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Universidad del Zulia  
Facultad Experimental de Ciencias  
Departamento de Ciencias Humanas  
Maracaibo - Venezuela



# **The Use Of Some Statistical Criteria To Show The Role Of Fiscal Policy In Achieving Economic Development In Iraq**

**Assma abdulrtha dagr**  
**Anwaar Dhiaa Abdulkareem**  
**Asmaaredaa2018@gmail.com**  
**danwaar694@gmail.com**  
**University of Kirkuk /**  
**Faculty of Management and Economics**

## Abstract

The research aims to study the role of financial policies in achieving economic development in Iraq during the period (2004-2017). The research used the descriptive approach and the analytical methodology to analyze the study data. The study found that the relationship between government expenditure and GDP growth rate during the period 2004-2017 is not significant. There is a correlation between the government expenditure and the GDP growth rate in Iraq during the study period. This means that it is possible to apply the corrective error correction method. The relationship between the tax rate and the growth rate of GDP during the study period. The correlation between the tax rate and the GDP growth rate in Iraq during the study period, which means the possibility of applying the error correction vector method, the absence of a significant effect of financial policies on economic development In the Iraqi economy during the study period. The study recommended that it is necessary for the Iraqi government to develop more effective financial policies through which to influence the economic development, increase the rates of government spending on sectors that help to achieve economic development quickly while ensuring the continuity of development rates achieved, Changes to the fiscal policy of the Iraqi government to make them more effective, increasing their impact on economic variables that help in achieving real economic development of the Iraqi society and help in achieving the objectives of Iraqi economic policy, The tax rates imposed on companies and individuals, especially that they did not pay their fruits significantly and work to alleviate the economic

burden on individuals and companies in order to encourage them to work and increase production rates, which helps to achieve the required economic development.

**Keywords:** fiscal policy, economic development, government spending, taxes

## **El Uso De Algunos Criterios Estadísticos Para Mostrar El Papel De La Política Fiscal En El Logro Del Desarrollo Económico En Iraq**

### **Resumen**

La investigación tiene como objetivo estudiar el papel de las políticas financieras en el logro del desarrollo económico en Irak durante el período (2004-2017). La investigación utilizó el enfoque descriptivo y la metodología analítica para analizar los datos del estudio.

El estudio encontró que la relación entre el gasto público y la tasa de crecimiento del PIB durante el período 2004-2017 no es significativa. Existe una correlación entre el gasto público y la tasa de crecimiento del PIB en Iraq durante el período de estudio. Esto significa que es posible aplicar el método de corrección de errores correctivos. La relación entre la tasa impositiva y la tasa de crecimiento del PIB durante el período de estudio. La correlación entre la tasa impositiva y la tasa de crecimiento del PIB en Irak durante el período de estudio, lo que significa la posibilidad de aplicar el método del vector de corrección de errores, la ausencia de un efecto significativo de las políticas financieras en el desarrollo económico en la economía iraquí durante el período de estudio .

El estudio recomendó que es necesario que el gobierno iraquí desarrolle políticas financieras más efectivas a través de las cuales influya en el desarrollo económico, aumente las tasas de gasto público en sectores que ayuden a lograr el desarrollo económico rápidamente mientras se garantiza la continuidad de las tasas de desarrollo logradas. Cambios a la política fiscal del gobierno iraquí para hacerlos más efectivos, aumentando su impacto en las variables económicas que ayudan a lograr el desarrollo económico real de la sociedad iraquí y ayudan a lograr los objetivos de la política económica iraquí. Las tasas impositivas impuestas a empresas e individuos , especialmente porque no pagaron sus frutos de manera significativa y trabajaron para aliviar la carga económica de los individuos y las empresas

con el fin de alentarlos a trabajar y aumentar las tasas de producción, lo que ayuda a lograr el desarrollo económico requerido.

**Palabras clave:** política fiscal, desarrollo económico, gasto público, impuestos.

## Introduction

Economic policies applied by governments greatly affect the economic activity of countries and countries adopt a set of policies in which they seek to achieve the desired economic objectives, reach a certain level of economic development and solve the economic problems and crises facing society.

