TJAS

Tikrit Journal for Agricultural Sciences

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The Impact of the Exchange Rate on Foreign Direct Investment in the Iraqi Agricultural Sector for the Period 1990-2021

Tikrit Journal for Agricultural Sciences (TJAS)   Tikrit Journal for Agricultural Sciences (TJAS)

ABSTRACT

The main objective of the research is to measure the impact of the exchange rate on foreign direct investment in Iraq, and to achieve this, it has been relying on time series data for foreign direct investment, the exchange rate, gross domestic product, inflation rate, and money supply for the period 1990-2021 by applying to the Iraqi economy as independent economic variables and their impact on The dependent variable is the exchange rate, and the unit root and stability test was carried out, and in order to detect the inactivity of the series variables, the developed Dickie-Fuller test was used, and the AIC standard was relied upon to test the slowing periods using the descriptive and quantitative method based on the Eviews-12 statistical program..

The test proved that the variables of the study appeared static in the level and the first difference, which allows the use of the autoregressive model of the distributed time gap ARDL. And foreign direct investment in the agricultural sector and a positive relationship in the long and short term between GDP and foreign direct investment in the agricultural sector. As for the money supply in the broad sense, the relationship was inverse and significant in the long term only. in the agricultural sector.

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INTRODUCTION

Many economic policy makers and academics emphasize that foreign direct investment has positive effects on the economies of its host countries, as it constitutes an important source of external financing, which can contribute to technical development through the technology it transfers. This type of investment is considered a major source. employment and an engine for economic growth.

On the other hand, economists have tried, through many studies, to identify the factors affecting foreign direct investment flows to developing or developed economies alike.

One of these factors is the exchange rate, the extent of its stability and the rate of inflation. Some studies have confirmed the importance of the stability of the exchange rate in attracting inflows of foreign direct investment companies. Based on these aforementioned arguments, developed and developing countries have provided facilities and incentives to employ this type of investment.

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Among those countries is Iraq, which has worked to create an appropriate investment climate to attract this type of companies in order to grow its economic sectors, especially the agricultural sector, provide more job opportunities, diversify sources of income, bring in modern technology and establish important production projects with the aim of raising the growth rates of its production and exports of various types. products,

And based on the fact that Iraq is facing several economic, social and environmental development challenges, so it seeks to draw a development strategy to get out of the circle of underdevelopment by issuing laws to regulate the work of foreign investment companies, including granting foreign investors the same benefits, incentives and guarantees provided to local Iraqi companies, as well as setting policies and measures to add stability. in the local currency exchange rate.

Research problem:

Foreign direct investment companies in Iraq face several economic determinants that differ in their effects on it, and among these obstacles and determinants is the failure to create an appropriate investment climate to attract this type of company in order to stimulate the growth of its sectors and provide more job opportunities, accompanied by the fluctuation of the local currency exchange rate and its effects on this type of investment in Iraq during the period 1990-2021, which is an important factor in attracting this type of investment.

Research importance:

The importance of the research through the importance of the role played by multinational companies through foreign direct investment in order to stimulate the growth of their economic and investment sectors and provide more job opportunities and increase the rate of growth in the Iraqi economy if it was on the right path.

Research goals:

The research aims at the following:

1- Studying the reality of foreign direct investment in Iraq during the research period 1990-2021.

2- Studying the reality of the impact of the exchange rate on foreign direct investment in Iraq.

3- Work to improve the reality of the Iraqi economy by benefiting from the economic policies of the exchange rate to serve the Iraqi economy and the foreign investment environment.

Research hypothesis:

The research is based on the hypothesis that the exchange rate and some other variables have different effects in attracting foreign direct investment companies in Iraq during the period 1990-2021. The research seeks to prove the hypothesis or not.

Research Methodology:

In its approach, the research adopted the method of linking the descriptive approach, which is based on theoretical studies that examined this subject, and the quantitative method, which is based on econometric methods and methods, and then interpreting the results of the quantitative method to evaluate the applied side through the use of the Eviews-12 statistical program.

Reference presentation and contemporary studies of the impact of the exchange rate on foreign direct investment in Iraq

This part of the research is concerned with studying and reviewing global and local studies and economic research that have been carried out in this field, which are related to the impact of the exchange rate on foreign direct investment, because of the benefits provided by these studies, as through them it is possible to identify the methods used, methods and results that have been reached.

