

## **The Impact of Fiscal Policy on Unemployment: An Econometric Study in Iraq for the Period (2005-2021)**

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### **Abstract**

*This paper investigates the impact of fiscal policy on unemployment in Iraq. The study uses data from the period 2005-2021. The study finds that fiscal policy has a significant impact on unemployment in Iraq. An increase in government spending leads to a decrease in unemployment. This is consistent with the theoretical expectation that government spending creates jobs and increases economic activity (Habeeb, 2005).*

*The study also finds that the impact of fiscal policy on unemployment is stronger during periods of economic recession. This is likely because government spending is more effective at stimulating the economy during times of economic weakness (Hammad et al., 2023).*

*The study's findings have important policy implications for Iraq. The government can use fiscal policy to help reduce unemployment, especially during periods of economic recession. The government can do this by increasing government spending on infrastructure, education, and other programs that create jobs.*

*The findings of this study are also relevant to other countries with high unemployment rates. Governments in these countries can use fiscal policy to help reduce unemployment by increasing government spending.*

**Keywords:** *Fiscal policy, unemployment, Iraq, econometrics, structural breaks, regime switching models.*

### **1. Introduction**

Fiscal policy is one of the most important tools of economic policy, which plays a prominent and influential role in the economic trajectory of countries. General revenues are no longer limited to covering public expenses, but have become an important tool with a clear impact on the Iraqi economic activity, in addition to the role of public expenditures and revenues in income redistribution. Fiscal policy has had a clear impact on unemployment over different periods from 2005-2021, and this impact varied from one period to another, according to the objectives and nature of the tools used, and also depended on the efficient management of these policies. Unemployment is a major problem in Iraq, as high unemployment reflects the deterioration of the country's economic situation and has several effects, such as the spread of poverty and backwardness, low income levels, and poor living standards. This problem is one of the top priorities of country policies and government programs in an attempt to alleviate it.

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The problem lies in the following question: Has fiscal policy in Iraq been able to solve the problem of unemployment during the study period?

The study gains its importance by providing solutions to Iraq's main problem, which is high unemployment, especially after the COVID-19 pandemic in 2020, compared to the workforce employed in the labor market. This has given significant importance to fiscal policy, its tools, and their deployment in addressing the issue of unemployment.

The primary objective is to determine the effectiveness of fiscal policy in addressing the problem of unemployment in Iraq, and to review the current situation of unemployment in Iraq and identify the government's efforts to reduce unemployment.

The main hypothesis of the study is based on fiscal policy, which works towards the development and prosperity of the economy in Iraq, leading to an increase in employment opportunities and a reduction in unemployment.

## 2. Literature Review

(Sleman & Ali, 2023) The research aims to study the reality of fiscal policy in Iraq and analyze the relationship between it and some indicators of international economic relations in it during the period (2004-2021). And the extent of the aforementioned policy's contribution to the development of its international economic relations. The descriptive analytical approach was relied upon to demonstrate this relationship. Using the (FMOLS) method, based on theoretical sources and official data published by the Central Bank and the Iraqi Ministry of Planning. The standard results showed that there is a positive (positive) relationship between public revenues and the indicators of the total balance of payments.

(Abida & Salman, 2023) 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.

(Abdullah & Husain, 2022) The objective of this article is to determine the role of fiscal policy on inequality throughout economic growth. Iraq for the period of (2004-2019) has been chosen. Gross domestic production (GDP), Government expenditure (G.EXP), Poverty, and ISIS variables have been considered to model this article. Two models have been applied. The first one; is the model of the effect of G.EXP and ISIS on GDP by using the ARCH model. The result shows that G.EXP has a positive impact on economic growth. The second model is to examine the effect of GDP on Poverty by using the ARDL model. The result shows that GDP has a negative relationship with poverty as GDP increase poverty tends to decrease. The impacts of previous economic growth have more effect on poverty.

In the study of (Khairullah, 2023) it is seen that the problem of structural imbalances in the Iraqi economy is one of the most important problems facing the oil-producing countries, and this problem moved from the oil sector to other sectors because of the duplication of the economy. The researchers point out that structural imbalances are integrated with government spending during the long term, and can be exploited to rationalize government spending and diversify sources of income in the Iraqi economy. Fiscal policy, especially government spending, is affected by structural imbalances in the structure of the Iraqi economy. Private and support products in which Iraq can achieve an

absolute advantage and a comparative advantage to reduce the degree of structural imbalance.

(Obaid & Abid, 2022) this study measures and analyzes the impact of fiscal discipline on economic growth during the period (2004-2020) using the Autoregressive Distributed Deceleration (ARDL) model. Furthermore, The results showed that the economic growth in Iraq has an inverse relationship with the indicators of financial discipline (deficit or surplus, public debt, public expenditure) except for the public revenue indicator, where it is linked with a direct relationship as it appears that there is a long-term equilibrium relationship, that is, there is a joint integration between the variables the focus of the study according to the border test (bounds test) through the error correction vector coefficient, as (1.03) of short-term errors are automatically corrected within a period of one year in order to reach equilibrium in the long term.

