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EFFECTIVENESS OF FISCAL POLICY IN REDUCING ECONOMIC INFLATION RATES IN IRAQ: A FINANCIAL, MONETARY MEASUREMENT, AND ANALYSIS

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ABSTRACT

Fiscal policy reflects the objectives set by the state, as it plays an effective role in alleviating and controlling the rates of economic inflation in the Iraqi economy. The problem of this study is that the causative factors of economic inflation in Iraq this is due to the diversity and interconnectedness of conditions related to structural imbalances and the economic, political, and security situations surrounding the Iraqi economy. This study will utilize a descriptive and quantitative methodology and approach. We have shown that a 1% increase in public expenditure growth leads to an increase in the price index, this finding is consistent with economic theory. However, the growth of public debt has been significant at the 5% level; a 1%, this is also consistent with economic theory. On the other hand, tax revenues were not significant because the p-value was 0.18, which is greater than 5%. Therefore, it had no significant effect on economic inflation.

KEYWORDS: Fiscal Policy, Economic, Inflation, Rates, Financial JEL Classification E60 E62.

1. INTRODUCTION

Regarding fiscal policy and economic inflation in Iraq, there are many studies that have clarified this relationship. The study (Abd, et. al, 2019) indicated the relationship between government expenditure and inflation in Iraq for the period 2004-2017. It highlighted the most significant economic problems that the Iraqi economy faced after 2003, in addition to examining the relationship between government expenditure, as a tool of fiscal policy, and inflation rates in Iraq. The study found that there is a long-term equilibrium relationship between government expenditure in Iraq and inflation rates during the study period, and there is also a causal relationship between government expenditure and inflation. Furthermore, the study indicated that the fiscal policy of increasing government expenditure creates a gap between total demand and total supply. This situation exposes the Iraqi economy to inflationary pressures, making it necessary to limit or reduce unnecessary current expenditure while giving greater emphasis to investment expenditure Fiscal policy is one of the most important policies and occupies a significant position among economists and economic policymakers because of its effectiveness and great impact on the state's public policy. In addition, it has the ability to influence all economic and social aspects through its capability to achieve its goals in various levels and fields of finance and economy. This enables access to the highest levels of economic activity, which can leave a significant impact on how to address problems and sudden economic fluctuations. In Iraq, fiscal policy is influenced by the nature of economic, social, and political conditions, as well as all the fluctuations that the country has experienced. This has had a major impact on all aspects of the Iraqi economy. Furthermore, since the Iraqi economy is considered a rentier economy, it largely depends on the revenues from natural resources to finance government revenues and the state budget. Therefore, the economy is subject to continuous fluctuations in oil prices, which in turn affects state revenues (Hussein & Al-Abed, 2022). While we observe in China through the main features of the Chinese financial system and its impact on economic growth in China, there is a relationship between fiscal policy variables and economic growth and stability, as local government expenditures have a greater impact on GDP growth than central government expenditures or net taxes, and it appears that fiscal policy, especially government spending, has a large and positive impact on output in the short and long term (Jungsuk, et al. 2021). As a result, the economy may be exposed to economic fluctuations that can lead to crises such as inflation, negatively influencing the local economy. Consequently, achieving economic stability has become one of the most important objectives of fiscal policy, employing various tools to correct the course of economic activity and narrow the inflationary gap to achieve economic stability. With this in mind, our study addressed the measurement of the impact of fiscal policy in reducing the phenomenon of inflation in the Iraqi economy, as well as the challenges and obstacles it faces in implementing fiscal policy and its effectiveness in achieving economic stability. We relied on some literature for the theoretical aspect, while in the analytical aspect. We utilized data from the Iraqi Ministry of Finance, the Central Bank of Iraq, the Iraqi Ministry of Planning, and various economic reports and government agencies to obtain statistics and data related to the study.

2. LITERATURE REVIEW

Regarding fiscal policy and economic inflation in Iraq, there are many studies that have clarified this relationship. The study (Fayhan & Noman, 2021) indicates the coordination between fiscal and monetary policies in Iraq and its impact on inflation rates for the period 2004-2019.The researchers used the autoregressive distributed lag (ARDL) model to explain the relationship between fiscal policy and economic inflation. In the theoretical aspect, the study followed a contractionary fiscal policy by rationalizing public expenditures and increasing public revenues. The empirical analysis also demonstrated that the long-term parameters indicate a direct relationship between public revenues and inflation on the one hand, and an inverse relationship between public expenditure and inflation on the other. Ding (2010) explained in his study that the main reason behind the increased effectiveness of Chinese fiscal policy is that China is usually in different transitional stages of economic development. As a result, the government has more space to respond appropriately in a number of areas such as public infrastructure, public service, and private consumption, which makes it more effective in facing sudden economic fluctuations. The study concluded that the main task of Chinese fiscal policy is to enhance the financial capacity of the central government, and maintain the smooth, sound, and sustainable development of the local economy at the same time. The study by (Hussein & Al-Abed, 2022) also examined the impact of fiscal policy on macroeconomic **variables in Iraq** an analytical econometric study for the period 2003-2020. It aimed to identify the most important developments in fiscal policy in the Iraqi economy and evaluate their impact descriptively and empirically on

macroeconomic variables, inflation, and unemployment in order to achieve economic and social stability. The results indicated that the parameters of fiscal policy, represented by public revenues, public expenditure, and the budget surplus or deficit, were not significant, meaning that the probability of the parameters was greater than 5%. This suggests that fiscal policy in Iraq has no effect on inflation and unemployment rates. Yuhan (2019) pointed out that the Chinese economy has adopted an active fiscal policy twice. In 1998, the government adopted an active fiscal policy to counter the negative impact of the Asian financial crisis. The second was in the second half of 2008, when the central government announced its fiscal policy in order to counter the negative impact of the US subprime mortgage crisis. The main goal of China's active fiscal policy is to increase financial spending and domestic demand by issuing additional treasury bonds to enhance infrastructure. This is to increase government investment and then achieve economic growth. This came as a result of tax regulation and improving the structure of public spending in the face of crises. His study concluded that the Chinese economy had achieved economic growth of 8% between 1998 and 2004, and the GDP growth rate increased steadily. The data showed that fiscal policies had a positive impact on the Chinese economy. With the implementation of the second round of active fiscal policy, the GDP growth rate reached 9.2% in 2009, 10.3% in 2010 and 9.3% in 2011. The government also followed active fiscal policies, in tax adjustment, social security system reform, rural reform, and tax and fee reform. From the spending point of view, the role of fiscal spending after entering the new normal is becoming increasingly important, and the implementation should be within the scope of controlling fiscal risks. The spending structure should be optimized, the efficiency of using funds should be improved, such as supporting innovation and scientific and technological development, increasing spending on people's livelihood and education, and reducing administrative and other miscellaneous expenses, so as to make good use of funds. In the study (Ali & Taha, 2021) titled "Financing the Public Budget Deficit and Its Impact on Inflation in Iraq for the Period 2004-2018," the focus was on the methods of financing the budget deficit, which is considered one of the important topics because it determines the extent of the impact that these methods can have on economic inflation rates. The study followed an ARDL model to estimate the impact of deficit financing on inflation rates. There was a short-term inverse relationship between public debt, as a tool of fiscal policy, and inflation rates; however, in the long term, there was a direct relationship between them. The reason for this is that increasing funding in the public budget leads to increased liquidity, which in turn results in greater internal and external borrowing. Meanwhile, the study (Abd, et. al, 2019) indicated the relationship between government expenditure and inflation in Iraq for the period 2004-2017. It highlighted the most significant economic problems that the Iraqi economy faced after 2003, in addition to examining the relationship between government expenditure, as a tool of fiscal policy, and inflation rates in Iraq. The study found that there is a long-term equilibrium relationship between government expenditure in Iraq and inflation rates during the study period, and there is also a causal relationship between government expenditure and inflation. Furthermore, the study indicated that the fiscal policy of increasing government expenditure creates a gap between total demand and total supply. This situation exposes the Iraqi economy to inflationary pressures, making it necessary to limit or reduce unnecessary current expenditure while giving greater emphasis to investment expenditure.

