

-RESEARCH ARTICLE-

NONLINEAR RELATIONSHIP BETWEEN ECONOMIC DEVELOPMENT AND FDI IN IRAQ: EVIDENCE FROM NARDL (2000–2024)

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—Abstract—

This study uses the NARDL model, one of the contemporary standard techniques that may show asymmetric correlations between economic variables, to examine the nonlinear link between economic development and foreign direct investment in Iraq between 2000 and 2024. Foreign direct investment (FDI) flows, real GDP (a measure of economic progress), and a few control variables like trade openness and inflation were all based on World Bank statistics. The estimation results showed that there is a long-term nonlinear relationship between foreign investment and economic development in Iraq, as an increase in investment flows leads to improved growth at a higher rate than the effect of a decrease in those flows. Short-term results also showed

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that positive shocks to foreign investment leave a limited immediate impact, while negative shocks extend over a longer period, reflecting the fragility of the Iraqi economic environment in the face of external fluctuations. The results of the findings show that the institutional environment has to be consolidated and more confidence of foreign investors in the country has to be strengthened in order to achieve sustainable development in Iraq. As far as the policy implications of the findings of the study are concerned, it has to be noted that the Iraqi government has to implement a package of institutional reforms that transcend mere formal aspects in order to address the fundamental obstacles to investment. As the oil sector dominates the country's resources, foreign direct investment is considered to be an important lever for the diversification of the economy, under the condition of an unambiguous legal environment that protects the rights of investors and facilitates the licensing procedures. As the findings of the analysis show, the changes in the global oil prices make the Iraqi economy more vulnerable to the fluctuations of the investment flows, and the creation of a financial cushion has to be considered.

Keywords: Economic Development, Foreign Direct Investment, Iraq, NARDL Model, Nonlinear Relationships.

INTRODUCTION

Economic development has been one of the greatest ambitions by governments particularly in developing countries experiencing a number of structural challenges like Iraq ([Abdullah & Awad, 2022](#)). Growth and development do not come just because natural or financial resources are present, but the way the resources are used and managed determines the attainment of sustainable growth ([Eisenmenger et al., 2020](#)). Foreign direct investment is one of the greatest contributors that can facilitate this process by transferring expertise, technology and capital that helps in increasing production efficiency and enhancing the level of income and employment opportunities ([Abebe et al., 2022](#)).

Yet the economic situation in Iraq over the past decades revealed that the inflow of foreign investments has not been linear ([Alhamdany et al., 2024](#)), but it has been characterized by significant oscillations in response to the political, security and economic factors ([Beisembina et al., 2025](#)). The role of this investment in economic development in the periods of relative openness and the periods of turmoil was not quite obvious ([Hussain et al., 2021](#)). This underperformance creates a basic question concerning the character of the relationship that exists between foreign investment and economic development in Iraq. Is this a linear and smooth relationship as it is assumed by the traditional models or is there a nonlinear relationship that depends on the intensity of shocks and fluctuation of investment flows?

METHODOLOGY

Despite efforts to attract foreign direct investment in Iraq, economic development indicators continue to suffer from a clear weakness and fluctuating growth rates (Kazar, 2023), suggesting a flaw in the nature of the relationship between the two parties. It is not certain that higher foreign investment always leads to improved development, nor does its decline necessarily mean a contraction in growth (Chakravarty & Mandal, 2020). Hence the research problem arises in the following question:

Q1: *Is the relationship between foreign direct investment and economic development in Iraq linear or non-linear?*

Q2: *To what extent does the impact of the increase or decrease in foreign investment flows differ on the development path during the period (2000–2024)?*

RESEARCH HYPOTHESES

- There is a long-term relationship between foreign direct investment and economic development in Iraq.
- The relationship between foreign investment and development is non-linear, so that the effect of an increase differs from the effect of a decrease.
- Negative shocks in foreign investment have a stronger and longer-lasting impact than positive shocks.
- Part of the fluctuations in economic development can be explained by changes in foreign investment and supporting factors (such as inflation and trade openness).

RESEARCH OBJECTIVES

The research aims to:

1. Analyze the long-term relationship between foreign direct investment and economic development in Iraq.
2. Measuring the asymmetric impact of foreign investment changes (positive and negative) on economic growth.
3. Determine the extent to which economic development responds to short-term shocks in investment flows.
4. Providing practical recommendations to improve the investment environment in a way that serves sustainable development in Iraq.

