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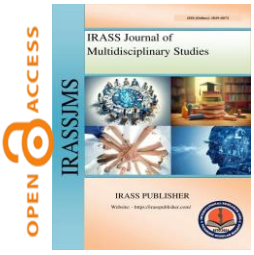

Analysis of the Impact of Import Fluctuations on Economic Stability Indicators in Iraq: An Econometric Study for the Period (2004-2023) According To the ARDL Cointegration Methodology

Munaf Marza Neama[1*], Alyaa kadhim Ayal[2]

[*1] Al-Qadisiyah University- College of Administration and Economics

[2] Al-Furat Al-Awsat Technical University - Al- Mussaib Tachnical Institute

Corresponding Author **Munaf Marza Neama**

Al-Qadisiyah University- College of Administration and Economics

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Abstract: The research is an attempt to analyze the impact of import fluctuations on economic stability indicators using a quantitative methodology based on econometric models to determine the impact of import fluctuations on economic stability indicators, with a focus on the research period. Data related to imports, inflation, and gross domestic product were used. The results showed a strong direct relationship between import fluctuations and the inflation rate. It also showed that sudden fluctuations in imports negatively affect the balance of payments and weaken the stability of the exchange rate. In contrast, economic diversification and local investment policies play an important role in mitigating these negative effects. The research recommends the necessity of adopting effective policies on the import of goods and services, which contribute to enhancing local production to reduce dependence on foreign countries, and contribute positively to achieving the country's economic stability in the long term.

Keywords: Imports, economic stability, economic fluctuations, ARDL.

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Introduction

Imports are a pivotal part of the foreign trade structure of any country, whether developed or developing, due to their role in meeting the needs of the local market for goods and services that cannot be provided locally. Despite the important role played by imports, fluctuations in the volume of imports, whether in terms of quantity or value, directly affect economic stability indicators such as inflation, balance of payments, and economic growth. This calls for understanding the relationship between these fluctuations and economic stability indicators, which is of paramount importance for economic decision-makers to build effective and sustainable policies. This research aims to analyze the nature of this relationship by studying time data and analyzing the factors affecting import fluctuations, and the extent of their reflection on macroeconomic stability. The importance of this research lies in the fact that it addresses a vital topic that touches on the essence of the Iraqi economy, especially in light of its heavy dependence on oil as a primary source of income, which makes imports vulnerable to fluctuations.

Research Problem

The Iraqi economy has suffered from significant fluctuations in import levels due to unstable crude oil prices, the economic policies employed, and the lack of security and political stability. This has had a direct impact on economic stability indicators such as gross domestic product (GDP), inflation rates, unemployment, and the balance of payments. From here, the specific research question can be posed, including the following:

- What is the impact of import fluctuations on economic stability indicators in Iraq during the study period?

Research Hypothesis

The impact of imports is clearly significant, whether negative or positive, on economic stability indicators (economic growth, inflation, and unemployment) in Iraq during the study period.

Research Objective

- Analyze the nature of the relationship between imports in Iraq during the period (2004–2023) and identify the most important factors affecting their volatility.
- Measure the relationship between import volatility and economic stability indicators such as GDP, inflation rate, and unemployment.

Research Methodology

The research relied on the descriptive approach and the econometric approach using the ARDL model to analyze the relationship between import volatility and economic stability indicators.

- Research Limits: Time Limits: The period 2004–2023.
- Spatial Limits: The Republic of Iraq.

Research Structure

To achieve the research objective and verify its hypothesis, the research was divided into two sections. The first addressed the

theoretical and conceptual framework of economic stability and imports, while the second section addressed the econometric aspect of the research.

The theoretical and conceptual framework for economic stability and imports

The Concept of Economic Stability

Economists have differed over a specific definition of economic stability; due to the different perspectives they view it from. Some define it as the state in which the elements of production are fully employed, while others define it as a multi-component, interconnected system whose achievement is linked to economic equilibrium within society. (Dolan, G. & Lindsey, 1991, p. 252)

This definition emphasizes that the use of a set of policies called economic stabilization policies that target inflation, unemployment, and the balance of payments will lead to GDP growth if these variables are controlled and imbalances are addressed. (Isabet Correia and Juan P. Nicolini, 2001, p. 4)

It is noted from the above that economic stability means the absence of economic inflation. Economic stability refers to the ability of the economic system to grow without fluctuations in the growth rate and without excessive inflation or severe deflation. (Saeed Abdel Aziz Othman, 2008, p. 147)

From the above concepts, it is clear that the goal of economic stability is to create a stable environment free of fluctuations in macroeconomic variables, using various tools for all economic policies. This integration is in the form of a system whose poles interact, such that each tool affects and is affected by the others in a harmonious and balanced manner, in order to achieve the goal that the economy always seeks, which is a state of economic stability. This is achieved when the economy grows at moderate rates that lead to maintaining price stability at economically and socially acceptable levels, and increasing the possibility of achieving a state of full employment to reduce unemployment rates and improve the exchange rate, to maintain the balance of payments position. (Rafah Shahab Al-Hamdani, 2014, p. 254).

From the previous definitions, we find that the concept of stability is achieved under two basic conditions (Adeeb Qasim Shandi, Nagham Hamid Abdul Khader, p. 8).