By using macroeconomic policies that include both fiscal policy and monetary policy, the state tries to address economic stagnation and achieve high and ever-increasing rates of economic development.

## Research problem

By applying fiscal policies and various tools, the GOI seeks to achieve high rates of growth and economic development to improve the economic and social level of the community.

The research problem is that it seeks to identify the role of financial policies in achieving economic development in Iraq through various instruments of financial policies.

## research goals

The objective of the research is to investigate the role of financial policies in achieving economic development in Iraq during the period 2004-2017 by achieving a set of sub-objectives:

- 1 - To identify the impact of government spending on the growth rate of GDP during the study period
- 2 - To identify the impact of the tax rate on the growth rate of GDP during the study period
- 3 - To reach recommendations and proposals to help achieve the most effective financial policies.

## Search Hypothesis

There is an impact of fiscal policy on the economic development in Iraq during the period (2004-2017)

## Research Methodology

The research will use a set of curricula to suit the objectives of the research and achieve its purpose. The research will use the descriptive approach to

the subject of the research. It will describe the phenomenon to be studied. The research will also use the analytical method, Through the use of E.views to reach conclusions and recommendations that can be used. .

First: the theoretical framework

1. Research terms and concepts

مفهوم The concept of financial policy:

Is the set of methods, methods and procedures adopted by the Government in order to achieve the greatest possible efficiency in the management of financial activity, with the aim of achieving a set of economic, political and social objectives over a period of time. (Abdel Rahim, 2010, 41)

It also means the means implemented by the State in order to reach the highest possible rates of public spending, which helps solve many of the economic and social problems and the means by which to provide funding for this spending. (Khalaf, 2008, 335).

Objectives of the fiscal policy:

Achieving full employment.

2. Achieving high growth rates in income.

3 Stabilization of the general level of prices.

4. Achieving justice in the distribution of income. (Ramoul, 2012, 18-20)

Financial Policy Tools:

Financial policy instruments are represented in

Change government spending.

2 Change taxes.

3 Combine the two tools together.

This affects the level of aggregate demand and affects the level of economic activity of the community. (TAQA, 2008,374)

مفهوم The concept of economic development

Is the complete change that occurs in the lives of members of society as a result of increasing the average real incomes of individuals as a result of the exploitation of the economic resources of the society the best possible exploitation. (Makassi, 2010, p. 4)

As well as the improvement in the economic and social standard of living of individuals as a result of the improvement of goods and services and the increase of levels and productive capacities with a fair distribution of income among the members of society (Al-Hamsay, 2014, pp. 54-55).

Previous studies

The study of the role of fiscal policy in achieving economic balance under

the economic reform program (Algeria case study during the period 1994-2009), which aimed at the role played by fiscal policy in achieving stability and economic balance. The study reached a set of results That there is an important role of fiscal policy through its components in achieving stability and economic balance. It is necessary to harmonize both fiscal and monetary policy so as not to cause conflicts between them, which hinders them from achieving their objectives. The weakness of the impact of fiscal policy on the Algerian economy. The Algerian economy is based on the income generated by the hydrocarbons sector, which makes it necessary to work to find alternative sources of income to avoid any financial crises in the case of low oil prices. The study recommended the need to redirect government spending and encourage investment, rationalize government spending, Increase tax awareness among individuals, the need to work on diversifying public revenues from several sources.

In Mousi (2016), the role of fiscal policy in achieving economic development, which aims to identify the role of fiscal policy in achieving economic development in the northern state of the Republic of the Sudan through the follow-up of the deductive, analytical, historical and descriptive analytical approach. The State's contribution to the State contributes to the development of a much larger share of State revenues, and state and state support has been able to achieve high development in health, education and poverty eradication, and the State is implementing a policy The study recommended increasing the revenues of the state, encouraging the private sector to invest, and using a specific policy in the field of gold mining.