A study (Sadewa, 2000) titled (The effect of exchange rate on foreign direct investment), which is based on the option pricing approach and recent foreign direct investment flows data from Japan to the United States, indicates that foreign direct investment flows may decrease with the depreciation of the host country's currency. A time series spanning from 1975 to 1997 was used

And analyzing the data, and among the most prominent results, we found that the devaluation of the host country's currency will lead to an increase in foreign direct investment flows from foreign companies only if the companies are exporting at the beginning, since multinational companies may lead to a decrease in the value of the host country's currency with a different effect on attracting

Foreign direct investment Although foreign companies have the advantage of technology, the depreciation of the currency reduces direct foreign investment flows to the host country.

The study (Ben Tafat, 2019) indicated the impact of the exchange rate on foreign direct investment in the Kingdom of Saudi Arabia during the period (1980-2017), and the main objective of the study was to examine the impact of the direct foreign exchange rate in the Kingdom of Saudi Arabia. obtained from the World Bank, and simple linear regression and correlation analysis was used through the spss program, and the results of the study found a very weak and positive relationship between the exchange rate variable and foreign direct investment, which indicates that foreign direct investment in the Kingdom of Saudi Arabia is explained through other variables that did not included in the study form.

Khushaiba (2020) study measuring and analyzing the impact of the official exchange rate (the dinar / dollar) on foreign direct investment flows. Studying the case of Algeria for the period (1990-2018), and the direction of those effects and the nature of their impact on the Algerian economy. To achieve this goal, the researcher used annual data for a time series during The period (1990-2018) for each of the official exchange rate and foreign direct investment inflows into Algeria, and unit root tests were used to determine the degree of stability of the chains, as well as the cointegration test according to the method of Engel Granger. The results of the tests showed the existence of a short and long-term equilibrium relationship between the exchange rate and foreign direct investment flows in Algeria during the period under study.

The study (Al-Sayed, 2020) showed measuring the impact of the nominal exchange rate on foreign direct investment in Egypt through annual data for the period (1977-2017) using the standard method of autoregressive time gap ARDL depending on the variables (GDP growth rate, degree of openness economy, nominal exchange rate, foreign exchange reserves, inflation rate, and external debt) and the researcher concluded that there is a long-term positive relationship between the exchange rate and foreign direct investment in Egypt during the study period.

While the study (Abdullah, 2021) showed the impact of fluctuations in the exchange rate of the US dollar against the Sudanese pound on attracting foreign direct investment in Sudan, and this study aimed to measure the impact of fluctuations in the exchange rate of the dollar against the Sudanese pound on attracting foreign direct investment through annual data covering the period 2000 -2018 AD, and the research problem was (to what extent did the fluctuations of the exchange rate of the US dollar against the Sudanese pound affect attracting direct foreign investments, and the research adopted the descriptive approach and the standard analysis.

The hypothesis of the research is that there is a direct relationship between the exchange rate of the US dollar against the Sudanese pound and foreign direct investment. Paying attention to the stability of the exchange rate and making it more flexible because of its great importance in achieving stability in the Sudanese economy and achieving internal balances.

The study (Bouzid, 2022) also demonstrated the measurement of the impact of the exchange rate and foreign direct investment on foreign exchange reserves in Algeria during the period 1990/2020 using the ARDL model by analyzing the short and long-term dynamic relationship between the exchange rate and foreign direct investment as determinants of foreign exchange reserves in Algeria. over the period 1990-2020, using the ARDL autoregressive distributed time-lag model. The study concluded that there is a negative effect of the exchange rate and a positive effect of foreign direct investment on foreign exchange reserves in Algeria in the short and long terms, in addition to the absence of the problem of autocorrelation of errors with their stability over time.

A study (Al-Gaish, 2022) titled Limits of the optimal exchange rate that attracts foreign direct investment to Egypt, which aimed to test the validity of the hypothesis that stipulated that the exchange rate had attractive limits for direct foreign investment. -2019, and linking it to the development of net foreign investment flows to Egypt. As well as examining the other determinants that affect attracting foreign direct investment tient to Egypt.

