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# THE IMPACT OF PUBLIC EXPENDITURE ON THE IMPORT STRUCTURE IN IRAQ FOR THE PERIOD (2004-2021)

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## Abstract

The state has adopted economic policies, notably fiscal policy, in an attempt to stimulate the Iraqi economy and address the imbalance in the trade balance. However, administrative and financial corruption and lack of transparency have weakened the effectiveness of fiscal policy in impacting the Iraqi economy in general and the trade balance in particular. One of these tools is public expenditure in its two components: consumption expenditure and investment expenditure. The majority of public expenditure goes towards salaries, wages, and social allowances (government support in general), creating structural weakness in the economic sectors. This has forced individuals to resort to imports to meet their needs for goods and services. The importance of this research lies in the role played by the size of public expenditure in addressing the imbalance in the trade balance. The study concluded that there is a distortion in the structure of public expenditure, which contributes to the imbalance in the trade balance in Iraq. Current expenditures have a greater contribution to the total public expenditure than investment expenditures. However, investment expenditures are often ineffective due to corruption (financial and administrative), as well as a weak investment environment and slow project implementation. This has led to an increase in current expenditures, resulting in increased purchasing power for individuals and increased demand for goods and services. Due to the weak local production of goods and services, aggregate demand (individuals and the government) is met through imports.

**Keywords:** Public Expenditure, Imports, Iraqi Economy, ARDL Methodology.

## Introduction

**Research Problem:** The increase in public expenditure has not created a productive base, but rather led to an increase in imports in Iraq.

**Research Hypothesis:** The increase in government expenditure has led to an increase in imports in Iraq.

**Research Objective:** To analyze the impact of public expenditure on the import structure in Iraq for the period 2004-2021.

## **Introduction**

Financial policy is one of the most important tools that affects the economic activity of any country. Its economic effects have emerged through the global experiences of all countries, including Iraq. Iraq has gone through two economic systems, as it followed the socialist system where the state's central planning controlled all economic activities, including the use of financial policy indicators. The second system that Iraq experienced after 2003 involved privatization of a large part of the public sector. After this year, Iraq entered the capitalist economic system, but with a destroyed infrastructure, backward production structures, high indebtedness, high unemployment, and a high inflation rate. The Iraqi economy faced these impacts, attempting to mitigate their impact. However, the Iraqi economy was greatly and directly affected by the international crude oil markets and prices. This led to an initial weakness in the implementation of financial and monetary policies due to the country's internal conditions and the effects of wars that destroyed economic sectors.

Moreover, the opening of the Iraqi economy to the world further deteriorated the economy and hindered economic activity in various sectors, especially industry and agriculture. The unrestricted entry of industrial and agricultural goods particularly disrupted these two sectors, which form an important part of the Gross Domestic Product (GDP), negatively impacting the Iraqi economy, causing a clear imbalance in the non-oil trade balance.

The government implemented various economic policies, including financial policy, in an attempt to stimulate the Iraqi economy. However, administrative and financial corruption and lack of transparency resulted in the depletion and weakening of the indicators of financial policy. These indicators, which are being studied in detail, have a strong impact on the Iraqi economy in general and the trade balance in particular. Examples of these indicators include public spending (consumption and investment), public revenues (oil and tax revenues), and public debt (external and internal).

### **First: Analysis of Public Expenditure in Iraq (2004-2021)**

#### **1- The reality of public expenditure in Iraq**

Public expenditure constitutes the main source for providing basic services to meet public needs, which we are in dire need of. The overall well-being of society and economic progress depend on the extent of public expenditure. The level of growth is closely associated with the continuous increase in public expenditure, which is an essential part of the overall expenditure function. This has led many economists to give it significant importance (Alani, 2018, 131).

Public expenditure in Iraq has evolved and increased in size due to the rise in oil revenues resulting from global oil price increases. Consequently, the government's increased support for various sectors has caused inherent structural imbalances, leading to increased waste in overall public expenditure (available financial resources). The budget ends up with a deficit and is financed through loans (domestic or foreign), and at the end of the fiscal year, there may be a surplus. This is due to numerous projects and infrastructure not being implemented, or the proliferation of phantom projects, lack of planning and economic feasibility in the preparation and execution of government projects, or oil prices exceeding the predetermined estimates in the general budget. These reasons, or a combination of them, have contributed to the development of public expenditure in both current and investment aspects. Current expenditures have taken the majority share of total public expenditure, reflecting the government's expansionary spending policy, particularly in the fields of health and education, as well as increased military spending, wages, and salaries (Ali, 2018, 89).

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Given the economic and social conditions experienced by the Iraqi economy, it is evident that the preparation of the general budget faces significant difficulties and challenges. These challenges include the increase in military spending, as well as wages and salaries. Additionally, the current tax system is weak in terms of human and technological resources, affecting its ability to increase tax revenues and diversify the tax base through the introduction of other measures that enhance tax collection efficiency. Moreover, there is a lack of modern infrastructure and specifications that facilitate workshops and training sessions to elevate the level of expertise in this field. Additionally, the prevalence of financial and administrative corruption has hindered the implementation of an advanced budgeting approach similar to what the United Arab Emirates has implemented, which relies on investment plans and programs based on economic feasibility drawn from economic, managerial, technical, and other specialized experiences and fields that enhance the reality of the general budget (Dadoosh, 2020, 191).

