

# The Impact of Fiscal Policy on the Gross Domestic Product as One of the Indicators of Economic Development in Iraq Between 2004-2020<sup>1</sup>

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## ABSTRACT

Fiscal policy is a major part of economic policy and a tool for implementing the government's economic policy toward achieving the set goals. This is done through its main tools (public expenditures, revenues, and the net budget). This is to raise economic growth rates, achieve economic well-being, and satisfy the desires of society. The study shed light on the most important developments in fiscal policy in the Iraqi economy and its impact on economic development.

On this basis, the researcher seeks to clarify the role of fiscal policy in Iraq (2004-2020) through its tools in achieving economic development and how to use them to achieve these indicators. Moreover, a statement of the efficiency of fiscal policy and its management towards the economic and social fields to ensure the advancement of the goals and indicators of economic development. Therefore, it must be used optimally and planned. Moreover, what Iraq went through in terms of political and financial crises, especially after 2003, prevented the use of this policy optimally, which led to a decline in the performance of fiscal policy in order to achieve economic development. The study reached a set of conclusions, the most important of which was the direct correlation of the GDP indicator with the oil sector and the low percentage of tax revenue contribution to the total public revenues throughout the study period due to rampant corruption and inflexibility of the tax system. While the results showed no long-term relationship between public expenditures and the GDP indicator due to the decline in investment spending, this is offset by an increase in operational spending due to the large employment in government departments and the deterioration of the security situation. At the same time, the study recommended working to increase the volume of public revenues by developing plans to diversify revenue sources, especially in the non-oil (commodity) sectors, in a way that increases the size of the general budget and working on an annual evaluation of fiscal policy tools and their effectiveness in achieving economic development in Iraq.

## INTRODUCTION

Fiscal policy, among other economic policies, occupies an important place. Because it can play a major role in achieving multiple goals, this is thanks to its various tools, as it is an important tool in the hands of the state through which it can achieve multiple economic development programs. It also manages the financial resources available to the national economy. This is done through financial tools, including public spending, public revenue, and deficit or

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surplus in the general budget. Iraq has suffered many suffocating crises, difficult conditions in the long term, and structural imbalances in its real and financial sectors. This results from the security, political and economic conditions that have depleted the country's resources, the spread of financial and administrative corruption, and the absence of a wise financial policy. This is contrary to the rules of modern economic construction. Fiscal policy was closely linked to oil revenues, which constitute the weight in the Iraqi budget, and this link extended to economic development and the possibility of achieving it. Affected by the nature of global oil markets and price fluctuations. All this negatively affected the overall economic activities and the indicators that make up the national economy, including the gross domestic product, which is closely linked to oil prices. Therefore, oil-producing countries tended to try to diversify sources of income and thus mitigate the impact of external factors and fluctuations in global oil markets.

### **Problem Statement**

The fiscal policy is one of the tools the state uses to achieve economic development indicators when it is used optimally and planned. The problem here is that the failure to use this policy optimally in Iraq, especially after 2003 and the financial and political crises, resulted in a decline in fiscal policy performance on some indicators of economic development, including the gross domestic product.

### **Significance of this paper**

The importance of the study lies in the role that fiscal policy can play in Iraq through its tools (public revenues, public expenditures, and the general budget) in influencing economic development indicators, including the gross domestic product.

### **Research hypothesis**

The study is based on the hypothesis: that fiscal policy has effects on some indicators of economic development by providing the necessary funds and efficient management to improve the level of some indicators of economic development, represented by the gross domestic product in Iraq.

### **Paper goal**

Analyzing and correcting the role of fiscal policy in raising the economic level and demonstrating its impact through quantitative analysis of the relationship between fiscal policy and GDP.

### **Methodology of this paper**

The study relied on inductive and deductive approaches to prove the study's hypothesis in addition to using descriptive analysis and standard quantitative analysis using accurate official data from various sources to show the effects of fiscal policy tools (public revenues, public expenditures, and the general budget) on the gross domestic product in Iraq for the period (2004-2020).

## **THE FIRST TOPIC: FINANCIAL POLICY (CONCEPT AND TOOLS)**

### **First: The Concept of Fiscal Policy:**

The derivation of a fiscal policy concept originally came from the French word (Fisc), which means "money purse or treasury." This term is synonymous as it is used in the English language and includes expenditures and revenues; after that, it has a broader and different meaning in modern usage and is related to the government's efforts to achieve a level of economic activity or to achieve stability (1). Fiscal policy is also defined as "the total measures taken by the government in the field of spending public funds and means of financing them in a way that is reflected in the general budget" (2), and fiscal policies have been defined as "how revenue sources are used through spending programs to influence the size of the surplus and mobilizing it towards increasing and diversifying the national product, as well as achieving greater justice in the distribution of national income, eliminating the phenomena of poverty and underdevelopment, and establishing economic independence. (3)

## Second: Fiscal Policy Tools

**1- Public Expenditures:** The public expenditure policy is considered one of the most important fiscal policy tools. The importance of public expenditures has increased with the expansion of the state's role in various economic and social fields and the multiplicity of its functions. And with the development of its role from the guardian state to the intervening state and then to the producing state (4). The traditional school was calling for reducing public expenditures to the lowest level in order to define the role of the state and limit its various activities and limit it to limit traditional functions. It relied on self-powers to carry out its limited duties in directing the economy, reaching the equilibrium situation, and making public expenditures within specific limits for being wasteful and unproductive. Public expenditure was "a sum of money from the state's treasury through its administration, institutions, agencies, and various ministries to satisfy a public need."

