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MEASURING THE IMPACT OF EXCHANGE RATE CHANGES ON IMPORTED INFLATION IN IRAQ

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Abstract:

To achieve the research objectives, the descriptive and deductive approach was used. The most significant findings are that the Iraqi economy is viewed as a one-sided economy and that it primarily depends on oil exports. The research also aims to shed light on the concept and importance of the exchange rate, as well as imported inflation and transmission channels through the rise in global prices compared to local prices, as well as identifying the most important effects of hidden inflation and the ways that can be relied upon to reduce its severity. This is supported by the fact that import inflation raises investment costs, as evidenced by the rise in import volume following increases in oil export prices and quantities. local and unequal wealth and income distribution among society's constituents.

The most important recommendations were to work to reduce the value of the Iraqi dinar against the dollar and thus have a positive and significant impact on the balance of payments, and to work to simplify government procedures and encourage commercial competition with regard to local products, and thus reduce dependence on imports from abroad in order to reduce the severity of the economic crises that could occur. That the Iraqi economy is exposed to it.

Keywords: Exchange rate, exchange rate functions, imported inflation, channels of transmission of imported inflation, and rising prices

INTRODUCTION

The question of the exchange rate, how to calculate it, and the variables influencing it has been the subject of numerous hypotheses. Over the past decades, Iraq has gone through exceptional circumstances that no developing or even developed country has been exposed to throughout modern history, as a result of which the Iraqi economy experienced high rates of inflation and a volatile exchange rate. The conditions of Iraq and the nature of its economy, as well as the Iraqi dinar, particularly prior to 2003 and the country's political regime change, contributed to the aggravation of the majority of the economic issues that the Iraqi economy was already facing, and imported inflation is one of the biggest economic problems that it faced. Iraq after the political regime was changed in 2003, due to its reliance on oil as a main source of income, and thus it needs many necessary commodities in order to run the wheel of the economy, and these are often imported due to their unavailability in local markets, which leads to... Iraq is vulnerable to global influences.

Research problem: The research problem is to know what are the repercussions of changes in exchange rates on imported inflation resulting from the Iraqi economy's large dependence on imports in light of the weakness of the productive sectors.

Research hypothesis: The research was based on the hypothesis that the rise in exchange rates has a negative impact on imported inflation in Iraq, and thus negatively affects all economic variables in Iraq.

Research objective: The study intends to clarify import inflation, its idea and significance, as well as its routes of transmission and available remedies.

Research methodology: We relied on the inductive approach based on the descriptive analysis method, as well as the standard quantitative analysis method to identify the connection between import inflation and exchange rates in the Iraqi economy over the study period.

Spatial and temporal limits of the research: represented in the Iraqi economy for the period from 2008 - 2022.

Research structure: In order to reach the research goal, the research was divided into three sections. The first section included: the concept of the exchange rate and imported inflation in Iraq. The second section included: an analysis of the reality of the exchange rate and imported inflation in Iraq for the period (2008 - 2022), The third section included

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measuring the relationship between the exchange rate and imported inflation in Iraq, and then the research concluded with conclusions, in the light of which recommendations were made.

THEORETICAL FRAMEWORK

The concept of exchange rate

The concept of the exchange rate is one of the important concepts in the economic and financial world because the real value of the currency has a major impact on most economic and financial transactions, whether local or international. Therefore, this concept has been given great importance in most economic literature, and the concept of the exchange rate can be clarified through Table No. (1) As follows:

Table No. (1)
Exchange rate concepts

Source	Concept
Kyriazis & Corbet, 2024	It is the relative price of exactly two amounts being exchanged and varies depending on the assets being used as money at any given time.
Akinci, & Queralto, 2024	It is the price at which various foreign currencies are bought and sold.
Itskhoki, & Mukhin, 2024	how many local currency units must be purchased in order to purchase one foreign currency unit, and vice versa.
Bosupeng et al., 2024	The price of a unit of foreign exchange expressed in units of the national currency

Through the above, the researcher sees that there are different opinions in defining the concept of the exchange rate, although they all converge to one meaning, as the exchange rate can be defined as exchanging a country's local currency for a foreign currency by paying a number of local currency units, and this exchange takes place at a specific price. The exchange rate through interest rates is uncertain and will depend on expectations about local and foreign interest rates and inflation, which may themselves be affected by economic policies. The factors that determine the strength of this channel are the sensitivity of exchange rates to interest rate movements, as well as the size and openness of the economy. On the outside world, as well as the share of net exports in the gross domestic product, it plays an important role in determining the strength of this channel. (Sanchita and Rina, 2011, p. 5)

The importance of the exchange rate is highlighted through the following: (Al-Dulaimi and Faisal: 62: 2019)

1. Using the exchange rate to measure a country's competitiveness with other countries, as the relationship between competitiveness and the level of the real exchange rate is an inverse relationship. When the real exchange rate decreases, international competitiveness increases and vice versa.
2. Achieving the overall economic goals of internal balance and external balance, as internal balance is achieved when there is stability in the general level of prices and wages, as well as achieving full employment, while external balance is achieved by balancing the balance of payments, and balance of payments is what is meant here. It is not an accounting balance (the creditor side equals the debtor), but rather what is meant is the economic balance that the exchange rate seeks to achieve, meaning that external payments equal external revenues.
3. Through the exchange rate, the goals that monetary policy seeks to achieve can be achieved by using the exchange rate as a target against other currencies, which may be a factor in reducing inflation.

