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The Impact of Oil Revenues on the Budget Deficit Public Opinion In Iraq for the Period 2005-2025

Abdullah Muhammad Rashid Al-Ramli[1]*, Yahya Farouk Karim Al-Bayati[2]

[1] Samarra University
[2] Salah al-Din Education

*Correspondence: Dr. Abdullah Muhammad Rashid Al-Ramli
Email: abdullah.mr@uosamarra.edu.iq

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Abstract: The current research aims to analyze the impact of oil revenues on the Iraqi budget deficit during the period 2005–2025. This is achieved by examining the relationship between fluctuations in oil prices and oil revenues, on the one hand, and the level of the budget deficit, on the other. The research also seeks to identify the implications of this relationship on public opinion regarding the management of public financial resources in Iraq. The Iraqi economy is a rentier economy, and its public revenues are heavily dependent on oil. The hypotheses section outlines the analytical methodology described above. Subsequent hypothesis testing relies on annual time series data for the two variables. Standard and statistical methods, such as normative tests, are used to determine the characteristics of the relationship between them, thus establishing the relationship between the two variables. The research findings indicate a strong inverse relationship between oil revenues and the Iraqi budget deficit. Furthermore, higher oil revenues lead to a lower budget deficit, and vice versa. Given the Iraqi budget's heavy reliance on oil, fluctuations in oil prices and production negatively impact the budget. Consequently, when oil prices decline or production decreases, the budget deficit increases. Furthermore, statistical analysis shows that oil revenues contributed significantly to the budget deficit variance during that period. The research indicates the need to diversify public revenue sources, support a stronger role for non-oil sectors, rationalize public spending, and establish medium-term fiscal frameworks to mitigate budget deficit volatility and enhance fiscal sustainability. The research also recommends creating financial stabilization funds to mitigate the impact of oil price shocks on the budget.

Keywords: Oil Revenues, Budget Deficit, Standard Side.

Introduction

Oil revenues have been the principal source of public financing in Iraq since 2005, accounting for the largest share of total government revenues. As a result of this, the overall budget has relatively become dependent on the fluctuations in global oil prices as well as production and export levels. A surplus or deficit occuring due to boom and bust of oil, caused off tinges. Between 2005 and 2025, oil revenues in Iraq changed dramatically, first dropping due to the global financial crisis, then declining in 2014, 2016 and 2020, due to internal security and health shocks. The overall budget was affected

immediately which has resulted in higher deficits recorded in some years while surpluses in boom years. In this context, it is the excessive dependence of rentiers that appears to be one of the most important reasons for the fragility of public finance and weak financial stability in the country, which hampers the long-term planning of the state for public expenditure and development sustainability. As a result, this study is analyzing the effect of oil revenues on the budget deficit in Iraq during the period (2005-2025) by using the modern tool of analysis of analytic and standard, to find out the nature, direction, and strength of the relationship between the two variables in both the short and long term, not to mention the economic shocks and structural imbalances that characterize the Iraqi economy, from an economic point of view, and to provide scientific and financial results that contribute to reducing dependence on oil and enhancing financial sustainability in the long term.

First - Research Problem

The Iraqi general budget during the (2005 – 2025) period depends on oil revenues and, consequently, the public finances become responsive to oil prices and oil exports. Thus, the link between oil and Iraq's budget which come in the research problem. Some years had surpluses, whereas some years were marked by worsening deficits. Although oil earnings is the most important source of financing public spending, the ongoing fiscal deficit raises an important question as to how much these oil earnings can bring fiscal sustainability. The evaluation section provides excellent insight into clear parameters of good qualitative research:

What are the air effects of oil revenues on the public budget deficit in Iraq for the period 2005-2025, and what is the nature of this effect in the short and long term?

Second : Research Hypothesis:

The research is based on the following main hypothesis:

1. A research related to the relationship between Iraq’s oil revenue and the general revenue, as well as their effects on the general budget deficit between 2005 and 2025. Since oil is Iraq’s main source of income, we see the government heavily relies on this source of revenue for spending purposes. The study will reveal the diverse relationships and effects found within different sub-information. The study will also include relevant recommendations that may benefit the Iraqi government. The main objective of the Post Study is to deal with the general budget deficit of Iraq.

Thirdly : Research objectives

This research aims to analyze and measure the impact of oil revenues on the general budget deficit in Iraq during the period (2005–2025), through:

1. A report that gives details about the increase in oil revenue and overall budget deficit during the period in the study.
2. Determining the relationship of the two variables, both in the short-run and in the long-run.
3. Assessing how much public finances rely on oil revenue to support public expenditure.