The first condition: Reaching full employment does not imply zero unemployment rates. Rather, full employment refers to the possibility of reducing unemployment to a level that accepts only one type of unemployment: frictional unemployment. This unemployment is considered non-involuntary, and its presence in advanced capitalist economies is considered normal.

The second condition: The intended meaning of achieving an appropriate degree of stability in the general price level is not absolute stability, but rather relative stability. This means stabilizing the rate of price increase at a controllable level. This stability is closely linked to foreign trade, which is one of the most important factors influencing economic stability, especially in developing countries. This is due to the structural imbalances these countries suffer from in their economic structure, as they rely on the production and export of a single important primary commodity and neglect the manufacturing and export of other commodities. Therefore, the concept of economic stability differs in developed countries from that in developing countries. (Walid Abdel Hamid Ayeb, 2010, p. 17).

The state of economic stability can be demonstrated by studying its basic indicators and providing a complete picture of the economy, which are as follows:

1.1.1.Economic growth: the positive change in the level of goods and services in a specific period of time, and is measured using the percentages of growth of the gross domestic product by comparing the percentage in the current year with the percentage of the previous year, or the continuous increases in real income in the long term, as the steady increases in income are considered economic growth in all cases, and thus in the event of achieving economic growth it leads to. (Farouk bin Saleh Al-Khatib, Abdul Aziz bin Ahmed Diab, 2013, p. 327)

1.1.2. One of the most crucial instruments of economic analysis used to assess a nation's economic status is the balance of payments, which encompasses economic transactions over a given time period, typically in relation to the composition of imports and exports. A surplus in the balance of payments, particularly the trade balance, indicates that the economy is doing well, which leads to rapid growth rates that help to revive the economy. The converse is also true when there is a deficit.. This requires a combination of economic policies aimed at addressing the economic situation and the situation of the external sector, and thus achieving economic stability at the macro level. The balance of payments may be exposed to an imbalance, making it unbalanced from an accounting perspective, for many reasons, including those related to the structure of the country's foreign trade, or as a result of fluctuations in the economic cycle, or due to unforeseeable emergency circumstances, and other reasons that may cause an imbalance in the balance of payments, which requires the country to address this imbalance. In the event of a deficit, the country relies on its internal resources or resorts to external sources to finance this deficit and borrow from international financial institutions such as the International Monetary Fund and the World Bank. (Amin Said, 2013, p. 99)

1.1.3. Achieving a high level of employment: Economic stability aims to ensure a high level of employment. For this to happen, monetary authorities must ensure that economic activity is stabilized at a level that maximizes the use of natural and human resources. Monetary authorities must also take all necessary measures to avoid unemployment and rising prices, reduce the costs of obtaining credit, support and provide credit to the consumer and production sectors, and raise aggregate demand to the level necessary to utilize unutilized productive resources. They must also take measures to avoid deflationary factors and disruptions in social relations, and reduce the gap between actual GDP and desired GDP (Abbas Kazim Al-Dami, 2010, p. 42). Imports are among the most important and influential factors in the economic path. Perhaps attention to the nature of the relationship between the components of the Kaldor Square and imports comes from adopting a strategy of the four Kaldor Square components: economic growth, inflation, full employment, and external balance. Using these four variables, it is possible to assess the quantity of imports, i.e., economic growth can occur due to an increase in the factors of production. The role of the subsidy system in inflation must also be considered, given that this system represents all matters. Which facilitates the process of national production. (Asmaa Sami Muhammad Al-Yassari, Salam Kazim Shani, 202, p. 193)

The Concept of Imports

Imports represent a leakage factor for a portion of income directed abroad for goods and services produced abroad and

consumed within the country. This means using foreign currency to meet domestic demand through imports. Although imports represent a leakage factor from the income stream, they positively impact the economic development process by supplying local production sectors with raw materials, intermediate goods, machinery, and equipment that enable increased production efficiency and competitiveness. (Hussein Ali Abbas Al-Khafaji, 2019, p. 120)

Imports are one of the most important financial transactions in international trade. They involve bringing goods and services from a foreign country for sale and profit, unlike export. Imports are one of the most important determinants of financial transactions in international trade. In international trade, the import of goods is restricted by import quotas and authorizations from customs authorities. Import authorities may impose a tax tariff on goods. Imports are also subject to trade agreements between import and export authorities. With the spread of the Internet, many companies have moved to the level of global competition. For their part, new entrepreneurs in the growth and expansion phase of their commercial projects seek to become more competitive. One of the most important methods that they may resort to is importing or exporting products and services, considering that these methods are among the basics of the success of commercial businesses. (Michael Ebdjman, 2010, p. 12)

Econometrics of Research

Description of research variables

Describing variables is one of the most important steps in research, as it determines the relationship between the independent variable and the dependent variables. In this research, the relationship between the variables was described as follows:

A. The independent variable, represented by imports (im).

B. The dependent variables, represented by the following:

- The economic growth rate (Gr).
- The inflation rate (in).
- The trade balance (Tb).
- The unemployment rate (Une).