The researcher used Threshold Regression (TR) model methodology, and after making a number of attempts to overcome the problems of linear overlap in the data, exclude unacceptable results, and test the effect of each of the exchange rate X1, the inflation rate X2, the stability of the country X3,

and the general economic stability and security X3. X4, and based on the data of the World Bank, and its most prominent results were that the optimal system for the exchange rate is between less than 92.5 pounds per dollar and greater than or equal to 42.5 pounds per dollar, which means that there is a positive impact on the exchange rate in the previous limits on attracting foreign direct investment.

The first topic: the theoretical and economic framework

Concepts and theories of foreign direct investment and the exchange rate

The investment is defined linguistically: it is a word taken from the fruit, and it is the bearing of the trees, and the fruit of the tree brought out its fruit, and the fruitful one in which the fruit is called and the child is called a fruit. Therefore, the investment is a request to obtain the fruit, and the jurists use it in this sense as well.

As for investment idiomatically: it is a modern term in contemporary economic studies, but it was used by previous jurists, although we found a reference to them in Zamakhshari's interpretation of the AlLAH saying:

And do not give to the foolish your wealth which Allah has made for you, and provide for them therein, and cloth them, and say to them A kind word. (Women: 5).

Where the scholars said: The foolish are the ones who waste their money and spend it in what they should not, and they do not reform, invest and dispose of it. According to the definition of the World Bank, foreign direct investment: "The intention is to own an asset for a number of years with the ability to exercise influence in the management of this asset."

As for the International Monetary Fund, it considered foreign direct investment as a type of international investment, which is the opposite of the pursuit of an entity (economic aid) in an economy to obtain a permanent interest in an institution residing in another economy, and this interest involves a long-term relationship between the foreign investor and this institution In addition to the foreign investor enjoying a large degree of influence in its management and operation.

As for the Organization for Economic Cooperation and Development, it adopts two definitions of foreign direct investment; The first, prepared by the movement of international capital, is the investment based on the vision of achieving relationships that give the possibility of actual application to the management of the institution through the following:

-Establishing or expanding an establishment or branches.

- Contributing to the establishment of a new or existing institution (owning no less than 10% of its capital).

-Long-term lending (more than five years), (Al-Ajrawi, 2020, 16-18)

The concept of the exchange rate

Exchange is a process that appears when various currencies are exchanged among themselves. Each country has its own currency that is used in internal payment operations, and the need to use foreign currencies appears when carrying out commercial or financial operations between companies operating inside the country with companies operating outside it, and importing companies need to The currency of the exporting country to pay the price of imported goods and complete the sale process. As for the exchange operations, they take place in what is called the exchange market, which is the place where different currencies are exchanged between countries, but this place is not limited geographically, but is intended by a network of relationships that exist between exchange agents (Abdullah 2015, 50).

Theories explaining the exchange rate: (Abdullah, 2015, 64-69)

First- Purchasing power parity theories:

This theory assumes that changes in the exchange rate are due to a change in the local purchasing power, while changes in the exchange rate do not affect the local purchasing power. It has been shown in some studies that the deviations of the purchasing power from the exchange rates are due to the different times of the commercial cycle in the two countries. The purchasing power parity theory, which is of great importance in determining the exchange rate

From the point of view of the economist Kassel, he sees that the exchange rate of any currency is determined according to the purchasing power of this currency in the local market compared to its foreign purchasing power, that is, the relationship between the currency of a particular country and the currency of another country is determined according to the relations between the prevailing price levels in the two countries, or in other words, the real exchange rate for any of the two currencies is equal to the ratio between the purchasing power of the currency in the domestic market and the purchasing power of the currency in the foreign markets, and the monetary interpretation of the theory based on the monetary theory of quantity of money, which means that in all countries the money supply must equal the demand for money.

Second- The interest rate parity theory:

The parity of interest rates is among the main determinants of the exchange rate, and its axis is based on the monetary dimension and one of its pioneers is the economist Kruger, who assumed that the expected inflation rate is zero, and therefore the flexible exchange settlement results in renewal of interest and assumes that the expected inflation rate is equal to interest, and because the advantages offered by it are given to international customers. The interest rate discrepancy between the two countries must be equal to the rate of improvement or systematic deterioration of the hard currency compared to the national currency. Acceptance of the interest rate parity theory is due to the acceptance of the idea that international financial markets are in perfect competition, free operation and without restrictions.