2.1. Fiscal Policy

Fiscal policy holds a significant position among economic policies, as it represents a major tool that the government can use to direct the course of economic activity and address any shocks or crises it may encounter. Thanks to its instruments, fiscal policy can achieve desirable rates and relative stability in prices, as well as redistribute income fairly. Fiscal policy empowers the government to intervene in economic life through its economic tools to achieve new economic, social, and political goals. This approach allows for the management of prevailing economic conditions, whether in a state of recession or inflation. Fiscal policy is characterized by the optimal use of public financial instruments through revenue programs and government expenditure, which influence macroeconomic variables such as gross domestic product, investments, and other economic factors. The aim is to achieve desired economic and social effects while avoiding undesirable consequences that can create negative impacts on macroeconomic variables (Abdullah, 2023). It is important to highlight the fiscal policy in Iraq by examining the features of the state's public budget. One of its most significant characteristics is the dominance of oil revenues in financing it, as they constitute approximately 92% of total public revenues. Consequently, Iraq's financial and economic performance heavily depends on these oil revenues (Muhammad & Naseef, 2019; Al-Sultan, Alkarawy & Abdulridha 2024). The Iraqi economy may flourish due to the positive supply shock and the rise in oil prices, which in turn increases the oil revenues of the Iraqi

economy and subsequently boosts public revenues. Conversely, it shrinks and contracts due to negative supply shocks and a decline in oil prices, leading to a decrease in public revenues, which corresponds to an increase in expenditure relative to the level of revenue in the economy. This situation is reminiscent of the bathtub theory in current financial economic thought, which emphasizes the role of a single dynamic stabilizer (Al-Hayyali, 2023). Fiscal policy in the Iraqi economy seeks to achieve multiple objectives. It aims to achieve economic balance and the optimal ratio between available local economic resources and public budget expenditures. This, in turn, reflects on the real growth of the gross domestic product, which is also evident in the average per capita share of the gross domestic product. Additionally, fiscal policy aims to achieve economic stability and mitigate the severity of economic and financial fluctuations that occur at the level of economic activity. It also focuses on redistributing income and wealth among individuals to reduce disparities in income distribution and reallocating resources among economic sectors (Saud, 2023). Fiscal policy, through its tools of public revenues, public expenditures, and public debt, can affect key economic variables such as production, employment, utilization, and inflation. In the event of a recession or depression, fiscal policy can address this situation by adopting an expansionary approach, which involves making public expenditures exceed public revenues. This is achieved by expanding the scope of investment and consumption expenditures while reducing tax levels. Conversely, in the event of inflation, the state adopts a contraction fiscal policy that reduces public expenditures and increases tax rates. This leads to an increase in public revenues and a surplus in the public budget.

2.2. Economic Inflation

Economic inflation is one of the economic problems or phenomena rooted in the history of economic thought, as its existence is related to the emergence of economic systems. Economic inflation is defined as the general and continuous rise in the level of prices, without being limited to a specific period or a specific number of goods. Therefore, it is a complex and dynamic problem shaped by both monetary and structural factors, such as the decline in the purchasing power of the monetary unit, the structural imbalance in the commodity and service sectors, the weakening role of GDP formation, and the inadequacy of the components of the labor force within the economy (Al-Nadawi, 2023). When considering the problem of economic inflation in Iraq, which has been rooted for a long time extending back nearly three decades, it is linked to the fact that the Iraqi economy is, by nature, a one-sided economy that depends heavily on the oil sector for its public revenues and expenditures. This dependence ties it to external economies that are often volatile and unstable. Additionally, there is an imbalance between the strength of total supply and total demand due to the inflexibility of the production apparatus in responding to the pattern and size of demand. This, along with the lack of clear economic programs to guide all economic sectors, leads to confusion and a rise in the general level of prices. Moreover, the national currency is linked to the foreign currency, the dollar, which is typically characterized by volatility. Other reasons for economic inflation in Iraq include increased government expenditure and the money supply, which increases the amount of money in the economy. This situation emerged after 2003, when rising oil prices led to an increase in state revenues. In turn, this leads to an increase in government expenditure and the money supply, which contributes to expanding investment opportunities and large projects. This influx of local and foreign companies can further result in an increase in the general level of prices. All of these reasons can play an effective role in the emergence of economic inflation in Iraq (Al-Heiti et, al. 2010).

2.3. Analysis of Fiscal Policy Indicators and Inflation Rates in Iraq

2.3.1. Analysis of the Development of the Public Revenue Indicator

Public revenues are one of the fiscal policy tools used to cover public expenditures in Iraq. Oil revenues constitute the largest part of public revenues. Iraq is a rentier country. Additionally, Iraq is one of the most important oil-producing countries and occupies an advanced position among oil-producing nations due to its vast reserves. Please note that Iraq is a member of OPEC (Al-Marsoumi, 2011). The structure of public revenues in Iraq consists of oil revenues, tax revenues, and other revenues. It includes government properties such as houses and lands, revenues from central government services represented by fees, the budget's share of the profits from public sector companies, and others (Al-Jumeili & Al-Dahlaki, 2023: 206). Figure (1) shows the percentage contribution of various revenue sources to the formation of public revenues in Iraq in 2023. The largest percentage of contribution to public revenues was from oil revenues and mineral resources, estimated at 91.71%, while the lowest percentage was from capital revenues, forming 0.12%. The contribution of tax revenues amounted to

3.36%.

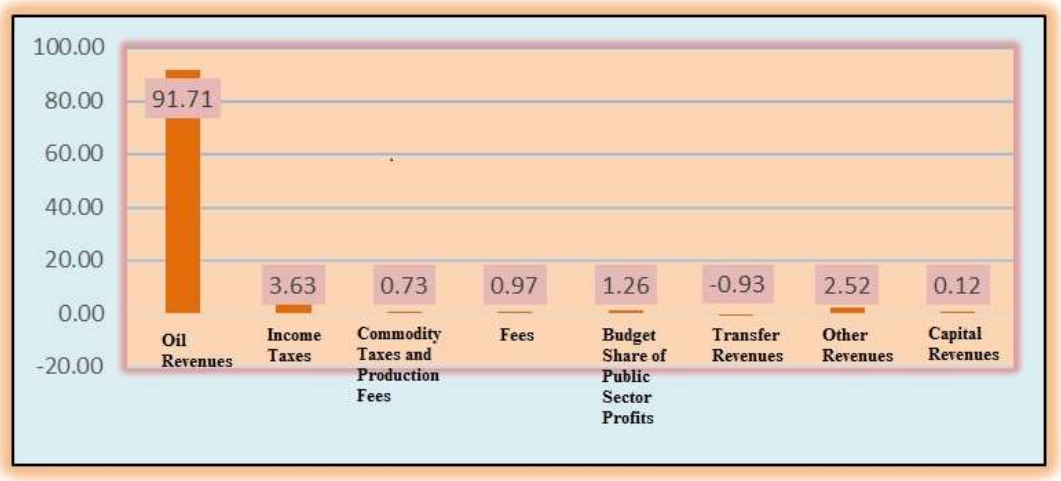

Figure 1: Contribution ratios to Public Revenues.
Source: Iraqi Ministry of Finance, Budget Department, Final Accounts for the 2023 Budget. https://www.mof.gov.iq/pages/ar/AbtBudget.aspx.