**2- Public Revenues:** Public revenues represent the second essential and important part of the fiscal policy tools. These revenues enable the government to carry out its basic tasks towards its citizens and economy. The state has multiple functions, and carrying out these functions requires various financial resources to cover the expenses that result from those functions. The expansion and development in the state's role caused by the increase in public expenditures have been reflected in the development of public revenues through its increase and the multiplicity of its types and purposes. Public revenues are no longer limited. It has become broader on ordinary revenues, such as fees and taxes, such as exceptional revenues (loans and cash issuance). It is no longer limited to covering public expenditures advocated by the classical school only but has become an important tool that impacts economic and social activity. The state works through revenues public to achieve social and economic goals. Public revenues are "the income the government obtains from all sources, usually in cash, to cover its expenses and achieve economic and social balance" (5).

## Third: The General Budget

The idea of the general budget is no longer as it was in the classical, traditional thought of numbers and quantities. Rather, it has become, in the modern era, an indispensable necessity for every country in the world. Despite the difference in its political system and the form of government, it has become a reflection of economic and social life. It is considered an important tool that helps the state to manage and direct the national economy. It affects all sectors and branches of the level of economic activity and the size of national production. The state often uses the general budget to satisfy the general needs that the economy aims to achieve. The nature of the relationship between the state's financial activity (the budget) and the economic conditions in all its manifestations is close. Since the general budget has become a tool for achieving the economic plan, without the presence of the general budget, it is difficult for the state to run its ministries, interests, and institutions regularly, and it cannot perform the functions entrusted to it (6).

As for the concept of the general budget, "budget" is derived from a French word that means bag or small bag. It was used in Britain to denote the bag that the British Treasury Secretary carries when he goes to Parliament. It includes seals, data, and proposals for state expenditures and revenues (7).

From an economic point of view, the general budget is defined as "an estimated list of public revenues and expenditures for a future financial period, usually a year" (8).

## THE SECOND TOPIC: IS THE GDP INDEX AT CURRENT PRICES:

The Gross Domestic Product (GDP) is one of the most important economic and traditional indicators of economic development. It is the easiest and least complex and defines the gross domestic product as "representing the value of produced goods and services sold in the market (market value) produced by society or the local economy in a certain period, usually a year" (9). Gross Domestic Product is also defined as "the sum of the total added values achieved in the economic sectors within the geographical borders of the country with the contribution of national and non-national factors of production. That is, it represents the sum of the values of the total production of goods and services after subtracting from it the value of intermediate consumption or production requirements" (10). It is also defined as "the total amount of goods and services produced by residents of the country during one year, who live within the geographical area of that country regardless of their nationality. This means that the gross domestic product is a geographical concept whose calculation is determined by the geographical area of that country" (11). This indicator measures development through the actual results represented by the flowing stream of goods and services resulting

from a combination of production elements that use a specific level of technology and is usually taken as an aggregate or individual growth rate derived from the production function according to the following formula (12).

$$Y = \frac{y_t - y_{t-1}}{y_t}$$

It represents (y), the indicator adopted in calculating the real output, and (t) represents the time usually calculated in years and symbolizes -1 for the previous period.

Despite the criticisms and problems directed against the adoption of the gross domestic product as an indicator of economic development, the fact that this indicator does not necessarily explain or reflect the levels of economic well-being in addition to the shape of the distribution of income and wealth and the availability of appropriate conditions for work (13). Despite the drawback, this indicator remains the basis on which all development indicators depend in the sense that there is no importance for any development that may occur in any of these indicators unless there is an increase and development in the gross domestic product. International institutions consider this indicator as a basis for measuring the effectiveness of their economic development programs and the key to achieving all economic goals and related goals related to reducing poverty levels and raising the level of human development in addition to achieving economic well-being.

### **Analysis of the Relationship Between Fiscal Policy Tools and Gross Domestic Product**

#### **First: Analysis of public expenditures in Iraq for the period (2004-2020)**

Despite the increase in public spending during the study period in Iraq due to the increase in oil prices. However, the state could not achieve its economic and social goals in achieving high levels of economic and social balance and growth as a result of military spending and current expenditures of a consumptive nature, which gained a large percentage of the total expenditure compared to investment expenditures as a result of the addition of items in the general budget represented by the increase in wages and public sector allocations, which remained dominant over public expenditure and constituted a constraint on the expansion of investment spending. Thus, the general budget, through its fiscal policy, failed to build a solid base for economic growth, which doubled the imbalance of the country's economic structure (14).

