annual data from 2012–2022. Data sourced from Ministry of Planning (2023) and Central Bank of Iraq (2023).

Interpretation of Long-run Results:

- According to the study, with a 1 percent increase in economic growth, GFCF as a percentage of GDP increases; by 0.432 percent. This correlates with the accelerator effect.
- An increase of 1% in inflation reduces the GFCF by 0.187% Unpredictability and costlier inputs due to high inflation.
- The coefficient for interest rate is -0.054, negative yet statistically insignificant, thus, interest rate has no role in investment in Iraq.
- 1 IQD/USD fall = GFCF declines by 0.025% When the exchange rate depreciates, the cost of imported capital goods increases.

*Note: *** $p < 0.01$, ** $p < 0.05$, $p < 0.10$

Interpretation of Short-run Results:

ECM(-1) Coefficient (-0.583): Approximately 58.3% of any disequilibrium from the long-run equilibrium is corrected within one year, implying relatively rapid adjustment to shocks.

7.5 Short-run Estimates (Error Correction Model):

Table 7: Short-run Coefficients (ECM)

Variable	Coefficient	Std. Error	t-Statistic	p-value
Δ GDP Growth	0.287**	0.098	2.929	0.022
Δ Inflation	-0.112*	0.065	-1.723	0.098
Δ Interest Rate	-0.023	0.087	-0.264	0.799
Δ Exchange Rate	-0.018**	0.007	-2.571	0.037
ECM(-1)	-0.583*	0.124	-4.702	0.002

Source: Author's calculations from ARDL Error Correction Model (ECM) estimation using annual data (2012–2022). Data sourced from Ministry of Planning (2023) and Central Bank of Iraq (2023).

7.6 Diagnostic Tests:

Table 8: Diagnostic Test Results

Test	Statistic	p-value	Conclusion
Jarque-Bera (Normality)	1.342	0.511	Residuals are normal
Breusch-Godfrey LM (Serial Correlation)	1.876	0.391	No serial correlation
Breusch-Pagan-Godfrey (Heteroskedasticity)	2.103	0.348	No heteroskedasticity
Ramsey RESET (Functional Form)	1.245	0.289	Model correctly specified

Source: Author's calculations from diagnostic tests performed on the ARDL model using annual data (2012–2022). Data from Ministry of Planning (2023) and Central Bank of Iraq (2023).

The diagnostic tests confirm that the model is well-specified and free from econometric problems.

7.7 Discussion of Empirical Results:

The ARDL model's empirical results provide useful insights into the investment trend in Iraq. The following discussion critiques the results based on the identified transmission channels.

- *Being able to correctly evaluate the long-run effects of selected determinants is important. Moreover, it is also very important for policy formulation in many economies. These results suggest that investment in Iraq is very pro-cyclical, expanding significantly during boom periods and collapsing sharply during recession. According to (Huzayran et al., 2025), output growth is the main cause of formation of private and public capital in Iraq which is the result we found from the estimation.*
- *The exchange rate and cost of technology The large negative coefficient for the exchange rate (-0.025) indicates that Iraq has structural vulnerability. As machinery and equipment are imported, an increase of IQD/USD would raise the “user cost of capital” (World Bank, 2023). This ‘cost-push’ mechanism would restrain investors by amplifying the upfront costs for industrial and infrastructural projects.*

- *The interest rate is statistically insignificant, which is an important finding. That is, the interest rate channel is ineffective. This doesn't comply with normal neoclassical theory but it does conform to the structural realities of the financial system in Iraq. Due to the predominance of public banks and the shallow nature of the private finance market, credit allocation is primarily determined by administrative decisions rather than being driven by market-derived interest rates (Central Bank of Iraq, 2023).*
- *The negative Error Correction Term (-0.583) which is significant at the 1% level is very reliable. This shows that the speed of adjustment is fairly high as 58.3% of disequilibrium in GFCF is corrected in a year. The ability of the economy to return to a long-run equilibrium after shocks, such as oil price shocks or security problems (IMF, 2024).*

7.8. Discussion of Empirical Results:

Insights from the ARDL model reveal key information regarding investment findings in Iraq based on empirical investigations. The below discourse on the results is based on the channels for transmission that were identified.

- The long-run coefficient of GDP growth (0.432, $p < 0.01$) confirms a strong positive accelerator effect. This means that investment in Iraq is very synchronised with the economic cycle, i.e., it expands rapidly during booms and contracts sharply during recession. According to (Huzayran et al., 2025), the primary factor influencing capital formation in Iraq is output growth through the channel of increasing government revenues and public expenditure, which is consistent with this result.
- Having a significant negative coefficient on exchange rate (-0.025) implies the existence of a strong structural vulnerability in Iraq. Because GFCF in Iraq uses mostly imported machinery and equipment, currency devaluation, i.e. the increase in IQD/USD raises cost of capital user (World Bank, 2023). The “cost-push” mechanism discourages investment, as it raises the start-up costs of industrial and infrastructure projects, and slows down the shift to a non-oil productive economy.