The developments in the annual growth rate of public revenues can be observed through Figure (2), as there were many fluctuations and transformations that public revenues were exposed to. At the beginning of 2005, the Iraqi economy witnessed an important transformation from a centralized system to a free and open economy in relation to the global economy. Public revenues recorded an annual growth rate of 22.8% in 2005, as a result of improving economic conditions and rising global oil prices, which reflected an increase in oil revenues due to higher oil exports, until the annual growth rate reached 47% in 2008 (Muhammad & Naseef,2019). In 2009, public revenues declined to a negative annual growth rate of -31.2%. The reason for this decline was the repercussions of the global financial crisis, as the price of one barrel reached 61 dollars. As the Iraqi economy is a rentier economy, public revenues are subject to continuous fluctuations due to fluctuations in global oil prices (Qassem & Ahmed, 2021). But this decline did not last long. Public revenues began to rise during 2010-2012 as a result of the improvements in global oil markets and the recovery of global demand for oil. Prices exceeded one hundred dollars per barrel, reaching 109.45 dollars per barrel during 2012. This period is considered a golden era for global markets in terms of demand and oil prices (OPEC annual statistical bulletins). While the period from 2013 to 2016 witnessed a significant decline in public revenues, recording negative annual growth rates of -18.1% in 2016, the reason for this negative trend was the double crisis that the Iraqi economy was exposed to. There was deterioration in the security and internal situation in Iraq, with the infrastructure of the oil wells being sabotaged and controlled by certain groups on one hand, and a glut in the supply of oil in the global markets on the other (Al-Kubaisi & Al-Lami, 2018). Then there was an improvement during the years 2017-2018, continuing until 2019, when the growth rate reached 0.9%. The period from 2020 to 2023 was volatile due to the Iraqi economy being exposed to a triple crisis in 2020, represented by the government formation crisis following the October 2019 demonstrations, the COVID-19 pandemic, and the sharp decline in oil prices. All of these factors led to a contraction of the Iraqi economy by 6.8% and the emergence of serious economic challenges (Karim & Bakheet, 2024). The last few years have been characterized by instability, mainly due to lower oil revenues that decreased by 19%. This is a significant percentage as it constitutes the largest part of public revenues. While there was an increase in revenues from other sectors, the Iraqi economy still experienced a phase of economic contraction, which affected the level of economic activity. Therefore, we can point out that the Iraqi economy is moving towards the compass of the oil sector, which the strategic sector and the main pillar of the Iraqi economy's revenues (Central Bank of Iraq, 2023).

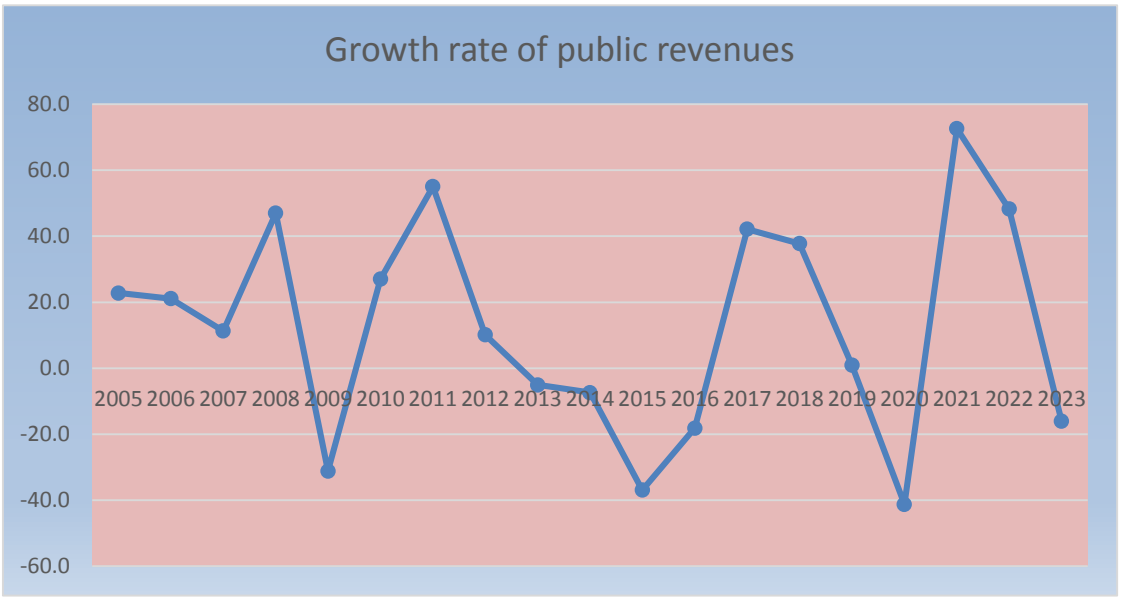

Figure 2. Annual Growth Rate of Public Revenues in Iraq for the period (2005-2023).
Source: Central Bank of Iraq, Department of Statistics and Research, Annual Statistical Bulletin, 2004-2023. https://www.cbi.iq/news/section/4

2.3.2. Analysis of the Development of the Public Expenditure Indicator

Overhead expenses represent the mechanism and pattern of government expenditure according to annual allocations in the public and federal budget. These expenses encompass payments, financial obligations, and cash amounts that the state spends to meet the needs and requirements of various activities assigned to it. This is done through the classification of public expenditures, which are distributed based on current and investment expenditures (Aday, 2021: 13). Perhaps clarification is needed these contributions are shown in Figures (3) and (4):

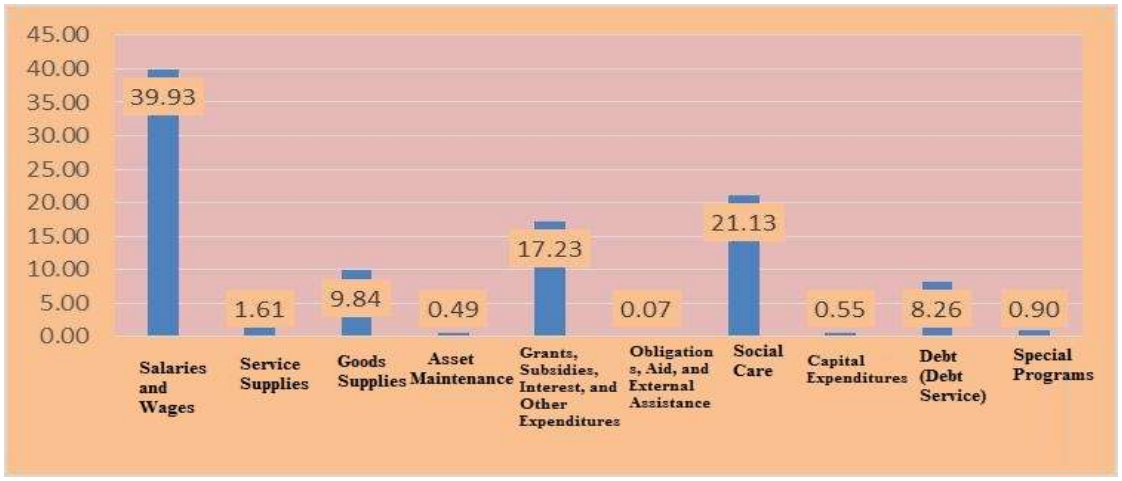

Figure 3: Percentage of Current Expenditures' Contribution to Public Expenditures in the Year (2023).
Source: Iraqi Ministry of Finance, Budget Department, Final Accounts for the 2023 Budget. https://www.mof.gov.iq/pages/ar/AbtBudget.aspx

In Figure (3), it appears that salaries and wages constitute the largest percentage of current expenditures for the year 2023, amounting to 39.93%. In contrast, obligations, contributions, and aid constitute the lowest percentage of current expenditures, at only 0.07% of those expenses.

