Journal of Economics
and Administrative
Sciences

Analyzing the Impact of Foreign Investment on Trade Balance in Iraq: Evidence From 2005 to 2023

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Abstract :

The paper investigates the impact of foreign investment on Iraq's trade balance between 2005 and 2023, particularly on exports and imports. Given the extreme reliance of the nation upon oil revenues and political-economic fluctuations, seasonal capital inflows are evaluated with respect to their influence on the trade dynamics of the country. Annual data and econometric methodological techniques, including stationary tests, cointegration analysis, Granger's causality test, and Vector Autoregressive (VAR) model, will be used to assess the long-run relationship between foreign investment and trade balance.

Results show a significant and long-run relationship between foreign investment and Iraq's exports and imports. Foreign investment enhances export competitiveness and affects the patterns of imports. The channels of impact may differ across various states of the economy. The study calls for policy amendments to attract sustainable investment, improve business regulations, and lessen reliance on oil exports.

The insights generated by the study shall be very useful for policymakers in charting a way to benefit foreign investment in the economic stability of the state. It stresses the need for economic diversification, improved investment laws, and infrastructure developments so as to maximize trade benefits. Future studies on Iraq should consider including important macroeconomic factors like GDP growth, exchange rates, and inflation to provide an integrated view of the economic future of Iraq.

Keywords: Foreign Investment, Trade Balance, Exports and Imports, Economic Diversification, Vector Autoregressive (VAR) Model.

1. Introduction:

Investment is the dynamic element of gross domestic product (GDP), boosting growth by increasing domestic production and employment. Particularly, fixed capital, such as machinery, equipment, and buildings, expands the production of goods and services, which fosters government and consumer spending by increasing tax revenue (Encinas-Ferrer & Villegas-Zermeño, 2015).

Furthermore, foreign trade and investment are effective worldwide tools for economic development, especially for less developed economies (Aitken et al., 1997). FI helps capital-poor countries with the resources to improve infrastructure, generate employment opportunities, and transfer managerial skills and technology (Hanna et al., 2014). It assists integration from the domestic to the global economy, especially through multinational corporations; this integration significantly fosters international trade connections and the balance of payments (HAILU, 2010). However, the dynamic of trade is complicated; for example, imports can increase productive capacity and enhance economic activities by providing access to capital goods and cutting-edge technology, while they can additionally cause trade imbalances, which, when debt levels are high, may limit growth (Keho, 2020).

In an increasingly globalized world, many countries are shifting from labour-intensive industries to advanced technology and capital-intensive manufacturing due to rising costs. Consequently, labour-intensive sectors move to countries with lower labour costs, which advantages the economies of both nations. Globalization has altered business operations and strengthened economic ties, and international trade has become easier due to improvements in communication and transportation. These factors are essential for long-term sustainable economic development (Dahal et al., 2024).

One of the most significant justifications for boosting and enhancing economic development in all countries worldwide is to extend the growing value of economic investments in both domestic and foreign countries (Shameem, D. A., 2021). Foreign investment provides more than just capital for developing countries like Iraq. It creates access to global markets, and resources flow from developed to developing economies, which promotes trade and economic growth.

As a post-conflict emerging country with a resource-dependent economy, Iraq has experienced particular challenges in its economic, social, and environmental development (Hanna et al., 2014). After years of political instabilities, to attract foreign investors, the country has offered beneficial strategies and policies, intensives, and guarantees for foreign cooperation, seeking to stabilize the domestic currency, promote economic evolution, and break free from the cycle of underdevelopment(Aziz & Al-Ajrawi, 2023). Thus, foreign investment has increased considerably, from $16 billion in 2005 to over $236 billion in 2023, together with Iraq's effort in economic diversification and reconstruction (Central Bank of Iraq, 2023)

This study examines the impact of foreign investment (FI) on Iraq's exports and imports from 2005 to 2023. Since such a period is significant for understanding the country's economic development, the paper analyses how foreign it is by looking at the data from the last 20 years (Aziz & Al-Ajrawi, 2023). investment has influenced the country's trade balance and facilitated the integration of Iraq's economic environment into the global market. Therefore, by utilizing a wide theoretical and empirical base to analyze FI and trade interaction, this research attempts to determine the distinctive features that would be helpful for policy-making and practical action. The following sections will detail the literature review, methodology, and findings and discuss implications for the future of Iraq's economy.

2. Research hypothesis: the influence of foreign investment on exports and imports will be. examined through the formulation of the study hypotheses, for instance:

- H0: There is not significant effect from foreign investment to the trade balance of Iraq.
- H1: There is a statistically significant indirect relationship between foreign investment and the export level of Iraq.