4. There have been proposals that can enhance the financial sustainability and mitigate the impact of oil price fluctuation.

Fourthly: The importance of the research

The importance of this study stems from the study of the impact of oil revenues on the general budget deficit in Iraq for the period (2005-2025) in light of large rentier dependence and fluctuations in oil prices. It uses current standard methods in clarifying oil resources and financial viability relationship. As such, the outcomes also deliver quantifiable indicators for decision-makers to boost the managing of oil revenues, enhance financial stability and curtail the fragility of the budget to oil shocks..

Fifthly: Scope of the researc:

1. Time limits: (2005 – 2025)
2. Spatial boundaries: Iraq.

Research Method

In the theoretical framework, the study manages the descriptive-analytical method to explain the concepts as well as the relationship between the variables, and in the applied framework, it uses the econometric approach (ecoeconomics), which measures the impact of oil revenues on the budget deficit..

Research structure:

The research was divided into three parts in order to achieve the research objective and to test the hypothesis. Section one focused on theoretical analysis of oil revenue and budget deficit, while section two dealt with the reality of oil revenue and general budget deficit. Finally, section three assessed the impact of oil revenues on budget deficit..

THEORETICAL FRAMEWORK OF OIL REVENUES AND BUDGET DEFICIT

First Requirement: The Theoretical Framework Of Oil Revenue

First: The Concept Of Oil Revenues

The earnings of the oil market are a crucial part of the entire economic system. In other words, they play a significant role in facilitating as well as supporting the growth of economy and nation. By funding and expanding in other economic sectors, this is done. Most oil-producing and oil-exporting countries depend primarily on crude oil and petroleum products as a source of income, on which they build their budgets. Oil revenues can be defined as the money a country earns from selling oil and oil product. The money made by producing oil and gas is called production proceeds. These revenues contribute significantly to the economic stability and sustainable development of most oil-producing nations, which generate substantial income through these means (Ben Khalil, 2024, p. 250). Revenues from oil and natural gas producing and exporting nations are also significant sources of finance. Income on oil revenues is directly related to global oil prices. Moreover,

it also depends on the extent to which countries take oil sovereignty and the amount of production that has been attained. The higher the oil prices, the better the indicators of state control, the greater the volume of production, the higher the indicator of the strength of the state budget, and the way in which it finances its expenditure on the population and the realization of the objectives of development (Daoud 2016: 1053) .Furthermore, oil revenues refer to economic profits that the countries which produce and export this resource gain after extracting and selling it at international markets. The cash resources collected are equivalent to a fraction of the confirmed economic price of crude oil. The sums of these revenues are influenced by a number of significant factors, the first of which are the changes in the prices of oil globally, the amount of oil production, and the extent to which a state controlled the management and regulation of its oil industry. Given all this price increase, the production capacities increase, and better control by the State in the incipient sphere, all of this is manifested in the visible factual growth of the volume of collected oil revenues. (Hama2025:285)

Second : Factors affecting oil revenues :

The effects of the various economic factors on oil revenues are varied in that they either have a direct or an indirect relationship with it, and the relationship can either be direct or inverse. This manifests itself in the quantity of such revenues and they will increase or decrease. At that, the most significant determinants of oil revenues can be summarized in the following way(Lazkin & Hussein, 2023, p. 226).

a. Crude oil prices: There is a significant and positive correlation between oil prices and the amount of oil revenue. Oil prices and oil revenues have a direct relationship. Higher oil price lead to higher oil revenues and vice versa.
b. Production and export capacity: Countries that produce and export oil develop a strong direct relationship with the improvement of oil revenues… it also has an indirect impact relationship, as it allows a country to benefit from changes in world price.
c. Inflation: Oil revenue influences inflation rate directly and inversely as very strong effect Rising inflation levels reduce the actual worth of oil revenues.
d. Exchange Rate: As the exchange rate changes, local value in currency of oil export revenues, is influenced by changing prices expressed in foreign currency. Thus, the exchange rate has a strong indirect direct relationship with the volume of oil revenues.
e. Economic activity: With the expansion of economic activity, its levels are strongly and indirectly associated with oil revenues, whereby the growing demand for oil and its derivatives will positively enhance the oil revenues achieved by the oil-revenue-dependent states.