It is observed that the main reason for the lack of development in the general budget is the absence of a design for government agencies aimed at efficiency and precise control (monitoring) to ensure proper management of these operations, particularly expenditure operations. These are fundamental elements in developing public finance and its budgeting tools. On the other hand, the Ministry of Planning is unable to articulate how to translate the plan into a budget that is understood by the Ministry of Finance and other executive ministries through a consistent accounting system. Furthermore, the Ministry of Finance is unable to provide a comprehensive economic account that represents the general budget. Decisions and actions that do not violate laws do not necessarily imply economic and administrative soundness. The Integrity Commission, offices of inspectors general, and other internal and external control bodies do not guarantee improvements in performance efficiency and resource management. They only ensure the legality of sales, purchases, expenditures, and contracting procedures. This lack of control leads to an absence of sound financial resource management and deviation from the primary mission, which is achieving the goal or objective of public expenditure for all departments and ministries. Additionally, the government's lack of interest in the development of the general budget for unknown reasons compounds the issue.

## **2- Sources of Government Spending in Iraq**

There is no doubt that government spending in Iraq heavily relies on oil revenues, in addition to other sources such as tax revenues, particularly taxes, and other sovereign revenues in general. Internal and external loans are also utilized. The details are as follows:

A- Oil Sector Revenues: Oil revenues constitute approximately 96% of the general budget revenues in Iraq. The transformation that occurred in public finance, especially after 2003 when economic sanctions were lifted, led to an increase in oil exports coinciding with a rise in crude oil prices in global markets. The government focused on developing the oil sector, which resulted in neglecting non-oil productive sectors that were affected by war, terrorism, and corruption, without being rehabilitated or restructured. Oil revenues for the upcoming fiscal year are estimated by calculating the projected revenues from crude oil exports based on an estimated price per barrel.

B- Other Revenues: These revenues include direct and indirect taxes, customs duties, fines, as well as capital revenues, state property rental revenues, and miscellaneous revenues. The percentage of these revenues does not exceed 3-4% of the total general revenues in the best case.

C- Loans: Loans are used to finance government spending in the event of a budget deficit. This includes domestic borrowing, especially from commercial banks and financial institutions within the country. The government also issues bonds and transfers to government banks that are deducted at the Central Bank of Iraq. External borrowing includes loans granted by the World Bank, the International Monetary Fund, the Japan International Cooperation Agency, the French Development Agency, as well as issuing foreign bonds.

The responsibility for budget preparation in Iraq lies with the Minister of Finance. In May, the minister issues a report on the priorities of fiscal policy for the upcoming year, especially the estimated total expenditure. In June, the Minister of Finance consults with the Minister of Planning to disseminate

internal regulations and financial policy objectives for the spending entities (organizations) in order to prepare their budgets. In July, these entities submit their requests for fund allocation, along with a copy of the request to allocate a percentage of the budget to the Minister of Planning. The request includes an estimate of the budget expenses for the fiscal year as outlined in the economic and functional divisions specified by the Minister of Finance. In September, the Ministry of Finance prepares the draft of the general budget and submits it to the Council of Ministers for approval. Then, in October, it is presented to the parliament for final approval (Iraqi Al-Waqa'iq newspaper, 2004, 118).

The Ministry of Finance determines current expenditures (such as salaries and wages) according to the administrative classification. The approved allocations in the budget are displayed based on the administration (ministry) responsible for expenditure and collection. Accordingly, the specific credits are given to each entity, general directorate, or ministry concerned to initiate their own disbursement process based on the estimates provided to the Ministry of Finance. As for investment expenditures, the Ministry of Planning is responsible for their preparation in collaboration with other relevant ministries that have investment programs and projects for the upcoming year, in accordance with estimated expenses aligned with the volume of investment projects. The following table (Table 1) shows the analysis of public expenditures in Iraq during the period (2004-2021):

**Table 1: Components of public expenditures in Iraq for the period (2004-2021)**

| Year    | Current expenditure | Annual growth rate | Percentage of contribution to expenditure | Investment expenditure | Annual growth rate | Percentage of contribution to expenditure | Total expenditure | Annual growth rate |
|---------|---------------------|--------------------|---|------------------------|--------------------|---|-------------------|--------------------|
| 2004    | 18.993              | ---                | %87.5                                     | 2,701                  | ---                | %12.5                                     | 21,694            | ---                |
| 2005    | 18.424              | -%2.9              | %87.7                                     | 2,563                  | -%5.0              | %12.3                                     | 20,987            | -%3.0              |
| 2006    | 23.802              | %29.2              | %93.1                                     | 1,756                  | %31.4              | %6.9                                      | 25,558            | %21.7              |
| 2007    | 26.071              | %9.5               | %83.2                                     | 5,250                  | 198.9%             | %16.8                                     | 31,321            | %22.5              |
| 2008    | 43.840              | %68.1              | %77.7                                     | 12,553                 | 139.1%             | %22.3                                     | 56,393            | %80.0              |
| 2009    | 39,265              | %10.4              | %82.6                                     | 8,247                  | %34.3              | %17.4                                     | 47,512            | -%15.7             |
| 2010    | 46,650              | %18.8              | %77.8                                     | 13,293                 | %61.1              | %22.2                                     | 59,943            | %26.1              |
| 2011    | 52,073              | %11.6              | %77.3                                     | 15,241                 | %14.6              | %22.7                                     | 67,314            | %12.2              |
| 2012    | 64,998              | %24.8              | %72.0                                     | 25,173                 | %65.1              | %28.0                                     | 90,171            | %33.9              |
| 2013    | 67,535              | %3.9               | %66.1                                     | 34,632                 | %37.5              | %33.9                                     | 102,167           | %13.3              |
| 2014    | 64,597              | -%4.3              | %68.4                                     | 29,840                 | %13.8              | %31.6                                     | 94,437            | -%7.5              |
| 2015    | 43,557              | %32.5              | %62.5                                     | 26,034                 | %12.7              | %37.5                                     | 69,591            | -%26.3             |
| 2016    | 46,355              | %6.4               | %74.9                                     | 15,469                 | %40.5              | %25.1                                     | 61,824            | -%11.1             |
| 2017    | 49,601              | %7.0               | %78.1                                     | 13,836                 | %10.5              | %21.9                                     | 63,437            | %2.6               |
| 2018    | 67.950              | %36.9              | %76.7                                     | 20.550                 | %48.5              | %23.3                                     | 88.500            | %39.5              |
| 2019    | 84.597              | %24.4              | %75.2                                     | 27.800                 | %35.2              | %24.8                                     | 112.397           | %27.0              |
| 2020    | 90.049              | %6.4               | %81.3                                     | 28.431                 | %2.2               | %18.7                                     | 118.480           | %5.4               |
| 2021    | 69,555              | %22.7              | %77.5                                     | 20,095                 | %29.3              | %22.4                                     | 89,650            | -%24.3             |
| Average |                     |                    | %77.8                                     |                        |                    | %22.2                                     |                   |                    |