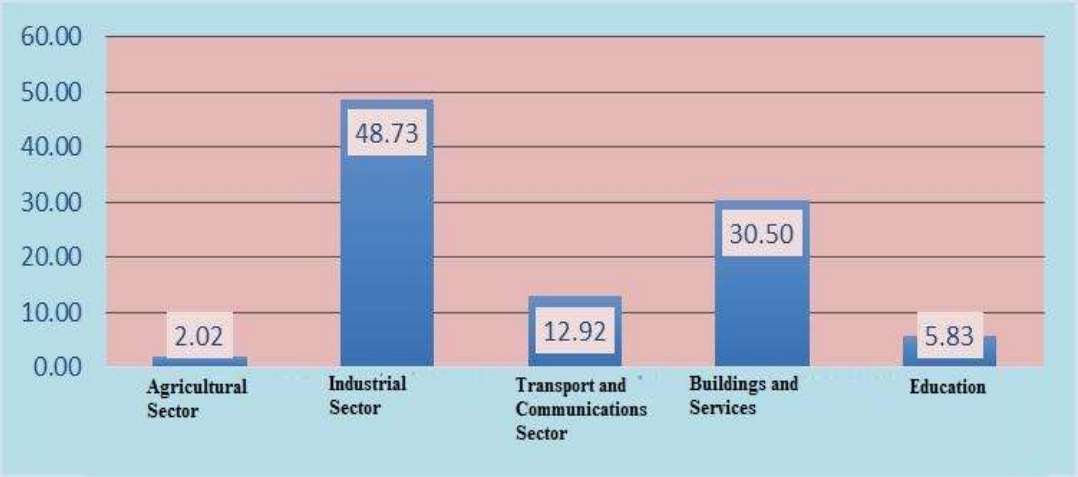

Figure 4: Percentage of Investment Expenditures' Contribution by Sector to Public Expenditures in (2023).
Source: Iraqi Ministry of Finance, Budget Department, Final Accounts for the 2023 Budget.
https://www.mof.gov.iq/pages/ar/AbtBudget.aspx

In Figure (4), we notice that the percentage of investment expenditures in Iraq was recorded by the industrial sector and the buildings and services sector at high rates compared to the rest of the sectors, with rates of 48.73% and 30.5%, respectively, of the total public expenditures. In contrast, the agricultural sector recorded only 2.02% compared to other sectors, which is the lowest investment expense ratio. We should also note the developments in the annual growth rate of public expenditures in Iraq for the period 2004-2023, as shown in Figure (5).

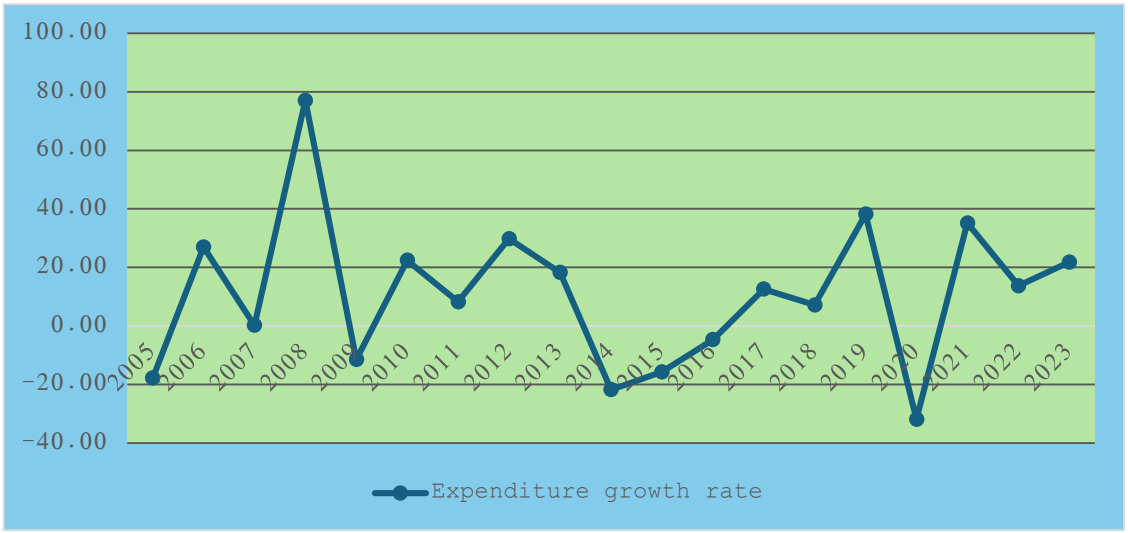

Figure 5: Development of the Annual Growth Rate of Public Expenditures in Iraq for the period (2005-2023).
Source: Central Bank of Iraq, Department of Statistics and Research, Annual Statistical Bulletin, (2004-2023).
https://www.cbi.iq/news/section/4

Figure (5) shows that there are different trends in public expenditures and their economic growth rates. The annual growth rate of public expenditures in 2005 reached 17.88%. This decline followed an expansion in public expenditures and the damages that affected the Iraqi economy after the 2003 war, which impacted infrastructure and various sectors. There was an attempt to improve the economic situation, leading to a reconsideration of public expenditures in 2005 after the major expansion that occurred in 2004 (Al-Shammari & Al-Shannari, 2021). The state public budget was submitted in accordance with the Financial Management Law concerning public debt in 2004, and fiscal policy was aligned with the terms of the International Monetary Fund and the International Compact document. This imposed financial austerity measures to address the budget deficit, accompanied by a policy of economic

exposure and a reduction in the state's economic and social role. This was the first budget issued after 2003 (Muhammad & Naseef, 2019). While 2008 saw a significant increase in public expenditures, with the growth rate reaching 77.08% due to the rise in global oil prices specifically, Brent Basra oil recorded 92.08 dollars per barrel this year this indicates an increase in oil revenues. Therefore, public revenues are reflected in public expenditures. Current expenditures, especially salaries, have also increased, along with the repayment of public debt and its interest (Muhammad & Naseef, 2019). While public expenditures decreased in 2009 by -11.51%, this decline may be attributed to the global financial crisis and its impact on oil prices in world markets. However, there was an improvement in public expenditures during the period 2010-2013, as world oil prices exceeded the one hundred dollars per barrel mark. During the period 2014-2016, there was a decline in the growth rate of public expenditures, which recorded (-21.82%, -15.75%, -4.73%). This decline occurred in succession due to the double crisis. The first crisis that Iraq faced was a drop in oil prices in global markets, which affected budget financing in the Iraqi economy. The second crisis was the failure to approve the budget, compounded by the ongoing repercussions of political and security developments. This situation led to a reduction in public expenditure below the required level (Ministry of Finance, 2019). As for the period 2017-2023, we note fluctuations in the growth rates of public expenditures, with increases at times and decreases at others. From 2017 to 2019, there were aspirations for the state to alleviate poverty by supporting the displaced and enhancing social care. However, a decline was observed in 2020, with the growth rate recording -31.9% due to the spread of the COVID-19 pandemic, which restricted both economic activity and oil exports (Dahman & Nariman, 2021). When reviewing the years 2021-2023, public expenditures achieved positive growth rates in 2023, reaching 21.78%.