It is noted from Table (1) that public expenditures in (2004) amounted to (32,117,491) million dinars. It is the year that witnessed the rise in oil exports, the release of indefinite cash balances, the abolition of international sanctions, the new government approach, the reconstruction of the aftermath of wars, and the control of the security situation. In (2005) public expenditures decreased to (26,375,175) million dinars, with a negative growth rate of (-17.87%), and the percentage of decline in public expenditures in terms of GDP amounted to (35.86%). This decline is attributed to the increase in the gross domestic product by a greater amount than the increase in public expenditures. The year (2006) witnessed a rise in public expenditures, reaching (38,806,679) million dinars, with a growth rate of (47.13%). The proportion of public expenditures in the gross domestic product increased, reaching (40.59%). This increase is due to the increase in public sector salaries, the expansion of the state's administrative apparatus, and the increase in the state's military spending due to the deteriorating security situation. That is, this increase results from an increase in current expenditures compared to investment expenditures.

The rise in public expenditures continued until the year (2008) as a result of the rise in oil prices and the expansion of current expenditures through the issuance of the salary law, returning the dismissed politicians to their jobs, and increasing appointments in the public sector. Public expenditures amounted to (59,403,375) million dinars and the percentage of public expenditures in the GDP increased by (37.83%). The year (2009) witnessed a decrease in public expenditures to (52,567,025) million dinars, compared to the year (2008), with a negative growth rate of (-11.50%). At the same time, the proportion of public expenditures in the gross domestic product rose to (40.23%). This is due to the government's contractionary policy due to the global financial crisis. Then, public expenditures rose again in 2010, reaching (70,134,201) million dinars, with a growth rate of (33.36%). At that time, the proportion of public expenditures in the GDP increased to (43.27%) compared to the previous year.

Moreover, these increases continued until the year (2013) as a result of the financial surpluses achieved through the rise in oil prices. In the year (2014), public expenditures decreased, reaching (112,192,126) million dinars, with a

negative growth rate of (-5.82%). Likewise, the percentage of public expenditures in GDP decreased to (42.11%) compared to the previous year. As a result of low oil prices compared to previous years, the deterioration of the security situation, and Iraq's entry into a fierce war with ISIS gangs. The decline continued until 2016. After that, public expenditures witnessed a gradual increase until the year (2019) reached (111,724,610) million dinars, with a growth rate of (38.14%), and the proportion of public expenditures in GDP increased to (42.49%). In the year (2020), public expenditures decreased to (75,802,334) million dinars, with a negative growth rate of (-32.15%), while the proportion of public expenditures in GDP decreased to (38.13%) compared to the previous year. As a result of the complex crisis that struck Iraq, represented by the Corona pandemic and the drop in oil prices, in addition to the security instability and the October demonstrations, the decline in oil revenues and the cessation of most projects, which led to the reduction of public expenditures, including investment for all sectors.

Table 1. Public spending in Iraq Between (2004) and (2020) (Million ID)

Public Expenditure Percentage of Gross Domestic Product % (4)	Gross domestic product at current prices(3)	Growth rate% (2)	Public spending (1)	year
60.33	53235358.7	-	32117491	2004
35.86	73533598.6	-17.87	26375175	2005
40.59	95587954.8	47.13	38806679	2006
35.01	111455813	0.57	39031232	2007
37.83	157026061.6	52.19	59403375	2008
40.23	130642187.0	-11.50	52567025	2009
43.27	162064565.5	33.36	70134201	2010
36.23	217327107.4	12.29	78757666	2011
41.35	254225490.7	8.67	105139576	2012
43.54	273587529.2	13.30	119127556	2013
43.51	266420384.5	-2.67	115937762	2014
36.16	194680971.8	-37.25	70397515	2015
34.05	196924141.7	-4.73	67067434	2016
34.05	221665709.5	12.55	75490120	2017
30.07	268918874.0	7.13	80873000	2018
42.49	262917150.0	38.14	111724610	2019
38.43	198774325.4	-31.61	76402334	2020

Source: made by authors depending on the following sources:

- Data of the Ministry of Planning, Central Statistical Organization, National Accounts, multiple years.
- Data of the Central Bank of Iraq, Directorate of Statistics and Research, statistical releases for several years.
- Columns (2,4) made by authors.

## Second: Analysis of the structure of public revenues in Iraq for the period (2004-2020)

The importance of financial resources such as taxes and fees declined due to the reliance on oil as a major source of public revenues. Moreover, it declined, especially direct taxes, not because of the weakness of the tax bases but rather the systems' failure to estimate them and their mismanagement (.). The dependence of the general budget on oil revenues, mainly, is an incorrect case. It shows the backward and distorted rentier nature of the economic structure. It also raises a state of instability in the future of the economy when the country is exposed to external crises, such as the drop in global oil prices, and for other reasons, including the security situation, which directly affects oil production (15).