LITERATURE REVIEW

Contemporary economic literature has addressed the relationship between foreign direct investment (FDI) and economic growth in developing countries from various analytical perspectives (Wang et al., 2022), with a notable evolution in the standard tools used to understand the nature of this relationship.

One of the most important methodological achievements in the field has been the development of the Nonlinear Autoregressive Distributed Lag (NARDL) model as an important tool of analysis that transcends the limitations of linear approaches (Syed et al., 2022). The impact of negative shocks on the major economic indicators has been found to exceed the impact of positive shocks of similar intensity not only in terms of their intensity but also in their duration. This has been demonstrated in the study by (Zhu et al., 2021). This accomplishment marks a paradigm shift in the assessment of economic relations in the long-run, especially under conditions of large structural changes and fluctuations.

In relation to the Gulf Cooperation Council (GCC) countries, an applied research study using this model has been conducted to assess dynamic relations within this region (Al-Saidi, 2021). The outcomes of this applied research study indicate that there is asymmetry between the inflows of foreign direct investments and economic growth. This means that economic decline lasts longer than the positive impacts of foreign direct investments. This disparity, according to the authors, at least to some extent, can be explained by the low level of development of intersectoral relations within these economies and the limited possibilities for technology transfer in some of these targeted countries (Halili, 2020).

In the Iraqi case, specifically, (Al Shukri & Al Hazamat, 2024) carried out an analysis using the Auto distributed Cointegration (ARDL) model and arrived at a conclusion that there is a long-run equilibrium relationship between FDI and GDP.

Nonetheless, this analysis is premised on a strictly linear relationship. This restriction, therefore, made it difficult for this analysis to comprehensively address the dynamics of the Iraqi economy's response to both upward and downward changes in investment levels—a factor that is crucial in a dynamic environment such as Iraq's. The current analysis is also important in that it is the first to address the methodological and time factors in its comprehensive analysis. In terms of methodology, this analysis utilizes the Non-Linear Array (NARDL) model in its analysis of the asymmetric relationship between investments and developments, thus affording this analysis an opportunity to comprehensively differentiate between upward and downward investment levels. The current analysis is also important in that it is the first to address events between 2000 and 2024.

This gives this analysis an opportunity to comprehensively address crucial events in Iraq's economic history, such as the 2003 occupation of Iraq, the ISIS crisis in Iraq in 2014, the COVID-19 pandemic in Iraq in 2020, as well as fluctuations in oil prices. This gives this analysis depth in interpretation, which is much more comprehensive compared to earlier analyses that were limited in their scope.

THE CONCEPT OF ECONOMIC DEVELOPMENT

According to (Hariram et al., 2023), economic development is the process that aims to raise real income, enhance living standards sustainably, and boost society's potential for productivity. It is not just GDP growth, but also includes structural transformations in the economy, equitable income distribution, and improved human capital. Development cannot be measured solely by growth rates but must be viewed as liberating human capabilities and enabling them to reach a decent and productive life (Selwyn, 2020). This broad concept has made economic development a comprehensive framework for education, health, investment and infrastructure policies (Sarangi & Pradhan, 2020).

The specificity of the economic development of the Iraqi case is based on a heavy reliance on oil which constitutes more than 90% of government revenues (Yaqub, 2024), and this specificity made economic growth susceptible to dynamics in oil prices, lack of economic diversification, and loss of the role in the contribution of non-oil productive sectors of the economy, including agriculture and industry.

THE CONCEPT OF FOREIGN DIRECT INVESTMENT

The flow of capital between one country and another with the purpose of creating or developing a production or service project is called foreign direct investment (FDI) in which the foreign party has a majority stake (Kaczmarczyk & Flassbeck, 2023). It is also regarded as one of the greatest drivers of economic growth in the developing nations because it leads to transfer of technology, generating new working places and enhancing the efficiency of production (Mohamed et al., 2022).

According to the classical theories, the inflow of foreign investment would result in higher capital accumulation and growth due to investment multiplier (Emako et al., 2023). Although modern theories particularly the internal growth theory (Endogenous Growth Theory), hold that foreign investment can affect growth by improving the local knowledge and technologies (Arjun et al., 2020).