Real factors affecting the exchange rate

Exchange rates are affected by a number of factors that determine their behavior in the short and long terms, which are as follows:

1- Gross Domestic Product: Gross Domestic Product is among the most crucial factors in determining how much a nation's economy is growing because it reflects developments in the structure of the economy in terms of the structure of the economic sectors it contains, The foreign exchange rate falls relative to the national currency as output growth increases demand for the currency and strengthens the current account, and the national currency represents a direct reflection of the gross domestic product, as the full amount of money in the country is equal to the total amount of output, meaning that the higher the gross domestic product, the stronger the currency and purchasing power, and if there is a growth pattern in output The country's gross domestic product, the best decision is to buy the national currency because its value will increase over time, and this indicates that the relationship between the domestic product therefore there is an inverse link with the foreign exchange rate.

2- Supply and demand: The currency exchange rate is determined by the interaction of supply and demand factors, like other commodities. When the quantities supplied exceed the quantities required, the exchange rate falls to less than the equilibrium exchange rate (supply and demand are equal) to the extent that sellers find it useless to sell new amounts. Until it reaches the equilibrium price again and vice versa. (Yara: 2018: 59)

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3- Balance of Payments: As the connection that represents the nation's interaction with the outside world, the balance and imbalance in the balance of payments rank among the most significant elements influencing the exchange rate. The demand for foreign currencies rises when a country's balance of payments experiences a deficit, which needs to be filled. In exchange, there is a decline in the demand from foreigners for their local currency, which lowers the value of that nation's currency, and vice versa in the case of an excess in the balance of payments (Hilal: 2021: 293).
4- Income levels: Income levels are the third factor affecting exchange rates, as income levels can affect the volume of demand for imports and thus influence exchange rates, i.e. their effect on the demand for the country's currency and the supply of the currency and thus determine its value. Income levels can also influence It affects exchange rates indirectly by influencing the interest rate. When there is a rise in interest rates in the United States compared to interest rates in Britain, there is an increase in the supply of British pounds for the purpose of selling in order to obtain more American dollars with the aim of benefiting from the high level of exchange rates. Returns on assets in the American money market, however, if the government imposes a heavy tax on the interest income of the British from their investments abroad, this will limit the conversion of pounds into dollars and their investment in the United States (Al-Dahli: 2012: 71).
In addition to these four factors mentioned, the researcher believes that there are other factors that could affect the exchange rate, including the security stability factor in the country, the war factor, and the factor of short-term future expectations.

Exchange rate functions

There are a number of functions that the exchange rate provides in the economy, which can be explained in: (Al-Mashhadani and Abdullah: 418: 2020).
1. Standard function: It represents an economic standard that seeks to compare and measure the prices of local goods with their prices in the global market.
2. Distributive function: Through it, global national income is distributed among different countries of the world. That is, it has a distributive function on the scale of the international economy because of its commitment to foreign trade.
3. Developmental function: The exchange rate has an impact on goods from the side of foreign trade, as each country tries with every effort to develop its exports compared to other countries. Also, the industrial side of production may stop due to imports that are cheaper than the local price. For example, when the euro exchange rate rises against the dollar, the Europeans seek To buy cheap American goods and not buy expensive European goods, and thus American exports to Europe increase.
It is necessary to point out something necessary regarding the issue of exaggerations in the exchange rate, which leave negative effects on the national economy, as follows: (Muhammad and Hamid: 8: 2020)
1. Decrease in exports: The overvalued exchange rate leads to a decrease in the volume of exports due to making the prices of exportable goods relatively high for foreign importers, which leads to reducing the incentive for local producers to increase their production of these goods due to their high prices for foreign importers. Comparing it with similar competing goods in other countries.
2. Increased imports. This leads to increased demand for foreign currencies because they become relatively cheaper.
3. Decrease in capital in the balance of payments due to discouraging the transfer of capital from abroad to inside.
4. Reducing the level of economic activity. The government may work to pursue financial and monetary policies that lead to reducing aggregate demand to counter the effects left by the exaggerated local currency exchange rate.

Imported inflation (concept, transmission channels, measurement, means of reducing)

1. The concept of imported inflation

It is inflation that is caused and sourced by imports, and is linked to the dependence in most economic activities on what is imported from abroad, especially in developing countries as a result of the inability of their domestic production to meet most of their needs due to its decline and weak degree of diversity. Inflation can occur as a result of the rise in prices of consumer goods imported from Abroad, inflation can also occur when reliance on imported production requirements increases in production processes, and when the prices of imported goods rise for any reason, this rise applies, mostly to local goods, which clearly affects those with limited incomes, as they demand increased wages and salaries. .

Small countries that are open to the world cannot have any tangible role in determining the prices of the goods they import, as they are a small consumer and cannot influence the size of the global market and its prices. Hence, these countries import inflation as it is from the outside world, which inflates oil prices in the world. In the wake of this, European countries raised the prices of materials they exported to the outside world, which made a country like Jordan import inflation in all the goods it imported from the outside world. The second half of the 1970s witnessed imported and accelerating inflation in the case of Jordan. (Al-Kaabi, 2015, 30).
Imported inflation can be defined as the inflation that exists in a country resulting from the rise in prices in foreign markets on which the country in question depends on its imports. This leads to an increase in the problem of imported

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inflation and its seriousness in the country that suffers from a high degree of exposure in its economy and its dependence on its economy to a large degree on... Economies of other countries.