The structure of public revenues shows the percentages of the contribution of funding sources to the general budget and the relative importance of each source of public revenues. Contribution rates and importance differ from country to country depending on the different levels of economic development. It is possible to clarify the nature of the revenue structure and the proportions of the impact of each of them in providing revenues for the general budget in Iraq, which witnessed a rise in public revenues after 2003 as a result of re-exporting oil and the increase in oil revenues, in addition to the modest contribution of tax revenues. Table (2) shows that public revenues in the year (2004) amounted to

(32,982,739) million dinars, and the proportion of public revenues to the gross domestic product (was 61.95%). A period that witnessed a rise in oil exports after lifting international sanctions. The year (2005) witnessed an increase in public revenues as a result of the gradual rise in oil prices, reaching (40,502,890) million dinars, with a growth rate of (22.80%), while the percentage of public revenues from the gross domestic product decreased to (55.08%). The reason for this is the increase in the gross domestic product by a greater rate than the increase in public revenues.

The rises in public revenues, specifically in 2008, continued, achieving (80,252,182) million dinars, with a growth rate of (46.89%), and the percentage of public revenues in GDP recorded an increase of (51.10%), due to the continuous increase in oil revenues, until it decreased in (2009). It recorded a decrease in public revenues to (55,209,353) million dinars compared to the previous year, with a negative growth rate of (-31.2%). At the same time, the proportion of public revenues from the gross domestic product decreased to (42.25%). The reason was the drop in oil prices and the financial turmoil in the world markets at that time. In 2010, public revenues rose again to (70,178,223) million dinars due to the rise in oil prices and the increase in total revenues, as they constitute the largest percentage of the total public revenues, amounting to (75.61) dollars per barrel. At the same time, it witnessed an increase in the percentage of public revenues from the gross domestic product (GDP) to (43.30%) compared to the previous year. The rises continued until the year (2013), which achieved a decline in public revenues to (113,840,076) million dinars compared to the previous year, with a negative growth rate of (4.98%). The percentage of public revenues from the gross domestic product decreased by (41.61%) compared to (2012), which amounted to (47.13%). The reason for this is the decline in total revenues in that period. In 2014, public revenues decreased to (105,364,301) million dinars, with a negative growth rate of (-7.44%).

The percentage of public revenues in the GDP decreased by (39.54%) compared to the previous year. The reason for this decline was the great shock that the Iraqi economy was exposed to due to the war with the terrorist ISIS and what was left of those wars regarding the destruction of cities and infrastructure and the impact of oil prices and their decline to low levels. The series of declines in public revenues continued in (2016) due to the difficult security situation, the drop in oil prices, and the drop in global oil supply. It amounted to (54,839,219) million dinars, with a negative growth rate of (-17.49%). The proportion of public revenues in the gross domestic product decreased, reaching (27.62%) compared to the previous year. The year (2017) witnessed an increase in public revenues amounting to (77422173) million dinars as a result of the improvement in the security situation and the return of crude oil prices to rise, with a growth rate of (41.18%). At the same time, the percentage of public revenues in the GDP increased to (34.88%) compared to the previous year. The series of hikes continued until (2019). In the year (2020), public revenues witnessed a decrease amounting to (63,199,689) million dinars compared to the year (2019), which amounted to (107,566,995) million dinars, with a negative growth rate of (40.24-%). The percentage of public revenues from the gross domestic product witnessed a decrease of (31.79%) compared to (2019), which amounted to (40.91%). This is due to the Corona pandemic and the drop in global oil prices as a result of the decline in global demand for oil, in addition to Iraq's commitment to reducing oil production according to the decisions of OPEC +, where the proportion of oil revenues out of the total revenues is (86.15%), which is the largest percentage, offset by the decrease in the rest of the revenues from taxes. And production fees ( ). (see table 2)

Table 2. Public earnings in Iraq Between (2004) and (2020) (Million ID)

Public Expenditure Percentage (4) % of Gross Domestic Product	Gross domestic product at (3) current prices	Growth %rate (2)	Public spending (1)	year
61.95	53235358.7	-	32982739	2004
55.08	73533598.6	22.80	40502890	2005
51.31	95587954.8	21.11	49055545	2006
48.98	111455813	11.30	54599451	2007
51.10	157026061.6	46.89	80252182	2008
42.25	130642187.0	-31.20	55209353	2009
43.30	162064565.5	27.11	70178223	2010
50.06	217327107.4	55.04	108807392	2011
47.13	254225490.7	10.11	119817224	2012
41.61	273587529.2	-4.98	113840076	2013
39.54	266420384.5	-7.44	105364301	2014
34.14	194680971.8	-36.91	66470253	2015

27.62	196924141.7	-17.49	54839219	2016
34.88	221665709.5	41.18	77422173	2017
39.62	268918874.0	37.64	106569834	2018
40.91	262917150.0	0.93	107566995	2019
31.79	198774325.4	-40.24	63199689	2020

Source: made by authors depending on the following sources:

- Data of the Ministry of Planning, Central Statistical Organization, National Accounts, multiple years.
- Data of the Central Bank of Iraq, Directorate of Statistics and Research, statistical releases for several years.
- Columns (2,4) made by authors.