Third: the theory of reduction

Currency devaluation is defined as a process of a technical nature specified by the monetary authorities, which consists in devaluing the local currency. In other words, changing the definition of the currency by reducing it in relation to the gold standard of the Special Drawing Rights and in relation to all foreign currencies, and the reduction enters within the framework of the fixed parity system, since the establishment of the floating currency in 1973. The theory of reduction does not have a very wide historical and geographical extent. The first reductions appeared after the First World War when it abandoned Most countries for the gold standard and adopted the gold exchange rate.

However, it developed a lot after World War II, especially with the impressive success achieved by the fixed exchange in order to pay its imports and the country's need for foreign currencies, and since it is possible to obtain resources thanks to the sale of its exports, and the central authorities intervene in order to maintain the price of the local currency, but the use of currencies foreign reserves lead to a decrease in the reserve and its depletion means the interruption of payment, and in this case the reduction becomes the only solution to address the situation.

Reduction is applied when the trade balance is not balanced, and the imbalance indicates that internal prices are high compared to international prices and local products are not competitive in the global market, and therefore the national currency is high in relation to foreign currencies due to the adoption of a fixed exchange system or strict exchange control.

The impact of foreign direct investment on the exchange rate

Foreign direct investment flows affect and are affected by the exchange rate, and this effect may be negative or positive depending on the circumstances surrounding the countries receiving or donating the investment, as the most important effects and the mutual relationship between these two variables can be shown in the following points

A- The flow of foreign direct investment is characterized by stability if it is compared with commercial bank loans and indirect foreign investment flows, as this is due to the nature of foreign direct investment in itself, because it requires stopping or withdrawing from an investment project that is high in costs to the extent that it stands as a barrier in front of the owner of the project. In addition to the various contracts agreed upon before the start of the activity, which serve as a restriction that forces the foreign investor to stay despite the existence of obstacles that may cause him losses such as what is caused by fluctuations in exchange rates (Bo Shamal, 2012, 61).

B- The instability of the exchange rate of a country's currency leads to a failure to stimulate the flow of foreign direct investment to it, due to the difficulty of conducting economic feasibility

studies for investment projects and unexpected exchange losses that the investor cannot control or influence.

C- Excessive exchange rate fluctuations generate high risks that may prompt capital owners to avoid directing their direct investments towards the country whose exchange rates suffer from excessive fluctuations, as capital flows as well as interest rates are affected by exchange rate fluctuations. The higher the exchange rate fluctuations, the lower the flows. Foreign capital, and this reduces the real money supply and raises the interest rate (Nayef, Farhan, 2009, 169)

Standard aspect: research materials and methods
First: the model description stage:
The description of the model is one of the most important stages. At this stage, the economic variables that will be included in the standard model are determined. Accordingly, the mathematical form of the model will be according to the following formula:

$$FDI = f(EXG, GDP, MS2, IMF) \dots\dots\dots\dots.1$$

Since:

Million dollars	It represents the dependent variable, expressed as foreign direct investment in the agricultural sector, which reflects net inflows to the host country (at current prices, US dollars).	(FDI)
Million dollars	The official exchange rate, expressed as the exchange rate of the local currency against the US dollar, is the average for the period.	(EXG)
Million dollars	It represents the country's gross domestic product (at current prices, Iraqi dinars).	(GDP)
Million dollars	Money supply in its broadest sense (at current prices).	(MS2)
(annually)%	It represents the rate of inflation, expressed as the consumer price index	(INF)

Second: Unit Roots or Stationary Test
In order to detect the static of the time series variables, the developed Dickey-Fuller test (ADF) was used, as it is one of the best methods to test the unit root and determine the degree of integration of the variables, and the Akaike Information Criterion "AIC" was relied upon, as indicated in the first part of table 1 to the results in the "At Level" while the second part refers to the results when taking the first difference of the variables "At First Differences".