Source: 1- Iraqi Ministry of Finance, General Budget Department, various years for the period (2004-2021). 2- Ratios extracted by the researcher.

According to the data in Table 1, the period (2004-2008) witnessed an increase in total public expenditures from \$21.694 billion in 2004 to about \$56.393 billion in 2008, representing an increase of 80.0%. This was a significant rise compared to the annual growth rate of around 3.0% in 2005. The increase can be attributed to the rise in citizens' income and government spending (including increased salaries and wages for civilian and military employees), as well

as its dependence on a single revenue source, crude oil, more than other sovereign sources such as taxes, fees, and loans.

The value of current expenditures reached \$43.840 billion in 2008, compared to \$18.993 billion in 2004. This increase was due to the rise in consumption demand resulting from the opening of foreign trade, as domestic production in both the private and public sectors did not meet the increasing local demand for various goods and services. Although the ratio of investment expenditures increased to 139.1% in 2008, its percentage of total public expenditures did not exceed 22.3% in the same year. This indicates a significant consumption trend and the weakness of the investment environment in both the private and public sectors, affected by negative circumstances such as terrorism, financial corruption, and administrative challenges in the country.

In 2009, the total public expenditures decreased to approximately \$47.512 billion compared to 2008, reflecting a decrease of 18.6% due to the financial and economic crisis that struck the global economy. This led to a decrease in current expenditures to around \$39.265 billion, a decline of 10.4% compared to 2008. The same applies to investment expenditures, which declined at a higher rate than operational expenditures, reaching approximately 34.3% in 2008. As for the period (2010-2013), the total public expenditures increased from \$59.943 billion in 2010 to around \$102.167 billion in 2013. This increase was primarily due to the rise in current expenditures, reaching approximately \$67.535 billion in 2013 compared to \$46.650 billion in 2010, resulting in an annual growth rate of about 3.9%. This increase was mainly attributed to the higher salaries of the three presidencies and the evident waste of public funds without conducting any economic feasibility studies or evaluations of investment projects. This missed a significant opportunity for development, as these funds could have been used to support the private sector and create favorable conditions for diversifying the economy through the promotion of non-oil sectors such as industry, agriculture, and services. The percentage of investment expenditure was about 37.5%, which increased from \$13.293 billion in 2010 to \$34.632 billion in 2013. However, these expenditures were directed more towards infrastructure than other types of investments, making them more supportive than productive or value-generating for all productive sectors.

In the period (2014-2017), public expenditures, both current and investment, decreased, with negative growth rates in 2014 and 2015. This decline was mainly caused by the drop in global oil prices to around \$36 per barrel in 2016. Additionally, public spending was reduced, and austerity measures were implemented in the country due to the priority given to militarization and equipping the military and police to combat ISIS, as well as meeting salary and wage obligations to government employees. However, expenditures increased in 2016 and 2017 as a result of improved political and military conditions, including the defeat of ISIS, and the recovery of oil prices in international markets. This positive trend had a significant impact on the growth of total public expenditures in 2018 and 2019, reaching \$88.5 billion and \$112.397 billion, respectively. This indicates the mechanical link between government spending and oil revenues, leading to constant confusion in expenditure operations, especially considering the country's lack of sound economic management, primarily due to political factors rather than economic ones.

Regarding the general expenditures, they decreased to about (5.4%) in 2020 compared to (27.0%) in 2019. This was due to the spread of the Corona virus and the decrease in crude oil prices to less than (\$20) due to the global closure of trade. The health effects were reflected relatively in 2021, as public expenditures decreased to \$89.650 billion, or by (24.3%-) compared to 2020.

The researcher believes that current expenditures have achieved the highest percentage of contribution to total expenditures, amounting to about (77.8%) throughout the study period. As for investment expenditures, they accounted for (22.2%) of total expenditures. This indicates a malfunction in the mechanism of distributing public expenditures and a clear process of wasting public money, since current expenditures are for consumption and their productivity or returns are very weak compared to the productivity of investment expenditures, which means establishing infrastructure and supporting productive sectors and the private sector.