### Third: Analysis of the general budget for the period (2004-2020)

Iraq began a new phase after the political change. It witnessed an increase in public revenues, especially oil revenues, due to lifting of international economic sanctions on Iraq. The increase in public revenues varied, affected by external and internal shocks and crises, due to achieving a surplus and deficit in the public budget. In the year (2004) public revenues amounted to (32982739) million dinars and public expenditures amounted to (32117491), achieving a surplus in the general budget amounting to (865248) million dinars. The reason for this surplus is the increase in oil exports. The surpluses achieved in the general budgets for the period (2003-2012) continued, in varying proportions, due to the gradual rise in crude oil prices and the increase in oil exports, which led to a financial abundance that resulted in financial surpluses in the public budgets. This high growth in public revenues is offset by negative growth in public expenditures, which was behind this surplus.

The period (2013-2016) witnessed a deficit in the general budget. The reason for that was the increase in the volume of military expenditures due to the deterioration of the security situation, the control of ISIS over some cities, the shutdown of many industrial and oil facilities, the drop in oil prices in global markets, in addition to the massive sluggishness of employment in state institutions.

In the two years (2017) (2018), the general budget achieved a financial surplus amounting to (1932053) and (25696834) million dinars, respectively, as a result of the increase in the growth rate of public revenues over expenditures due to the improvement in the level of oil prices and the increase in Iraqi exports after the liberation of Iraqi cities.

In the two years (2019) (2020), the general budget achieved a fiscal deficit amounting to (4157615) and (13,202645) respectively, due to the increase in public expenditures over public revenues resulting from sluggish employment in the public sector, in addition to the stifling financial crisis that hit the country due to the Corona crisis that It caused the collapse of global oil prices. (see Table 3)

Table 3. Developing a net public budget in Iraq between (2004) and (2020) (million ID)

Net public budget (3)	Public expenditure (2)	Public earnings (1)	year
865248	32117491	32982739	2004
14127715	26375175	40502890	2005
10248866	38806679	49055545	2006
15568219	39031232	54599451	2007
20848807	59403375	80252182	2008
2642328	52567025	55209353	2009
44022	70134201	70178223	2010
30049726	78757666	108807392	2011
14677648	105139576	119817224	2012
- 5287480	119127556	113840076	2013
-10573461	115937762	105364301	2014
-3927262	70397515	66470253	2015
-12228215	67067434	54839219	2016

1932053	75490120	77422173	2017
25696834	80873000	106569834	2018
-4157615	111724610	107566995	2019
-13202645	76402334	63199689	2020

Source: made by authors depending on the following sources:

- Data of the Ministry of Planning, Central Statistical Organization, National Accounts, multiple years.

Data of the Central Bank of Iraq, Directorate of Statistics and Research, statistical releases for several years.

It is clear from this that the general budget in Iraq was and still depends mainly on oil revenues, which are determined by the price of crude oil in the global markets as an external factor through supply and demand for oil and the amount of oil produced as an internal factor. This factor is linked to political, economic, and security stability. Therefore, any change in these factors will directly impact the state's general budget.

#### THE FOURTH TOPIC: MEASURING THE IMPACT OF FISCAL POLICY ON THE GROSS DOMESTIC PRODUCT FOR THE PERIOD (2004-2020)

Quarterly data amounting to (64) observations were used to measure fiscal policy's impact on the GDP indicator, which is one of the indicators of economic development.

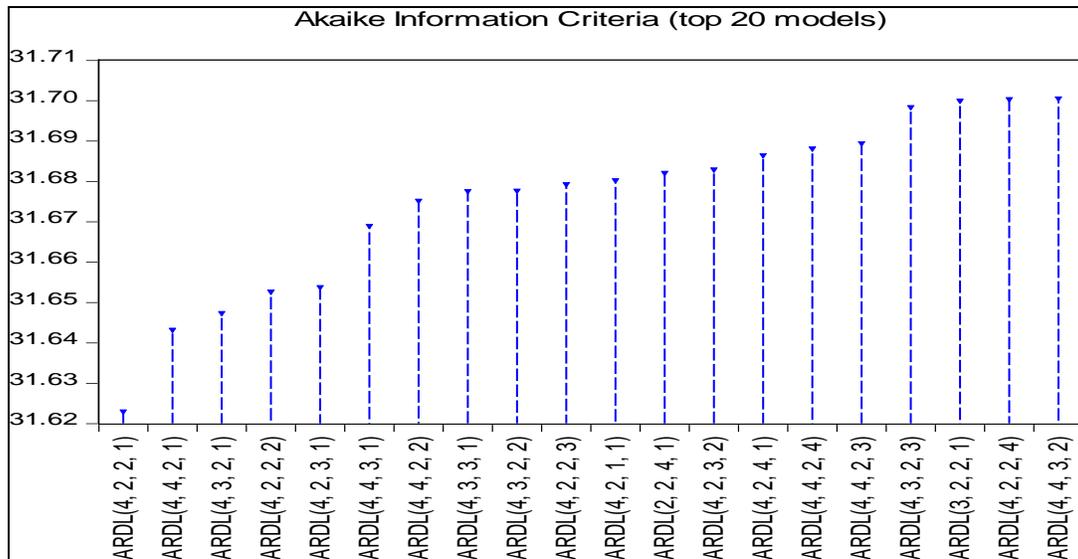
Table 4. Results of the first estimation of the relationship between fiscal policy and the GDP indicator