Noting that all variables (except for the official exchange rate) appeared non-static in the level, and this means accepting the null hypothesis, which states that the data is not static at its first level, in other words, that it has a unit root; Because the computed (t) values are less than the tabular (t) values at a significant level (5%), but when taking the first difference of these variables, they will become static and are called integrated of the first order. As for the official exchange rate, it is static in the level, that is, it is integrated from zero degree. Table 1 shows the trends of the model variables, as follows:

Table (1): Sleep (unit root) test results for model variables

Variable	Augmented Dickey-Fuller Test (ADF)			
	At Level		At First Difference	
	Intercept*	Trend and Intercept**	Intercept*	Trend and Intercept**
Ln(FDI) Prob.	-1.932 (0.314)[n.s]	-3.132 (0.117)[n.s]	-6.537 (0.000)***	-6.639 (0.000)***
Ln(EXG) Prob.	-10.385 (0.000)***	-7.466 (0.000)***	(0.000)***	(0.000)***
Ln(GDP) Prob.	-1.112 (0.698)[n.s]	-0.781 (0.956)[n.s]	-8.191 (0.000)***	-8.103 (0.000)***
Ln(MS2) Prob.	-1.624 (0.459)[n.s]	-1.283 (0.874)[n.s]	-4.962 (0.000)***	-5.422 (0.001)***
Ln(INF) Prob.	-1.134 (0.689)[n.s]	-3.317 (0.082)[n.s]	-6.122 (0.000)***	-5.989 (0.001)***
Notes:a: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1% and (n.s) Not Significant. b: Probability based on MacKinnon (1996) one-sided p-values.				

Source: prepared by the researcher based on the results of Eviews-12

The optimal deceleration times were tested on the AIC criterion, and therefore the model that will be chosen according to the ARDL (1, 0, 3, 0, 3) autoregressive lagging time lag method is tested, as the length of the deceleration period that gives the least value for these criteria is tested.

The Bound Test Approach to Cointegration:

This test is done by comparing the calculated value of (F) with the values of (F) tabular and at the levels of significance (10%, 5%, 2.5%, 1%) (Pesaran et al, 2001), and table (2) shows between the results of the limit test for the model, noting that the calculated (F) value has reached (5.553), which is greater than the tabular (F) value at a significant level (5%) and for both limits (upper and lower), and this indicates the existence of co-integration or in other words the existence of a long-term relationship between variables studying.

Table (2): Cointegration testing using boundary testing methodology

Test Statistic	Value	K
F-Statistic	5.553	4
Critical Value Bounds		
Significance	Lower Bound I(0)	Upper Bound I(1)
10%	1.9	3.01
5%	2.26	3.48
2.50%	2.62	3.9
1%	3.07	4.44

Source: Prepared by the researcher based on the results of the Eviews-12 program.

Stage of diagnostic tests of the model and testing its stability

After the completion of the assessment of the model parameters, a set of tests will be performed, as follows:

1-Model performance quality tests: In order to ensure the quality of the estimated model's performance before it is approved, we perform the following set of diagnostic tests:

❖ **Normal distribution test of errors generated by the estimated model**

❖ One of the main assumptions of this test is that the null hypothesis of this test is that the residuals follow the normal distribution, while the alternative hypothesis states otherwise. If the probability value of the test is at a significant level greater than 5%, we accept the null hypothesis and therefore the probability distribution of residuals is normal. If the p-value is at a significant

level of less than 5%, we reject the null hypothesis and accept the alternative hypothesis, which states that residuals do not follow the normal distribution (Issa, 2022, 138).

❖ Testing the problem of autocorrelation in the values of residuals: The Durban Watson D-W test has become unreliable in many studies, especially in the case of dynamic models in which variables with slowed or distributed gaps, as there are many tests used to detect this problem, the most important and most used in this field is the Breusch-Bagan test, as the null hypothesis of this test states that the residuals are not self-linked over time, while the alternative hypothesis states that the That. If the p-value of the test is at a significant level greater than 5%, we accept the null hypothesis and therefore the remainder is not self-correlated. If the p-value is at a significant level of less than 5%, we reject the null hypothesis and accept the alternative hypothesis, which states that the residuals are self-related, and therefore in such a case this problem must be addressed (Breusch and Pagan, 1980, 249). Table 4 illustrates this:

Table (4): Testing the autocorrelation problem between model residues

Serial Correlation LM Test: Breusch-Godfrey			
F-statistic	1.347334	Prob. F(3,15)	(0.2966)[n.s]
Obs*R-squared	6.155762	Prob. Chi-Square(3)	0.1043
Notes: a: (n.s) Not Significant.			