According to the interpretation of economic theory, imports and growth rate are directly correlated when imports raise rates of productive capacity and vice versa. Additionally, there is a direct correlation between imports and inflation because rising import costs lead to high inflation. As for the relationship between the trade balance and imports, the positive relationship between the two variables is clear based on the state of the trade balance, whether it is a surplus or a deficit; in addition to the inverse relationship between the unemployment rate and imports when imports contribute to improving productivity and creating job opportunities and thus reducing unemployment rates. The standard formula for the models is as follows:

$Y_i = \beta_0 + \beta_1 X_1 + Ui$ ……(1)

$Gr = \beta_o + \beta_1 im + Ui$…….(2) Model (1)

$In = \beta_o + \beta_1 im + Ui$……..(3) Model (2)

$Tb = \beta_o + \beta_1 im + Ui$…….(4 Model (3)

$Une = \beta_o - \beta_1 im + Ui$……. (5) Model (4)

Where: Gr: Growth rate. In: Inflation. Tb: Trade balance. Une: Unemployment rate. Ui: Random variable.

Stationary test

The stationarity test of variables is one of the most important steps that precede the estimation of the relationship between the research variables. In this regard, the (ADF) test was used to determine the degree of stationarity of the dependent variables represented by (growth rate), which is symbolized by the symbol (Gr), (inflation in), (trade balance Tb), (unemployment rate Une), and the independent variable (imports), which is symbolized by the symbol (im). From Table (1), it is clear that some time series were stationary at the level and the first difference, and others were stationary when taking the first difference I~(1), as follows:

Table (1): ADF test

Variable	Level		1st difference	
	Intercept	Trend & Intercept	Intercept	Trend & Intercept
Im	*5.467	*5.434	*7.757	*8.534
Gr	**6.115	**8.392	**12.117	**12.195
in	*3.209	**5.401	**9.517	**9.947
Tb	**8.431	**11.475	**11.006	**10.993
Une	1.424	3.379	**8.106	**8.964

Source: Prepared by researchers based on the outputs of the Eviews10 program. (*) Significant at the 1% level, (**) Significant at the 5% level.

Model validity test results

Table (2) shows the results of model validity tests according to the autocorrelation tests (LM Test), the heteroskedasticity test (ARCH), and the diagnostic problem (Ramsey Reset Test), as follows:

Table (2): Model validity test

Models	Econometric Problems	Tests	Critical probability value	Acceptable level	Final decision
1	autocorrelation	LM Test	0.54	0.05 <	non
	heteroskedasticity	Heteroskedasticity Test: ARCH	0.19	0.05 <	non
	Identification problem	Ramsey Reset Test	0.46	0.05 <	non
2	autocorrelation	LM Test	0.26	0.05 <	non
	heteroskedasticity	Heteroskedasticity Test: ARCH	0.24	0.05 <	non
	Identification problem	Ramsey Reset Test	0.74	0.05 <	non
3	autocorrelation	LM Test	0.66	0.05 <	non

	heteroskedasticity	Heteroskedasticity Test: ARCH	0.8	0.05 <	non
	Identification problem	Ramsey Reset Test	0.14	0.05 <	non
4	autocorrelation	LM Test	0.93	0.05 <	non
	heteroskedasticity	Heteroskedasticity Test: ARCH	0.14	0.05 <	non
	Identification problem	Ramsey Reset Test	0.15	0.05 <	non

Source: Prepared by researchers based on the outputs of the Eviews10 program.

In order to measure the impact of the independent variable represented by (imports im) on the dependent variables (growth rate, inflation, trade balance, unemployment rate (Gr), (in), (Tb), and (Une) respectively in Iraq for the period (2003-2023), the autoregressive distributed lag (ARDL) model test was used as follows:

(Model 1):The impact of imports on the growth rate in Iraq for the period (2003-2023)

Table (3): The impact of imports on the growth rate in Iraq for the period (2003-2023)

Variable	Coefficient	Std.Error	t-Statistic	Prob
Gr(-1)	**3.0791**	**0.1019**	**30.2301**	**0.0000**
im(-1)	**-3.1446**	**1.0675**	**-2.9458**	**0.0050**
C	**1.5803**	**0.9506**	**1.5803**	**0.1031**

R-squared	**0.99**	**Mean dependent var**	**11.0523**
Adjusted R-squared	**0.99**	**S.D.dependent var**	**21.0019**
S.E. of regression	**0.8925**	**Akaike info criterion**	**2.7566**
Sum squared resid	**37.437**	**Schwarz criterion**	**3.0821**
Log likelihood	**-68.185**	**Hannan-Quinn criter**	**2.8828**
F-statistic	**3801.168**	**Durbin-Watson stat**	**2.2224**
Prob(F-statistic)	**0.000000**		

Source: The work of the researchers based on the outputs of the Eviews10 program.

Table (3) shows the model's autoregressive testing of distributed lags. Given that the model's coefficient of determination (R2=0.99) indicates that the independent variable accounts for 99% of the changes in the dependent variable (growth rate), with the remaining 1% coming from factors not included in the model, it is clear that the model is appropriate. The model is free of the autocorrelation issue, as indicated by the Durbin-Watson (D-W) statistic value reaching 2.22. The Fisher statistic value reached (3801.168), with a high significance level of (0.000000), indicating that the model is fully acceptable.

Error Correction Model

The model consists of two sections. The first section includes short-term parameters, while the second section explains long-term parameters. Table (4) illustrates this as follows:

Table (4): Error correction model (short and long term) for the model (1)

Variable	Coefficient	Std.Error	t-Statistic	Prob
D(Gr,-1)	2.130626	0.095612	22.28402	0.0000
CointEq(-1)*	-0.051538	0.014701	-3.505805	0.0010
				Long Run Coefficients
Variable	**Coefficient**	**Std.Error**	**t-Statistic**	**Prob**
im	-0.476688	0.329017	-1.448826	0.1540
C	30.66382	14.63815	2.094787	0.0416
				EC = Gr - (-0.476688+30.66382 **)**

Source: The work of the researchers based on the outputs of the Eviews10 program.