Thirdly : The importance of oil revenues:

Oil-producing nations depend on oil revenues for the generation of foreign currency and to finance much of their expenditures. If prices are raised, even temporarily or production is expanded permanently, economic activity will expand. When revenue

reduces, the economy performs badly. This refers to the economic dependence effect in oil-producing countries. Oil has become the main source for financing their economy for most oil-producing countries because oil gives these countries a big financial boost. The macroeconomy is unstable due to the occurrence of price variability and revenue fluctuation. Arab oil-producing countries impacted by various conflicts, developments and military actions. Iraq is one such country. Consequently, their economic and financial structures have been weakened thereby resulting in the above mentioned. In addition, economies did not benefit from the First and Second Gulf Wars. The wars led to a decrease in oil prices and a fall in revenue. Financial cheating, abuse of power and money wasting led to economic unbalance. As a result, it will restrict the rate of economic growth, decline in capital formation and unequal distribution of wealth. Oil-producing countries also differ in their export structure on the basis of economic sector whether the industrial sector, agricultural and service sector, public and private sector. The output compels the farmer to sell goods at such a low price that it barely covers the cost of production. Further, private peasant industries are unable to supply goods for the domestic market so much that they get imported foodstuffs which are costlier. The first point at issue is the negative and damaging impact of the First Gulf War which damaged certain industrial plants. In addition, the Second Gulf War and the subsequent application of international economic sanctions caused substantial damage to many sectors of the national economy, in particular because of the almost complete suspension of Iraqi oil exports, on which Iraq had relied to finance its general budget (Hadid, 2024).

The Second Requirement: The Theoretical Framework Of The General Budget Deficit
First: The Concept Of Budget Deficit

The budget deficit is basically an economic term used to refer to a situation where the expenditure of the state exceeds the total revenue in a financial year. It basically means spending by the state at a level above the varied financial resources at its disposal. From a socioeconomic perspective, this situation restricts public revenues' ability to fund investments and current expenditures, pushing the state to alternative financing means, such as taking domestic or foreign loans, to fill the financial gap that results from it (Al-Ubaidi, 2025.

The definition of general budget deficit is that public expenditures exceed realized revenues. The government is forced to rely on borrowing or issuing money for covering the deficit caused by the rise in public spending (Al-Quraishi, 2012). The overall budget deficit is the difference between total government expenditure and the government revenues realized over a certain period of time (Al-Jumaili, 2022, 310).

Second: Types of budget deficit:

The general budget deficit takes two main forms: There are two types of deficits, intentional (organized) and unintentional, each with its own reasons and motives.

1. Intentional (Organized) Deficit:

Based on Keynesian theories during Great Depression (1929–1933), it was evoked to counter recession by increasing government spending based on expansionary policies. Under this view, when economic activity is in decline, the state must increase the level of public expenditure above the level of revenue raised. This will protect the purchasing power of individuals and institutions and also help to stimulate private demand. The government is expected to spend more on economic and social programs, which boosts the aggregate demand in the economy, thus contributing to economic activity and growth (Hassan et al., 2022, p. 6546)

2. Unintentional disability:

An unexpected dip in public revenue collection or an ill-timed jump in government expenditure leads to an unintentional deficit. When there is a disease outbreak, or when the pandemic strikes, and when the war is good, many other things happen (Bochkareva & Kozushko, 2023, p. 8). This deficit is divided into several types, the most prominent of which are:

A. Cyclical deficits: This kind is related to changes in the economic cycle. Governments see revenue drop as the GDP falls with a peak in spending; social support takes the most Share. This creates a deficit by default. As economic activity resumes and picks up, activity deficits usually disappear because recovery surpluses might subsidize the earlier activity deficit.

B. Structural Deficit: This is a long term deficit that occurs when the level of government expenditure beats the level of its financing capacity leading to public revenues unable to match the level of government expenditure. This kind is an indication of the entrenched economic imbalance that needs structural reforms and not a quick fix in terms of finance. The total deficit is the amount of cyclical deficit plus the structural deficit and is given by the following equation:

Actual deficit = Periodic deficit + Structural deficit

C. Temporary (Seasonal) Deficit: This happens due to accidents, exceptional circumstances, or errors in estimating specific items of the overall budget. It typically goes away when the root causes are resolved and this happens in a timely manner. It could reappear in the budget next time.

D. Traditional (overall) deficit: The difference between the total government expenditure for a period (usually a financial year) and the public revenue for the same period is referred to as a budget deficit. When spending exceeds the level of revenue that the government has, deficit occurs. A budgetary deficit arises, for instance, when there is a burgeoning expansion of spending on public services like wages or construction without an encompassing revenue base..

Third: Causes of the Public Budget Deficit

A budget deficit among the population is a salient financial phenomenon within the contemporary economies. It is the result of a disequilibrium between government expenditures and revenues of the population, when the expenditures of the government

are more than the financial funds available to the state at a certain period of financial year. Reasons behind such deficit differ based on the economic, political and social situations prevailing in any particular country. But these may well be subdivided into two broad categories, as follows. (Tariq, 2011).