2.1 Trade and investment in Iraq:

Iraq is the seventh largest oil producer and exporter in the world. Crude oil shipments account for 99 per cent of total exports. The main export partners are the United States (25 per cent of total exports), India (14 per cent), China (12 per cent), and South Korea (9 per cent); other countries include Italy, Japan, France, and Syria.

Iraq's main imports are transportation equipment and machinery (38 per cent of total imports), manufactured goods (27 per cent), mineral fuels (10 per cent), and chemical and related products (7 per cent). The main import partners are Syria (18 per cent of total imports), China (14 per cent), and the United States (6 per cent); other countries include South Korea, Jordan, Germany, and India.

With its GDP of about $2858000 billion, or $6279.9 per capita, Iraq has attempted to attract foreign investors because of its fertile territory. In addition, trade flow is an essential component of Iraq's economy, which significantly relies on oil production. In 2023, the total trade in goods and services was around $42.73545 billion, or 42.74% of GDP. Total exports were $95433.5 million, or 37.68% of GDP, whereas approximately $47965 million, or 42.41% of GDP, came from total imports2 (see Figure 1).
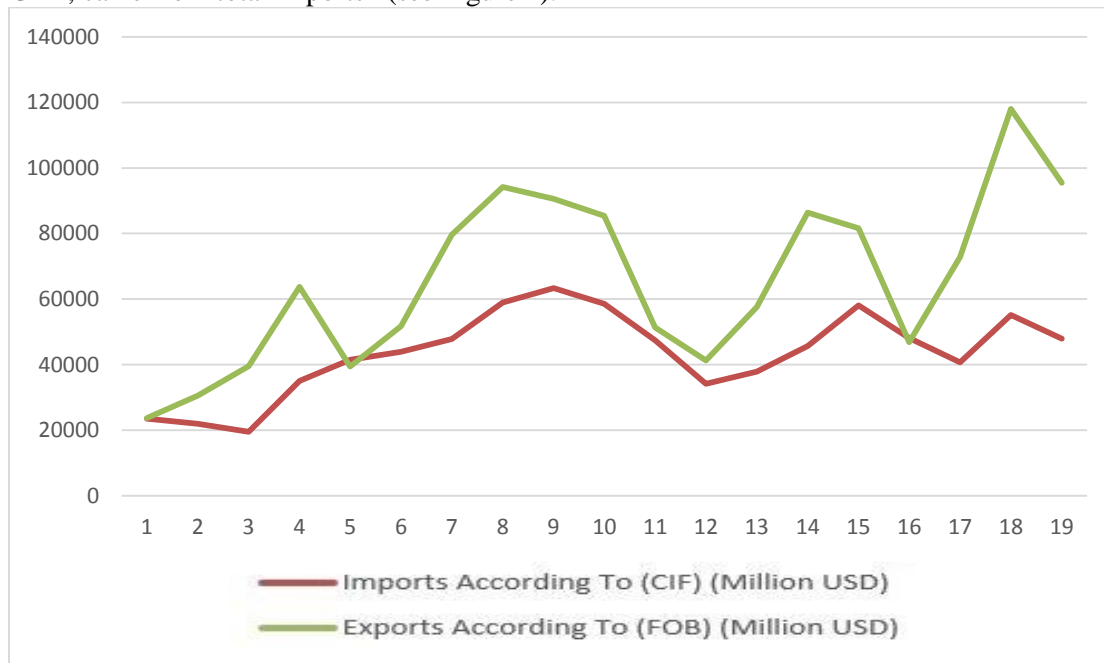

Figure 1: Graph on Exports and Imports of Iraq (share of GDP).
Source: Author`s own invention based on Central Bank Of Iraq (cbiraq.org)

Iraq's economy continued its oil-driven recovery after the sharp pandemic-induced recession in 2020, but non-oil sectors have stagnated, and growth constraints have reemerged. Despite a record oil windfall and a long-awaited new budget, Iraq remains at risk of missing the opportunity to push ahead overdue critical reforms to boost private sector growth and create the millions of jobs needed in the next decade. Iraq has attempted to strengthen relations with Gulf neighbours, such as Saudi Arabia and Qatar, to attract investment.

The growth in non-oil economic sectors in Iraq was slow until 2010 when it began to grow rapidly until 2023. Foreign investment in Iraq was estimated at $16,194,015 million in 2005; due to political changes in Iraq, it increased significantly to $236,032,489 million by 2023 (see Figure 2).