2. Channels of transmission of imported inflation.

There are several opinions regarding the transmission of imported inflation that can be clarified through the following:

- Income channel: The economist (Henri MERCILON) believes that there are some fluctuations that enter from the exporting country and their effect is in the form of an increase in effective demand for the importing country and thus inflationary pressures appear, and these fluctuations in income can be produced either through an increase in exports or the supply supply of the receiving country. (Importer).
- Costs: The rise in the prices of products imported from one or several countries leads to an increase in production costs and consumer prices for the importing country. Thus, the emerging pressures for inflation rise quickly if the demand for imported products does not decrease, and from there, inflationary pressures can be transmitted directly or indirectly. As for direct pressures, the rise in the prices of exchangeable goods leads, in a small country open to foreign trade and with a fixed exchange rate, to an increase in these goods in the local economy, and the rise in these local goods compared to non-exchangeable goods causes a substitution effect. As for indirect pressures, they relate to the balance of payments and change prices. Relativity affects the trade balance, which affects private capital flows. Thus, the supply of money and income changes, and the prices of non-exchangeable goods change.

3. Measuring imported inflation

To estimate imported inflation in developing countries, we propose three methods for estimating imported inflation: (Fatima and Salima: 2018: 104-105).

Imported inflation can be measured through the following formulas:

Imported inflation = (value of imports / value of GDP) * global inflation

Imported inflation = (value of imports / total spending) global inflation

Imported inflation rate = (losses resulting from rising import prices / total domestic spending at current prices) * 100

Net imported inflation = (losses resulting from increased prices of exports and imports / total domestic spending at current prices) * 100

4. The effects of imported inflation on the Iraqi economy

The effects of imported inflation on the Iraqi economy can be explained through: (Al-Kubaisi, Muthanna: 2019: 268)

- Disparity in the distribution of income and wealth, where inflation, whether imported or local, leads to a clear disparity in national income between the classes of society. The reason for this is due to the high disparity in the growth rates of cash incomes in the midst of the inflation wave. Those with fixed incomes are exposed to a real deterioration in the standard of living due to lack of income. Keeping up with changes in prices compared to changes in their wage rates.
- Excessive growth of the services sector: Imported inflation in Iraq caused unbalanced and unusual growth in the services sector.

5. Treatments for imported inflation in Iraq

There are a group of means that can be used to limit or reduce imported inflation, and they can be explained through: (Al-Kubaisi, Muthanna: 2019: 269)

- The sterilization policy, which is considered a monetary process through which the increase in net foreign assets is controlled by reducing local assets in order to maintain the monetary basis. This is done through the intervention of the Central Bank and working to restrict net foreign assets.
- Economic stability funds, also known as oil funds, which have a major role in reducing imported inflation.
- Financial and trade policies through which imported inflation can be reduced through taxes and customs tariffs, or through government support.

The analytical aspect of research

1- Analysis of the volume of spending and revenues in the Iraqi economy:

Table (2) and graph (1) show

Table No. (2)
Development of the volume of revenues and public expenditures in the Iraqi economy
(trillion dinars)

year	Overhead expenses	Public revenues
2010	64.3	59.4
2011	56	100
2012	75.7	119.5
2013	78.7	113.8
2014	58.6	105.4

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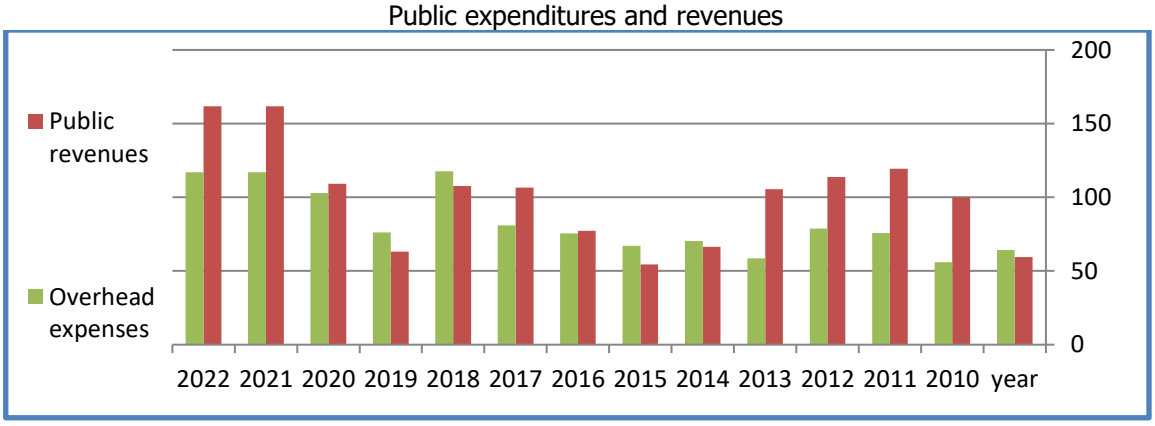
2015	70.4	66.5
2016	67.1	54.4
2017	75.5	77.3
2018	80.9	106.6
2019	117.7	107.6
2020	76.1	63.2
2021	102.8	109.1
2022	116.9	161.7

Source: Prepared by the researcher based on:
- The annual economic report of the Central Bank of Iraq for different years

Figure (1)
Public expenditures and revenues



Source: Prepared by the researcher based on Table (2)

2- Analysis of the money supply in the narrow and broad sense in the Iraqi economy:

Table No. (3)
Evolution of narrow (M1) and broad (M2) money supply

Year	M1	M2
2010	51.6	60.3
2011	62.6	72.2
2012	63.7	75.3
2013	73.8	87.7
2014	72.7	90.7
2015	65.4	82.5
2016	70.7	88.1
2017	71.2	89.4
2018	77.8	95.4
2019	86.8	103.4
2020	103.4	119.9
2021	119.9	139.9
2022	146.4	168.8

Source: Prepared by the researcher based on: the annual economic report of the Central Bank of Iraq for different years