1. Increased public spending

The rise in public spending is due to a range of economic, social, and security factors, most notably the following:

A. Population growth: As more and more dependent individuals emerge, demand for essential public services also increases. Consequently, public spending by the state increases for the supply of and needs arising for education, health, infrastructure etc. Schools, hospitals, etc are built as part of this.

B. Increased civil expenditures: This refers to the rise in wages, salaries and job allowances of the state administrative apparatus and the enhancement of wage level as per the rise in the cost of living..

C. The increasing burden of public debt: The government relies on borrowed funds from within and outside the country to finance the budget deficit which leads to the accumulation of debt and increasing cost of servicing the debt which may exceed the financial capacity of the economy.

D. Increased security and defense spending: Military and security sectors, as well as post-war reconstruction, require enormous financial expenditures owing to war and security threats.

E. Natural disasters: Natural disasters such as floods and earthquakes as well as other ecological calamities require the government to spend more on humanitarian measures and rehabilitation..

F. Waste and extravagance in public spending: especially due to inefficient financial management or ill-considered activities by certain officials and other influential persons..

A number of apparent factors also contribute to the inflation of public spending, including a decrease

- The value of the national currency.
- Financial and administrative irregularities.
- In addition to rapid population growth

.

2. Decline in public revenues

The decline in public revenues is one of the main reasons for the widening budget deficit, and it is linked to several factors, the most important of which are:

A. The state's taxable capacity is constrained by a declining per capita GDP and a declining total level of output.

Rephrase

B. Tax evasion occurs when the tax burden increases and unfair taxes are imposed, leading to reduced tax revenues.

C. Due to the ineffectiveness of the concerned authorities or the lack of effective controls, the agencies responsible for collecting the public resource are not very effective.

D. Tax revenues decline during a recession when productive and commercial activities fall in the economy.
E. Insufficient policies regarding spending and revenue rationalization worsen imbalances in finance.

Result and Discussion

ANALYSIS OF THE REALITY OF OIL REVENUES AND THE GENERAL BUDGET DEFICIT IN IRAQ FOR THE PERIOD 2005-2025

First requirement

Analyzing the reality of the oil revenue index

Public revenue is the entire sum of money received by the state from all sources, either from the sale of goods and services, extraction of natural resources or taxes and other revenues of sovereign nature, which finance public expenditure and promote economic and social objectives. Revenue is not just the source of fund anymore. It effectively contributes to the growth of the economy and the stability of finances. Revenue can also improve the standard of living which is important. A state that receives adequate revenues is better placed to perform its economic and welfare functions.The table below illustrates the evolution of (oil) revenues:

Table 1.
Iraq oil revenue index for the period (2005-2025) (million dinars)

years	Oil revenues	growth rate
2005	32,593,011	-
2006	39,360,064	0.21
2007	46,534,311	0.18
2008	51,949,251	0.12
2009	76,297,027	0.47
2010	50,190,202	-0.34
2011	63,594,168	0.27
2012	98,241,562	0.54
2013	111,326,166	0.13
2014	105,695,825	-0.05
2015	97,072,410	-0.08
2016	51,312,621	-0.47
2017	44,653,244	-0.13
2018	59,778,214	0.34
2019	96,062,935	0.61
2020	99,216,318	0.03
2021	55,954,671	-0.44
2022	96,622,396	0.73
2023	154,083,649	0.59
2024	155,887,441	0.01
2025	157,645,112	0.01

Source: The researcher compiled this information using data obtained from the Ministry of Finance (Republic of Iraq), various publications from the Ministry of Planning, Central Statistical Organization, and the Central Bank.

The following table (1) shows oil revenues development in Iraq during the (2005–2025) period which clearly shows the rentier nature of the Iraqi economy and its high dependence on oil to finance the general budget.

The information illustrates a general increase of oil revenues in the long in the period (2005-2024), whereas the oil revenues are going to increase from about 32.6 trillion dinars in 2005 to more than 155.8 trillion dinars in 2024. This is due to the expansion of oil exports and the development of the global oil price during some years, in addition to the increase in production capacity. This trend, however, was not a stable one; it exhibited clear fluctuations that reflected the nature of external shocks on oil revenues, particularly the volatility of oil prices in global markets. There were major drops during the years 2014–2017 because of the collapse of global prices and the economic and security conditions that Iraq has passed through. Also, revenues fell in 2020 due to the repercussions of the COVID-19 pandemic and the drop in global demand for oil. On the contrary, oil revenues bounced back strongly in 2021–2024, achieving record highs in 2023 and 2024 due to rising oil prices and higher export revenues. The figures shown in the table indicate that oil revenues contributed a very high percentage of total public revenues, being more than 90% in most given years. The poorly diversifying character of non-oil revenue sources illustrates the weak nature of Iraqi public finances and their over-reliance on one highly volatile resource. As this shows, there is an urgent need for the adoption of fiscal policies oriented towards broadening the revenue base and strengthening fiscal sustainability so as to mitigate the impacts of oil shocks. Figure 1 shows the trend of the public revenue index in Iraq during the period (2005–2025) as follows.