Figure 2: Graph of Foreign investment in Iraq for the year (2003-2025)
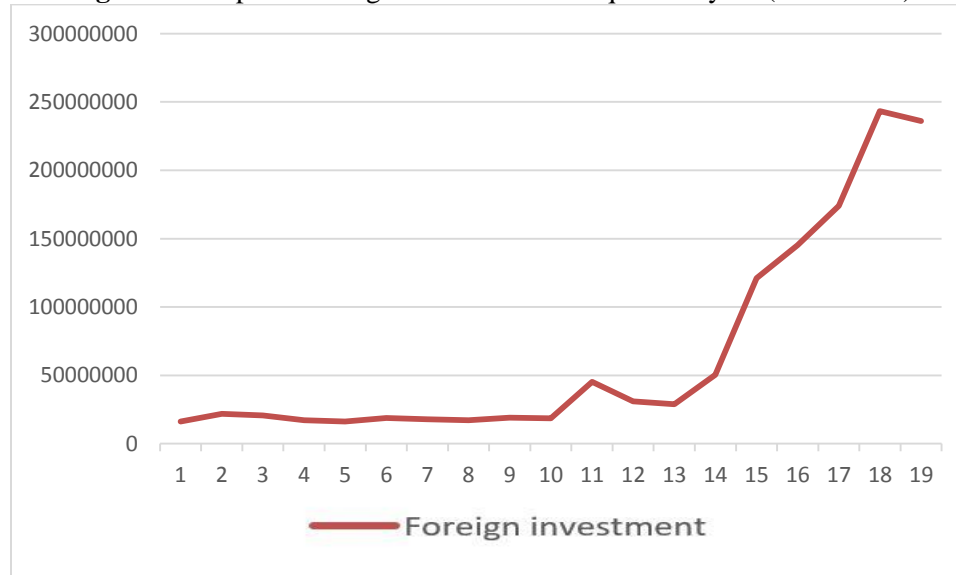
Source: Author`s own invention based on Central Bank Of Iraq (cbiraq.org)

2.2 Literature Review :
The relationship between foreign investment and trade balance has caused considerable attention among economic scholars. Despite contradictory findings, several studies have covered this topic.

The relationship between foreign direct investment (FDI) and trade differs across countries and industries. They are sometimes complementary, where an increase in FDI promotes trade growth, whereas, in others, they act as substitutes, where an increase in FDI may decrease the trade potential. This explains that the economic environment and industry features are keys to forming these relationships (Aizenman & Noy, 2005).

In the study of (Marantika, A., Hasan, Fasa, M. I., and Faizah, 2020), the impact of foreign direct investment (FDI) on the economic growth of China, India and Indonesia is examined. The findings documented that FDI has considerably boosted economic growth, especially in services, software, and commerce. China is a leading recipient of foreign direct investment (FDI), particularly in manufacturing, information transmission, and real estate sectors. Business policies and liberal foreign direct investment regulations are behind India's prosperity. However, Indonesia is recognized as a preferred destination for hosting different international events.

Likewise, implementing the 2006 investment Law in Iraq led to a significant increase in foreign direct investment (FDI) inflows. Since oil and gas are the main sources of the government budget, any changes to these sectors will considerably impact economic growth. This implies a long-run relationship between GDP, FDI and oil revenue (Imomkulov, 2023). Moreover, Al-Dabbagh (2023) aims to quantify and assess the consequences of the necessary steps for Iraq's economic growth on foreign direct investment. The findings indicate that foreign direct investment (FDI) significantly and positively influences GDP growth in the short term. However, long-run FDI growth requires development in infrastructure and ethical investment practices.

Therefore, it is important to fight administrative and financial corruption, promote stability, avoid conflicts and disputes, and eliminate partisan influence to optimize the positive effect of FDI on Iraq's economic growth.

Karimov (2019) examines the relationship between FDI inflows and trade in Turkey for the period of (1974-2017). The study found that foreign direct investment has positively impacted the imports and exports of the host countries. Inward FDI encourages exports by generating spill-over effects, while export-oriented FDI leads to producing goods that enhance trade. It is also revealed that one-way causality from exports to FDI determines the significance of foreign direct investment in Turkey's investment driven by exports. Tascón et al. (2018) analyze the link between FDI, exports and GDP growth in Spain for the year (1970 – 2016). They confirm a long-term interplay between the variables. The study concludes that both directly and indirectly, foreign direct investment (FDI) has one-way impacts on gross domestic product (GDP) through exports. Moreover, there is a two-way causal correlation between exports and economic growth.