In the study of Mohamed, Abdelkader (2017) entitled The role of fiscal policy in achieving macroeconomic stability in Algeria during the period 2001-2016, which aimed to identify the impact of fiscal policy on indicators of macroeconomic stability by identifying the components of fiscal policy and its impact on the most important economic indicators Such as the rate of inflation, unemployment rate and growth rate. The study reached a number of results, including that fiscal policy has a significant role in achieving macroeconomic stability, and the role of fiscal policy is linked to oil prices and therefore it is necessary to work to provide other sources of funding for the economy D. Al-Ghali and the lack of full dependence on oil income.

Second: the applied part

The research aims at identifying the relations between the financial policies and the economic development in the State of Iraq. To achieve the

main objective of the research is to identify the role of financial policies in achieving economic development in the State of Iraq, the impact of the basic components of fiscal policies (government spending, taxes) GDP growth rates as an indicator of economic development in the State of Iraq during the period 2004-2017.

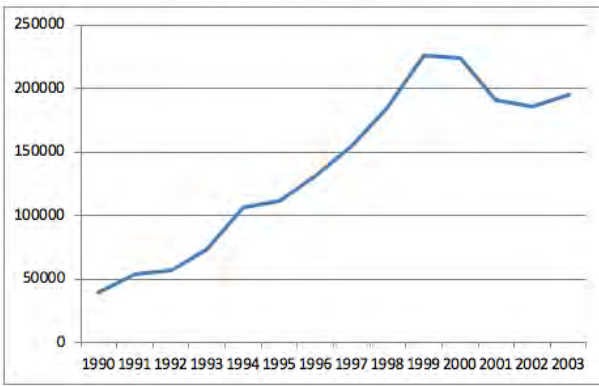
1 - Study of the development of financial policy instruments and the growth rate of GDP in Iraq during the period (2004 - 2017)

Total government expenditure:

The study of the data in Table (1) shows that the total government expenditure in Iraq during the period (2004-2017) was between two levels of about 39445.38 million dollars in 2004 and a maximum of about 226048.37 million in 2013, The annual average value of the total government spending during the study period was about 138049.83 million dollars.

Estimating the general time trend equation for the total government spending in Iraq during the period 2004-2017 shows that the total government spending in Iraq has taken an upward trend with a change of about US \$ 14467.76 million. The annual growth rate is about 12.9% Government in Iraq at a significant level of 0.01

Figure 1: Evolution of total government spending in Iraq during the period 2004-2017



Source: prepared by the researcher based on the data table (1)

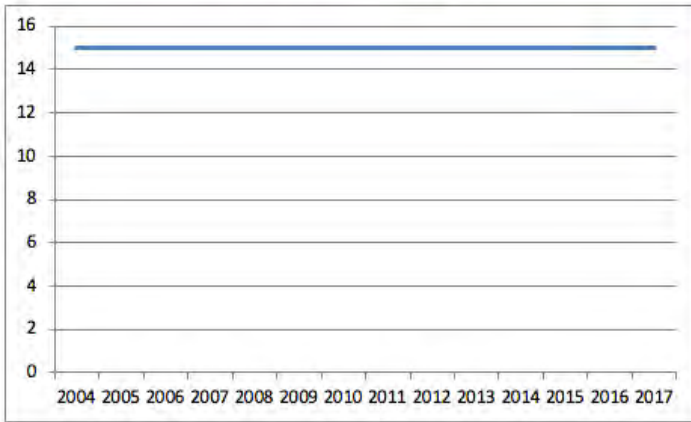
## B) Tax rate

When examining the tax rates imposed by the Iraqi government on companies and personal income during the period (2004-2017), the rates are fixed at 15% as shown in Table (1) and estimate the equation of the trend of the general trend of the tax rate in Iraq during the period (2004) -2017)



showed that the tax rate was insignificant at a significant level of 0.05

Figure (2) Evolution of tax rates in Iraq during the period 2004 – 2017

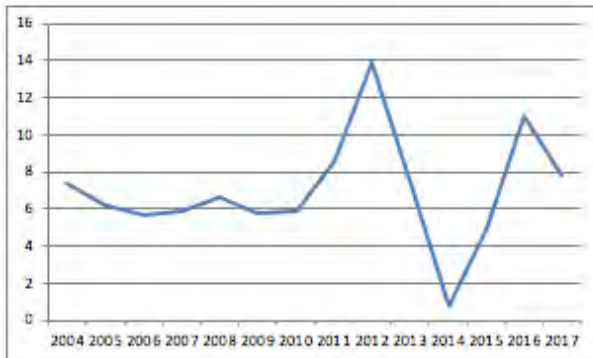


Source: prepared by the researcher based on the data table (1)