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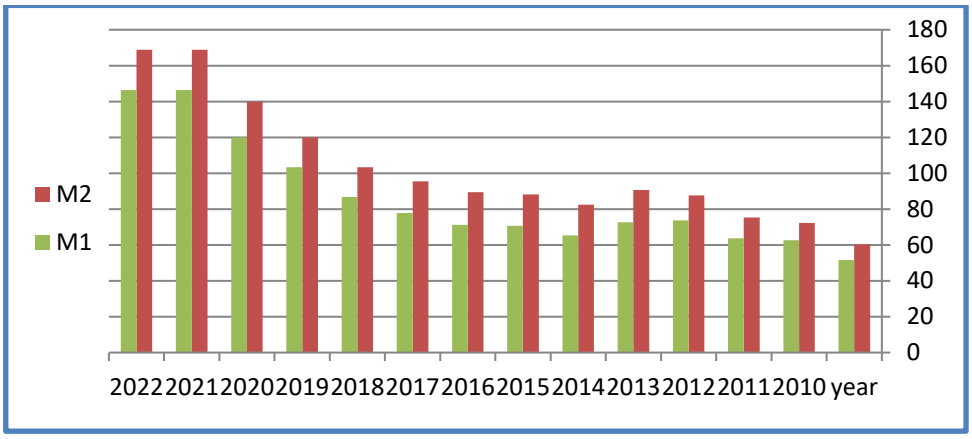

Figure (2)
Money supply (M1, M2)
Source: Prepared by the researcher based on Table (3)

2- The exchange rate in Iraq

The exchange rate became one of the important tools with clear goals, after the change that the Iraqi economy witnessed in political and economic terms, the weakness of confidence in the Iraqi dinar and the deterioration of its function as a store of value in the nineties due to the closure of Iraq's trade and its official transactions with the world and the lack of basic sources of supply of foreign currency as a result of the cessation of Oil exports and the freezing of Iraqi assets abroad. The local economy has opened up to external forces again through the expansion of import methods without external transfer in other specific forms that do not go beyond barter operations within the framework of border trade or corresponding trade agreements and other forms of exposure to the outside world under the weight and influence of scarcity. In the supply of foreign currencies, and with the stability of the value of the Iraqi dinar and the exaggeration in its exchange rates against foreign currencies, the parallel market (the illegal secondary market for exchange) occupied its prominent place in economic and financial activity and was able to attract residents' foreign exchange holdings and spread (a flexible foreign exchange system). All circumstances are a standard and an indicator for determining the extent of imbalances in the overall balances of the economy at the internal and external levels. (Ali and Al-Shukri, 2023, 23). This importance came especially after the Central Bank obtained its independence pursuant to Law No. 56 of 2004, and we note from Table (4) Developments in the foreign exchange rate against the Iraqi dinar for the period (2008-2022).

In 2008, with the advent of the financial crisis and its impact on Iraq, the parallel exchange rate decreased to 1203 Iraqi dinars, and the growth rate in the parallel exchange rate declined to (-0.05%) over the year. The previous one, and this slight decline in the real exchange rate does not significantly affect the decline in the volume of trade exchanges, due to the nature of the transactions and the production achieved, since it primarily stems from oil exports rather than the production base's diversification, which is impacted by fluctuations in the Iraqi dinar's exchange rate (Saleh, 2011, 5). In addition, we observe that in the years that followed, the period between 2009 and 2011 saw remarkable stability with a slight decline in the parallel exchange rate due to the improvement in the value of the Iraqi dinar, which boosted people's confidence and reduced the phenomenon of dollarization.

In 2015, as a result of the continuing effects of the global financial crisis, the exchange rate against the dollar remained low at 1,190 dinars per dollar, and this remained the case until the end of the year 2020. The Corona pandemic affected all the economies of the countries of the world, and thus the closure that occurred in the world and the rise in unemployment rates. A step was taken by the Central Bank of Iraq, as the exchange rate of the dollar against the Iraqi dinar was raised to 1,460 dinars per dollar, and Table (4) shows the exchange rates of the dinar against the dollar for the period (2008-2022).

Table No. (4)
Exchange rates of the Iraqi dinar against the US dollar for the period from (2008 – 2022)

year	Real price	Nominal price
2008	**1203**	1193
2009	**1181**	1170
2010	**1186**	1170
2011	**1218**	1170
2012	**1233**	1166
2013	**1232**	1166

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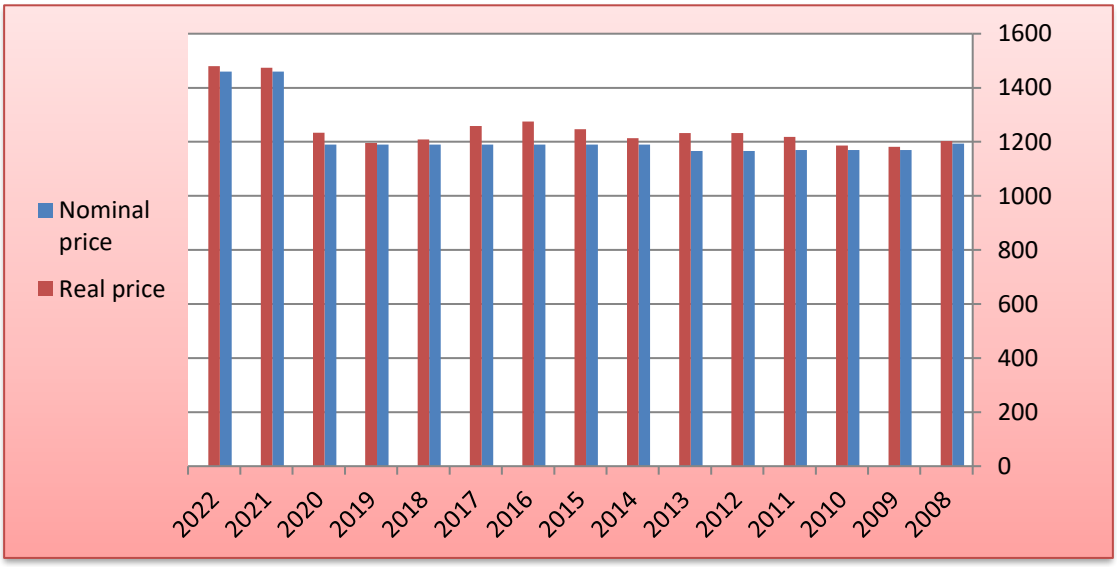
2014	**1214**	1190
2015	**1247**	1190
2016	**1275**	1190
2017	**1258**	1190
2018	**1209**	1190
2019	**1196**	1190
2020	**1234**	1190
2021	**1474**	1460
2022	**1480**	1460