Furthermore, a study on the economy of Pakistan (1973 – 2009) highlights a long-term equilibrium relationship between FDI and import demand and export supply. However, the impact of FDI inflow on exports-ordinated industry is not significant. It signified that the inflow of FDI has not mostly been directed toward export-oriented industries, while it has largely gone to import substitutes or production for the domestic market (Tabassum et al., 2012). Despite this, A study on the relationship between GDP, government spending, trade and FDI for the years (2000-2022) in Nepal shows that while exports significantly affect GDP growth, FDI has no impact on Nepal's economic growth. In addition, the correlation between government expenditure and GDP growth is not strong (Devkota, 2023).

3. Methodology :

This section presents the statistical and econometric analysis to examine the relationship between foreign Investment (FI) and Iraq's trade balance, including data gathering, analytical framework and an overview of the study's findings.

3.1 Data Collection :

To analyze the relationship between FI and trade balance in value, which includes imports and exports of goods in Iraq for the period of 2005-2025, the study examines the annual value of foreign investment, exports, and imports. The data will be sourced from the central bank of Iraq's official database. These variables are significant as they provide information about how they react toward each other, reflecting overall all economic circumstances and fluctuations in currency.

3.2 Econometric models:

In order to analyze and find out the relationship between the variables, here in this study we apply some econometric techniques such as unit root tests, correlation matrix, co-integration tests, and Granger causality approaches with the Vector-autoregression (VAR) model.

For achieving the study's objectives, this research formulated the following equations:

$$lnFI_t = B_0 + B_1 \, lnFI_t + B_2 \, lnEx_t + B3 \, lnIm + U_t \ldots (1)$$
$$lnEx_t = B_0 + B_1 \, lnFI_t + B_2 \, lnEx_t + B3 \, lnImt + U_t \ldots (2)$$
$$lnIm_t = B_0 + B_1 \, lnFI_t + B_2 \, lnEx_t + B3 \, lnIMt + U_t \ldots (3)$$

We can then represent the of Equation (1 , 2 ,3) as below formulations:

$$\Delta ln \, FI_t = \alpha_0 + \sum_{i=1}^{p} \alpha_1 \Delta lnFI_{t-i} - \sum_{i=1}^{p} \alpha_2 \Delta lnEx_{t-i} - \sum_{i=1}^{p} \alpha_3 \Delta lnIm_{t-i} + U_t \ldots (1.1)$$

$$\Delta ln \, Ex_t = \alpha_0 + \sum_{i=1}^{p} \alpha_1 \Delta lnFI_{t-i} - \sum_{i=1}^{p} \alpha_2 \Delta lnEx_{t-i} - \sum_{i=1}^{p} \alpha_3 \Delta lnIm_{t-i} + U_t \ldots (2.2)$$

$$\Delta ln \, Im_t = \alpha_0 + \sum_{i=1}^{p} \alpha_1 \Delta lnFI_{t-i} - \sum_{i=1}^{p} \alpha_2 \Delta lnEx_{t-i} - \sum_{i=1}^{p} \alpha_3 \Delta lnIm_{t-i} + U_t \ldots (3.3)$$

Where:

ln FI_t = natural logarithm of Foreign Investments in Iraq in year t;

ln Ex_t = natural logarithm of Exports in Iraq in year t;

ln Im_t= natural logarithm of Imports in Iraq in year t;

t = time period from 2005 to 2023;

P = optimal lag length;

α_0 = the drift component;

α_1-α_2 = Coefficients or Parameters/ long-run dynamics of the model;

U_t = White noise residuals/ Error term or Disturbance.

4. Empirical Results and Discussion:

This section shows an overview of the research findings along with econometric and empirical evaluation of them.

4.1 Statistical Overview of the Study:

The following tables present the results of some descriptive statistic indicators of study variables:

Table (1): Results of testing some empirical indicators for the data and variables included in the model.

Statistical Indicator	Foreign investment	Export	Import
Mean	17,047,232	11.01046	10.63543
Median	16.90209	1106235	10.73064
Minimum	16.59660	10.07310	9.881037
Maximum	19.30979	11.67882	11.05596
Std. Dev	0.997429	0.436897	0.339552

Source: prepared by researchers based on the annual data from (2005 to 2023).