Dependent Variable: Y1				
Method: ARDL				
Date: 01/10/23 Time: 23:45				
Sample (adjusted): 2005Q1 2020Q1				
Included observations: 61 after adjustments				
Maximum dependent lags: 4 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (4 lags, automatic): X1 X2 X3				
Fixed regressors: C				
Number of models evaluated: 500				
Selected Model: ARDL(4, 2, 2, 1)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Y1(-1)	1.544385	0.106431	14.51069	0.0000
Y1(-2)	-0.622392	0.126980	-4.901486	0.0000
Y1(-3)	-0.103897	0.090279	-1.150852	0.2555
Y1(-4)	0.116193	0.049233	2.360058	0.0224
X1	1.332227	0.098146	13.57393	0.0000
X1(-1)	-1.953091	0.214115	-9.121702	0.0000
X1(-2)	0.743854	0.158758	4.685461	0.0000
X2	0.330679	0.109354	3.023936	0.0040
X2(-1)	-0.513647	0.170536	-3.011950	0.0041
X2(-2)	0.224917	0.105743	2.127022	0.0386
X3	2.328901	0.823014	2.829723	0.0068
X3(-1)	-1.900510	0.797094	-2.384297	0.0211
C	-743576.0	940020.6	-0.791021	0.4328
R-squared	0.999431	Mean dependent var	1.96E+08	
Adjusted R-squared	0.999288	S.D. dependent var	60812378	
S.E. of regression	1622141.	Akaike info criterion	31.62295	
Sum squared resid	1.26E+14	Schwarz criterion	32.07281	
Log likelihood	-951.4999	Hannan-Quinn criter.	31.79925	
F-statistic	7023.107	Durbin-Watson stat	2.230660	
Prob(F-statistic)	0.000000			

Source: Table from the researcher's work based on the outputs of the statistical program (EViews.10).

Table (4) shows the results of the initial estimation of the (ARDL) model for the relationship between GDP (Y1), public revenues (X1), public expenditures (X2), and the net budget (X3) as the estimated model has high explanatory power. The coefficient of determination value was ( $R^2 = 0.99$ ), which gives explanatory power to the model. The corrected coefficient of determination was ( $0.99 = \text{Adjusted R-squared}$ ). Also, the model is significant as indicated by the calculated (F) value if it was (7023.107) at a significant level (1%), so we accept the alternative hypothesis and reject the null hypothesis. Accordingly, there is a relationship between fiscal policy variables and the GDP index.

Figure 1. Best Time lag length for fiscal policy and the GDP index based on the AIC standard



Source: Table from the researcher's work based on the outputs of the statistical program (EViews.10).

The (AIC) test is one of the most used tests in studies and research when estimating the distributed lag model (limits approach) as a result of its distinction by giving the best (20) lag time. Therefore, the first model (4,2,2,1) was relied upon, as shown in Table (5).

Table 5. F- Bound test Fiscal policy tools and the GDP index

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic k	3.308504 3	Asymptotic: n=1000		
		10%	2.37	3.2
		5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66
Actual Sample Size	61	Finite Sample: n=65		
		10%	2.492	3.35
		5%	2.976	3.896
		1%	4.056	5.158
		Finite Sample: n=60		
		10%	2.496	3.346
		5%	2.982	3.91
		1%	4.068	5.25

Source: Table from the researcher's work based on the outputs of the statistical program (EViews.10).

Table (5) shows the results of the co-integration test according to the method of testing the limits between each of the fiscal policy tools and the GDP indicator during the period (2004-2020) in the Iraqi economy and a statistical value (F) equal to (3.308504). It is greater than the critical values at its minimum level (1%, 5%, 10%), which means accepting the alternative hypothesis. Hence, there is a long-term balance between the dependent variable (GDP) and the explanatory variables: public revenues (X1), public expenditures (X2), and the net budget (X3) during the study period.

Table 6. Short run and error correction Fiscal policy tools and the GDP indicator

ARDL Error Correction Regression				
Dependent Variable: D(Y1)				
Selected Model: ARDL(4, 2, 2, 1)				
Case 2: Restricted Constant and No Trend				
Date: 01/10/23 Time: 23:48				
Sample: 2004Q1 2020Q4				
Included observations: 61				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Y1(-1))	0.610096	0.089389	6.825201	0.0000
D(Y1(-2))	-0.012295	0.052551	-0.233970	0.8160
D(Y1(-3))	-0.116193	0.045626	-2.546631	0.0141
D(X1)	1.332227	0.081736	16.29913	0.0000
D(X1(-1))	-0.743854	0.128973	-5.767518	0.0000
D(X2)	0.330679	0.083177	3.975591	0.0002
D(X2(-1))	-0.224917	0.086545	-2.598860	0.0124
D(X3)	2.328901	0.725379	3.210597	0.0024
CoIntEq(-1)*	-0.065711	0.015522	-4.233327	0.0001

Source: Table from the researcher's work based on the outputs of the statistical program (EViews.10).