Table (4) shows a significant positive relationship between growth rates and imports at a significance level of 1%. This is consistent with economic theory. However, it demonstrates the extent to which Iraq relies on increasing import volume to achieve increased growth rates in the short term. As for the error correction coefficient, CointEq(-1), it is noted that the error correction parameter, or the rate of adjustment, reached (-0.051538), and the probability value, Prob, reached (0.0010), i.e., negative and significant. This confirms the existence of a correction from the short term to the long term. Approximately (5.1538%) of the errors that occur in short-term growth rates can be automatically corrected through imports to restore balance in the long term. However, this requires a very long period of time, indicating a low rate of adjustment in the model.

Cointegration test according to the ARDL methodology for the model (1)

The cointegration test, known as the bound test, shows the cointegration relationship between the independent variable (imports im) and the dependent variable (growth rate Gr). It depends on the value of the Fisher statistic (F) in terms of comparing it with the lower and upper limits with different significances (1%, 2.5%, 5%, 10%). Table (5) shows the cointegration test (f-Bound Test).

Table (5) Cointegration Test (F-Bound Test)

f-Bound Test	Null Hypothesis: No levels relationship	
Test Statistic	**Value**	**K**
F-statistic	**3.929669**	**1**
Critical Value Bounds		
Significance	**I(0) Bound**	**I(I) Bound**
10%	**3.02**	**3.51**
5%	**3.62**	**4.16**
2.5%	**4.18**	**4.79**
1%	**4.94**	**5.58**

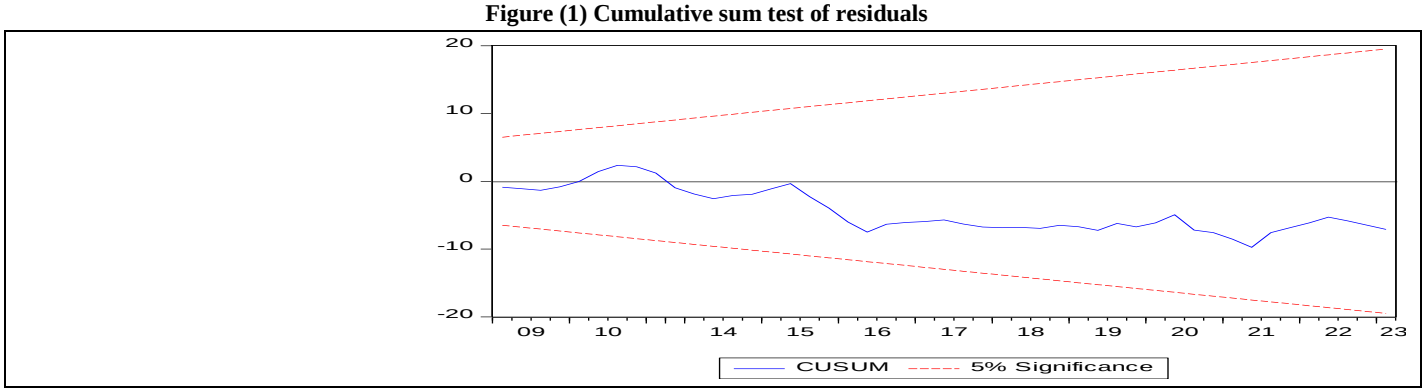
Source: Prepared by researchers based on the outputs of the Eviews10 program.

Table (5) shows that the calculated value of (f) which amounted to (3.929669) is greater than the lower table values I(0) at a significance level (10% and 5%) and the upper I(I) at a significance level (10%). Accordingly, we accept the alternative hypothesis of the research which states that there is a long-term joint integration between imports and the growth rate in Iraq for the period (2003-2023) and we reject the null hypothesis.

Model stability test

Figure (1) shows the cumulative sum test of the model residuals (Cusum Test) for the first model, as it shows that the cumulative sum of the residuals is within the critical limits at a significance level of (0.05), which indicates the stability of the estimated parameters.

Figure (1) Cumulative sum test of residuals



Source: Prepared by researchers based on the outputs of the Eviews10 program.

(Model 2):The impact of imports on inflation in Iraq for the period.(2023-2003)

Table (6): The impact of imports on inflation in Iraq for the period (2003-2023)

Variable	Coefficient	Std.Error	t-Statistic	Prob
in(-1)	**3.1918**	**0.1682**	**18.9816**	**0.0000**
im(-1)	**0.2963**	**0.2987**	**0.9919**	**0.3307**
C	**0.7666**	**0.3749**	**2.0447**	**0.0515**

R-squared	**0.96**	**Mean dependent var**	**3.0261**
Adjusted R-squared	**0.96**	**S.D.dependent var**	**3.1178**
S.E. of regression	**0.0763**	**Akaike info criterion**	**-2.0100**
Sum squared resid	**0.1455**	**Schwarz criterion**	**-1.2396**
Log likelihood	**63.2204**	**Hannan-Quinn criter**	**-1.7243**
F-statistic	**3987.656**	**Durbin-Watson stat**	**2.19818**
Prob(F-statistic)	**0.000000**		

Source: The work of the researchers based on the outputs of the Eviews10 program.