Source: Prepared by the researcher based on the outputs of the Eviews-12 software

Table 5 shows that the value of the Breusch-Godfrey test was (0.2966) with a significant level greater than (5%), so we accept the null hypothesis, which indicates that the estimated model is free of the autocorrelation problem between the residuals.

Test for the absence of the estimated model from the problem of heterogeneity of variance in the values of residuals: There are many tests used to detect the existence of the problem of heterogeneity of variance, but the most important and most used in this field is the Breusch-Pagan and Godfrey test, where the null hypothesis of this test states that the variance of the residuals of the estimated model is heterogeneous, while the alternative hypothesis states otherwise. If the p-value of the test is at a significant level greater than 5%, we accept the null hypothesis and therefore the residuals are of homogeneous variation. If the p-value is at a significant level of less than 5%, we will reject the null hypothesis and accept the alternative hypothesis, which states that the variance of residuals is heterogeneous, and therefore in such a case this problem must be addressed (Issa, 2022, 138). Table 5 illustrates this:

Table (5): Testing the problem of variance instability of the estimated model

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.635952	Prob. F(11,17)	(0.7754)[n.s]
Obs*R-squared	8.454462	Prob. Chi-Square(11)	0.6721
Notes: a: (n.s) Not Significant.			

Source: Prepared by the researcher based on software outputs Eviews-12.

Table 5 shows the Breusch-Pagan-Godfrey test with a value of 0.7754 and a significance level greater than 5%, so we accept the null hypothesis that the estimated model does not suffer from the problem of heterogeneity of variance.

2. Testing the structural stability of the model parameters:

After estimating the error correction formula for the ARDL model, it is necessary to perform a structural stability test for the short- and long-term parameters of the model to ensure that the data used in the study are free of any structural changes in it, as well as to know the stability and consistency of the long-term parameters with the short-term parameters. One of the following two tests can be performed:

ϖ Cumulative Sum of Recursive Residual (CUSUM)

ϖ Cumulative Sum of Squares Recursive Residual Test (CUSUM SQ)

The structural stability of the estimated parameters of the error correction formula of the (ARDL) model is achieved if the graph of the (CUSUM and (CUSUM SQ) tests falls within the critical limits (between the upper and lower limits) at a significant level of 5%, while the parameters are not stable. If the graph line of the tests falls outside the critical limits at a significant level of 5% (Adriush and Abdel-Qader, 2013, 23).

The results of the two aforementioned tests indicate that the estimated parameters of the error correction model used are structurally stable over the time period under study. Therefore, we infer from these two tests that there is stability and harmony in the model between the short-term and long-term results.

Estimation and Interpretation of Long- and Short-Term Results and Error Correction Parameter:

Table (6): Estimation of model results (ARDL)

Method: ARDL (1, 0, 3, 0, 3)				
Dependent Variable: Ln(Y)			Dynamic regressors (3 lags, automatic): Ln(X1) Ln(X2) Ln(X3) Ln(X4)	
Model selection method: Akaike info criterion (AIC)			Sample (adjusted): 1993 2021	
Variables	Coeff.	Std. Error	t-Stat.	Prob.
Long Run Coefficients				
Ln(X1)	-0.584080	0.251726	-2.320299	0.0323)**)
Ln(X2)	1.347917	0.202878	6.643967	0.0000)***)
Ln(X3)	-0.302907	0.095348	-3.176868	0.0052)***)
Ln(X4)	0.647195	0.162613	3.979979	0.0009)***)
ECM = LNY - (-0.5841*LNX1 + 1.3479*LNX2 - 0.3029*LNX3 + 0.6472*LNX4)				
Short Run Coefficients				
ECM (-1)	-0.801918	0.137661	-5.825295	0.0000)***)
D(LnX2)	1.011704	0.338678	2.987214	0.0079)***)
D(LnX2(-1))	0.865768	0.320415	2.702020	0.0146)**)
D(LnX2(-2))	1.006863	0.320575	3.140803	0.0057)***)
D(LnX4)	-0.036731	0.118954	-0.308787	0.7610)n.s)
D(LnX4(-1))	-0.176023	0.136369	-1.290784	0.2131)n.s)
D(LnX4(-2))	-0.230634	0.122709	-1.879524	0.0765)*)
R^2 = 0.82		Adjusted R^2 = 0.72		
Notes: a: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1% and (n.s) Not Significant.				