C - GDP growth rate:

The study of the data in Table (1) shows that the growth rate of GDP in Iraq during the period (2004-2017) has ranged between two levels of about 0.72% in 2014 and a maximum of about 13.92% in 2012, The average annual growth rate of GDP during the study period was about 7.01% The estimate of the general trend trend of the GDP growth rate in Iraq during the period (2004-2017) showed that the GDP growth rate was insignificant at a significant level of 0.05

Figure (3) Evolution of GDP growth rates in Iraq during the period 2004-2017



Source: prepared by the researcher based on the data table (1)

Table 1: Evolution of the value of government spending, tax rate and GDP growth rate in the Iraqi economy during the period 2004-2017.

| <b>GDP growth rate %</b> | <b>Tax rate %</b> | <b>Total government expenditure (Million dollars)</b> | <b>years</b> |
|--------------------------|-------------------|---|--------------|
| 7.42                     | 15                | 39445.38  | 2004         |
| 6.22                     | 15                | 53475.11  | 2005         |
| 5.64                     | 15                | 57054.19  | 2006         |
| 5.92                     | 15                | 73109.30  | 2007         |
| 6.61                     | 15                | 105815.97   | 2008         |
| 5.81                     | 15                | 111534.86   | 2009         |
| 5.86                     | 15                | 131125.22   | 2010         |
| 8.58                     | 15                | 154796.86   | 2011         |
| 13.92                    | 15                | 184541.15   | 2012         |
| 7.61                     | 15                | 226048.37   | 2013         |
| 0.72                     | 15                | 224348.37   | 2014         |
| 4.93                     | 15                | 190427.88   | 2015         |
| 11                       | 15                | 185855.79   | 2016         |
| 7.83                     | 15                | 195119.10   | 2017         |
| 5.80                     | 15                | 138049.83   | Average      |

2- Studying the standard relations between the fiscal policies and the GDP growth rate in Iraq during the period (2004-2017)

In order to measure and analyze the impact of fiscal policies on economic development during the period (2000-2015), the standard ratios between the components of fiscal policies (government spending, taxes) on the GDP growth rate were calculated as an indicator of economic development in the State of Iraq during the period of research. Of the standard tests such

as the extended Dicky-Fuller test and the joint integration test to test the relationship between variables. The error correction model was also used to determine the type of relationship between variables in the long and short term using the E-Views program.

A - The standard model of the relationship between government expenditure and GDP growth rate:

• Unit Root Testing:

In order to measure the stability of the model variables, the ADF was used. Table 3 shows the stability of the government expenditure series (X1) at its level and stability after taking the second difference. The series becomes a second-order series, The GDP growth rate (Y) at its level and the stability after taking the first difference, so that the series becomes a complete first class, and because the two series are not integrated at the same level, the joint integration of ARDEL is used to conduct the joint integration test. (ADF) (Dickey D. and Fuller W. (1979), 427-43)

Table (3) The results of the Dicky-Fuller (ADF) test of the relationship between government expenditure and GDP growth rate.

| Variable | Stability test |       |               |                            |       |            |                            |       |            |
|----------|----------------|-------|---------------|----------------------------|-------|------------|----------------------------|-------|------------|
|          | Level          |       |               | 1 <sup>st</sup> Difference |       |            | 2 <sup>nd</sup> Difference |       |            |
|          | ADF            | Sig.  | Result        | ADF                        | Sig.  | Result     | ADF                        | Sig.  | Result     |
| X1       | -2.958         | 0.185 | No stationary | -1.821                     | 0.066 | Stationary | -3.557                     | 0.002 | stationary |
| Y        | -0.333         | 0.541 | No stationary | -7.272                     | 0.000 | Stationary |                            |       |            |