2.3.3. Analysis of the Development of the Public Debt Indicator

Public debt is divided into two parts internal debt and external debt, both of which are directly related to the public budget deficit. In the Iraqi economy, internal debt is the main pillar for financing the public budget to cover the deficit resulting from the volatile circumstances the economy is experiencing. Iraq's domestic debt is derived from the cash balance at the Central Bank, government bonds, and central treasury transfers. It is financed by the monetary authorities, represented by the Central Bank of Iraq, when there is no ability to issue long-term loans. Meanwhile, external debt refers to borrowing from foreign financial institutions (Sabah & Jabar, 2022). Note the developments in public debt in Iraq as shown in Figure (6).

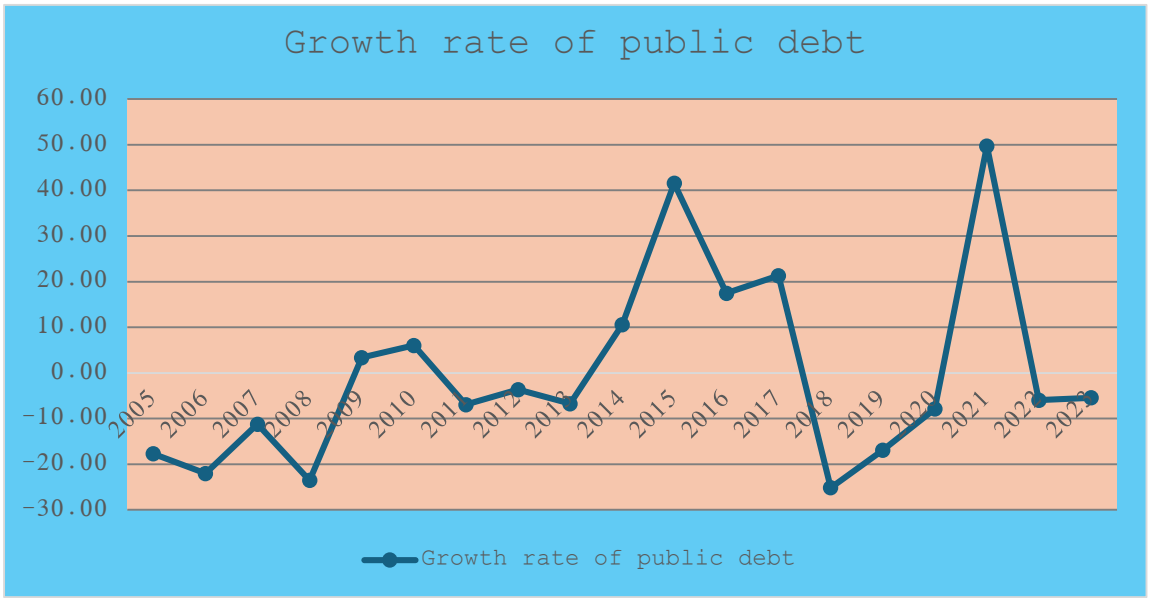

Figure 6: Annual Growth Rate of Public Debt in Iraq for the Period (2005-2023).
Source: Central Bank of Iraq, Department of Statistics and Research, Annual Statistical Bulletin, (2004-2023). https://www.cbi.iq/news/section/4

When analyzing the public debt index, we notice that the period from 2005 to 2008 had negative

growth rates for public debt of -17.71% and -23.53%, respectively. As a result of the improvement in the level of economic activity, especially after the end of economic sanctions and the increase in crude oil exports to global markets, government revenues increased. A portion of these revenues was used to pay off debts (Naji & Naji, 2023). During the period from 2013 to 2018, there was oscillation in the growth rate of public debt due to the military operations that took place in some Iraqi governorates, which led to increased military expenditure, in addition to a decline in oil prices in global markets. This had a negative impact on public debt. There was also a marked rise in the annual growth rate of 11.80% in 2020, due to increased government expenditure on the health sector as a result of the outbreak of the COVID-19 pandemic. However, after that, there was fluctuation in the annual growth rate of public debt in Iraq, which reached 1.19% for the year 2023, after being 48.61% in 2022.

2.3.4. Analysis of the Development of the Inflation Rate and the Price Index

The developments in inflation rates and the price index can be observed in Figure (7). We note that the consumer price index in the Iraqi economy reached 25.98% in 2004, while there was a rise in the inflation rate in 2005-2006, reaching 37.09% and 53.11%, respectively. The general price levels were 35.62% and 54.53% for the same period. One reason for this increase was the rise in the interest rate imposed by the Central Bank, estimated at about 47%, in addition to the expansion of government expenditures characterized by consumerism (Faihan, & Naaman, 2021). There was also an increase in the size of the money supply by about 11.3 trillion dinars, due to the increase in salaries and wages for state employees and the increase in money through local real estate (Jabbar, 2006). During the period from 2007 to 2010, there was a decline in inflation rates and the general price level. As a result of following a fiscal policy, government expenditure was reduced, while monetary policy focused on lowering the interest rates on loans and deposits to stimulate the Iraqi Economy (Majid et. al, 2022). The inflation rate reached 2.46% in 2010 compared to 30.89% in 2007. The period from 2011 to 2017 witnessed a gradual decline in inflation rates, reaching 0.40% in 2017 after being 5.60% in 2011. This disparity was a result of the political and security situation, as there was an expansion in public expenditure due to the reconstruction of liberated areas, in addition to the decline in oil prices, which influenced the economic recession in Iraq. The price of one barrel reached 69.8 dollars in 2018, while the inflation rate recorded a negative value of -0.13% and a general price level of 106.42%. This was a result of the decline in global oil prices, with a barrel of oil priced at 64 dollars. The global economic growth rate in the same year reached 2.8% (Duhaim. 2023). As for the period from 2020 to 2023, there was an increase in the inflation rate and the price index. This reliance on imported materials to meet basic consumption needs pushed prices up, along with the rise in oil prices, the re-evaluation of the dinar exchange rate against the dollar, and the increase in the dollar exchange rate. This situation, especially in 2021, reflected on overall economic activity and subsequent inflation rates.

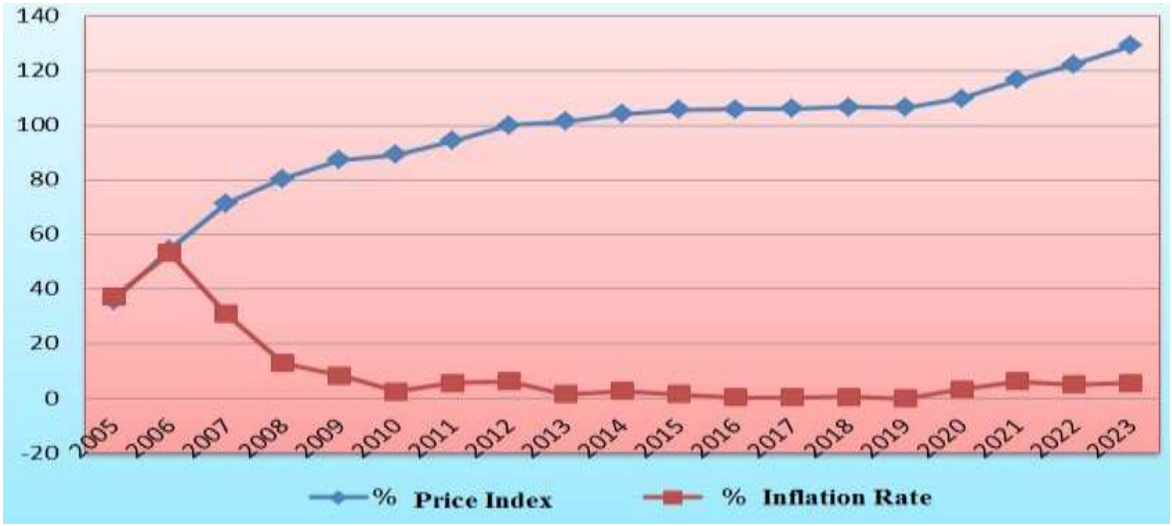

Figure 7: Inflation Rates and the Price Index in Iraq for the Period from (2005-2023).
Source: Central Bank of Iraq, Department of Statistics and Research, Annual Statistical Bulletin, (2004-2023). https://www.cbi.iq/news/section/4