Source: Prepared by the researcher based on:
- Central Bank of Iraq - General Directorate of Statistics and Research - various annual bulletins.



The exchange rate of the Iraqi dinar (parallel rate, nominal rate) against the US dollar in Iraq for the period (2008_2020)
Source: Prepared by the researcher based on the data in Table (4)

2- Analysis of imported inflation in Iraq for the period (2014-2022)

Due to its increased reliance on foreign imports, Iraq's economy is impacted by the inflation of its trading partners. This phenomenon, known as imported inflation, has a negative impact on the country's economy because it fosters a condition of inflationary expectations, which is more dangerous than actual inflation and accelerates the decline of national budgets. The rate at which the price index is rising is one of the most significant long-term inflationary determinants, along with the fact that higher economic growth may inevitably result in lower inflation rates because of the concentration of that growth in the oil sector rather than the non-oil sectors, whose expansion serves to mitigate inflationary pressures.

The Iraqi economy is characterized by exposure to the outside world to a high degree as a natural result of the low contribution of commodity sectors (except oil) to generating gross domestic product, and that the components of the Iraqi consumer basket are import par excellence at a rate that falls between (75% - 88%), as imports provide most of Iraq's needs for goods. Intermediate and final, therefore, the various external shocks will have negative repercussions on the Iraqi economy, especially since Iraq lacks a broad, diverse, and strong production base that sufficiently provides its needs and various commodities.

It is noted from Table (5) that the rate of imported inflation for the period (2014 - 2022) reached (63.32%) and that the highest rate of imported inflation was recorded in the year 2022, when it reached (182.5). The reason for this is due to the decrease in the gross domestic product, which led to dependence on imports. To cover the total demand.

This inflation has been contained and the general level of prices stabilized through the monetary policy of the Central Bank of Iraq and its success in absorbing the large shocks to which the Iraqi economy is exposed through the (exchange rate) tool, as the Central Bank of Iraq decided to change the exchange rate of the Iraqi dinar against the Iraqi dollar in 12/27/2020, as an exchange rate was adopted to reach (1450) dinars per dollar as a result of the double crisis that the Iraqi economy went through, represented by the spread of the Corona pandemic and the decline in crude oil prices on

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the one hand, and on the other hand, the previous exchange rate became disproportionate to regional developments. And the economic reform process that Iraq is witnessing. Table (5) shows the volume of imported inflation in Iraq for the period (2014-2022).

Table (5)
The size of global inflation and imported inflation in Iraq for the period (2014-2022)

year	Imported inflation %	Imports (billion dinars)	Gross domestic product at current prices (billion dinars)	Global inflation %
2014	2.29	71518.5	266332.7	**61.5**
2015	1.43	72359.9	194681	**53.2**
2016	1.47	67075.9	196924.1	**50.1**
2017	2.19	47873.7	225722.4	**46.5**
2018	2.5	54426.1	251064.5	**54.2**
2019	3.51	68719.1	277884.9	**86.8**
2020	3.18	56913.3	198774.3	**91.1**
2021	4.7	59568.1	303242.1	**92.3**
2022	8.75	80446.1	385732.1	**182.5**

Source: Prepared by the researcher based on: - Annual report on the role of the central bank's monetary policy for different years.

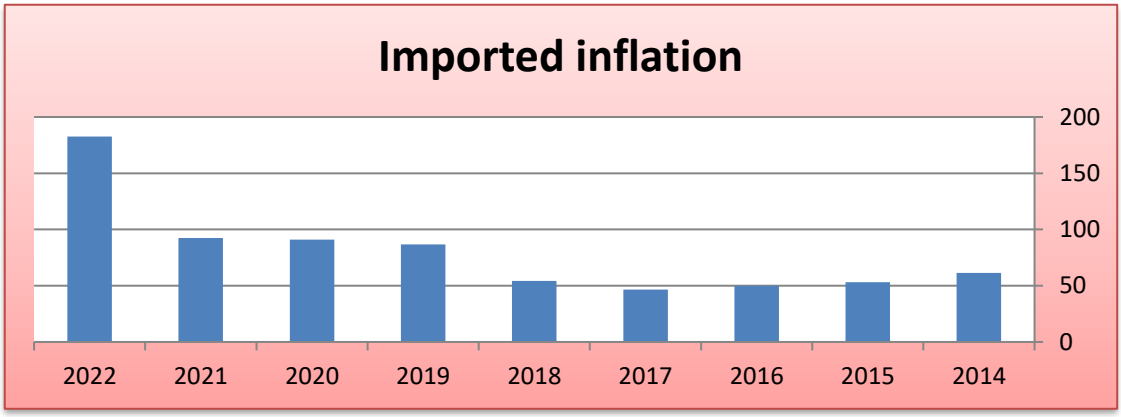

Figure (4) Imported inflation rate in Iraq for the period (2014-2020) Source: Prepared by the researcher based on the data in Table (5)

Measuring the effect of the exchange rate on imported inflation in Iraq for the period (2014-2022).