Source: Results for 10 Eviews program accounts

• Bounds Test Test between the government expenditure and the GDP growth rate

In the study of joint integration (Pesaran, M. H, 2001,289-326), Table 4 shows that there is a common integration between the government expenditure series and the GDP growth rate at a significant level of 0.01

Table (4): Testing the combined integration of government expenditure and GDP growth rate

| F-Bounds Test  |          | Null Hypothesis: No levels relationship |      |      |
|----------------|----------|---|------|------|
| Test Statistic | Value    | Signif.                                 | (0)  | (1)  |
| F-statistic    | 7.231444 | 10%                                     | 3.02 | 3.51 |
| k              | 1        | 5%                                      | 3.62 | 4.18 |
|                |          | 2.5%                                    | 4.18 | 4.79 |
|                |          | 1%                                      | 4.94 | 5.58 |

Source: Results for 10 Eviews program accounts

- Select the number of deceleration times

Table (5) shows that the optimal number of times of deceleration (Narayan, P. K. 2005,37) is a single time period for the independent variable and two time periods for the dependent variable.

**Table (5): Test periods of total period slowdown**

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob. > |
|--------------------|-------------|-----------------------|-------------|---------|
| X1(-1)             | 0.827928    | 0.061618              | 13.43681    | 0.0000  |
| Y                  | 2892.181    | 1842.701              | 1.569534    | 0.1666  |
| Y(-1)              | 3712.628    | 1271.631              | 2.919602    | 0.0224  |
| Y(-2)              | 2076.157    | 2039.208              | 1.017629    | 0.3427  |
| C                  | -23520.29   | 21758.25              | -1.080983   | 0.3156  |
| R-squared          | 0.971581    | Mean dependent var    | 153314.8    |         |
| Adjusted R-squared | 0.955342    | Std. dependent var    | 58981.89    |         |
| S.E. of regression | 12037.23    | Waldie info criterion | 21.462373   |         |
| Sum squared resid  | 1.01E+09    | Schwarz criterion     | 22.12576    |         |
| Log likelihood     | -126.5424   | Hannan-Quinn criter.  | 21.84893    |         |
| F-statistic        | 89.82847    | Durbin-Watson stat    | 1.814776    |         |
| Prob(F-statistic)  | 0.000017    |                       |             |         |

\*Note: p-values and any subsequent tests do not account for model selection.

**Source: Results for 10 Eviews program accounts**

- The error correction vector model for the relationship between government spending and long-term and short-term GDP growth:

In order to determine the value of long-term and short-term relationship parameters, it is necessary to estimate error correction vectors (Pesaran, M. H, 2001,371-413). Table (6) shows that the error error correction coefficient was 0.1720, There is a short-term correction for the long term at 0.1720, while the long-term equation indicates that there is no long-term correction effect because Y is insignificant at a significant level of 0.05

Table (6) Results of error correction vector test for the relationship between government expenditure and GDP growth rate

B. The standard model of the relationship between taxes and GDP growth rate:

- Unit Root Testing:

In order to measure the stability of the model variables, the ADF was used. Table 7 shows the stability of the X2 series at its level and thus the series becomes zero-sum, as well as the instability of the Y- At the level and stability after taking the first difference so that the series becomes a complete first class, and because the two series are not integrated at the same degree, the use of joint integration of Ardal to conduct the test of common integration between them. (ADF) (Dickey D. and Fuller W. (1979), 427-43)

Table (7) The results of the Dicky-Fuller (ADF) test of the relationship between government expenditure and GDP growth rate

| Variable | Stability test |       |               |                            |       |            |                            |       |        |
|----------|----------------|-------|---------------|----------------------------|-------|------------|----------------------------|-------|--------|
|          | Level          |       |               | 1 <sup>st</sup> Difference |       |            | 2 <sup>nd</sup> Difference |       |        |
|          | ADF            | Sig.  | Result        | ADF                        | Sig.  | Result     | ADF                        | Sig.  | Result |
| X1       | -5.088         | 0.007 | stationary    | -----                      | ----- | -----      | -----                      | ----- | -----  |
| Y        | -.333          | 0.541 | No stationary | -                          | 0.000 | Stationary | -----                      | ----- | -----  |