3. METHODOLOGY

A. Quantitative Model

3.1. Description of the Results of the Time Series Stationarity Test

Before testing the time series, we begin by describing the model used to measure the impact of fiscal policy variables on the Consumer Price Index (CPI), which expresses economic inflation, as follows:

CPI = f (GR, DB, TR)

Where:

CPI: Consumer Price Index

GR: Growth in Government Expenditure

TR: Tax Revenue Growth

DB: Public Debt Growth

Semi-annual data for the aforementioned variables will be used for the period 2005-2023, In order to increase the number of views to obtain more accurate results. First, we conduct a stability test for the time series. Based on the results shown in Table (1), we observe that the dependent variable (CPI) did not stabilize at the level, while the independent variables (GR, DB, TR) stabilized at the level, regardless of whether there is a break, a trend, or both, at significance levels of 5% and 10%. Thus, the CPI will be integrated of order I(0). The test was then performed after taking the first differences. The results show that the dependent variable stabilized in the presence of a break or without a break and a trend at a significance level of 5%. It will be integrated of order I (1). As for the independent variables, they were stable with the first differences at significance levels of 5% and 10%. After completing the stability test, we will estimate the relationship using the ARDL model.

3.1.1. Model Estimation of ARDL for the Inflation Function

The inflation function was estimated. The results show that the explanatory power of the estimated model (R^2 = 0.991) is high, with an adjusted R-squared value of 0.985. This indicates that the independent variables included in the estimated model explain 99% of the changes in the dependent variable. The model is considered valid as it has a calculated F value of 164.71, which is significant at the 5% level, according to the Prop F value (0.00000). Therefore, the estimated model is statistically significant, leading us to reject the null hypothesis (H□: b = 0) and accept the alternative hypothesis (H□: b ≠ 0).

Table 1: Augmented Dickey-Fuller Time Series Test.

UNIT ROOT TEST RESULTS TABLE (ADF)					
		At Level			
		CPI	GR	TR	DB
With Constant	t-Statistic	0.1220	-3.1221	-2.0649	-2.9326
	Prob.	*0.9628*	*0.0346*	*0.2594*	*0.0530*
	Significant	n0	**	n0	*
With Constant & Trend	t-Statistic	-2.1484	-3.2913	-3.1127	-2.8640
	Prob.	*0.5017*	*0.0853*	*0.1201*	*0.1871*
	Significant	n0	*	n0	n0
Without Constant & Trend	t-Statistic	1.3145	-2.1757	-2.2830	-3.0095
	Prob.	*0.9493*	*0.0304*	*0.0240*	*0.0039*
	Significant	n0	**	**	***
	At First Difference				
		d(CPI)	d(GR)	d(TR)	d(DB)
With Constant	t-Statistic	-3.1961	-3.9006	-3.7601	-1.7486
	Prob.	*0.0290*	*0.0054*	*0.0082*	*0.3979*
	Significant	**	***	***	n0
With Constant & Trend	t-Statistic	-1.7815	-3.8363	-3.9210	-3.0676
	Prob.	*0.6915*	*0.0274*	*0.0240*	*0.1331*
	Significant	n0	**	**	n0
Without Constant & Trend	t-Statistic	-3.1300	-10.4739	-3.9841	-1.7792
	Prob.	*0.0027*	*0.0000*	*0.0002*	*0.0717*
	Significant	***	***	***	*
Notes:					
a: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1% and (no) Not Significant					

Source: Prepared by Researchers based on the Program Outputs from EViews 9.

3.2. Model Estimation of ARDL for the Inflation Function

Before analyzing the results of the ARDL model, **it is necessary to state some of the characteristics of this model (Hassan, 2023:57)**

- This model is used for small samples of less than 80 observations.

- This method is used regardless of whether the regression is of order I (0) or of order I (1) in the case of a mixture of both.
- This model uses a sufficient number of slowing periods to reach the optimal crying periods for each variable.

The inflation function was estimated. The results show that the explanatory power of the estimated model (R^2 = 0.991) is high, with an adjusted R-squared value of 0.985. This indicates that the independent variables included in the estimated model explain 99% of the changes in the dependent variable. The model is considered valid as it has a calculated F value of 164.71, which is significant at the 5% level, according to the Prop F value (0.00000). Therefore, the estimated model is statistically significant, leading us to reject the null hypothesis (H□: b = 0) and accept the alternative hypothesis (H□: b ≠ 0).

Table 2: Results of Model Estimation of the Inflation Function.

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
CPI(-1)	0.094374	0.099834	0.945306	0.3564
CPI(-2)	0.765078	0.093666	8.168171	0.0000
GR	0.035155	0.036043	0.975352	0.3416
GR(-1)	-0.044802	0.056552	-0.792231	0.4380
GR(-2)	-0.030619	0.066167	-0.462752	0.6488
GR(-3)	-0.009392	0.055671	-0.168708	0.8678
GR(-4)	-0.075125	0.036935	-2.033970	0.0562
TR	0.011915	0.007743	1.538773	0.1403
DB	-0.000187	0.027263	-0.006868	0.9946
DB(-1)	-0.051159	0.047408	-1.079110	0.2940
DB(-2)	-0.016753	0.059173	-0.283116	0.7801
DB(-3)	-0.039204	0.060815	-0.644652	0.5269
DB(-4)	-0.101644	0.039125	-2.597965	0.0177
C	17.96333	2.695409	6.664417	0.0000
R-squared	0.991205	Mean dependent var		101.3476
Adjusted R-squared	0.985187	S.D. dependent var		13.67625
S.E. of regression	1.664491	Akaike info criterion		4.153332
Sum squared resid	52.64006	Schwarz criterion		4.788214
Log likelihood	-54.52997	Hannan-Quinn criter.		4.366950
F-statistic	164.7181	Durbin-Watson stat		1.575895
Prob(F-statistic)	0.000000			

Source: Prepared by Researchers based on the Program Outputs from EViews 9.

From Figure (8), 20 functions were estimated to determine the optimal function with the lowest value for the Akaike criterion. The optimal function was identified as (2, 4, 0, 4), with an Akaike standard value of (4.15). Thus, the optimal indicator was determined without any issues in measuring economic variables.