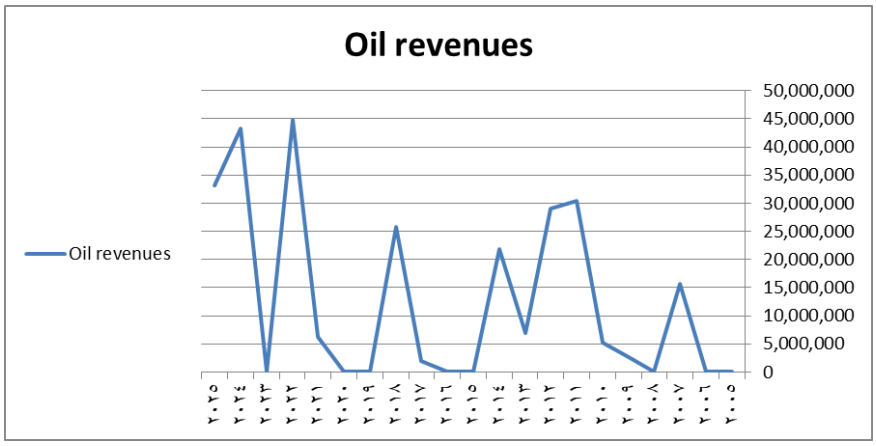

Figure 1. The reality of the public revenue index in Iraq for the years 2005-2025
Source: The researcher created this based on the information given in Table (1)

The second requirement: Analysis of the reality of the budget deficit indicator

A deficit or surplus in a budget means the difference between total public revenues and total public expenditure in terms of a financial year. According to several experts, the

debt ratio is the most useful indicator to ensure an efficient and sustainable fiscal policy. A budget deficit occurs when a government spends more than it earns, forcing the government to borrow or draw on reserves. When a budget surplus occurs, it means that the government earns more than it spends. As a result, it ensures sustainability and stability. This indicator is a tool for monitoring the state's financial position, analyzing the impact of economic policy and measuring the level of discipline of public finances over time (Al-Aside, Al-Kubaisi: 2023, p. 116). The table below shows the public expenditure index for Iraq during the years (2005-2025).

Table 2.

From 2005 to 2025, the general budget's deficit and surplus indicator in Iraq (in million dinars) will be.

Years	Budget deficit or surplus	growth rate
2005	14, 127, 715	-
2006	10,248,866	0.3
2007	15,656,501	0.5
2008	20,848,807	0.3
2009	642,328,2	(0.9)
2010	169,133,5	1.0
2011	253,359,30	4.9
2012	091,620,29	0.0
2013	894,368,6	(0.8)
2014	21,830,397	2.2
2015	-262,927,3	(0.8)
2016	-167,658,12	2.2
2017	1,932,058	(0.8)
2018	25,696,645	12.3
2019	-4,156,527	(0.8)
2020	-12,882,754	2.1
2021	6,231,805	(0.5)
2022	737,855,44	6.2
2023	- 6,754,370	0.8
2024	43,221,987	23
2025	33,221,987	40

Source: According to Central Bank of Iraq, General Directorate of Statistics and Research, Statistical website, Annual statistical bulletin for various years, prepared by the researcher.

Table 2 shows changes in the budget surplus or deficit in Iraq from 2005 to 2025 as well as their annual growth rate and ratio of deficit to GDP. The Iraqi economy normally shows a positive or negative variation that is largely due to movements in the price of oil. In turn, this creates significant reliance on oil to finance public spending. As evidenced by the data related to the early periods during the series (2005-2008), there was a moderate budget surplus in Iraq ranging between 10 and 20 billion in dinars, in other words, that country was benefiting from high oil prices back then. Yet, after the beginning of the next period, the deficit began, and after 2009 the budget was recorded with a deficit of (9.6) billion dinars and coincided with the global financial crisis and a decrease in demand for oil. In 2010, the financial situation returned to "achieve a slight surplus of nearly 1.1 billion