In order to determine the long-term and short-term complementary relationship, Table (6) shows the results of the short-term parameters between the fiscal policy variables: (public revenues, public expenditures, and the net budget) and the gross domestic product. A short-term complementary relationship exists between the fiscal policy tools as explanatory variables and the GDP indicator. In addition, the error correction coefficient (Conit Eq -1) is negative. It is significant and statistically significant at the level (1%, 5%, 10%), which reveals the correction of the imbalances that occurred in the short term towards restoring balance in the long term. This indicates that an amount (6.5%) of the short-term imbalance or deviation in the explanatory variables from the previous year to the current year has been corrected.

Table 7. Long run and error correction Fiscal policy tools and the GDP indicator

Levels Equation				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	1.871675	0.729160	2.566894	0.0134
X2	0.638393	0.624422	1.022373	0.3117
X3	6.519310	2.748812	2.371683	0.0218
C	-11315827	14841371	-0.762452	0.4495
EC = Y1 - (1.8717*X1 + 0.6384*X2 + 6.5193*X3 -11315827.4229 )				

Source: Table from the researcher's work based on the outputs of the statistical program (EViews.10).

Table (7) presents the results of the long-term relationship between the fiscal policy tools: (public revenues, public expenditures, and the net budget) and the GDP indicator. It was found that the model's parameters (X1) were significant in the long term. There is a long-term balance between public revenues and the GDP index. This is what the results reached, as it was found that the value of t was statistically significant at the level (5%). At the same time, the results showed that there is no long-term relationship between public expenditures (2X) and the GDP indicator. A non-significant (2X) parameter appeared at the level (1%, 5%, 10%). There is a long-term balance between the net budget towards the GDP indicator, and this is what the results reached, as it was found that the statistical value of t was significant at the level (5%).

Table 8. Results of Hetero. Test (ARCH)

Heteroskedasticity Test: ARCH			
F-statistic	0.236015	Prob. F(1,58)	0.6289
Obs*R-squared	0.243164	Prob. Chi-Square(1)	0.6219

Source: Table from the researcher's work based on the outputs of the statistical program (EViews.10).

Table (8) shows the results of the (ARCH) test to detect the problem of heterogeneity of the residual variance, as the results of the conditional variance of the residuals of the estimated model appeared heterogeneous based on the value of each of its (Chi-Square) statistic, which is equal to (0.6219), which is greater than (5%) , and this indicates that the null hypothesis, which states that the variance of the residuals is not homogeneous, can be accepted.

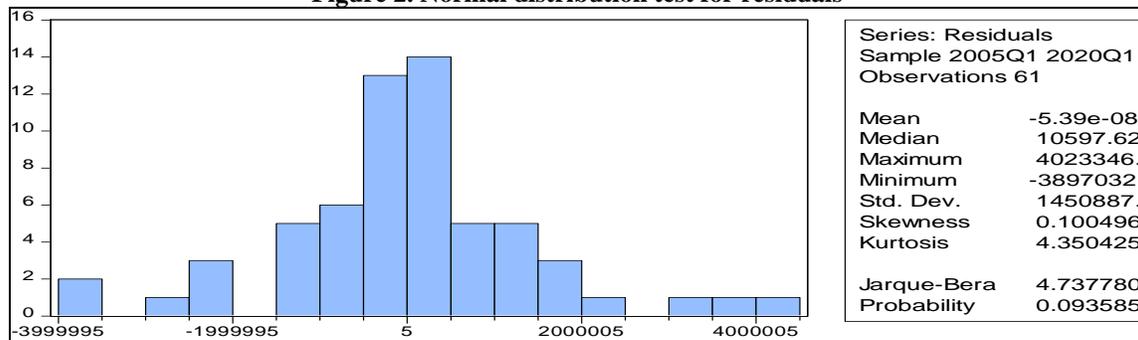
Table 9. Breusch-Godfrey Serial correlation LM test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.042117	Prob. F(2,46)	0.6088
Obs*R-squared	2.644075	Prob. Chi-Square(2)	0.6659

Source: Table from the researcher's work based on the outputs of the statistical program (EViews.10).

Table (9) shows the results of the (LM) test for the autocorrelation of errors for the variables of financial liberalization and the banking stability index, as Table (9) shows that there is no autocorrelation problem, through the value of (2) Chi-square, which is greater than (5%) , so we reject the alternative hypothesis that there is a serial autocorrelation between the residuals of the estimated model. We accept the null hypothesis, which states that the errors are independent, meaning there is no autocorrelation problem.