Table (6) shows the test of the second model for autoregressive distributed lags. It is clear that the model is acceptable, as the coefficient of determination reached (R2=0.96), meaning that the independent variable included in the model explains (96%) of the changes in the dependent variable (inflation), and the remaining (4%) is due to other variables not included in the model.

The value of the Durbin-Watson (D-W) statistic reached (2.19), indicating that the model is free of the problem of autocorrelation. The value of the Fisher statistic reached (3987.656) with a high significance of (0.000000), indicating that the model is fully acceptable.

A- Error Correction Model According to the ARDL Methodology

The model consists of two parts: the first includes short-term parameters, and the second part explains long-term parameters. Table (7) illustrates this as follows:

Table (7): Error correction model (short and long term) for the model (2) according to the ARDL methodology

Variable	Coefficient	Std.Error	t-Statistic	Prob
D(in,-1)	2.1986	0.1605	13.7014	0.0000
CointEq(-1)*	-0.006811	0.00213	-3.2053	0.0037
				Long Run Coefficients
Variable	Coefficient	Std.Error	t-Statistic	Prob
im	-2.3116	2.507089	0.922034	0.3653
C	112.5504	118.5562	0.949342	0.3515
				EC = in – (-2.3116*im +112.5504)

Source: The work of the researchers based on the outputs of the Eviews10 program.

Table (7) shows a significant positive relationship between inflation and imports at a significance level of 1%. This is consistent with economic theory, i.e., an increase in import volume leads to higher inflation rates in the short term. As for the error correction coefficient, CointEq(-1), it is noted that the error correction parameter, or the rate of adjustment, reached (-0.006811), and the probability value, Prob, reached (0.0037), i.e., negative and significant. This confirms the existence of a correction from the short term to the long term. Approximately 0.68% of the errors that occur in short-term inflation can be automatically corrected through imports to restore equilibrium in the long term. However, this requires a very long period of time, indicating the slow rate of adjustment in the model; in addition, the model's lack of significance in the long term. B- Cointegration Test According to the ARDL Methodology for the Second Model

The cointegration test, known as the bound test, demonstrates the cointegration relationship between the independent variable (imports) and the dependent variable (inflation). It relies on the value of the Fisher statistic (F) by comparing it with the lower and upper bounds at different significance levels (1%, 2.5%, 5%, 10%). Table (8) illustrates the cointegration test (f-bound test).

Table (8) Cointegration Test (F-Bound Test)

f-Bound Test	**Null Hypothesis: No levels relationship**	
Test Statistic	**Value**	**K**
F-statistic	**3.171094**	**1**
		Critical Value Bounds
Significance	**I(0) Bound**	**I(I) Bound**
10%	**3.02**	**3.51**
5%	**3.62**	**4.16**
2.5%	**4.18**	**4.79**
1%	**4.94**	**5.58**

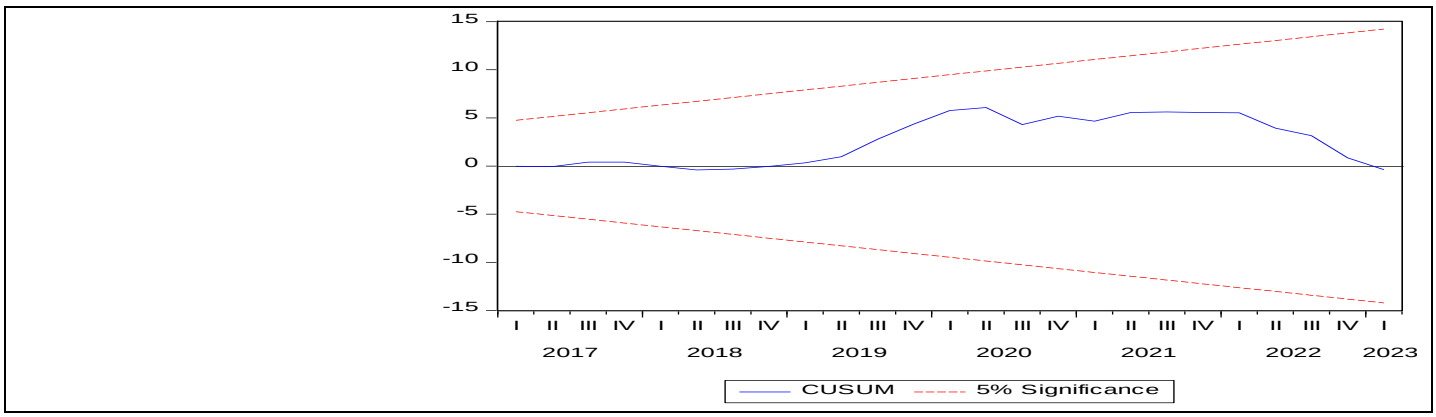
Source: The work of the researchers based on the outputs of the Eviews10 program.

Table (8) shows that the calculated value of (f), which amounted to (3.171094), is smaller than the minimum table values (I(0)) and maximum (I(I)) at all significance levels (1%, 2.5%, 5%, 10%). Therefore, we reject the alternative hypothesis of the study, which states the existence of long-term cointegration between imports and inflation in Iraq for the period (2003-2023), and accept the null hypothesis.