dinars", but it soon returned to "the trend towards deficit during the period 2011-2014" where "the deficit began to increase gradually reaching 21.8 billion dinars in 2014, which is the highest deficit until that year".54 Due to the increase in political and security situations the operational costs are rising along with security burdens. The exception in this regard was the year 2015, which got a surplus of around 3.9 billion dinars. Nonetheless, 2016 witnessed the budget incur one of the biggest deficits-12.6 billion dinars. The military operation to liberate the occupied territories has led to a rapid surge in expenditure, accompanied by a sizeable fall in oil prices. The years 2017-2019 reflect relative improvement, whereby the budget recorded a surplus in 2017 and 2018, which peaked in 2018 at 75.6 billion dinars, and represents one of the highest surpluses in the time series. In other words, there was a relative improvement because the budget was essentially in surplus in 2017, 2018 and 2019. The surplus peaked in 2018 at 75.6 billion dinars, which is one of the highest surpluses in the period under review, which reflects the fall in world price of oil.

In 2019, on the other hand, the shortfall resumed with an amount of 16.3 billion dinars, meaning that expenditures are more than revenues. In 2020, at the height of the Covid-19 pandemic, the deficit amounted to 6.7 billion dinars, due to the decline in oil prices and the decline economic activity. In 2021, the surplus rose to 44.7 billion dinars as global oil prices recovered throughout the year. In a historical series, 2022 recorded its largest surplus of -6.7 billion dinars. The table indicated a negative reading, which presumably meant his reading was a surplus and not a deficit. There has been a dramatic increase in oil revenues. In 2023, the deficit reappeared and was recorded at 7.1 billion dinars, thus confirming the fragility of the situation and its continued dependence on oil prices. Year-to-year spikes are also seen in growth rates. For example, in 2011, and just as clearly, growth rose to 14.9 percent. In the year 2018, rate hit 12.3% Nonetheless, the reverse happened too, as in 2015 with a -0.8 percent. The disparity indicates a deficiency in genuine economic stability and an inadequate capacity for medium- and long-term planning. Deficit/surplus to GDP ratio is important indicator of effectiveness of fiscal policy measures. The data indicated that, in most years, low ratios were maintained, which lay between 0.19 and 0.02. This means that the crisis is not only due to the magnitude of the absolute shortfall. It is also due to the bad management of the resources. Also, the high magnitude of the operational expenses affects issues. The reports from the years 2018 and 2021 were two years that recorded a very large surplus with very low ratios. Which clearly indicates that they came from high oil prices and not from a structural improvement in public finances. Due to oil dependence, the Iraqi Budget has Insufficient Financial Stability. Explain more. Oil price stability must be ensured in any country that wants stability. The same is true for Iraq. The table above shows how economic shocks, as well as security or health events, contributes to sharp variation in the deficit and surplus of the country. The information also depicts that those huge surpluses were not used for improving the financial sustainability. In the first year that there was a relative decline in the oil market, the deficit re-emerged. To guarantee budget stability and minimize oil dependence, the economic structure must be reformed and revenue sources

diversified further in the future. As illustrated in Figure 2, the pattern of deficit and surplus indicators in Iraq's overall budget during (2005-2025) is as follows:

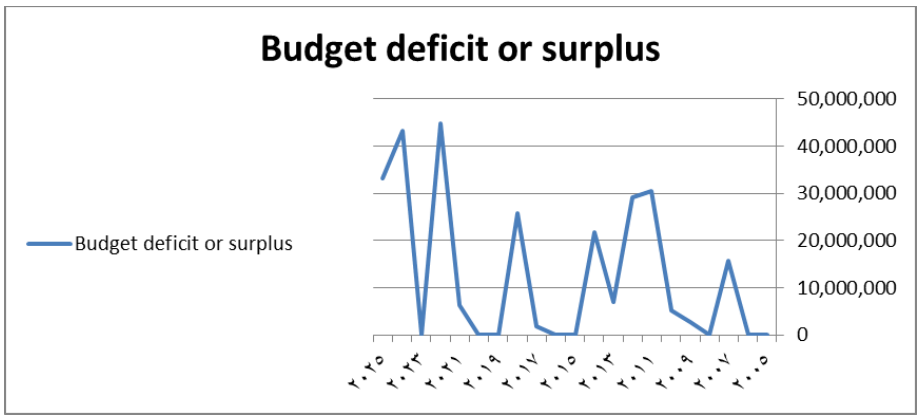

Figure 2. Reality of the public revenue index in Iraq for the period 2005-2025.
Prepared by the researcher based on the information given in table (2).

ESTIMATING AND ANALYZING THE OIL REVENUE MODEL AND ITS IMPACT ON THE GENERAL BUDGET DEFICIT IN IRAQ USING THE ARDL METHODOLOGY.

First requirement: Unit root.