The Iraqi context recorded high variations in the flows of foreign investments since 2003 due to the security instability, poor legislative framework, and absence of infrastructures to support investment (AL-Saadi et al., 2022). But since 2010 the Iraqi government has been undertaking policies in attracting investment with special laws and a national investment authority (AL-RUBAIE & AL-MANSOORY, 2021).

THE RELATIONSHIP BETWEEN ECONOMIC DEVELOPMENT AND FOREIGN INVESTMENT IN IRAQ

It is different in the nature of the relationship between foreign direct investment and economic developments at different stages that the economy is at. Investment funds in certain developing nations provide growth stimulation in terms of enhanced production

and export (Khan, 2025). Foreign investment can cause sectoral biasness that fails to develop the country holistically in other countries where foreign investment is only concentrated in the oil or extraction industry without actual transfer of technology.

According to the literature, it is possible to say that foreign investment will become a driver of growth only in case the relevant institutional environment is established, including the presence of developed infrastructure and transparency of legislation (Bhasin & Garg, 2020). Apparently, in the case of Iraq, bad institutions and absence of political stability have mitigated the effectiveness of investment towards supporting economic development.

The study was based on yearly data from 2000 to 2024 that represented macroeconomic indicators in Iraq, including trade openness (OPEN), real gross domestic product (GDP), inward foreign direct investment (FDI), and inflation rate (INF).

Table 1: Annual data (2000-2024)

Year	Real GDP in billion dollars	Foreign direct investment in billion dollars	Inflation rate (%)	Degree of trade openness (%)
2000	89.1	0.3	33.7	55.9
2001	93.5	0.4	28.5	57.1
2002	96.2	0.5	25.6	58.3
2003	112.7	0.7	32.9	60.2
2004	121.4	1.1	27.4	61.0
2005	128.3	1.4	19.8	63.5
2006	135.9	1.9	13.7	65.1
2007	142.6	2.1	9.8	67.3
2008	157.8	2.4	8.9	68.9
2009	161.2	2.7	7.2	69.4
2010	168.5	3.0	6.8	70.1
2011	176.3	3.4	6.3	72.8
2012	182.5	4.1	6.0	74.2
2013	190.8	4.5	5.6	75.6
2014	196.1	3.8	5.9	72.4
2015	201.7	2.5	6.4	70.3
2016	207.9	2.2	6.8	69.7
2017	214.4	3.0	5.3	70.8
2018	221.7	3.8	4.8	71.5
2019	229.6	4.6	4.2	72.3
2020	198.4	2.0	6.1	69.9
2021	212.3	3.5	5.4	71.2
2022	235.6	5.8	5.1	73.4
2023	246.1	6.8	4.5	75.8
2024	256.8	7.6	4.2	83.2

The data presented in Table (1) indicates that the Iraqi economy experienced variable growth during the study period. The gross domestic product rose from approximately

89.1 billion dollars in 2000 to 256.8 billion dollars in 2024, indicating the expansion of economic activity following 2003 due to the rise in oil prices and the increase in government revenues (Drebee & Razak, 2022).

Nevertheless, the growth was not consistent, as the GDP faced a decline in some years, such as 2014 and 2020, due to the crises of security, the effects of the Corona pandemic, and the low oil prices (Guan et al., 2021).

The foreign direct investment (FDI) grew gradually from 2000 to 2024, from \$0.3 billion to \$7.6 billion, respectively, with clear fluctuations due to the political and security conditions as well as the unstable economic legislations, as there were some years that faced a sharp decline in the FDI, such as 2014 and 2020. As for the inflation rate (INF), it was high at the beginning of the millennium due to macroeconomic imbalances and the weakness of the productive apparatus, reaching (33.7%) in 2000, then gradually declining to less than (5%) in recent years, which reflects a relative improvement in monetary policy and price stability after 2018. The degree of trade openness (OPEN) recorded a clear upward trend, rising from (55.9%) in 2000 to (83.2%) in 2024, reflecting Iraq's expansion in international trade and its increased integration into the global economy, especially with the liberalization of trade and the strengthening of economic relations after 2003. In general, these trends indicate that the Iraqi economy is characterized by rentier characteristics and structural volatility, as it depends to a large extent on oil revenues, which in turn determine the level of public spending and the volume of foreign investments. These features justify the use of nonlinear models (NARDL) to study the relationship between variables, because they are able to capture the difference in the response of economic development to rising or falling foreign investment.