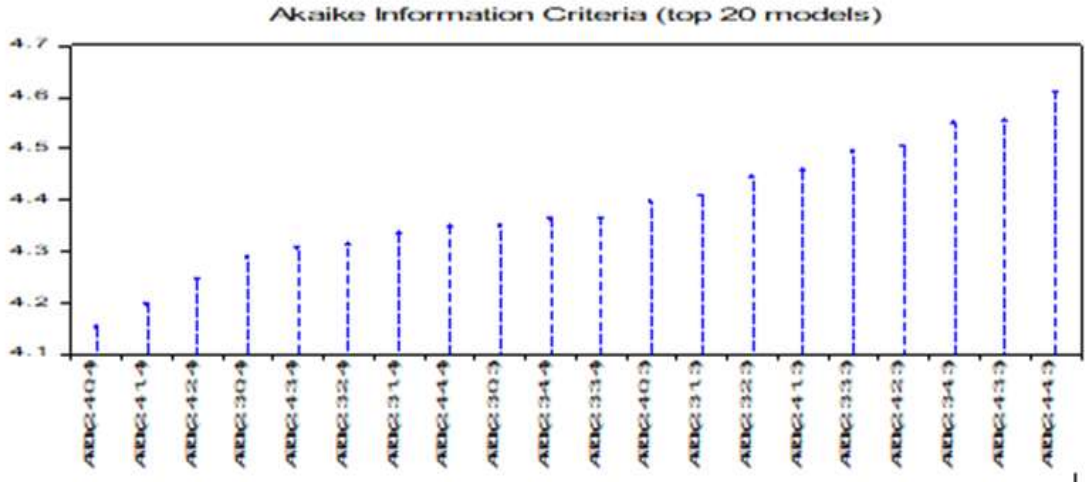

Figure 8: Optimal Backwardness Test for the Estimated Model.
Source: Prepared by researchers based on the program outputs from EViews 9.

3.2.1. Bounds Test

The bounds test shows that there is a long-run equilibrium relationship between the variables. The test results are presented in Table (3). The value of the F-statistic reached 24.66, which is above the upper limit value of 5.61 at the 1% significance level. Therefore, we reject the null hypothesis and accept the alternative hypothesis, which states the existence of a long-term equilibrium relationship between the economic variables.

Table 3: Results of the Bounds Test.

Test Statistic	Value	K
F-statistic	24.66818	3
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Source: Prepared by researchers based on the program outputs from EViews 9.

3.2.2. Model Quality Tests

i. Serial Correlation Test: We note from Table (4) that the estimated model is free of serial correlation. Therefore, we accept the null hypothesis that there is no serial correlation between the residuals. We reject the alternative hypothesis because the test values (Chi-Square, F) are not significant at the 5% significance level, as the p-values are greater than 5%.

Table 4: Test Results: Serial Correlation.

Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.852947	17)،Prob. F(2	0.4436
Obs*R-squared	3.009451	Prob. Chi-Square(2)	0.2221

ii. Heteroscedasticity Test: Table (5) shows the results of the heteroscedasticity test. The estimated model is free of the heteroscedasticity problem, as the statistical indicators were not significant at the 5% level. The p-value was greater than 5%, indicating that the variance of errors is homogeneous.

Table 5: Results of the Heteroscedasticity Test.

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.264204	Prob. F(13،19)	0.9911
Obs*R-squared	5.052161	Prob. Chi-Square(13)	0.9740
Scaled explained SS	1.137799	Prob. Chi-Square(13)	1.0000

Source: Prepared by researchers based on the program outputs from EViews 9.

iii. Normal Distribution Test: A normal distribution test has been conducted. The test results are shown in

Figure (9). The test value (Jarque-Bera) was (0.87), which is not significant at the 5% level, as the value of (Prob = 0.64) is greater than 5%. Therefore, the errors are normally distributed.

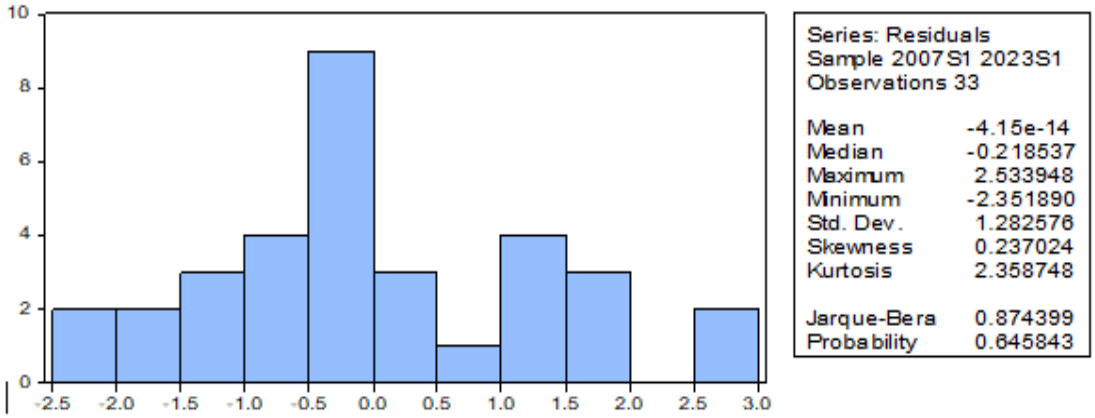

Figure 9: Normal Distribution Test.
Source: Prepared by researchers based on the program outputs from EViews 9.

4. RESULTS AND DISCUSSION

4.1. Stability Test of the Estimated Model

The stability of the estimated model was tested, as shown in Figure (10). We notice from part A that the cumulative sum of residuals (CUSUM), represented by the blue line, was within the critical values (red lines) at the 5% significance level. This indicates the stability of the estimated parameters.

In part B, the cumulative sum of squares of the residuals (CUSUM of Squares), represented by the blue line, was also within the limits of critical values (red lines) at the 5% significance level, except for some points that were within critical limits.

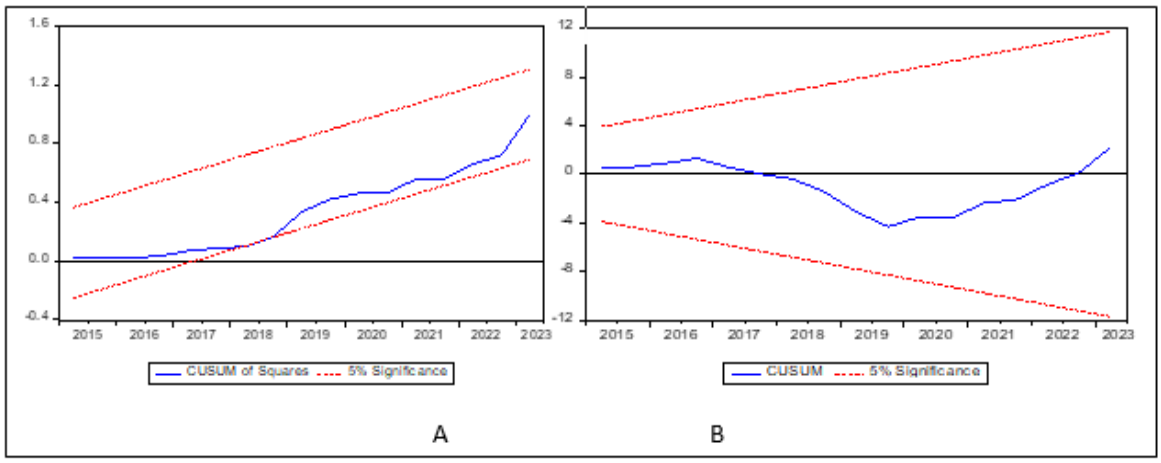

Figure 10: Stability Test of the Estimated Model.