Table 3.
Test – (Unit root)individual unit root process

Null Hypothesis: Unit root (individual unit root process)			
Series: X, Y			
Method		Statistic	Prob.**
PP - Fisher Chi-square		15.345 9	0.008 1
PP - Choi Z-stat		-0.14276	0.0032
Intermediate Phillips-Perron test results UNTITLED			
Series	Prob.	Bandwidth	Obs
X	0.0052	2	79
Y	0.0089	2	79

Source: Table of outputs of the statistical program.

As we can see in the table above, the results show that the all study variables stable at the level, then we do not have to move on to take the first difference of the time series.

The second requirement : Examining oil revenues and their impact on the overall budget deficit.

The distributed lag autoregressive (ARDL) model does not require prior testing of stationary time series, but the important condition for applying the model is that there should be no complete series of type (4). The estimation was carried out, and the results are as follows.:

1. Initial estimate of the model.

Table 4.
Preliminary Estimate of ARDL.

Dependent Variable: D(Y)			
Method: ARDL			
R-squared	0.787 57 6	Mean dependent var	-0.065465
Adjusted R-squared	0.778567	SD dependent var	0.067575
F-statistic	9.767845	Durbin-Watson stat	786464 .2
Prob(F-statistic)	0.000000		
* p-values are incompatible with t-bonds distribution.			

Source: Researcher's work based on the output of E-Views13 software

The results of the Autoregressive Distributed Lag Periods (ARDL) model test are shown in table (4). According to the model results, this model is acceptable because the coefficient of determination is (77). This indicates that 77% of the shifts that occurred in the dependent variable stem from the independent variables while the balance is due to other attribute factors. The Fisher's statistic amounted to the figure (9.767845 Thus, the model does not suffer from the problem of autocorrelation..

Third: Cointegration testing according to the ARDL methodology:

The Bound Test is a cointegration test designed for the Autoregression Distributed Lag model (ARDL). This test is based on Fisher's statistical value which is compared with the lower and upper boundaries of critical values set by Pasran. The critical values are distributed at different significance levels as illustrated in Table (5).

Table 5.
Using the ARDL methodology for cointegration boundary testing.

Test Statistics		Value
F-statistic		8.67575
I(0)	I(1)	
		5%
2.36	3.478	

Source: The work of the researcher is based on the output of E-Views13 software.

Based on our observation of Table 5 and the bounds test, it can be inferred that a long-run relationship exists between the dependent variable (budget deficit) and the independent variable (oil revenues). Table (5) presents the bounds test outcomes which reject the null hypothesis that suggest no cointegration. The calculated (F) value which was (8.67575) is greater than the tabulated upper limit of the parameter itself (Bound (I 1)) which is (3.478) at a significance level (α) (5%).

Error correction model based on ARDL approach.:

The error correction model has two components. The "short-run" elasticities which shown in Table (6) is in the first part, whereas the second part is about "long-run" elasticities. This was the scenario.

A short-back error correction model based on the ARDL methodology is known as simple regression.

Table 6. The ARDL process for error correction models in the short run.

Dependent Variable: D(Y1)				
Method: ARDL				
Selected model: ARDL(1,1)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
COINTEQ*	-0.654678	0.025327	-3.557649	0.0000
D(X)	-0.654768	0.032298	2.309987	0.0007

Source: The outcomes of the E-Views13 program constitute the basis of the researcher's work.

Estimating the short-term equation:

Table (6) indicates that the long-term equation which demonstrates the effects of oil revenues on the overall budget deficit of the years (2005 - 2025) has the following form:

As stated in Table (6), the correction of percentage of the imbalances that occur in the balance between oil revenues and the general budget deficit in a certain period takes place after over 1.5 years.

$$\left\{\frac{1}{--0.6546785} \cong 1.5\right\}.$$

)t) test was The value of the oil revenue index variable (0.007) is less than the significance level (5%), which proves the existence of a significant negative effect of the oil revenue index . (X) on the budget deficit (Y) In the short term, a one-unit increase in oil revenues leads to a decrease The general budget deficit (Y) is (-0.654768) units , which is consistent with reality, given that the general budget in Iraq depends very heavily on oil revenues. The long-run error correction model which is based on the ARDL methodology is simple regression..

Table 7. The ARDL Methodology Takes the Error Correction Model (Long Term) into Account

Variable *	Coefficient	Std. Error	t-Statistic	Prob.
X1(-1)	-0.874567	0.657273	0.873944	0.0000
C	0.456378	0.782934	4.89303	0.0000

Source: The researcher utilizes the outputs from the E-Views13 program in their work.