The findings in table (1) show the foreign investment during the study period is between the lowest value (16.59660) to highest value (19.30979), with a mean and median (17,047,232 and 16.90209) respectively. Moreover, export during the same period is between the lowest value (10.07310) to highest value (11.67882), with a mean and median (11.01046 and 1106235) respectively. Likewise, import during the research period is between the lowest value (9.881037) to highest value (11.05596), with a mean and median (10.63543 and 10.73064) respectively. In addition, the lines of the diagram explain the relationship between foreign investment, exports and imports.
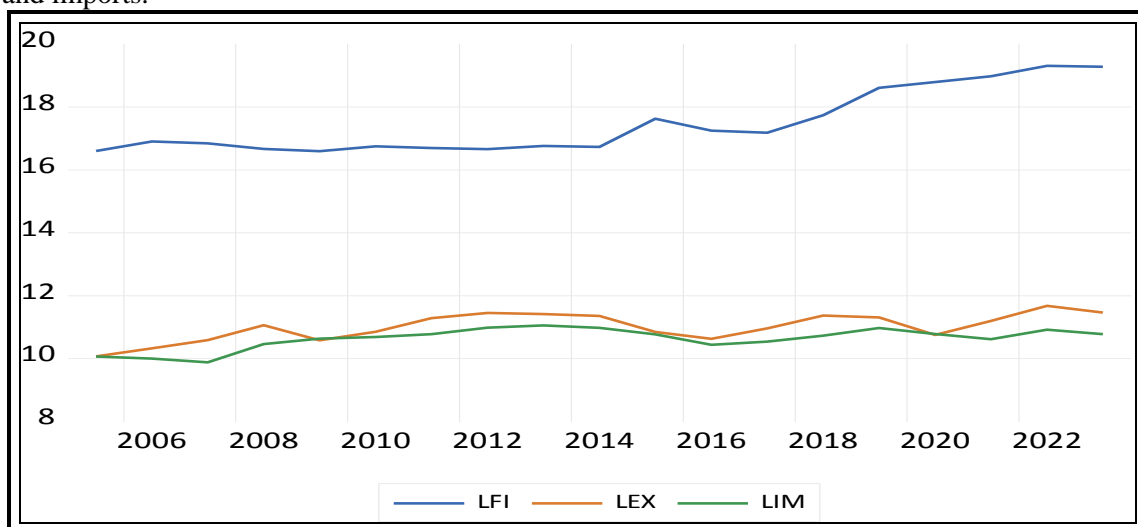

Figure 3: Graph of the explanation of relationship between (FI, Exports and Imports):
Source: prepared by researchers

4.2 Unit root stationary test:

To determine the stability of data and variables in the used model, stationary tests is essential tools. There are often issues with data when a time series is not stationary (Granger and Newbold, 1974). However, for this purpose there are variety of tests that can be conducted, Argument Dicky-Fuller (ADF) and Phillips-Perron (pp) are among the most used one. The results of the tests are shown as below:

Table 2: The Results Unit Root Test - Augmented Dickey-Fuller (ADF)

Variables in their Level with constant	ADF Statistic	Critical Values		Prob.	Decision
LEX	-4.437933	1% level 5% level 10% level	-3.920350 -3.065585 -2.673460	0.0037	Reject Null hypothesis of no unit root
LFI	-3.958883	1% level 5% level 10% level	-3.886751 -3.052169 -2.666593	0.0087	Reject Null hypothesis of no unit root
LIM	-3.594072	1% level 5% level 10% level	-3.886751 -3.052169 -2.666593	0.0078	Reject Null hypothesis of no unit root

Source: Prepared by researchers based on annual data for the period (2005-2023)

Table 3: The Results of Unit Root Test - Phillips-Perron (PP)

Variables in their Level with constant	ADF Statistic	Critical Values		Prob.	Decision
LEX	-5.402851	1% level 5% level 10% level	-3.886751 -3.052169 -2.666593	0.0005	Reject Null hypothesis of no unit root
LFI	-3.955112	1% level 5% level 10% level	-3.886751 -3.052169 -2.666593	0.0087	Reject Null hypothesis of no unit root
LIM	-3.550008	1% level 5% level 10% level	-3.886751 -3.052169 -2.666593	0.0194	Reject Null hypothesis of no unit root

Source: Prepared by researchers based on annual data for the period (2005-2023)

According to the results of Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) tests which are shown in table (2 & 3), all variables are significant and stationary. Thus, we rejected the null hypothesis (H0) of the presence of a unit root and accepted the alternative hypothesis (H1) of its presence.

4.3 Correlation Matrix:

Even though there are other ways to measure the interdependence between economic variables, a correlation matrix is the most fundamental way to quantify the degree of relationship between changes in one variable and changes in another variable or in a group of variables. This implies that the test will determine the size of the connection and the direction of the relationship, whether negative or positive, between variables.