Secondly: Analysis of the imbalance in the structure of the trade balance in Iraq

Iraq mainly relies on oil exports to achieve the necessary financial surpluses in order to finance economic and social development plans. Capital imports also contribute to improving the productive capacity of all sectors that contribute directly or indirectly to the country's economic growth process, if they actually exist. Since these imports, represented by the equipment and machinery necessary to build and develop the infrastructure in Iraq, which cannot be provided except through foreign trade, which makes Iraq linked to broad economic relations with most of the advanced world economies, and Table (2) shows the volume of foreign trade in Iraq (exports and imports) for the period (2004-2021), as follows:

Table (2) Iraqi trade balance for the period (2004-2021)

| السنة | GDP     | Oil export | Non-oil export | Total export | Total imported | Ratio of oil exports to total exports% | Trade balance with oil | Trade balance without oil |
|-------|---------|------------|----------------|--------------|----------------|--|------------------------|---------------------------|
| 2004  | 36,092  | 17,751     | 739            | 18,490       | 19,954         | 96                                     | (1,464)                | (19,215)                  |
| 2005  | 49,217  | 22,950     | 747            | 23,697       | 23,748         | 96.8                                   | (51)                   | (23,001)                  |
| 2006  | 65,244  | 29,500     | 1,029          | 30,529       | 22,480         | 96.6                                   | 8,049                  | (21,451)                  |
| 2007  | 88,408  | 39,433     | 1,015          | 40,448       | 19,332         | 97.4                                   | 21,116                 | (18,317)                  |
| 2008  | 131,180 | 61,111     | 2,515          | 63,626       | 35,888         | 96.0                                   | 27,738                 | (33,373)                  |
| 2009  | 111,228 | 41,668     | 737            | 42,405       | 41,858         | 98.2                                   | 547                    | (41,121)                  |
| 2010  | 138,018 | 52,290     | 2,309          | 54,599       | 43,275         | 95.7                                   | 11,324                 | (43,966)                  |
| 2011  | 185,698 | 83,006     | 2,629          | 85,635       | 47,581         | 96.9                                   | 38,054                 | (47,952)                  |
| 2012  | 218,221 | 94,090     | 302            | 94,392       | 59,006         | 99.6                                   | 35,386                 | (58,704)                  |
| 2013  | 234,659 | 89,359     | 383            | 89,742       | 63,349         | 99.5                                   | 26,393                 | (62,966)                  |
| 2014  | 228,242 | 84,303     | 203            | 84,506       | 58,177         | 99.7                                   | 26,329                 | (57,974)                  |
| 2015  | 166,014 | 49,249     | 154            | 49,403       | 47,045         | 99.6                                   | 2,358                  | (46,891)                  |
| 2016  | 167,436 | 43,753     | 137            | 43,890       | 34,713         | 99.6                                   | 9,177                  | (34,576)                  |
| 2017  | 187,219 | 56,879     | 389            | 57,268       | 37,569         | 99.3                                   | 19,699                 | (37,180)                  |
| 2018  | 227,604 | 83,290     | 2,115          | 85,405       | 45,861         | 97.5                                   | 39,544                 | (43,746)                  |
| 2019  | 233,371 | 78,527     | 1,885          | 80,412       | 58,126         | 97.6                                   | 22,286                 | (56,241)                  |
| 2020  | 180,594 | 41,755     | 1,134          | 46,829       | 48,151         | 97.3                                   | (1,322)                | (47,017)                  |
| 2021  | 207,694 | 75,653     | 4,138          | 79,791       | 40,736         | 94.8                                   | 39,055                 | (36,598)                  |

Source: Central Bank of Iraq: Statistical Data and Statistics, Exports and Imports for the period (2004-2021). 2- Ratios extracted by the researcher.

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Through Table (2), we observe that the trade balance achieved a financial surplus throughout the study period, except in the years (2004, 2005, 2020), where it experienced a deficit. This deficit was due to the increase in total imports exceeding total exports as a result of increased consumer demand for goods and services due to the country's trade openness. In 2020, the deficit was a result of the global trade closure due to the spread of the coronavirus.

Oil exports constitute the majority (96%) of total exports, while the non-oil trade balance recorded a deficit throughout the study period. This represents a significant structural imbalance in Iraq's trade balance due to the lagging and weak non-oil sectors in foreign trade volume.

The period from 2004 to 2008 witnessed an increase in total exports from \$18.49 billion in 2004 to \$63.624 billion in 2008. This was a result of the increase in oil exports to \$61.111 billion in 2008, compared to \$17.751 billion in 2004. The increase was due to higher oil prices and export quantities, with oil exports reaching approximately 1.85 million barrels per day in 2008 compared to 488,000 barrels per day in 2004. The price of Iraqi oil per barrel increased from \$34.4 in 2004 to \$88.8 in 2008.

In 2009, the sharp decline in global trade flows following the global financial crisis had a significant impact on the country's foreign trade. The contraction in global demand and the decline in oil prices led to a sharp decrease in oil exports. The percentage of total exports decreased to approximately 50% compared to 2008, with oil exports accounting for about 46.6% of total exports. However, imports in 2009 witnessed an increase, reaching \$41.858 billion compared to 2008, reflecting a growth rate of approximately 16.6%. This was due to reconstruction, development, and increased foreign investment in the oil sector in Iraq. (Unified Arab Economic Report, 2009, 168).