1- Description of the model.

The description of the model is an explanation of the relationship between the variables used in a statistical manner, as the dependent variable is imported inflation, which is symbolized by the symbol (I), while the independent variable is the exchange rate, symbolized by the symbol (EX). According to the theoretical framework of the research, it is assumed to test the relationship between the variables according to the following equation. :

Im = a + b EX+ U

2- Testing the stability of time series

Table No. (6)
Dickey-Fuller test

UNIT ROOT TEST TABLE (P.P)			
At Level			
		Im	EX
With Constant	t-Statistic	1.101609-	1.105946
	Prob.	0.7038	0.9967
		No	no
With Constant & Trend	t-Statistic	2.402059-	0.326259-
	Prob.	0.3720	0.9847

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		No	no
Without Constant & Trend	t-Statistic	0.685540	1.694974
	Prob.	0.8590	0.9637
		No	no
At First Difference			
With Constant	t-Statistic	2.298163-	0.224170-
	Prob.	0.1783	0.9221
		No	no
With Constant & Trend	t-Statistic	2.303921-	9.087425-
	Prob.	0.4207	0.0000
		No	***
Without Constant & Trend	t-Statistic	2.171241-	1.032164
	Prob.	0.0307	0.9152
		**	no

Source: From the researcher's work based on the outputs of the statistical program (12-Eviews)

It is noted from the statistical results in Table (6) of the expanded Dickey-Fuller test that the time series for the variables (exchange rate and imported inflation) are unstable in level because the calculated tau value is less than the tabulated values, and therefore the time series contains Unit root, that is, it is not integrated of degree I (0), and after taking the first difference of the two time series (the exchange rate and imported inflation), it is noted that it has become stable (without a constant and a general trend) for the variable (the exchange rate), and at (a fixed limit and a general trend) for the imported inflation variable, that is, it is integrated in degree. I (1)

2-Results of estimating the autoregressive distributed lag (ARDL) model.

Table (7)
Initial estimation results

Dependent Variable: IM
Method: ARDL
Date: 02/22/24 Time: 00:40
Sample (adjusted): 2014Q3 2022Q1
Observations included: 31 after modifications
Maximum dependent lags: 4 (chosen by automatic means)
Method for choosing a model: Akaike information criterion (AIC)
Autonomous dynamic regressors with four lags: EX
Regressors that are fixed: C
Twenty models were evaluated.
Model of Choice: ARDL(2, 2)
The sample for the final equation is bigger than the sample for selection.

Variable	Coefficient	Std. Erro	t-Statistic	Prob.*
IM (-1)	1.604145	0.164901	9.727908	0.0000
IM (-2)	-0.605460	0.182677	-3.314373	0.0028
EX	-0.122419	0.039337	-3.112028	0.0046
EX (-1)	0.236815	0.076685	3.088163	0.0049
EX (-2)	-0.081133	0.054705	-1.483089	0.1505
C	-38.67352	16.06669	-2.407061	0.0238

R-squared	0.993492	Mean dependent var	76.96371
Adjusted R-squared	0.992190	S.D. dependent var	34.20403
S.E. of regression	3.022772	Akaike info criterion	5.222211
Sum squared resid	228.4287	Schwarz criterion	5.499757

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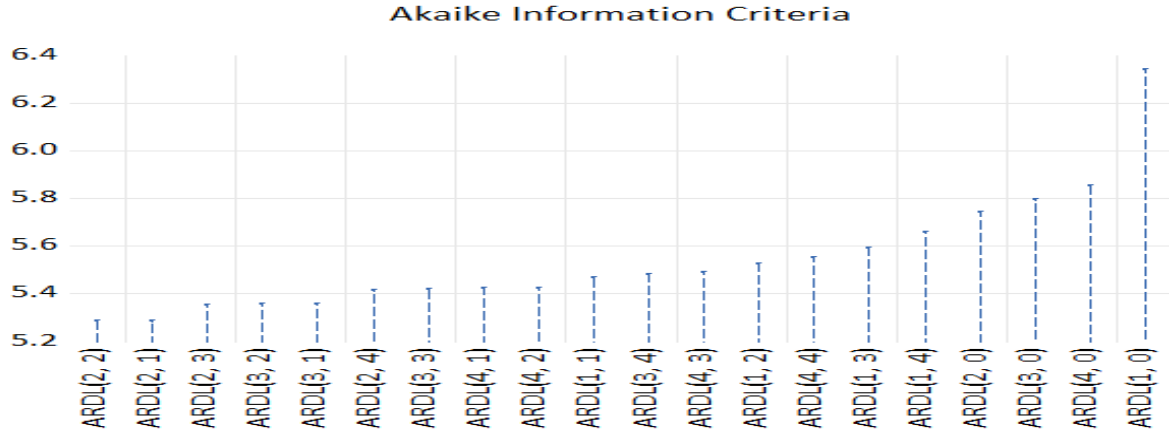
Log likelihood	-74.94427	Hannan-Quinn criter.	5.312684
F-statistic	763.2370	Durbin-Watson stat	1.989575
Prob(F-statistic)	0.000000		

Source: From the researcher's work based on the outputs of the statistical program (12-Eviews)

Table (7) presents the findings of the ARDL model estimation. It is clear that the model's value is significant, as evidenced by the fact that the independent variable of the estimated model accounts for 99% of the changes in the dependent variable and the remaining 1% are caused by variables outside the model. Given that the value of Prob is equal to 0.000000 and the value of Durbin-Watson (D.W) is approximately (1.989575), the calculated value of (F-Statistic) amounting to (763.2370) with a significance level of less than 0.01) confirms that the model is free from the autocorrelation issu., and it becomes clear From Figure (5), the optimal slowdown period is (2.2), which was chosen according to the (AKAIC) criterion, since it gives the lowest value for this criterion and was determined automatically through the use of the statistical program (12-Eviews).