Table (4): Results of Correlation Test

Variables	LFI	LEX	LIM
LFI	1	0.421638045	0.316605551
LEX	0.42163805	1	0.808097128
LIM	0.316605551	0.808097128	1

Source: Prepared by researchers based on annual data for the period (2005-2023).

The results in table (4) reveal that there is significantly a positive relationship between foreign investment, exports and imports in Iraq. This implies that for every 1% increase in foreign investment, there is a corresponding increase of 0.42% in exports and a 0.31% increase in imports.

4.4 Johansen Co-integration test:

Cointegration is a crucial test for determining the level of integration between variables. In order to obtain a reliable model estimate, it is necessary to have at least one co-integration between an independent variable and a dependent variable. Although there are various tests that can be utilized to determine whether long-term equilibrium connection exist between foreign investment, imports and exports, the Johansen I the most used one. The outcomes of this test are presented in table (5).

Table 5: Results of Co-integration analysis:

Hypothesized Number of Cointegrating Equations	Eigen Value	Trace Statistics	Critical Value at 5% (p-value)	Maximum Eigen statistics	Critical Value at 5% (p-value)
None*	0.868160	78.61879	42.91525 (0.0000)	32.41864	25.82321 (0.0058)
At Most 1*	0.828147	46.20015	25.87211 (0.0000)	28.17786	19.38704 (0.0020)
At Most 2*	0.675800	18.0229	12.51798 (0.0055)	18.02229	12.51798 (0.0055)

Source: Prepared by researchers based on annual data for the period (2005-2023).

It is obvious from the Johansen test which is shown in table (5) that all of the variables have a co-integration connection at the significant level of 5%. This supports the idea that the econometric model can be correctly estimated for all variables. Thus, the findings reveal that there is a long-run relationship between the variables.

4.5 Granger Causality Test:

Granger causality test is one of the significant approaches to determine the directional causality between dependent and independent variables, therefore, it is essential step in comprehending causative effects and determining if past values of one variable can predict another. The result of this model is shown in table (6)

Table 6: results of Granger causality:

Null Hypothesis:	Obs.	F-Statistics.
Prob.		
LIM dose not Granger Gause LEX	18.	0.30727.
0.5875		
LEX dose not Granger Gause LIM.		7.93380.
0.0130		
LFI does not Granger Gause LEX	18.	0.46142.
0.5073		
LEX dose not Granger Gause LFI		0.82062.
0.3793		
LFI does not Granger Gause LIM	18.	0.10828.
0.7467		
LIM dose not Granger Gause LFI.		0.62353.
0.4420		

Source: Prepared by researchers based on annual data for the period (2005-2023).

As demonstrated in table (6), the Granger causality test results show that as the P-value is 0.5875 (greater than 0.05), there is no causal direction from (imports to exports). However, as the p-value is 0.0130 (less than 0.05), showing one-way causal connection between exports and imports, in another word alternation in the exports of Iraq can impact on the imports in such a country. In addition, the finding reveals no causal relationship between foreign investment and exports, and LIM to LFI or within LFI itself. Hence, as documented in the table the p-values of all the models are greater than 0.5, suggesting that there are no significant causal relationships, only one-way causation from exports (LEX) to imports (LIM).

4.6 VAR Optimal Lag length:

To determine the optimal lag length, this study applied the VAR Lag Order Selection Criterion model, which can reduce risks and increase resilience. Additionally, we select the model with the minimum Akakie information criteria (AIC) as the ideal lag structure. According to Lutkepohl's study (1993), overfitting increases the mean square forecast error of the VAR, whereas underfitting the lag duration often leads to autocorrelated errors.

Table (7): Optimal Lag Selection model for LnEXP and LnFI

Lag	LogL	LR.	FPE.	AIC	SC	HQ
0	-25.38575.	NA.	0.132136	3.651435.	3.745842.	3.650430
1.	-7.836885.	28.7821*.	0.021930*.	1.844918*.	2.128138*.	1.841901*
2.	-5.411943.	3.233256.	0.028216.	2.054926.	2.526959.	2.049898
3.	-3.774473.	1.746635.	0.042883.	2.369930.	3.030777.	2.362890
4.	-3.471110.	0.242690.	0.087130.	2.862815.	3.712475.	2.853764

Source: Prepared by researchers based on annual data for the period (2005-2023).