During the period (2010-2013), global oil prices improved, and the global economic growth increased, leading to an increase in global oil prices due to the rising demand, which reached over \$103 in 2013. The value of oil exports rose to \$89.359 billion in 2013, compared to \$52.290 billion in 2010, resulting in a total increase in overall exports to \$89.742 billion in 2013. As for total imports, their value increased to \$63.349 billion in 2013, compared to \$43.275 billion in 2010, due to an increase in the import of equipment and transportation machinery by 38.5% and various manufactured goods by 15.8%, in addition to an increase in imports of food, mineral fuels, and animal and vegetable oils and fats by 5.4%, 9.8%, and 6.4% respectively (Annual Economic Report, 2013, p. 82).

The period (2014-2019) was highly volatile, with a series of events occurring, including the severe recession that hit the global economy in 2014, the occupation of several provinces in Iraq by ISIS, and the decline in oil prices to \$36 per barrel in 2016, coinciding with the implementation of an agreement to reduce production reached by OPEC member countries and non-OPEC oil producers. Additionally, U.S. shale oil production increased to about 419 thousand barrels per day in 2017, compared to 2016, representing a 9.2% increase to reach about 5.806 million barrels per day. All these factors resulted in a disruption in Iraq's foreign trade volume, particularly in the quantity of oil exports, which had a negative impact on the total exports. Similarly, the volume of total imports was also negatively affected due to the aforementioned reasons, decreasing to 7.7% of the total foreign trade during the same period.

In 2020, due to the health shock, the volume of oil exports decreased, and the price of crude oil per barrel dropped to less than \$20, negatively impacting the overall exports, which amounted to \$46.829 billion. On the other hand, imports increased to approximately \$48.151 billion, leading to a trade deficit of \$1.322 billion. However, after the return of economic activity and the gradual opening of global trade, the price of crude oil per barrel increased to over \$60, reflecting on the reality of overall exports, which rose to approximately \$75.653 billion. This resulted in a trade surplus of \$39.055 billion.

The above indicates that the Iraqi trade balance suffers from structural imbalances due to its reliance on a single resource in the total volume of exports, which is (crude oil exports), which constitutes the largest percentage of total exports. The Iraqi government should at least exploit the financial surpluses achieved in the trade balance in developing and establishing infrastructure for the production of petroleum derivatives and developing petrochemical industries, and thus contribute to diversifying exports, even in the medium term, provided that the financial surpluses in the future are taken into account to carry out the real diversification of the rest of the other

productive sectors (non-oil), thus helping to meet local demand through a set of interrelated trade and economic policies to achieve real growth and economic well-being for all citizens in the country.

**Third: Measuring the impact of public expenditures on the structure of imports in Iraq**

**The first test: the stillness test**

**1. Augmented Dickey-Fuller test (ADF)**

The stationary test of the time series of the study variables is conducted before starting any test in the measurement aspect in order to identify the stationary of the time series or not, and in light of knowing the degree of stationary of the time series for each variable, the optimal model is chosen to test the study variables.

**Table (3) Unit root Testing Dickey-Fuller (ADF)**

| Variable | Level     |                     |        | 1st Difference |                     |        |
|----------|-----------|---------------------|--------|----------------|---------------------|--------|
|          | Intercept | Trend and Intercept | None   | Intercept      | Trend and Intercept | None   |
|          | Prob.     | Prob.               | Prob.  | Prob.          | Prob.               | Prob.  |
| G-I(I)   | 0.4629    | 0.5338              | 0.7641 | 0.0424         | 0.0760              | 0.0202 |
| R-I(I)   | 0.2375    | 0.5989              | 0.6362 | 0.0162         | 0.0262              | 0.0010 |
| BP-I(I)  | 0.4773    | 0.0698              | 0.1072 | 0.0031         | 0.0642              | 0.0002 |
| DP-I(1)  | 0.0924    | 0.1542              | 0.6395 | 0.0237         | 0.0522              | 0.0015 |
| IM-I(1)  | 0.3294    | 0.7974              | 0.6390 | 0.1504         | 0.0521              | 0.0141 |

Source: The researcher based on the program Eviews12 .

Through Table (3), which relates to the stationary of the time series of the study variables, it is evident that the time series of the independent variables did not exhibit stationary at the level but became stationary after taking the first difference (1st Difference). As for the time series of the dependent variable, imports (IM), it became stationary after taking the first difference.

**2. Phillips-Perron test (PP)**

Table (4) shows that the time series of the independent variables became stationary after taking the first difference, but the time series of the dependent variable, imports (IM), did not exhibit stationary at the level and became stationary after taking the first difference.

**Table (4) Unit root Testing Phillips-Perron (PP)**

| Variable | Level     |                     |        | 1st Difference |                     |        |
|----------|-----------|---------------------|--------|----------------|---------------------|--------|
|          | Intercept | Trend and Intercept | None   | Intercept      | Trend and Intercept | None   |
|          | Prob.     | Prob.               | Prob.  | Prob.          | Prob.               | Prob.  |
| G-I(I)   | 0.2732    | 0.1614              | 0.8912 | 0.0055         | 0.0106              | 0.0011 |
| R-I(I)   | 0.2198    | 0.5909              | 0.6209 | 0.0160         | 0.0522              | 0.0010 |
| BP-I(I)  | 0.5290    | 0.0193              | 0.1250 | 0.0003         | 0.0039              | 0.0002 |
| DP-I(1)  | 0.0005    | 0.0035              | 0.7730 | 0.0000         | 0.0001              | 0.0001 |
| IM-I(1)  | 0.2050    | 0.5426              | 0.6763 | 0.0518         | 0.0067              | 0.0051 |

Source: The researcher based on the program Eviews12 .