Source: Prepared by the researcher based on the program Eviews-12.

Results of the relationship in the short term and the error correction parameter:

●Regarding the error correction coefficient parameter, it amounted to 0.801918 - which is a negative value and less than the correct one and is statistically significant at a significant level of less than 1%, which confirms the validity of the long-term equilibrium relationship. In other words, the possibility of correcting model errors, that is, 80% of the imbalances that occur in the balance The estimated model in Iraq requires approximately one year and two months to be corrected

- $\left\{ \frac{1}{0.801918} = 1.24 \cong 1.2 \right\}$
- There is a positive and significant relationship between GDP and foreign direct investment in the agricultural sector with a significant level of less than 5% and the same relationship at the first and second slowdowns, meaning that an increase in GDP by 1% will lead to an increase in foreign direct investment in the agricultural sector by 1.012% and by 1.012%. 0.866% in the first slowdown and 1.007% in the second slowdown. This result was identical to the result of the effect in the long term.
- There is an inverse and significant relationship between the inflation rate and foreign direct investment in the agricultural sector with a significant level of less than 1% at the second slowdown, meaning that an increase in the inflation rate by 1% will lead to a decrease in foreign direct investment in the agricultural sector by -0.231%. This result was contrary to the result of the effect in the long term. The value of the determination coefficient, R2, was 82%, meaning that the changes that occur in foreign direct investment in the agricultural sector are explained by the independent variables included in the model, and 18% are explained by other variables outside the model that fall within the concept of the random variable.

The result of the relationship in the long-term such result come different and can be interpreted as follows

- There is an inverse and significant relationship between the official exchange rate and foreign direct investment in the agricultural sector with a significant level of less than 1%, meaning that an increase in the official exchange rate by 1% will lead to a decrease in foreign direct investment in the agricultural sector by -0.584%.
- There is a positive and significant relationship between GDP and foreign direct investment in the agricultural sector with a significant level of less than 1%, meaning that an increase in GDP by 1% will lead to an increase in foreign direct investment in the agricultural sector by 1.348%.
- There is an inverse and significant relationship between money supply in its broad sense and foreign direct investment in the agricultural sector with a significant level of less than 1%, meaning that an increase in the money supply by 1% will lead to a decrease in foreign direct investment in the agricultural sector by -0.303%.
- There is a direct and significant relationship between the inflation rate and foreign direct investment in the agricultural sector with a significant level of less than 1%, meaning that an increase in the inflation rate by 1% will lead to an increase in foreign direct investment in the agricultural sector by 0.647%.

Conclusions

1. The (constant) unit root test proved that the study variables appeared to be stable at the first level and the difference, and this allows the use of the Autoregressive Distributed Model (ARDL).
2. The boundary method test proved that there is a long-term relationship between the variables of the study.
3. There is no inverse and significant relationship in the long term except between the official exchange rate and foreign direct investment in the agricultural sector at a significant level of less than 1%, ie the official exchange rate increased by 1%. It will lead to a decrease in foreign direct investment in the agricultural sector by -0.584%.
4. There is a positive and significant relationship in the long and short term between GDP and foreign direct investment in the agricultural sector at a level of less than 1%, which means that an increase in GDP by 1% will lead to an increase in foreign direct investment in the agricultural sector by 1.348% in the long run And by 1.012% in the short term.
5. There is no inverse and significant relationship in the long run except between broad money supply and foreign direct investment in the agricultural sector at a level less than 1%, that is, an increase in money supply by 1% will lead to a decrease in foreign direct investment in the agricultural sector by 0.303. -%.
6. There is a positive and significant relationship in the long term between the inflation rate and foreign direct investment in the agricultural sector at a significant level of less than 1%, meaning that an increase in the inflation rate by 1% will lead to an increase in foreign direct investment in

the agricultural sector by 0.647%. As for the short term, the relationship was inverse and with a significant level of less than 1% at the second slowdown, meaning that an increase in the inflation rate by 1% will lead to a decrease in foreign direct investment in agriculture by -0.231%.

7 The value of the determination coefficient was 82%, meaning that the changes that occur in foreign direct investment in the agricultural sector are explained by the independent variables included in the model, and that 18% of the changes are explained by other variables outside the model or by the random variable.