C- Model Stability Test

Figure (2) shows the cumulative sum test of the model's residuals (Cusum Test) for the second model, indicating that the cumulative sum of the residuals is within the critical limits at a significance level of (0.05), indicating the stability of the estimated parameters.

Figure (2) Cumulative sum test of residuals



Source: The work of the researchers based on the outputs of the Eviews10 program.

(Model 3): The impact of imports on the trade balance in Iraq for the period (2003-2023).

Table (9): The impact of imports on the trade balance in Iraq for the period (2003-2023)

Variable	Coefficient	Std.Error	t-Statistic	Prob
tb(-1)	3.432238	0.085632	40.08147	0.0000
im(-1)	87.92827	31.65362	2.777826	0.0075
C	315.8134	256.7673	1.229959	0.2240

R-squared	0.99	Mean dependent var	22075.25
Adjusted R-squared	0.99	S.D.dependent var	18115.81
S.E. of regression	452.7675	Akaike info criterion	15.17625
Sum squared resid	11069914	Schwarz criterion	15.41848
Log likelihood	-455.8757	Hannan-Quinn criter	15.27119
F-statistic	16000.04	Durbin-Watson stat	1.89712
Prob(F-statistic)	0.000000		

Source: The work of the researchers based on the outputs of the Eviews10 program.

The final model test for the autoregressive distributed lags is displayed in Table (9). The coefficient of determination (R2=0.99) indicates that the independent variable in the model accounts for 99% of the changes in the dependent variable (trade balance Tb), with the remaining 1% coming from variables not in the model. This makes it evident that the model is acceptable.

The value of the Durbin-Watson (D-W) statistic reached (1.9), indicating that the model is free of the problem of autocorrelation. The value of the Fisher statistic reached (16000.04) with a high significance of (0.000000), indicating that the model is fully acceptable.

A-The ARDL Methodology's Error Correction Model

The model consists of two parts: the first includes short-term parameters, and the second part explains long-term parameters. Table (10) illustrates this as follows:

Table (10): Error correction model (short and long term) for the model (3) according to the ARDL methodology

Variable	Coefficient	Std.Error	t-Statistic	Prob
D(Tb,-1)	2.465154	0.08198	30.07133	0.0000
CointEq(-1)*	-0.032916	0.007144	-4.60779	0.0000
				Long Run Coefficients
Variable	Coefficient	Std.Error	t-Statistic	Prob
Im	250.938	185.148	1.35534	0.1810
C	9594.499	8390.941	1.143435	0.2579
				EC = Tb – (250.938 *im + 9594.499)

Source: The work of the researchers based on the outputs of the Eviews10 program.

Table (10) shows a significant positive relationship between the trade balance and imports at a significance level of 1%. This is consistent with economic theory, i.e., an increase in the volume of imports leads to a higher trade deficit in the short term. As for the error correction coefficient, CointEq(-1), it is noted that the error correction parameter, or the rate of adjustment, reached (-0.032916), and the probability value, Prob, reached (0.0000), i.e., negative and significant. This confirms the existence of a correction from the short term to the long term. Approximately 3.29% of the errors that occur in the trade balance in the short term can be automatically corrected through imports to restore balance in the long term. However, this requires a very long period of time, indicating the low rate of adjustment in the model. B-Cointegration Test According to the ARDL Methodology for the Third Model

The cointegration test, known as the bound test, demonstrates the cointegration relationship between the independent variable (imports im) and the dependent variable (trade balance Tb). It relies on the value of the Fisher statistic (F) by comparing it with the lower and upper bounds at different significance levels (1%, 2.5%, 5%, 10%). Table (11) illustrates the cointegration test (f-bound test).

Table (11) Cointegration Test (F-Bound Test)

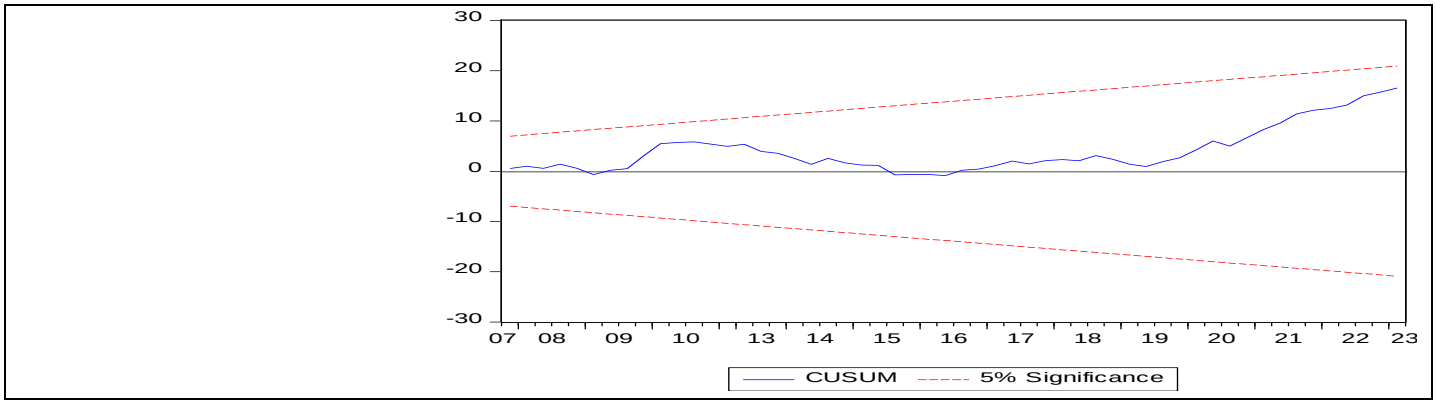
f-Bound Test	Null Hypothesis: No levels relationship	
Test Statistic	Value	K
F-statistic	6.824480	1
		Critical Value Bounds
Significance	I(0) Bound	I(I) Bound
10%	3.02	3.51
5%	3.62	4.16
2.5%	4.18	4.79
1%	4.94	5.58

Source: The work of the researchers based on the outputs of the Eviews10 program.