**3-Test the optimal lag period**

based on the information provided, it seems that the optimal lag length for the model was determined through various tests, and the results indicate that the first lag period is the optimal lag for the model.



**Table (5): Results of the optimal lag test for the model**

| Lag | LogL      | LR        | FPE       | AIC       | SC        | HQ        |
|-----|-----------|-----------|-----------|-----------|-----------|-----------|
| 0   | -554.2115 | NA        | 5.92e+24  | 65.55429  | 65.70133  | 65.56890  |
| 1   | -530.4486 | 36.34325* | 1.07e+24* | 63.81748* | 64.40563* | 63.87594* |

Source: The researcher based on the program Eviews12 .

#### 4-The Granger causality test

Additionally, the Granger causality test was used to examine the short-term causal relationship between the study variables. The results, as shown in Table 8,

**Table (6) : The Granger causality test**

| Null Hypothesis                     | Obs       | F-Statistic | Prob           |
|-------------------------------------|-----------|-------------|----------------|
| <b>G does not Granger Cause IM</b>  | <b>17</b> | 0.8523      | <b>0.03599</b> |
| <b>IM does not Granger Cause G</b>  |           | 0.6786      | 0.17904        |
| <b>R does not Granger Cause IM</b>  | <b>17</b> | 12.5587     | <b>0.0032</b>  |
| <b>IM does not Granger Cause R</b>  |           | 0.27210     | 0.6101         |
| <b>BP does not Granger Cause IM</b> | <b>17</b> | 4.99031     | <b>0.0423</b>  |
| <b>IM does not Granger Cause BP</b> |           | 4.53459     | <b>0.0514</b>  |
| <b>DP does not Granger Cause IM</b> | <b>17</b> | 1.40746     | 0.2552         |
| <b>IM does not Granger Cause DP</b> |           | 2.24441     | 0.1563         |
| <b>R does not Granger Cause G</b>   | <b>17</b> | 3.80586     | <b>0.0714</b>  |
| <b>G does not Granger Cause R</b>   |           | 0.05472     | 0.8184         |
| <b>BP does not Granger Cause G</b>  | <b>17</b> | 2.26493     | 0.1546         |
| <b>G does not Granger Cause BP</b>  |           | 6.54342     | <b>0.0228</b>  |
| <b>DP does not Granger Cause G</b>  | <b>17</b> | 0.16721     | 0.6888         |
| <b>G does not Granger Cause DP</b>  |           | 2.15828     | 0.1639         |
| <b>BP does not Granger Cause R</b>  | <b>17</b> | 0.18075     | 0.6772         |
| <b>R does not Granger Cause BP</b>  |           | 7.52875     | <b>0.0158</b>  |
| <b>DP does not Granger Cause R</b>  | <b>17</b> | 0.03446     | 0.8554         |
| <b>R does not Granger Cause DP</b>  |           | 0.27036     | 0.6112         |
| <b>BP does not Granger Cause DP</b> | <b>17</b> | 0.16795     | 0.6881         |
| <b>DP does not Granger Cause BP</b> |           | 3.65863     | <b>0.0765</b>  |

Source: The researcher based on the program Eviews12 .

Through Table (6), we observe a unidirectional causal relationship from the independent variable, public expenditures (G), to the dependent variable, imports (IM). This means that an increase in public expenditures will lead to an increase in imports due to the lack of productive capacity that fulfills local demand, which is met through imports. The results also show a unidirectional causal relationship from the independent variable, general revenues (R), to the dependent variable, imports (IM). This implies

that an increase in general revenues will generate additional income for the public and the government, thus increasing consumption demand, which is also met through imports. This is reasonable in the one-sided Iraqi economy, which lacks flexibility in its production system.

Furthermore, there exist bidirectional causal relationships between the general budget balance (BP) and imports (IM), indicating a direct relationship between them. An increase in imports leads to an increase in the budget deficit, and vice versa, if imports decrease, the deficit will also decrease. This is evident in Iraq.

Similarly, there is a unidirectional causal relationship from general revenues (R) to public expenditures (G), which is also present in the Iraqi economy. General revenues, especially oil revenues, finance government spending during the period (2004-2021). Additionally, there is a unidirectional causal relationship from public expenditures (G) to the general budget, as an increase in government spending with a decrease in oil revenues leads to a deficit in the general budget. This occurred in the years 2015, 2016, 2019, and 2020. Furthermore, revenues also have a causal relationship with the general budget, as oil revenues fund the general budget in Iraq.

Finally, Table (6) demonstrates a unidirectional causal relationship from the general budget (BP) to public debt (DP), as the accumulation of deficits in the general budget leads to an increase in public debt. This aligns with economic theory.

**5- ARDL Model Estimation**

Through stationary tests of the study variables, which became stationary after taking first differences, the best-fitting model for these results is the ARDL model. It can be applied when there is a combination of stationary level data with first differences or when there is similarity in the stationary process. The following points are noted:

**5-1. Results of the Bound Test**

The Bound Test is used as a preliminary step to identify the existence of a long-term equilibrium relationship between the study variables. The results of this test showed that the calculated (F) value reached 18.78207, which is greater than the critical values at both the upper and lower bounds. This means we accept the alternative hypothesis and reject the null hypothesis, indicating a long-term equilibrium between the dependent variable (imports) and the independent variables (government expenditures and government revenues) as evident in Table (7).