8. The results of the standard analysis showed the structural stability of the model parameters in the long and short term, according to the two tests CUSUM-CUSUM SQ.

Recommendations

1 - Presenting the investment opportunities available in the country on foreign direct investment by holding seminars and conferences inside and outside Iraq and adopting an effective policy to promote the proposed investments in the Iraqi agricultural sector.

2- Improving the level of infrastructure, supporting the production process, transferring technology, and creating a healthy competitive environment that contributes to attracting foreign direct investment companies.

3- Paying attention to the exchange rate policy and controlling the stability of its prices through the establishment of a banking sector that keeps pace with the global development and the development of financial inclusion and financing requirements and liberalizing them on the basis of market mechanisms in the light of their real purchasing power and economic performance because of their great role in achieving economic stability and achieving internal and external balances.

4 - Paying attention to the exchange rate policy and controlling the stability of its rates through the establishment of a banking sector that keeps pace with the global development and the development of financial inclusion and financing requirements and liberalizing them on the basis of Market mechanisms in the light of its real purchasing power and economic performance because of its great role in achieving economic stability and achieving internal and external balances.

5- Creating an appropriate investment climate to attract foreign funds by activating laws and legislations that regulate dealing with foreign direct investment companies, removing red tape in government departments and institutions, working on the principle of transparency and fighting financial and administrative corruption, and giving the aforementioned companies sufficient guarantees of non-confiscation and nationalization, whenever This led to attracting these investments to the Iraqi agricultural sector.

6 Avoid major economic shocks because of their negative effects on the individual and society, the latest of which is raising the exchange rate and reducing inflation rates to low and economically acceptable levels to improve the performance of financial and banking institutions.

7- Dealing with the foreign investor as a means and tool complementary to the local investment, by giving a greater role to the private sector, as well as encouraging the Iraqi investor residing abroad to be able to participate in the production processes..

8- Reconsider the policies of the International Monetary Fund in Iraq, which have been shown to be slow in impact on the one hand and poor in performance on the other hand.
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أثر سعر الصرف في الاستثمار الأجنبي المباشر في القطاع الزراعي العراقي للمدة 1990-2021

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الخلاصة

الكلمات المفتاحية:
سعر الصرف، استثمار أجنبي مباشر ،معدل التضخم,القطاع الزراعي, العراق

يتمثل الهدف الرئيسي من البحث في قياس أثر سعر الصرف في الاستثمار الاجنبي المباشر في العراق , ولتحقيق ذلك تم الاعتماد على بيانات السلاسل الزمنية للاستثمار الاجنبي المباشر وسعر الصرف والناتج المحلي الاجمالي ومعدل التضخم وعرض النقود للمدة 1990-2021 بالتطبيق على الاقتصاد العراقي كمتغيرات اقتصادية مستقلة وتاثيرها في المتغير المعتمد سعر الصرف، وتم أجراء أختبار جذر الوحدة و الاستقرارية ومن أجل الكشف عن سكون متغيرات السلسلة تم استخدام أختبار ديكي- فولر المطور ADF، وتم الاعتماد على معيار أكايكAIC لاختبار فترات الابطاء باستخدام الاسلوب الوصفي والقياسي بالاعتماد على البرنامج الاحصائي Eviews-12.. واثبت الاختبار أن متغيرات الدراسة قد ظهرت ساكنة في المستوى والفرق الاول مما يتيح استخدام نموذج الانحدار الذاتي للفجوة الزمنية الموزعة ARDL، وأثبت اختبار منهج الحدود وجود علاقة طويلة الاجل بين متغيرات الدراسة، واوضحت نتائج البحث وجود علاقة عكسية ومعنوية في الاجل الطويل فقط بين سعر الصرف الرسمي والاستثمار الاجنبي المباشر في القطاع الزراعي وطردية في الاجل الطويل والقصير بين الناتج المحلي الاجمالي والاستثمار الاجنبي المباشر في القطاع الزراعي واما بالنسبة لعرض النقد بمفهومة الواسع فكانت العلاقة عكسية ومعنوية في الاجل الطويل فقط وجاءت النتائج بوجود علاقة طردية ومعنوية في الاجل الطويل بالنسبة لمعدل التضخم والاستثمار الاجنبي المباشر في القطاع الزراعي.