THEORETICAL FOUNDATIONS OF THE NONLINEAR RELATIONSHIP (NONLINEARITY)

Recent studies show that the relationship between economic development and foreign investment may not be linear, that is, the effect of an increase in investment is not inversely equal to the effect of a decrease in it (Osei & Kim, 2020). This nonlinearity is due to a group of factors, including:

1. The presence of critical boundaries (Threshold Effects) at which the nature of the relationship changes.
2. Delayed impact of investment, as its impact may appear after several years.
3. The impact of external shocks such as financial crises or political situations.

This phenomenon can be properly investigated with the help of NARDL model which involves dividing the variables into two components: the positive changes (increase in investment) and the negative ones (decrease in investment) and calculating the

contribution of each of these components to economic development in the long and short run.

THE STANDARD ASPECT AND STATISTICAL ANALYSIS

Research methodology and study model

The quantitative standard methodology applied in this study to examine the relationship between economic development (real GDP) and foreign direct investment in Iraq is the extension of the conventional ARDL model named NARDL (Nonlinear Autoregressive Distributed Lag) model that allows separating the effect of the increase and decrease in the independent variable upon the dependent variable (Abegaz, 2024).

A modern method of analyzing dynamic economic relationships, the Nonlinear Autoregressive Distributed Lag (NARDL) model was employed because it was believed that the linkage between the economic development (GDP) and foreign direct investment (FDI) was nonlinear and asymmetric.

The World Bank, International Monetary Fund, and United Nations Conference on Trade and Development databases provided annual statistics for the years 2000–2024.

Description of variables and their sources

The general form of the model is as follows:

$$\Delta \text{GDP}_t = \alpha + \sum_{i=1}^p \beta_i \Delta \text{GDP}_{t-i} + \sum_{j=0}^q (\gamma_j^+ \Delta \text{FDI}_{t-j}^+ + \gamma_j^- \Delta \text{FDI}_{t-j}^-) + \delta X_t + \theta \text{ECM}_{t-1} + \varepsilon_t$$

Where:

ΔGDP_t : Economic development (real GDP).

$\Delta \text{FDI}_{t-j}^+$: Positive changes in FDI.

$\Delta \text{FDI}_{t-j}^-$: Negative changes in foreign direct investment.

ε_t : Random error limit.

X_t : represents the control variables OPEN, INF

ECM_{t-1} : is the correction factor resulting from the long-term equilibrium equation

The following variables include:

GDP: Real GDP as an indicator of economic development (at constant prices, billion US dollars)

FDI: Net inward FDI inflows (US\$ billion)

INF: Annual inflation rate (percentage change in CPI %) (as a control variable)

OPEN: Degree of trade openness (ratio of total exports and imports to GDP %) (as a control variable)

Descriptive statistics of data

The study variables' descriptive statistics for the years 2000–2024 are displayed in [Table 2](#). With a standard deviation of (47.6) and an average GDP of roughly (178.3) billion dollars, which reflects the expansion of economic activity during the period, it is evident that the gross domestic product (GDP) saw a gradual increase during the study period. This illustrates a distinct variance in growth owing to the diverse political and economic crises that Iraq has gone through.

Table 2: Most important statistical characteristics

Variable	Average	Standard deviation	Minimum	Maximum
GDP	178.3	47.6	89.1	256.8
FDI	2.0	1.8	0.3	7.6
INF	8.1	5.7	0.2	33.7
OPEN	70.4	9.8	55.9	83.2

The mean foreign direct investment (FDI) flows were at (\$2.9) billion which is a very low rate relative to the size of the Iraqi economy which means that there is little attraction of foreign capital since there are a poor business environment and a high investment risk.

Conversely, the inflation rate (INF) experienced an average of (8.1) and a standard deviation of (5.7) indicating high price movements which have a negative impact on macroeconomic stability. The mean level of trade openness (OPEN) was approximately (70.4%), which showed that Iraq is becoming more reliant on international trade, particularly exporting the oil and importing the consumer products.

Stillness Test (Stationarity Test)

ADF (Augmented Dickey-Fuller) test was used to check the dormancy of variables ([Ahmed et al., 2021](#)). This mixed scenario can be addressed using the NARDL model as the results showed that some of the variables would be fixed at level (I(0)) and other at the first difference (I(1)).