**Table (7) the bounds Test results**

| Test Statistic     | Value           | K               |
|--------------------|-----------------|-----------------|
| <b>F-statistic</b> | <b>41.27252</b> | <b>4</b>        |
| <b>Level</b>       | <b>10 Bound</b> | <b>11 Bound</b> |
| <b>%10</b>         | <b>2.2</b>      | <b>3.09</b>     |
| <b>%5</b>          | <b>2.56</b>     | <b>3.49</b>     |
| <b>%2.5</b>        | <b>2.88</b>     | <b>3.87</b>     |
| <b>%1</b>          | <b>3.29</b>     | <b>4.37</b>     |

Source: The researcher based on the program Eviews12 .

We conclude from the above and according to the results that there is a long-term equilibrium relationship between the tools of fiscal policy (expenditures and public revenues) and imports in Iraq. This test is a necessary condition, and the sufficient condition (error correction coefficient) and its conditions, which indicate the existence of a long-term relationship between the variables, must be verified.

**5-2 Results of estimating the parameters for the short and long term and the error correction coefficient:**

After verifying the existence of a long-term equilibrium relationship between the study variables according to the bounds test, it is necessary to obtain the estimates of the long and short term and the error correction coefficient. It is noted from Table (19) that the error correction coefficient takes a

negative sign and is also statistically significant at a level less than 5%, which means that -0.585330) 58% of the short-term errors are automatically corrected annually until they reach the level of equilibrium in the long term.

**Table (8) Estimation results of model parameters in the short run**

| Variable  | Estimation | Standard error | Test value<br>)t( | Prob.  |
|---|------------|----------------|-------------------|--------|
| D(BP)   | -0.017902  | 0.046811       | -0.382431         | 0.7110 |
| D(DP)   | -0.048656  | 0.034152       | -1.424714         | 0.1880 |
| CointEq(-1)   | -0.585330  | 0.044209       | -13.24006         | 0.0000 |
| Cointeq = EX - (0.1427*G + 0.0270*BP -0.0183*DB + 0.7832* |            |                |                   |        |

Source: The researcher based on the program Eviews12 .

And from the above table, which presents the parameters of the short term (error correction coefficient), it is evident that the coefficient is statistically significant in the short term. This means that there is a close relationship between the tools of fiscal policy (expenditures, revenues, net general budget, and public debt) and imports in the short term. This is logical due to the close linkage according to the Iraqi economy, which is a one-sided economy that does not have investments in the real sector, and if they exist, they do not constitute any percentage of the gross domestic product.

## 6- Test: Model Quality Tests

### 6-1 Autocorrelation Test:

According to this test, we verify that the estimated models are free from the problem of autocorrelation using the LM test. The results showed that the model does not suffer from autocorrelation problem. This means that we reject the alternative hypothesis and accept the null hypothesis, which states the absence of autocorrelation problem. This is because the value of Prob.Chisq is greater than 0.05, as shown in the table below.

**Table (9) Serial Correlation LM Test**

| Breusch-Godfrey Serial Correlation LM Test |          |                  |        |
|--|----------|------------------|--------|
| F-statistic                                | 1.413151 | Prob. F          | 0.2686 |
| Obs*                                       | 2.552128 | Prob .Chi-Square | 0.1101 |

Source: The researcher based on the program Eviews12 .

It can be observed from the table (9) that the model does not suffer from the problem of autocorrelation, and the reason for this is that imports are financed directly through public expenditures and indirectly through general revenues.

### 6-2 Heteroskedasticity Test:

According to this test, we verify that the estimated models are free from the problem of heteroskedasticity using the ARCH test.

**Table (10) Heteroscedasticity Test**

| )Heteroskedasticity Test: ARCH( |          |                 |        |
|---------------------------------|----------|-----------------|--------|
| F-statistic                     | 0.001025 | Prob. F         | 0.9749 |
| Obs*R-squared                   | 0.001172 | Prob.Chi-Square | 0.9727 |

Source: The researcher based on the program Eviews12 .

From Table (10), it is clear that the estimated models are free from the problem of heterogeneity of variance instability, which enhances the credibility and reliability of the model's results and its accuracy.

**6-3 Normality test of the residuals (Histogram-normality Test):**

The results related to the normal distribution of the residuals by the (Jarque-Bera) test, which tests the null hypothesis that the residuals are normally distributed and the alternative hypothesis that the residuals are not normally distributed, showed that the probability value of the (Jarque-Bera) test reached (0.194720), which is greater than the significance level of 5%. This means accepting the null hypothesis and rejecting the alternative hypothesis, i.e. the residuals are normally distributed, which enhances the credibility and reliability of the model's results and its accuracy.