4.2. Error Correction Model Analysis and Long-Run Relationship

We note from Table (6) that all short-term parameters of the independent. Variables were insignificant at the 5% and 10% levels, according to the values of Prob. Exceptions were (GR (-3) and DB (-3)), where GR is significant at the 10% level with a value of (0.0562), which is less than 10%. Thus, an increase of 1% in growth (GR (-3)) increases the CPI in the current period by (0.075%). This is consistent with the principles of economic theory, as the impact of public expenditure in previous periods has a weak effect on the general price level in the current period. This may be due to the role of the currency selling window in maintaining the stability of exchange rates, which in turn helps maintain the general level of prices. However, DB (-3) was significant at the 5% level, with a value of (0.0177), which is less than 5%. Thus, a 1% increase in public debt growth leads to an increase in the CPI in the current period of (0.1016%). This finding aligns with economic theory, as public debt is often

funded in part by consumer expenditure, leading to an inflationary effect on the economy. We also note that the error correction parameter reached (-0.14), which is negative and significant at the 5% level, with a value of (0.0000), which is less than 5%. This indicates that short-term deviations are corrected by 14% towards the long-term equilibrium value during the same period, where the adjustment speed is very slow in the model. Therefore, there is a long-term equilibrium relationship. As for the long-term relationship, we observe that (GR and DB) were significant at the 5% level, with Prob values of (0.0004 and 0.0058) respectively, which are both less than 5%. Each 1% increase in the growth of (GR) leads to a decrease in Consumer Price Index (CPI) by (0.88%) respectively. This is consistent with economic logic, especially if government expenditure is directed towards investment expenditure, and each 1% increase in the growth of (BD (leads to a decrease in Consumer Price Index (CPI) by (1.48%) respectively. This is consistent with economic logic, because government borrowing from individuals and the banking system leads to a reduction in the liquidity available in the economy, which will lead to a decrease Consumer Price Index (CPI). As for tax revenues, they were insignificant, with a Prob value of (0.18), which is greater than 5%. Therefore, they did not have a significant impact on inflation due to the limited nature of these revenues, which did not exceed 9% of public revenues in the best of circumstances and their heavy dependence on oil revenues, as well as a weak tax system that contributes to the spread of financial and administrative corruption.

Table 6: Error Correction Model and Long-Term Relationship.

Cointegrating Form				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(CPI(-1))	0.765078	0.093666	8.168171	0.0000
D(GR)	0.035155	0.036043	0.975352	0.3416
D(GR(-1))	0.030619	0.066167	0.462752	0.6488
D(GR(-2))	0.009392	0.055671	0.168708	0.8678
D(GR(-3))	0.075125	0.036935	2.033970	0.0562
D(TR)	0.011915	0.007743	1.538773	0.1403
D(DB)	-0.000187	0.027263	-0.006868	0.9946
D(DB(-1))	0.016753	0.059173	0.283116	0.7801
D(DB(-2))	0.039204	0.060815	0.644652	0.5269
D(DB(-3))	0.101644	0.039125	2.597965	0.0177
CointEq(-1)	-0.140548	0.024574	-5.719378	0.0000
Cointeq = CPI - (-0.8878*GR + 0.0848*TR -1.4867*DB + 127.8095)				
Long Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
GR	-0.887839	0.285917	-3.105233	0.0058
TR	0.084776	0.062169	1.363642	0.1886
DB	-1.486665	0.349663	-4.251712	0.0004
C	127.809535	4.958677	25.774929	0.0000

4.3. Financial Role of Politics in Achieving Economic Stability and Reducing Inflation Rates

The financial role of politics is effective in achieving economic stability and reducing inflation rates due to its direct impact on economic activity by increasing tax revenues on one hand and reducing government expenditure on the other. The results of the study indicated that the contribution of public revenues was primarily from oil revenues, accounting for 91.71%, while the lowest percentage was from capital revenues, which reached 0.12% in 2023. This indicates that the Iraqi economy is rentier, primarily based on oil revenues. It is necessary to direct public revenue sources towards various economic sectors to have a tangible impact on economic growth and reduce reliance on the oil sector. Regarding public expenditures, salaries and wages constituted the largest proportion of current expenditures in 2023, at 39.93%. In contrast, commitments, contributions, and aids accounted for the lowest percentage of current expenditures, at 0.07%. Therefore, it is essential to rationalize public expenditures based on necessary expenditure principles to avoid the emergence of inflation. Investment expenditures in the industrial sector accounted for a significant percentage compared to other sectors, recording 48.73% of total public expenditures, while the agricultural sector had the lowest investment expenditure ratio at 2.02%. Thus, investment expenditure should be stimulated towards other economic sectors to increase state revenues and diversify the financing sources for the public budget. As for the issue of inflation in Iraq, the period from 2020 to 2023 witnessed an increase in the inflation rate and the price index. This reliance on imported materials to meet basic consumption needs has driven prices up, especially following the reevaluation of the dinar against the dollar. The increase in the dollar exchange rate, particularly from 2021 until now, has reflected

negatively on economic activity and inflation rates. Therefore, it is necessary to rationalize financial policies by reviewing borrowing and credit policies, reconsidering public expenditure priorities, and focusing on tax revenues to control cash flow and maintain stable price levels. We have tested for a long-term equilibrium relationship between the selected economic variables. The F-statistic value was 24.66, which exceeds the upper limit value of 5.61 at the 1% significance level. Thus, we reject the null hypothesis and accept the alternative hypothesis, indicating the existence of a long-term equilibrium relationship among the economic variables. Regarding model quality, it was noted that the estimated model did not exhibit serial correlation among the residuals. We accept the null hypothesis that states there is no serial correlation, and we reject the alternative hypothesis since the Chi-Square test value was not significant at the 5% significance level. The results of the heteroscedasticity test showed that the estimated model is free from the problem of heteroscedasticity, as the statistical indicators were not significant at the 5% level. The probability value was greater than 5%, indicating that the errors are homogeneously distributed. Furthermore, a normal distribution test was conducted, where the Jarque-Bera statistic was 0.87, which was not significant at the 5% level, with a probability value of 0.64, indicating that the errors are normally distributed.

5. CONCLUSION

Fiscal policy plays an important role in economic studies in general, and in finance studies in particular. It is considered a prominent tool that the state uses to achieve both economic and financial progress and development. Fiscal policy serves as an important indicator of economic and financial activity, and it is a tool for analyzing the quantity and quality of public revenues and expenditures in order to maintain economic stability and to mitigate the phenomenon of rising general price levels. In this context, the study analyzed the impact of the relationship between fiscal policy and economic inflation rates in Iraq. The study followed a general theoretical framework for both fiscal policy and economic inflation in the Iraqi economy, analyzing data related to each using descriptive and analytical methods. The study observed fluctuations in fiscal policy variables, economic inflation rates, and the price index during the period under review, which reflects the diversity and intertwining of economic, political, and security conditions related to the structural imbalances surrounding the Iraqi economy. Additionally, the study assessed the extent of the impact and response of fiscal policy variables in Iraq on economic inflation using the ARDL methodology, following a standard approach to describe and analyze the variables affecting the model and to test statistical significance. Consequently, it was found that all the parameters of the independent variables were not significant at the 5% and 10% levels, except for (GR (-3), DB (-3), ID). GR was significant at the 10% level, with a probability value of 0.0562, which is less than 10%. This aligns with economic theory, which suggests that the impact of expenditure in previous periods has a weak effect on the general price level in the current period. As for the long-term relationship, we found that (DB, GR) were significant at the 5% level, with probability values of 0.0004 and 0.0058 respectively, both of which are less than 5%. This indicates an adverse effect on the consumer price index, which is consistent with economic logic.

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