Table (8): Optimal Lag Selection model for LnIMP and LnFI

Lag	LogL	LR.	FPE.	AIC	SC	HQ
0	-16.28839	NA.	0.039285	2.438452.	2.532859.	2.437447
1	-3.003108	30.86640*	0.005168*.	0.399586*.	0.682806*.	0.396569*
2	4.552215	2.065476	0.012112.	0.726371.	21.198405	0.721343
3	6.933954	0.981101	0.021760.	1.105656.	1.766503.	1.098617
4	6.933954	0.981101	0.021760.	1.475473	2.325133.	1.466422

Source: Prepared by researchers based on annual data for the period (2005-2023).

Table (7 & 8) has documented the lag order selection, and reveal that the first order VAR is selected in this study, because it has the smallest value. Hence, the model's output indicates that LnEXP, LnIMP, and LnFI work best with a lag of 1.

4.7 Vector Autoregression (VAR) model:

The VAR model will be employed to assess the dynamic relationship among FI, exports and imports, considering how past value of each indicator effect on the resent values:

$$FI_t = B_0 + B_1 FI_{t-1} + B_2 Ex_{t-1} + B_3 Im_{t-1} + u_t \ldots\ldots\ldots(1)$$
$$Ex_t = B_0 + B_1 FI_{t-1} + B_2 Ex_{t-1} + B_3 Im_{t-1} + u_t \ldots\ldots\ldots(2)$$
$$Im_t = B_0 + B_\theta 1 FI_{t-1} + B_2 Ex_{t-1} + B_3 Im_{t-1} + u_t \ldots\ldots\ldots (3)$$

Where:

Ex_t = exports in Iraq in year t.

FI_t = foreign investment in Iraq in year t.

GDP_t = gross domestic product in Iraq in year t.

ER_t = Exchange rate in Iraq in year t.

Im_t = imports in Iraq in year t.

P = optimal lag length.

t= time period from 2005 to 2023.

B0 = the drift component.

B1 - B3 = coefficients or parameters of the variables.

μ_t = white noise residuals.

Thus, VAR approach is helpful to comprehend how FDI, exports, and imports are changed over time and how they are related to one another in the future.

Table (9) VAR model estimation**:**

Dependent Variable	Predictor	Coefficient	Std. Error	t. Statistic	Significance
LEX	LEX (-1)	0.6097	0.3222	1.8926	Weak
	LEX (-2)	-0.7643	0.3887	-1.9665	Weak
	LFI (-1)	-0.2652	0.1970 -	-1.3464	Insignificant
	LFI (-2)	0.3831	0.2241	1.7096	Insignificant
	LIM (-1)	0.0780	0.6534	0.1193	Insignificant
	LIM (-2)	0.7124	0.3644	1.9548	Weak
LFI	LEX (-1)	0.3293	0.5073	0.6492	Insignificant
	LEX (-2)	-0.2044	0.6121 -	0.3333	Insignificant
	LFI (-1)	0.9078	0.3101	2.9271	Strong
	LFI (-2)	0.0993	0.3521	0.2813	Insignificant
	LIM (-1)	0.0680	1.0290	0.0660	Insignificant
	LIM (-2)	0.2219	0.5739	0.3867	Insignificant
LMI	LEX (-1)	0.4140	0.2244	1.8449	Weak
	LEX (-2)	-0.1193	0.2708	-0.4404	Insignificant
	LFI (-1)	-0.2252	0.1372	-1.6413	Weak
	LFI (-2)	0.2168	0.1561	1.3888	Insignificant
	LIM (-1)	0.3921	0.4552	0.8613	Insignificant
	LIM (-2)	0.0706	0.2539	0.2779	Insignificant

Source: Prepared by researchers based on annual data for the period (2005-2023).

The Vector Auto regression (VAR) model's results in Table (9) show that while the lagged impacts of the variables' current values drive the dynamics between them, there is little interaction between the different variables. In the LFI equation, for example, it is demonstrated that the first leg of LFI (LFI (-1)) has a strong and significant positive effect, indicating persistence in its behavior, whereas the lags of LEX and LIM are insignificant predictors.

Overall, there is a relationship between imports, exports, and foreign investment, but it is not very strong. Furthermore, the findings indicate that while foreign investment has a significant impact on internal dynamics and is a crucial component of the system, it has minimal influence on imports and exports.

4.8 Diagnostic tests:

Diagnostic tests are statistical techniques, and the last stage of the econometric model is utilized to evaluate a regression model's validity and reliability. These tests can assist in determining the potential problems in the model, such as multicollinearity, heteroscedasticity, autocorrelation, and non-normal distribution of the data. We also implement several statistical indicators, including R-squares, adjusted R2, and standard error.