• According to the (essentially the same paragraph just repeating the sub-phrase with numbers)

• Probability value of (t) test for oil revenue index variable was (0.0000), which is lesser than significance level (5%), which Axes towards the existence of statistically wholesome impact of oil revenue index (X) on budget deficit (Y) in short term as an increase in oil

revenue by one unit would cause the general budget deficit) Y) to fall by (-0.874567) units. In Iraq, the general budget relies very much on oil revenues, this is true..

ARDL model quality tests:

ARDL model quality tests include several tests, including:

Normality of Residues: The

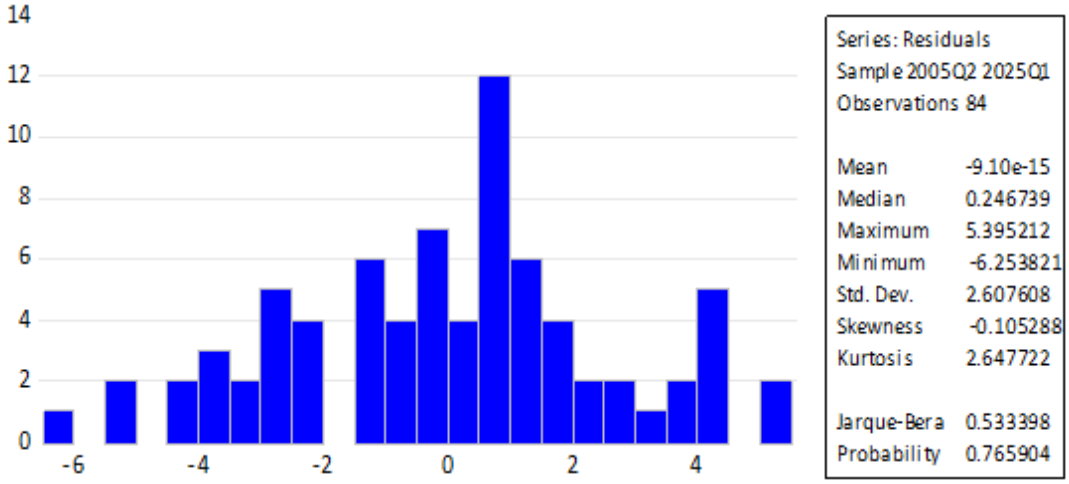

Figure 3. Normal distribution of model residues
Source: Researcher's work based on the output of E-Views13 software

Figure (2) shows that the result shown indicates that the residuals of the study model are "normally distributed" because their probability value is (0.765904), which is greater than (5%)

Serial autocorrelation test for ARDL model residuals

Table 8. Check residuals' serial correlation using Bartlett's and Breusch-Godfrey tests, when applicable.

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.998786	Prob. F(2,62)	0.1123
Obs*R-squared	2.45346	Prob. Chi-Square(2)	0.2134

Source: The researcher's work relies on the output of E-Views13 software.

As shown in Table (9), the probability value of the study model chi squared value was (0.7861). This means acceptance of the null hypothesis, which says that the model does not suffer from serial autocorrelation of errors and at the same time rejection of the alternative hypothesis, which says that "the model suffers from serial autocorrelation of errors", because it reached a value greater than (5%).

Conclusions

The findings suggested that the error correction rate was (-0.654678%), implying: After nearly a year and a half, the gap between oil revenues and the budget deficit is corrected. and The t-test probability value for oil revenue index variable was (0.0007), which is less than the significance level of (5%), which proved that there is a significant negative impact of oil revenue index (X) on the budget deficit (Y) in the short run, and that increasing oil revenues by one unit causes the general budget deficit (Y) to decrease by (-0.654768) units, which conforms to reality as the general budget in Iraq is very much dependent on oil revenues. And The T-test on the oil revenue index variable's budget deficit variable, diagnostic probability value test is (0.0000), which is less than the significant level (5%), shows a negative impact on the budget deficit (Y) of the oil revenue index (X) sophisticated the short run. This means that an increase in oil revenues is one unit will lead to a drop in the overall budget deficit (Y) is (-0.874567) units. The statement is accurate, as Iraq's general budget is based on oil revenues.

The necessity of the source diversification The research suggests that the excessive use of oil revenues should be decreased, and it is necessary to mobilize non-oil revenues, which will provide support in terms of decreasing the budget deficit sensitivity to the oil variation. And Implementing a sustainable fiscal policy regarding structural budget balance A financial policy needs to be implemented that balances the revenues and expenditures in the mid and the long run, hence limiting the adverse impact of oil shocks on the overall budget deficit. And Creation of sovereign wealth fund or the role of stabilization funds The paper advises that the oil surpluses in the booms be directed to the financial stabilization funds to be used during the low oil revenue periods.

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