Source: Results for 10 Eviews program accounts

- Joint integration test (Bounds Test) between the tax rate and GDP growth rate

When examining the combined integration (Pesaran, M. H, 2001,289-326), Table (8) shows that there is a common integration between the tax rate series and the GDP growth rate at a significant level of 0.01

Table (8): Testing the combined integration of the tax rate and GDP growth rate

| F-Bounds Test  |          | Null Hypothesis: No levels relationship |      |      |
|----------------|----------|---|------|------|
| Test Statistic | Value    | Signif.                                 | I(0) | I(1) |
| F-statistic    | 11.26702 | 10%                                     | 3.02 | 3.51 |
| k              | 1        | 5%                                      | 3.62 | 4.16 |
|                |          | 2.5%                                    | 4.18 | 4.79 |
|                |          | 1%                                      | 4.94 | 5.58 |

Source: Results for 10 Eviews program accounts

- Select the number of deceleration times

Table (9) shows that the optimal number of times of deceleration (Narayan, P. K. 2005,37) is one time period for the independent variable and three time periods for the dependent variable.

- The error correction vector model for the relationship between government spending and long-term and short-term GDP growth:

In order to determine the value of long-term and short-term relationship parameters, it is necessary to estimate error correction vectors (Pesaran, M. H, 2001,371-413). Table 10 shows that the error error correction coefficient was 1.6476, There is a short-term correction for the long term at 1.6476 while long term equation indicates that there is a long-term correction effect because Y is significant at a significant level of 0.05

## Impact of Financial Policies on Economic Development in Iraq during the Period 2004-2017

To determine the effect of fiscal policies on economic development in Iraq during the period 2004-2017, the multiple regression equation was calculated between the government expenditure, the tax rate (independent variables) and the GDP growth rate (variable variables). The results were as follows:

$$Y = 533.009 + 0.00004 X1 - 35.115X2$$
$$(0.167) (0.340) (-0.165)$$
$$F = 0.066 R^2 = 0.012$$

Where :

Y = GDP growth rate

X1 = Government expenditure

X2 = Tax rate

It is clear that the variables included in the model explain 1.2% of the changes in the GDP growth rate, while the rest of the changes are due to other factors not included in the model used. A very weak percentage indicating that there is a very weak impact of financial policies on the economic development in Iraq, which shows the lack of validity of the imposition of the study.

The effect of government spending on the Iraqi economy on the GDP growth rate was insignificant at 0.05, and the effect of the tax rate on the GDP growth rate was not significant at 0.05

The previous results show that there is no impact of financial policies on the economic development in the Iraqi economy, which illustrates the incorrect hypothesis of the study as well as the need for the Iraqi government to adjust its financial policy more effectively in order to have a positive impact on economic development.

### Conclusions

The research reached a number of results:

- 1- The significance of the relationship between government expenditure and GDP growth rate during the period (2004-2017)
- 2 - There is a correlation between the government expenditure and the growth rate of GDP in Iraq during the period of study, which means the possibility of applying a vector correction error
- 3 - The significance of the relationship between the tax rate and the growth rate of GDP during the period (2004-2017)
- 4 - There is a correlation between the tax rate and the growth rate of GDP

in Iraq during the study period, which means the possibility of applying a vector error correction method

5 - No significant effect of financial policies on the economic development of the Iraqi economy during the study period.

#### Recommendations

1- The need for the Iraqi government to develop more effective financial policies through which to influence economic development

2 - Increasing the rates of government spending on sectors that help in the rapid economic development while ensuring continuity of development rates achieved.

3 - Benefit from the rise in oil prices to make changes in the fiscal policy of the Iraqi government to make them more effective, increasing their impact on economic variables that help in achieving real economic development of Iraqi society and help in achieving the objectives of Iraqi economic policy.

4. Reviewing the rates of taxes imposed on companies and individuals, especially since they did not pay off significantly and work to alleviate the economic burden on individuals and companies in order to encourage them to work and increase production rates, which helps achieve the required economic development.

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