Figure (5)
Testing the optimal lag period for the relationship between the two variables



Source: From the researcher's work based on the outputs of the statistical program (Eviews-12)

3- Bound test for cointegration.

Testing the limits is one of the most crucial procedures after estimating the ARDL model. This is done to determine the degree of correlation between the variables and confirm that a long-term balanced relationship exists by utilizing the (F) statistic. We accept the alternative hypothesis, which states that there is a cointegration relationship between the variables, if its value is greater than the upper limits of the critical values. If the value of (F) is less than the lower limits of the critical values, we accept the null hypothesis, which states that there isn't a long-term balanced relationship between the variables.

Table (8)
Bounds test for the estimated model

Long Run Form and Bounds Test for ARDL
Variable Dependent: D(IM)
Model of Choice: ARDL(2, 2)
Case 2: No Trend and Limited Constant
Date: February 22, 24 It is now 00:44.
For instance, 2014Q1–2022Q4.
Observations that are included: 31

Test Statistic	Value	K
F-statistic	2.436814	1
	Critical Value Bounds	
Significance	I0) Bound	I(1) Bound
10%	3.02	3.51
5%	3.62	4.16

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2.5%	4.18	4.79
1%	4.94	5.58

Source: From the researcher's work based on the outputs of the statistical program (12-Eviews)

It is noted from Table (8) that the calculated value of (f), which amounted to (2.436814), is less than the upper value (I)I, and the lower value (0)I at the level of significance (2.5%, 15%, 10%). Therefore, we accept the null hypothesis, which states that there is no cointegration relationship, and we reject the alternative hypothesis, that is, the existence of a long-term cointegration relationship between the study variables.

4- Error Correction Model (ECM) according to the ARDL methodology.

It is clear from the data presented in Table (9) that the parameter of the error correction limit (CointEq(-1)*) reached (-0.088514) and the probability of prob reached (0.0056), and its two conditions (negative and significant) are met, meaning that (%) of errors in the term The short-term errors can be corrected in (one quarter), as 1.88 * 4 quarters = 7.52% of the short-term errors can be corrected in one year, meaning that there is a positive and significant short-term response between the independent variable and imported inflation () as a dependent variable, and Despite this, the parameter of the error correction term indicates the presence of false cointegration as it is (negative and significant), while this contradicts the limits of cointegration in the absence of a long-term equilibrium relationship.

Table (9)
Error Correction Model (ECM) Results

(Error Correction Regression (ARDL (Variable Dependent: D(IM (Model of Choice: ARDL(2, 2 Case 2: No Trend and Limited Constant .Date: February 22, 24 The time is 00:41 .For instance, 2014Q1–2022Q4 Observations that are included: 31				
Case 2 of ECM Regression: Limited Constant and No Trend				
Variable	Coefficien	Std. Error	t-Statistic	.Prob
D(IM(-1))	0.605460	0.148873	4.066957	0.0004
D(EX)	-0.122419	0.033792	-3.622684	0.0013
D(EX(-1))	0.081133	0.051503	1.575306	0.1278
CointEq(-1)*	-0.001315	0.000468	-2.809854	0.0095
R-squared	0.876487	Mean dependent var		3.970161
Adjusted R-squared	0.862764	S.D. dependent var		7.851617
S.E. of regression	2.908663	Akaike info criterion		5.093178
Sum squared resid	228.4287	Schwarz criterion		5.278209
Log likelihood	-74.94427	Hannan-Quinn criter.		5.153494
Durbin-Watson stat	1.989575			

Source: From the researcher's work based on the outputs of the statistical program (12-Eviews)

5- Model diagnosis (autocorrelation test and heterogeneity test)

The Breusch-Godfrey test is used to test the estimated model using autocorrelation to make sure it is not affected by serial correlation between variables. To make sure that the estimated models are free of the heterogeneity issue, use the Heteroskedasticity Test (ARCH) and the Serial Correlation Test (LM Test). There is a 5% significance level for the variation.

Table (10)
Results of model diagnostic tests

:Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.187329	Prob. F	0.8304
Obs*R-squared	0.496880	Prob. Chi-Square	0.7800
Heteroskedasticity Test: ARCH			
F-statistic	0.000475	Prob. F	0.9828
Obs*R-squared	0.000509	Chi-Square .	0.9820

Source: From the researcher's work based on the outputs of the statistical program (12-Eviews)

According to the results of the Breusch-Godfrey Serial Correlation LM Test, Table (10) indicates that the estimated model is free of the autocorrelation problem. This is in line with the null hypothesis, which asserts that there is no

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autocorrelation problem because the values of each of the Prop. Both (Prop F) and (Prop. Chi - Square) are not significant at the significance level (5%).