At all significant levels (1%, 2.5%, 5%, and 10%), Table (11) demonstrates that the computed value of (f), which came to 6.824480, is higher than the minimum table values (I(0)) and the maximum (I(I)). As a result, we reject the null hypothesis and accept the alternative hypothesis of the study, which claims that imports and the trade balance in Iraq for the years 2003–2023 have a long-term joint integration.

C- Model Stability Test: Figure (3) shows the cumulative sum test of the model's residuals (Cusum Test) for the third model, which shows that the cumulative sum of the residuals is within the critical limits at a significance level of (0.05), indicating the stability of the estimated parameters.

Figure (3) Cumulative sum test of residuals



Source: The work of the researchers based on the outputs of the Eviews10 program.

(Model 4): The impact of imports on the unemployment rate in Iraq for the period (2003-2023).

Table (12): The impact of imports on the unemployment rate in Iraq for the period (2003-2023)

Variable	Coefficient	Std.Error	t-Statistic	Prob
une(-1)	3.678850	0.118548	31.03258	0.0000
im(-1)	0.028862	0.039709	0.726846	0.4716
C	0.026662	0.020403	1.306776	0.1988

R-squared	0.99	Mean dependent var	11.58232
Adjusted R-squared	0.99	S.D.dependent var	2.99747
S.E. of regression	0.0164	Akaike info criterion	-5.1639
Sum squared resid	0.0107	Schwarz criterion	-4.648267
Log likelihood	153.426	Hannan-Quinn criter	-4.965059
F-statistic	13609.1	Durbin-Watson stat	2.022020
Prob(F-statistic)	0.000000		

Source: The work of the researchers based on the outputs of the Eviews10 program.

The fourth model test for the autoregressive distributed lags is displayed in Table (12). Given the coefficient of determination (R2=0.99), which indicates that the independent variable in the model accounts for 99% of the changes in the dependent variable (the unemployment rate), and that the remaining 1% is caused by other variables not included in the model, it is evident that the model is acceptable. The model is free of the autocorrelation issue, as indicated by the Durbin-Watson (D-W) statistic value reaching (2). The model is completely acceptable, as evidenced by the Fisher statistic value of 1360.91 at a high significance level of 0.000000. A: Model for Error Correction The ARDL Methodology states.

The model consists of two sections. The first section includes the short-term parameters, while the second section explains the long-term parameters. Table (13) illustrates this as follows:

Table (13) Error Correction Model (Short and Long) for the Model (4) According to the ARDL Methodology

Variable	Coefficient	Std.Error	t-Statistic	Prob
D(Une,-1)	2.679820	0.114595	23.38517	0.0000
CointEq(-1)*	-0.00097	0.00056	-1.74621	0.0885
				Long Run Coefficients
Variable	Coefficient	Std.Error	t-Statistic	Prob
Im	-0.5031	0.794862	-0.632906	0.5304
C	27.50811	29.81324	0.922681	0.3617
				EC = une – (-0.5031 *im + 27.5081)

Source: The work of the researchers based on the outputs of the Eviews10 program.

Table (13) shows a significant positive relationship between the unemployment rate and imports at a significance level of 1%. This contradicts economic theory, i.e., an increase in the volume of imports leads to a rise in the unemployment rate in the short term, indicating a decline in job opportunities available in the economy due to increased imports. As for the error correction coefficient, CointEq(-1), it is noted that the error correction parameter, or the rate of adjustment, reached (-0.00097), and the probability value, Prob, reached (0.08), i.e., negative and significant. This confirms the existence of a correction from the short term to the long term. Approximately 0.1% of the errors that occur in the unemployment rate in the short term can be

automatically corrected through imports to restore equilibrium in the long term. This takes a very long time, though, which shows how slowly the model is adjusting. B. Cointegration test for the fourth model using the ARDL methodology: As it depends on the value of (F) Fisher's statistic in terms of comparing it with the lower and upper limits with different significances (1%, 2.5%, 5%, 10%), the cointegration test, also known as the boundary test, illustrates the cointegration relationship between the independent variable (imports im) and the dependent variable (unemployment rate Une). The cointegration test (f-Bound Test) is displayed in Table (14) as well.