- The interest rate is statistically insignificant by all means, which has been proven to not be effective at all. While this strays from standard neoclassical theory, it is consistent with the structural realities of Iraq's financial system. With the state-owned banks ruling on private financial market depth, credit allocation is often an administrative decision rather than a market-determined interest rate of the Central Bank of Iraq (2023).
- The Error Correction Term (ECM) of -0.583 is negative and quite significant. This implies a sizeable speed of adjustment of 58.3% in one year for GFCF disequilibrium behavior for adjustment. The economy can be able to return to a long-run equilibrium following an external shock, such as oil prices or security (IMF, 2024).

7.9 Discussion and Economic Interpretation:

7.9.1 The Dominant Role of Economic Growth:

The enhancement of GDP growth due to investment in GFCF confirms accelerator effect in Iraq's situation. As the economy expands, the level of investment increases as firms and government allocate more resources for capital formation. The contraction in 2020 (-10.9% GDP growth) was associated with a sharp drop in GFCF to 29% of GDP while the recovery in 2022 (3% GDP growth) saw GFCF at 40% of GDP.

7.9.2 The Negative Impact of Inflation:

Inflation's negative coefficient indicates how price instability affects investment choices. When inflation is high uncertainty is increased, the real value of future returns eroded and input costs ramp up.

7.9.3 The Limited Role of Interest Rates:

The structure of Iraq's financial system explains the unimportance of interest rates.

- Most of the banks are state owned with Rafidain and Rasheed banks controlling 80% of the assets of the banking sector.
- The government determines lending rates instead of the market forces.

- Most of the credit is concentrated in the public sector.

7.9.4 Exchange Rate Sensitivity:

The significant negative correlation between exchange rate depreciation and gross fixed capital formation reflects Iraq's high reliance on imported capital goods. The devaluation of IQD from 1166 to 1300 during 2015–2016 also coincides with decline of GFCF from 34% to 26% of GDP.

- In 2022, GFCF surged in 2022 to 31.8% of GDP.
- In 2024, the recovery of this economy is forecasted at 20.6% of GDP, owing to the betterment in performance of the non-oil sector.
- GFCF will settle at 20-21% of GDP by 2025.

8. Conclusion:

Using the ARDL model, the results indicate that the most important factor affecting investment performance is the exchange rate, and a depreciation of the exchange rate has a negative impact on overall fixed investment because it increases the cost of imported capital goods. Inflation also has a delayed negative effect, while interest rates have a minimal impact due to the dominance of state-owned banks. Overall fixed investment is expected to recover, reaching about 20.6% of GDP.

- GFCF has a stable long-run relationship with Economic Growth, Exchange Rate and Inflation (IMF, 2024) as reflected in the co-integrating equation of GFCF.
- Economic growth is the most powerful driver of investing accelerator dynamics. In Iraq, the public capital formation is driven by revenues from oil which will ultimately decide the pace of the economic growth.
- The Exchange Rate Barrier: The damaging effect of depreciation of the exchange rate shows that the investment environment in Iraq is highly sensitive to the cost of imported capital goods (World Bank, 2023).
- The lack of importance of the interest rates show a financial disconnect. The banking system does not work as an efficient intermediary for investment financing.

In light of the empirical findings, the following policy interventions are recommended that can stabilize and enhance GFCF in Iraq.

- The Central Bank of Iraq (CBI) must focus on exchange rate stabilization in order to reduce the uncertainty and costs of importing technology and machinery. Encouraging participation by private sector in industrial and agriculture sectors.
- Fiscal Rules that would protect investment spending from oil price fluctuations should be implemented by the government. Creating a sovereign wealth fund for infrastructure GFCF will ensure that projects continue even during a downturn.

- The government must accelerate the structural reform of the state-owned banks (Rafidain and Rasheed) to make the interest rate a meaningful tool for investment. Also, it must promote digital banking to further enhance the access of small and medium enterprises to credit.
- Policymakers should provide specific tax incentives for investment in productive, non-oil sectors. They will leverage the Accelerator Effect in those sectors that can generate sustainable high-value employment outside.

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Study Appendix: Complete Dataset (2012–2025)

Year	GFCF (% GDP)	GDP Growth (%)	Inflation (%)	Interest Rate (%)	Exchange Rate (IQD/USD)
2012	34.0	10.5	6.0	6.0	1166
2013	32.0	4.2	2.4	6.0	1166
2014	28.0	2.5	2.9	6.0	1166
2015	26.0	-0.5	1.9	6.0	1166
2016	35.0	-1.5	0.4	4.0	1300

Year	GFCF (% GDP)	GDP Growth (%)	Inflation (%)	Interest Rate (%)	Exchange Rate (IQD/USD)
2017	33.0	1.5	1.8	4.0	1300
2018	34.0	3.3	0.4	4.0	1200
2019	36.0	-0.5	1.0	4.0	1200
2020	29.0	-10.9	-2.3	4.0	1450
2021	38.0	-1.2	6.0	4.0	1475
2022	40.0	3.0	8.5	4.0	1500
2023	15.3	-1.1	4.4	5.5	1300
2024	20.6	-2.3	2.7	5.5	1310
2025*	20.6	0.5	1.5	5.5	1310

*Note: 2025 values are projections based on IMF and Coface forecasts



Source: Author's calculations based on data obtained from the International Monetary Fund (IMF), World Economic Outlook Database, and the World Bank, World Development Indicators.