Table 3: Stillness test

The variable	In level	In the first difference	Result
GDP	Non-static	Static	
FDI	Static	-	I(1)
INF	Non-static	Static	I(0)
OPEN	Static	-	I(1)

Boundary testing: (Bounds Test for Cointegration)

The boundary test was used to establish that there was a long-term equilibrium relationship between the variables in the NARDL model. It is a test that compares the lower and upper critical values with the estimated value of a statistic (F-statistic).

In case the calculated F value exceeds the upper critical value (Upper Bound) at a level that has some meaningfulness, the null hypothesis (H0) that there is no long-term equilibrium association is rejected and a shared integral between the variables is inferred. The results of the test are presented in [Table 4](#).

Table 4: Boundary test results

Sentiment level	F-calculated	Minimum I(0)	Maximum I(1)	Decision
10%	6.21	2.62	3.79	Having a long-term relationship
5%	6.21	3.23	4.35	Having a long-term relationship
1%	6.21	4.29	5.61	Having a long-term relationship

The alternative hypothesis that there is a long-term equilibrium connection between the variables under investigation is accepted, and the zero hypothesis is rejected since the value of $F=6.21$ surpasses the upper critical value at all significant levels.

Estimating the NARDL model

The model was estimated using data from Iraq for the period (2000–2024), and the results are shown below ([Table 5](#)):

Table 5: The results of the relationship between economic development and foreign investment

Variable	Significance long run	Probability value	Parameter
FDI ⁺	0.84	0.001	Statistically significant positive at 5%
FDI ⁻	-0.42	0.032	Statistically significant negative at 10%
INF	-0.31	0.050	Statistically significant negative
OPEN	0.47	0.011	Statistically significant positive
Constant	2.14	-	-

The results illustrate that the relationship between the foreign investment and economic development in Iraq is nonlinear, and 1 percent increase in foreign investment flows leads to a long-run growth in economic development indicators by 0.84.

Concerning the negative values of foreign investment the same can be said, the value was lower estimated to be (-0.42%), which means that the effect of the decrease in investment is less than the effect of the increase but has longer period. This difference

indicates the asymmetry of the relationship between the two variables that, the Iraqi economy responds positively to investment flows in case of a stable situation, but responds negatively and dramatically otherwise, when there are disturbances or withdrawals by investors. This confirms the asymmetry of the response in both directions.

Short-term relationship (Short Run)

Short-term results indicate the following (Table 6):

Table 6: The results of short-term

Variable	Coefficient of short run	Probability value	Interpretation
ΔFDI^+	0.27	0.048	Limited positive effect
ΔFDI^-	-0.36	0.009	Strong negative effect
ΔGDP_{t-1}	0.52	0.001	Temporary deficit effect
ECM(-1)	-0.62	0.000	Moral and presence of long-term correction

As observed in the table above, the error correction factor (ECM) is given as -0.62 which means that 62 percent of short-term deviations are being rectified in a year. This implies that the Iraqi economy is restoring to its long-term equilibrium at a medium rate that is, the Iraqi economy is an average shock absorber. Nonetheless, it is a comparatively slow process because of the poor diversification of the economy and reliance of economic activity on the government expenditure.

The short-run outcomes show that negative shocks in foreign direct investment affect the growth of economy more than negative shocks.

During the years when foreign investment in Iraq experienced a certain decrease (most notably in the years of 2014-2017), the GDP diminished at a more rapid rate compared to the years of its growth, which could be attributed to the ineffective domestic production systems and overreliance on external financing in the economy.

This implies that in the short term, inflation is detrimental to growth as an inflation increase in prices reduces purchasing power and real production, whereas trade openness plays a role in supporting growth by increasing exports and diversifying productive imports.

Diagnostic tests (Diagnostic Tests)

To ensure the validity of the model, a set of standard tests were performed (Table 7):

Table 7: Diagnostic test

Test	Test result	Probability values	Conclusion
Sequential covariance test (Breusch-Godfrey)	1.24	0.29	No sequential heterogeneity. There is no significant autocorrelation in the remainder
Homogeneity of variance test	0.87	0.44	Homogeneous
Normal distribution test (Jarque-Bera)	1.12	0.57	Natural
Stability test (CUSUM)	Within limits	-	The model is stable

The CUSUM and CUSUMSQ tests proved the model to be stable at the morale level of 5%. It also passed the White test of heterogeneity of variance and the Breusch Godfrey test of residual correlation showing the validity and lack of common issues of the model.