Table (14): Cointegration Test (F-Bound Test)

f-Bound Test	Null Hypothesis: No levels relationship	
Test Statistic	Value	K
F-statistic	0.968	1
		Critical Value Bounds
Significance	I(0) Bound	I(I) Bound
10%	3.02	3.51
5%	3.62	4.16
2.5%	4.18	4.79
1%	4.94	5.58

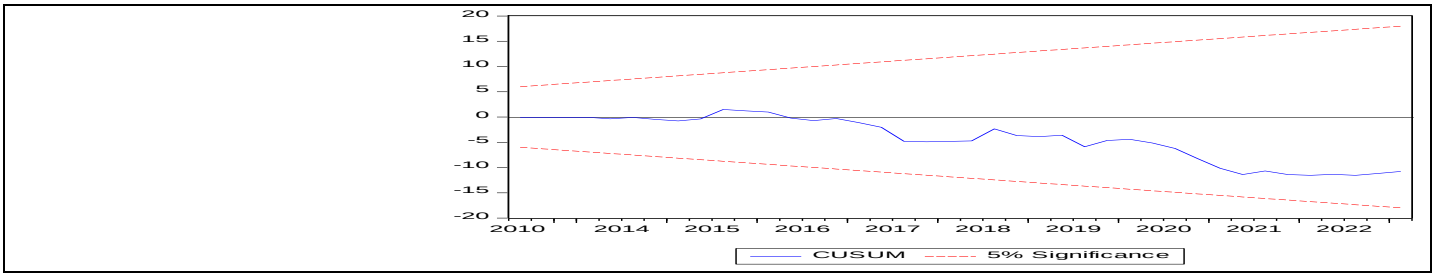
Source: The work of the researchers based on the outputs of the Eviews10 program.

Table (14) shows that the calculated value of (f), which reached (0.968), is smaller than the minimum table values (I(0)) and maximum (I(I)) at all significance levels (1%, 2.5%, 5%, 10%). Therefore, we reject the alternative hypothesis of the study, which states the existence of long-term cointegration between imports and the unemployment rate in Iraq for the period (2003-2023), and accept the null hypothesis.

C- Model Stability Test

Figure (4) shows the cumulative sum test of the model's residuals (Cusum Test) for the fourth model. It shows that the cumulative sum of the residuals is within the critical limits at a significance level of (0.05), indicating the stability of the estimated parameters.

Figure (4) Cumulative sum test of the residuals



Source: The work of the researchers based on the outputs of the Eviews10 program.

Conclusions

- The first model shows a long-term cointegration link between imports and growth rate; the third model shows cointegration between imports and trade balance for the years 2003–2023.
- There is no long-term cointegration in the second model (imports and inflation) and the fourth model (imports and unemployment rate) in Iraq for the period (2003-2023).
- The empirical results demonstrated a short-term significant positive relationship between the independent variable (imports) and the dependent variables (growth rate, inflation, trade balance, unemployment rate) at a significance level of 1%.
- The empirical results demonstrated the insignificance of the models in the long run.

Recommendations

- Activate smart trade policies to control unnecessary imports and support the local production sector, which will help narrow the gap between domestic demand and supply.
- Diversify sources of income to reduce dependence on oil, limit the drain on foreign currency, and control external ports, which will contribute to enhancing economic stability.
- Focus economic policies on certain intermediate goods that are used in industries that rely on foreign raw materials or equipment. Without imports, the production cycle of these goods stalls.

References

1. Dolan, G. & Lindsey, E., Economics, The Dryden Press, 1991, p. 252.
2. Isabet Correia and Juan, P. Nicolini, Optimal Fiscal and Monetary Policy: Equivalence Results, University of Texas at Austin, 2001, p. 4.
3. Saeed Abdel Aziz Othman, The Tax System and Society's Objectives, University House, Amman, Jordan, 2008.
4. Rafa Shihab Al-Hamdani, Macroeconomic Theory, Wael Publishing House, First Edition, Amman, Jordan, 2014.
5. Adeeb Qasim Shandi, Nagham Hamid Abdul Khader, Measuring the Relationship Between Money Supply and Economic Stability Indicators in Iraq for the Period

(1980-2013), University of Wasit, Al-Kut Journal of Economic and Administrative Sciences, Issue 21, 2016.

6. Walid Abdul Hamid Ayeb, The Macroeconomic Effects of Government Spending Policy, Hassan Al-Asriya Library, First Edition, Lebanon-Beirut, 2010.
7. Farouk bin Saleh Al-Khatib, Abdul Aziz bin Ahmed Diab, Advanced Studies in Macroeconomic Theory, King Abdulaziz University, Saudi Arabia, 2013.
8. Amin Said, Exchange Policy as a Tool for Settling Balance of Payments Imbalances, Hassan Al-Asriya Library for Printing, Publishing, and Distribution, Lebanon, 2013.
9. Abbas Kazim Al-Dami, Monetary and Fiscal Policies and Stock Market Performance, Safaa Publishing and Distribution House, Amman, 2010.
10. Asmaa Sami Muhammad Al-Yassari, Salam Kazim Shani Al-Fatlawi (2003-2020), Measuring and Analyzing the Impact of Square Components as Their Role on Import in th Use (2003-2020), Journal of the College of Administration and Economics for Economic, Administrative, and Financial Studies, 210, Volume 15, 2020.
11. Hussein Ali Abbas Al-Khafaji: Public Spending Policy and Its Implications for the Reality of Investment in Iraq, Unpublished Master's Thesis, College of Administration and Economics, University of Karbala, Department of Economics, 2019.
12. Michael Ebdjman: Macroeconomics: Theory and Policy, translated and Arabized by Muhammad Ibrahim Mansour, Mars Publishing House, Riyadh, Kingdom of Saudi Arabia, 2010.