Table (9): Results of Diagnostic tests for estimation models

Test statistics	Name of t=statistics	Probability	Final decision
Normality	Jarque-Bera	0.7915 more than 0.05	Accept
Function form	Ramsey RESET test	0.1432 more than 0.05	Accept
Serial correlation LM test	Breusch-Godfrey	0.6473 more than 0.05	Accept
Heteroskedasticity	Breusch-Pagan Godfrey	0.1400 more than 0.05	Accept
Stability	CUSUM	Structure stable at level (%5)	Not Stable
	CUSUM of squares	Structure stable at level (%5)	Stable
Statistics test			
R-squares	0.972005	S.E for regression	0.189232
Adjusted R^2	0.964006	D.W stat	2.240209

Source: Prepared by researchers based on annual data for the period (2005-2023).

According to the findings from Table (9), the values of (R2) and (Adjusted R2) are enormously high for the entire estimator model, the values of (97% and 96%), respectively. This suggests that there is a strong and significant relationship between dependent and independent variables.

However, there is no important difference between R2 and adjusted R2 for all models, suggesting that the variables included in the estimated models are both essential and noteworthy. This means that the independent variables in the models significantly impact the dependent variables.

4.9 Stability tests (CUSUM and CUSUM of Squares):

The (CUSUM) and (CUSUMQ) test are applied to estimate the structural stability of the model. This can be revealed through the following diagrams:
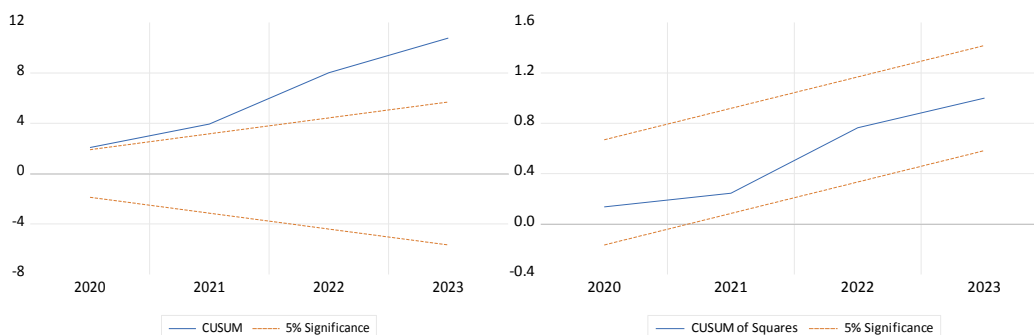

Figure 4: Graph of (CUSUM and CUSUM of Squares):
Source: Prepared by researchers based on annual data for the period (2005-2023).

The analysis indicates that the blue line is within the range defined by the red lines for (CUSUMQ), but the blue line lies beyond the range defined by the red lines for (CUSUM). It is also clear from the diagrams that the model's structure is stable at the significance level 0f 5%. Though the robustness of model's conclusion and accuracy of the parameters ware ensured by the (CUSUM) and (CUSUMQ).

Conclusion:

In an increasingly globalized globe, foreign investment has an important influence on the economies of both developed and developing countries. As it is well known, Iraq is one of the emerging economies that has been affected by international investment, and it relies largely on the oil industry for its revenue. Therefore, to examine the impact of foreign investment on exports and imports in Iraq for the period from 2005 to 2023, this study has utilized both theoretical frameworks and econometric methodologies. To demonstrate how the variables are reacting, we employ yearly data and various empirical techniques like co-integration, correlation, Granger causality test, variance decomposition, and var autoregression (VAR) model.

The findings explain significant long-run relationships between foreign investment and trade balance in Iraq for the tested period, and changes in exports and imports have influences on foreign investment. Moreover, the result of the tests reveals that there is a long-run relationship between foreign investment and exports and imports of Iraq. These insights emphasize that it is effectively significant for Iraq to improve investment regulations and establish stability in both business and political environments. These strategies have the potential to attract foreign investment into Iraqi industries, especially in non-oil sectors, thereby stimulating sustainable growth. Further studies will include different macroeconomic factors like GDP growth, unemployment rate, and exchange rate.

Authors Declaration:

Conflicts of Interest: None

-We Hereby Confirm That All The Figures and Tables In The Manuscript Are Mine and Ours. Besides, The Figures and Images, which are Not Mine, Have Been Permitted Republication and Attached to The Manuscript.

- Ethical Clearance: The Research Was Approved by The Local Ethical Committee in The University.

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