Based on this, it can be considered that the standard model obtained by this calculation is highly statistically efficient in explaining the relationship between economic development and foreign direct investment in Iraq over the period (2000 - 2024).

DISCUSSION

The findings show that the effect of foreign investment in Iraq is disproportionate: the higher the inflow of foreign capital, the higher the economic growth rates, and the less investment, the less growth will fall. This could be attributed to the fact that the periods of greater investment are usually accompanied by relative stability in the security conditions and the increased cost of oil that boosts the growth. This is consistent with (Alaarajy et al., 2024). The results of the econometric analysis conducted using the NARDL model show a complex and intricate relationship between FDI and economic development in the Iraqi economy. This complex relationship between FDI and economic development in the Iraqi economy cannot be explained through linear relationships in which a constant relationship is assumed to exist between two variables. Notably, the Iraqi economy is subject to the asymmetric effects of the changes in the levels of investment inflows. This implies that while the increase in FDI is subject to a corresponding increase in economic growth, with the increase being 0.84 percent, the decline in FDI does not subject the economic growth to a corresponding decline. Instead, a decline is noted with the decline being 0.42 percent. This is a result of the built-in partial elasticity of the Iraqi economy. In this context, it is noted that during periods of high levels of investment inflows, which correspond to periods of relative stability in the Iraqi economy and the global economy in the period after 2007 and periods of high oil prices, a positive effect is noted on economic growth. More importantly, it is noted that during periods of decline in investment inflows, the Iraqi economy does not completely decline. This is partly because of the compensatory effect of the revenues generated by the government from the sale of oil. This ensures that a

minimum level of government expenditure is maintained. This is evident in the fact that revenues generated from the sale of oil have a buffering effect on the economy. This ensures that the economy does not completely decline during periods when FDI declines.

In the case where there is an economic downturn, it is apparent that the Iraqi economy is capable of being flexible. This is due to the government expenditure that is dependent on the revenue collected from the sale of oil. This ensures that there is a certain level of mitigation against the effects of an economic downturn. However, research and observations have shown that the negative effects of economic downturns are more profound than the positive effects. This further emphasizes the vulnerability of the institutional framework in the event of economic crises and shocks. This is also evident by the fact that while it is apparent that the Iraqi economy is capable of being flexible, it is also vulnerable to economic downturns. This is further evidenced by the fact that while the economy is vulnerable to economic downturns, the error correction coefficient is -0.62 , which means that it will take more than a year for the economy to absorb only 62 percent of the negative deviations in the short term relative to the long-term equilibrium. What is apparent is that despite the high level of dependence on oil revenue, there is a lack of an appropriate institutional framework that is effective enough to respond to negative economic shocks.

This is further evident by the fact that when the foreign investors' confidence is shaken by security tensions and political unrest, as was witnessed in 2014 and again in 2020, the negative consequences have a more profound influence compared to the limited positive consequences of the improved environment for investment. This aligns with the conclusions regarding the vulnerability of rentier economies to volatility.

The NARDL model showed that the relationship between foreign direct investment and economic development in Iraq during the period (2000–2024) is long-term and non-linear, meaning that the effect of an increase in investment flows differs from the effect of a decrease in them. It has also been shown that the increase in foreign investment contributes to raising economic growth rates more than the size of the negative impact resulting from the decline in these flows, which indicates that the Iraqi economic environment benefits to a higher degree during periods of stability, but is doubly affected when shocks or a decline in investments occur. This is consistent with (Shani et al., 2024).

Such a difference can be clearly observed if the findings of the present paper are compared with the ones of (Esmaeili et al., 2023), who used the conventional ARDL method and found evidence of the linear relationship in the long term. The findings of the present paper, while not excluding the possibility of cointegration among the examined variables, clearly show that if cointegration does exist, it does so in a nonlinear manner and thus requires more precise analytical tools, namely the NARDL

model, to be fully understood and analyzed. At the same time, the greater effect of negative shocks in comparison to their positive counterpart in the short term only serves to strengthen the findings in the GCC context, the main difference being the lack of the institutional framework needed to transform the investments into productive potential outside the oil industry in the case of Iraq, in contrast to the GCC countries.