6- Estimating the long-term relationship

Table (11)
Results of long-term parameters

Levels Equation Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
EX	25.29644	822.6670	0.030749	0.9757
C	-29411.10	958281.7	-0.030691	0.9758
EC = Y - (25.2964*X - 29411.0953)				

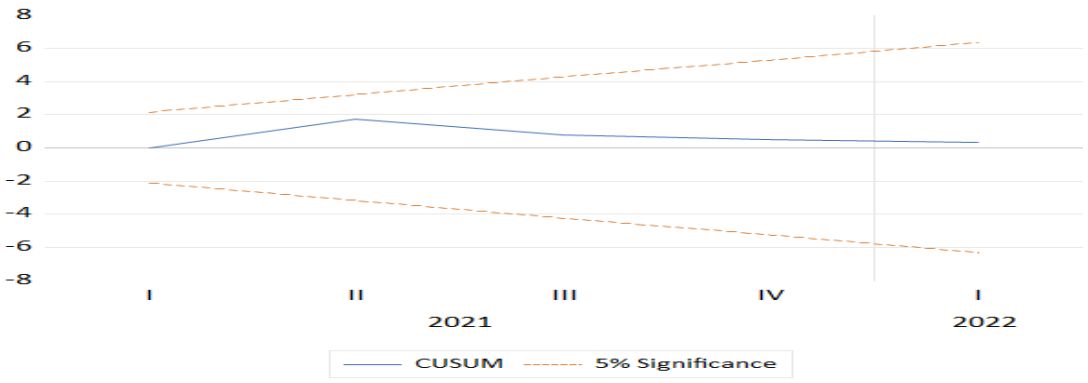
Source: From the researcher's work based on the outputs of the statistical program (12-Eviews)

It can be seen from Table (11) the results of the long-term relationship between the variables (exchange rate and imported inflation). The exchange rate (EX) was (25.2), but it is insignificant in the long run and is linked to a direct relationship with imported inflation, that is, every increase in the price of... Exchange by one unit leads to an increase in imported inflation by (25.2), and this is consistent with economic theory.

7- Testing the stability of the model parameters

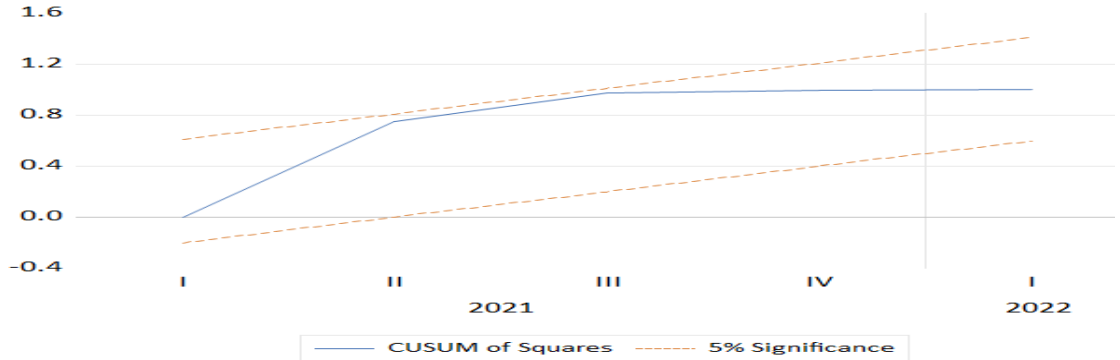
Throughout the study period, the estimated model (ARDL) was tested for both long-term and short-term parameter stability using the cumulative sum of residuals (CUSUM) and cumulative sum of squares of residuals (CUSUMSQ) tests. If the CUSUM test graph is within the critical limits at a significance level (5%), this requires accepting the null hypothesis, which states that the long and short-term parameters are stable. However, if the graph is outside the critical limits, the alternative hypothesis is accepted, which states: The parameters are unstable (R.L. Brown, other, 1975, 158), and it is clear from Figure (6) and Figure (7) that the estimated line falls within the critical limits and oscillates around the zero value and the upper and lower limits and at a significance level (5%), and thus the The long and short-term parameters, in light of the aforementioned test, are considered stable for the estimated model (ARDL).

Figure (6)
Results of the test for the cumulative sum of residuals (CUSUM).



Source: From the researcher's work based on the outputs of the statistical program (12-Eviews)

Figure (7)



Source: From the researcher's work based on the outputs of the statistical program (12-Eviews)

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CONCLUSION AND RECOMMENDATION

Conclusion

1- There is a strong relationship between imported inflation and the inflation rate in Iraq, which is the reason for the exposure of the Iraqi economy to the countries of the world, as the higher the inflation rates in these countries, the more its influence is transferred to Iraq.
2- Through the long-term results of the relationship between the exchange rate and imported inflation in Iraq, it became clear that there is a direct relationship with imported inflation, that is, every increase in the exchange rate by one unit leads to an increase in imported inflation by (25.2), and this is consistent with economic theory.
3- It became clear through diagnostic tests of the estimated model that the model is free of the problem of autocorrelation according to the (LM) test, as well as being free of the problem of heterogeneity of variance according to the (ARCH) test.
4- The Iraqi economy is seen as a unilateral economy that exports primarily oil. The rise in import volume after the rise in oil export volumes and prices is indicative of this.
5- Imported inflation leads to an increase in the costs of domestic investment and an imbalance in the distribution of income and wealth among members of society.

Recommendations

1. Working to reduce the value of the Iraqi dinar against the dollar, thus having a significant positive impact on the balance of payments.
2. Seeking to diversify exchange rate systems, with the aim of supporting some goods and services that the Iraqi economy cannot provide, as well as using another exchange rate to limit the import of goods and services that can be provided locally.
3. Working to simplify government procedures and encourage commercial competition with regard to local products, thus reducing dependence on imports from abroad in order to reduce the severity of the economic crises that the Iraqi economy may be exposed to.
4. Work to establish a special fund for surplus oil revenues and benefit from them in times of economic crises and high oil prices, thus reducing the impact of imported inflation on the Iraqi economy.

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