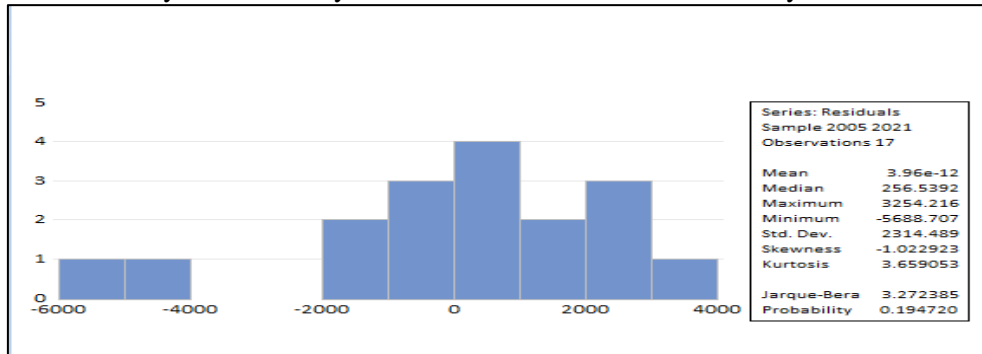


Figure (1) Normality Test

**7- CUSUM Stability Test:**

The CUSUM test is considered one of the auxiliary tests to ensure the stability of the parameters of the estimated ARDL model. This is determined through the cumulative sum of residuals (CUSUM) test. The estimated regression curve is plotted between the upper and lower bounds, as shown in the figure below, which indicates the stability of the structural parameters of the model. This enhances the credibility and reliability of the model's results and its accuracy.

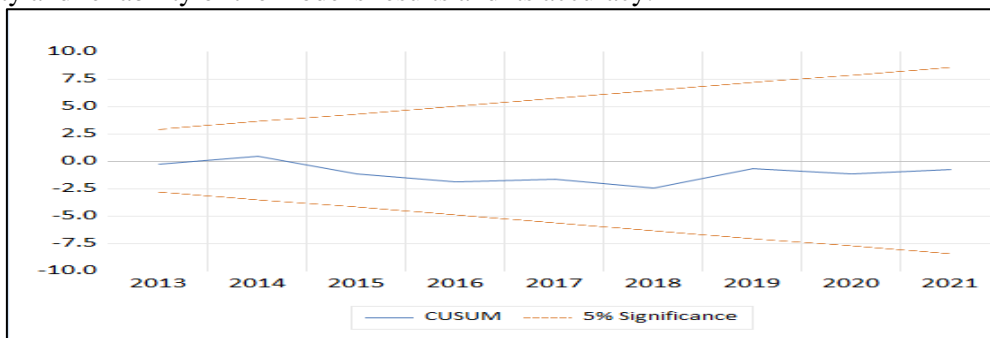


Figure (2) Stability Test (CUSUM)

**Conclusions:**

1- Current expenditures have accounted for a significant percentage of the overall expenditure structure, reaching approximately 77.8% during the study period. On the other hand, investment expenditures accounted for 22.2% of the total expenditures. This indicates a flaw in the mechanism of public expenditure distribution and a clear waste of public funds. Current expenditures are primarily consumption-oriented, with a very weak productivity or return compared to investment expenditures, which involve infrastructure development and support for productive sectors and the private sector.

2- The Iraqi trade balance suffers from structural imbalances due to its reliance on a single commodity, crude oil, in its commodity exports, which constitute the majority of total exports. As a result, domestic demand (government and private) for goods and services is met through imports. Iraq is a net importer of all goods and merchandise due to the low productivity of sectors and economic activities. This deepens the imbalance in the trade balance and has led to a continuous deficit in the non-oil trade balance throughout the study period.

3- The imbalance in the structure of public expenditures has led to an imbalance in Iraq's trade balance. Current expenditures contribute a higher percentage to the total public expenditure compared to investment expenditures. However, investment expenditures do not yield significant benefits due to

corruption in both financial and administrative aspects, as well as a weak investment environment and poor project implementation and delays. This has contributed to the increase in current expenditures, leading to an increase in individuals' purchasing power and consequently an increased demand for goods and services. Due to the weak domestic production of goods and services, the overall demand (individuals and government) is met through commodity imports. As a result, the expenditure cycle remains incomplete, causing an imbalance in the structure of the trade balance and a significant increase in imports of non-oil exports.

4- The standard model shows a causal relationship in one direction from the independent variable of public expenditures (G) to the dependent variable of imports (M). This means that an increase in public expenditure will lead to an increase in imports due to the lack of a productive base that supports domestic demand, thereby increasing reliance on imports.

5- There is a long-term equilibrium relationship between fiscal policy tools (expenditures, general revenues, budget surplus/deficit, and public debt) and imports in Iraq. There is also a strong relationship between fiscal policy tools (expenditures, revenues, general budget surplus/deficit, and public debt) and imports in the short term. This is logical considering the close interconnection in the one-sided Iraqi economy, which lacks investments in the real sector. If there are any investments, they do not constitute any proportion of the gross domestic product.

#### **Recommendations:**

1- The Iraqi government should invest the financial surpluses generated in the trade balance in developing and establishing the infrastructure for oil derivative production and petrochemical industries. This will contribute to diversifying exports, even in the medium term. In the future, financial surpluses should be taken into account to implement real diversification in other productive sectors (non-oil), thus helping to meet local demand through a range of interconnected trade and economic policies, ultimately achieving real growth and economic prosperity for all citizens in the country.

2- It is necessary to work towards creating a productive base aimed at economic diversification through investment of oil revenues, as well as enhancing investment opportunities in the hydrocarbon sector through crude oil refining, which works to reduce imports of oil and gas products from abroad.

3- Coordination between fiscal policy and trade policy is necessary through the tools of each. General revenues (customs tax) should be consistent with non-oil exports, as well as increasing public expenditures while reducing imports. Additionally, government debt should be invested in investment projects aimed at reducing the budget deficit and stimulating productive sectors.

4- Efforts should be made to invest the financial surpluses in the general budget, which occur during periods of rising oil prices in the global markets, in a sovereign fund regulated by a law that is voted on by the legislative authority to be binding.

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