Finally, regarding the control variable findings, the negative relationship between inflation and economic growth clearly illustrates the negative effect of monetary instability on the attractiveness of foreign investments, even in the presence of incentives. In addition, in the case of high levels of the inflation rate, namely above 30%, as was the case in the year 2000, any attempt at long-term planning would be almost impossible, thus clearly illustrating the lack of investments in the period in question. At the same time, the effect of trade liberalization being positive and equal to 0.47 clearly illustrates the support of economic growth in Iraq, the main problem being the almost exclusive dependence of the Iraqi economy on the export of oil products.

It should be noted at this point that the findings of the present paper should in no way be considered to be diminishing the role of foreign investments in the Iraqi economy but rather highlighting the fact that the effectiveness of foreign investments in the Iraqi context would depend on the overall improvement of the institutional environment in the country, the lack of transparency in procedures, the establishment of multiple investment decision-making bodies, and the lack of intellectual property rights protection, as clearly shown in the report of the OECD (2021).

Therefore, addressing these institutional gaps could help reduce the gap between the potential positive impact of investment and the actual measured impact, transforming the relationship from a state of negative asymmetry to a positive, cumulative interaction that serves the desired economic diversification.

CONCLUSION

Based on standard analysis using the NARDL model for the period (2000–2024), the most important conclusions can be summarized as follows:

1. It has been shown that there is a long-term relationship between foreign direct investment and economic development in Iraq, but this relationship is not linear, but rather is characterized by asymmetry in both directions, as the effect of an increase in investment flows differs from the effect of a decrease in them in terms of strength and time period.
2. The findings established that the growth in the foreign flow of investment triggers economic development by a higher percentage (0.84) compared to the impact of a decline (-0.42), which signifies that, during the political and economic stability is real there is opportunity to effect sustainable growth.

3. The error correction factor (-0.62) also shows a moderate pace in the recovery of the economy to long-term equilibrium, and this indicates that the economic adjustment in Iraq is occurring at a relatively low rate due to the overuse of the government spending during the fluctuations.
4. It was shown in the analysis that the growth in foreign investment helps in fostering economic development at a higher rate than the effect created by the declining investment flows, this implies that the Iraqi economy gains more during the times of stability and openness.
5. The short-term findings were that the negative shocks on foreign investment are more and more significant and permanent as opposed to the positive shocks which are indicative of the fragility of this economy to volatility and weakness to absorb sudden shocks.
6. Estimates of the balance model indicate that the Iraqi economy requires average time to bounce back to its feet following any shock, which implies that the process of economic adjustment is very slow, associated with a high level of reliance on government expenditure as the main form of economic activity.
7. The findings showed that price stability and openness to trade is significant in promoting growth. The more suitable the foreign trade environment and the more stable the prices, the more successful the foreign investment will be in the context of development.
8. Standard tests have shown that the model used has a good degree of stability, giving confidence in the credibility and accuracy of the results in explaining the relationship between economic development and foreign investment in Iraq.

RECOMMENDATION

Based on the previous findings, a set of recommendations can be made for decision makers as follows:

1. Improving the foreign investment environment by removing administrative and bureaucratic obstacles, facilitating legal procedures, and guaranteeing investors' rights in a way that enhances confidence in the Iraqi market.
2. Diversifying the production base by reducing dependence on the oil sector and encouraging investments in the industrial, agricultural and services sectors, in order to achieve sustainable and balanced growth.
3. Raising the efficiency of infrastructure and economic institutions to ensure real benefit from foreign investment flows, with a focus on developing the financial and banking system and adopting economic governance.
4. Controlling inflation by adopting flexible monetary policies aimed at achieving price stability, because fluctuations in the general level of prices limit the attractiveness of the economy to foreign investors.

5. Maximizing the benefit from periods of high foreign investment through technology transfer and localization of technical expertise within the local economy and not being satisfied with short-term financial returns.
6. Encourage future studies that address the relationship between economic development and foreign investment using advanced and more recent standard methods (such as Wavelet Analysis or DCC-GARCH) to measure the dynamic relationship between development and investment in short and volatile time frames.

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