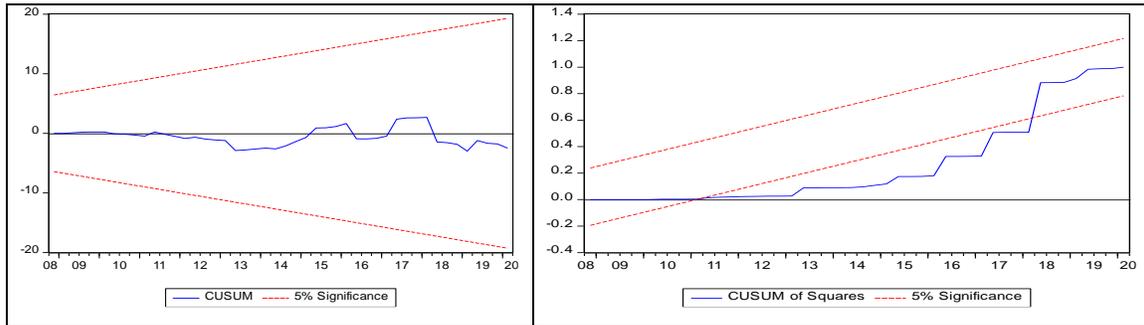
Figure 2. Normal distribution test for residuals



Source: Table from the researcher's work based on the outputs of the statistical program (EViews.10).

The standard tests related to the problems related to the measurement method must be free of problems after conducting the partial significance tests of the estimated model (Student test), or the total significance (Fisher test) must be satisfied. The condition of the normal distribution of the residuals must be met. Figure (19). The structural stillness of the ARDL model should be tested for the long- and short-term relationship to ensure no structural changes in the data used under study.

Figure (3) The cumulative sum of the observed remainder (CUSUM) and SUSUMSQ) of the fiscal policy instruments and the GDP index



Source: Table from the researcher's work based on the outputs of the statistical program (EViews.10).

Figure (3) shows the possibility of achieving the structural stillness of the estimated model through the test line that fell within the critical limits at a significant level (5%). This confirms the stability of the estimated short-term and long-term model parameters (ARDL) structurally over time. The results showed, in general, the impact of fiscal policy tools on economic development through the GDP indicator, as the relationship is direct between public revenues (X1) and the GDP index (1Y), according to economic logic. The parameter sign appeared positive and statistically significant, consistent with economic logic. This means that an increase of one unit in public revenues leads to an increase in the gross domestic product (1.871). As for the relationship between public expenditures (X2) and the GDP index (1Y), it is direct, according to economic logic. The public expenditure parameter appeared inverse, statistically insignificant, and incompatible with economic logic. That is, the absence of a long-term balance between public expenditures and the GDP index (1Y) is due to the increase in operational expenditures over investment expenditures in the Iraqi economy. Disrupting most investment plans and projects and giving priority to operating expenses. According to economic logic, there is also a direct relationship between the net budget (X3) and the GDP index (1Y). The net budget parameter appeared negative, inconsistent with economic logic, and statistically significant. This is due to weak administration and the extent of political corruption due to the type of budget approved in Iraq. It is the balancing of items that encourages wasteful spending. It is very concerned with financial implementation rates without real implementation and the absence of control over the budget through the final accounts.

## CONCLUSIONS

- 1- By studying the data of the GDP indicator and analyzing it during the research period, the impact of the oil sector on its formation was found. We find a high percentage of the oil sector's contribution in the formation of the GDP. It rises with the rise in oil prices and decreases with the decline in global oil prices. The rest of the economic sectors have no effect on that, which is generally characterized by a low-income generation capacity.
- 2- The tax revenues in Iraq showed a low percentage of public revenues throughout the study period as a result of the inflexibility of the tax system, the large number of tax exemptions, and rampant corruption, which was reflected in the lack of returns from this source. Moreover, the dependence of public revenues on oil revenues made the economy more vulnerable to economic crises because these revenues are linked to the global oil markets, which have effects on the country and impede economic development.
- 3- The traditional methods adopted in preparing the general budget (budget items) have generated many problems in fiscal policy due to their ineffectiveness and efficiency in the best use of funds and weak financial allocations, which negatively affected fiscal policy performance in achieving economic development.
- 4- The results showed no long-term relationship between public expenditures and the GDP indicator.
- 5- The results showed a short-term balance relationship between the fiscal policy tools: (public revenues, public expenditures, and the net budget) and the GDP indicator.

## RECOMMENDATIONS

- 1- Work to increase the volume of public revenues by developing plans to diversify revenue sources, especially in the non-oil (commodity) sectors, in a way that increases the size of the public budget, create a spirit of stability in it, and reduces dependence on oil revenues whose prices fluctuate in global markets.

- 2- Developing work in the tax system and increasing the percentage of tax revenues out of the total public revenues, which aims to support economic development programs through the development of tax legislation to include most of the tax bases and work to reduce the rate of tax evasion through the use of modern electronic means, taking into account the lack of exaggeration in the tax rate.
- 3 Follow up the implementation of the desired goals within the economic development goals in Iraq in terms of fiscal policy tools and achieving goals to demonstrate the quality and effectiveness of those tools in achieving the goals. These are the duties of various specialized financial and technical control bodies.

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