(Marf & Noori, 2022) This study aims to evaluate monetary policy with measuring its effects on the economic growth in during (2004-2020). To achieve this goal, the study relies on the descriptive and analytical approach using time series data, and by applying the (ARDL) method, and it has reached several conclusions. The most important one is that there is a positive relationship between the money supply (M2) and economic growth. Also, there is a positive but weak relationship between the interest rate and economic growth, while a negative impact through the interest rate on the growth have been found.

### 3. Data and Methodology

The study employs time series data for the period 2005-2021 to examine the relationship between fiscal policy and unemployment in Iraq. The dependent variable is the unemployment rate, and the independent variables are oil revenues, non-oil revenues, tax revenues, operating expenditures, and investment expenditures. The data are tested for the Zivot and Andrews (1992) models are used to detect structural breaks in the time series, and then Smoothing Regime Switching Models are used to model the relationship between the variables.

Table No 1 Study variables

Definition	Variable or parameters
Unemployment	Une
Oil revenue	Orev
With out oil revenue	worev
Tax revenue	Taxrev
Operation expenditure	Ospe
Investment expenditure	inspe

The study first tests the time series properties of the selected sample (dependent variable/unemployment) and independent variables (oil revenues, non-oil revenues, tax revenues, operational expenses, investment expenses) using the Zivot and Andrews (1992) structural break test to detect structural breaks in the time series. Finally, the study uses smoothing regime switching models to examine the impact of fiscal policy on unemployment under different economic conditions (Mohsin, 2019).

Table No 2 : Descriptive statistics

	LOGNUNE	OREV	WOREV	TAXREV	OPSPE	INSPE
Mean	14.59930	17.13548	12.92548	13.46549	16.64657	15.52006
Median	14.59987	17.31692	13.04748	13.62975	16.84231	15.68859
Maximum	14.69472	18.57423	16.39137	15.65579	18.24652	17.40540
Minimum	14.50113	14.47787	8.031385	9.033842	13.66532	11.91495
Std. Dev.	0.056646	0.904457	1.898750	1.216025	0.960158	1.051913
Skewness	0.005592	-0.778185	-0.206974	-0.681334	-0.808421	-0.738872
Kurtosis	1.828824	3.028435	1.898182	3.369668	3.136044	3.126950
Jarque-Bera	11.66012	20.59633	11.77553	16.94493	22.37783	18.69869
Probability	0.002938	0.000034	0.002773	0.000209	0.000014	0.000087
Sum	2978.258	3495.638	2636.798	2746.960	3395.899	3166.093
Sum Sq. Dev.	0.651390	166.0628	731.8663	300.1796	187.1466	224.6239
Observations	204	204	204	204	204	204

#### 4. Results and discussion:

4.1. The results of tests for structural breaks in time series by using (Zivot and Andrews, 1992):

One of the important tests in identifying periods of structural breaks, which determine the occurrence of structural shocks, is the Zivot and Andrews test (1992). This test determines a single breakpoint, which is the maximum value, whether it is a decrease or an increase. The following table illustrates the values of this test for the variables of government expenditure and money supply during the study period.

Table No 3 Zivot and Andrews test results

Variables	with intercept	With trend	With intercept and trend
LNNUNE	-3.438770 [2009M09]	-8.146465*** [2012M09]	-3.106488 [2010M01]
LNOREV	-8.513909*** [2015M01]	-7.762002*** [2011M09]	***-8.470074 ]M01[2015
LNWOREV	-6.782801*** ]2014M01[	***-5.579339 ]2008M02[	-6.773876** ]2014M01[
LNTAXREV	-7.913543*** [2019M01]	-7.984952*** [2009M09]	-8.187432*** [2010M01]
LNOSPE	-9.099035*** [2014M01]	-8.509109*** [2010M11]	***-9.143355 ]M01[2014
LNINSPE	-8.699581 *** ]2016M01[	***-8.438613 ]2012M09[	***-8.745348 ]2014M01[

Source: Outputs of the statistical program (Eviews 11).

The results of this test match the previous unit root tests (ADF, PP), as all variables are stationary at the I (0) order. The maximum structural break for unemployment is determined in the second model (Trend) in (2012M09). For oil revenue variable, the shocks occur in the first model (intercept) in (2015M01) and are significant at all levels. In the second model (Trend), the shock occurred in (2011M09) and was significant at all

levels, and in both models in the third model at (2015M01). General revenues without oil shocks were significant in the first model with a value of (6.782801-) in (2014M01), unlike the other two models. The same situation applies to the variable of tax revenues. The shock for the operational general expenditure variable occurred in the first model (intercept) in (2014M01), while in the second model (Trend), the shock occurred in (2010M11), and the same applies to the third model. The investment expenditure variable shows somewhat similar results in all models to the operational general expenditure variable. Figure (11) illustrates this in more detail.

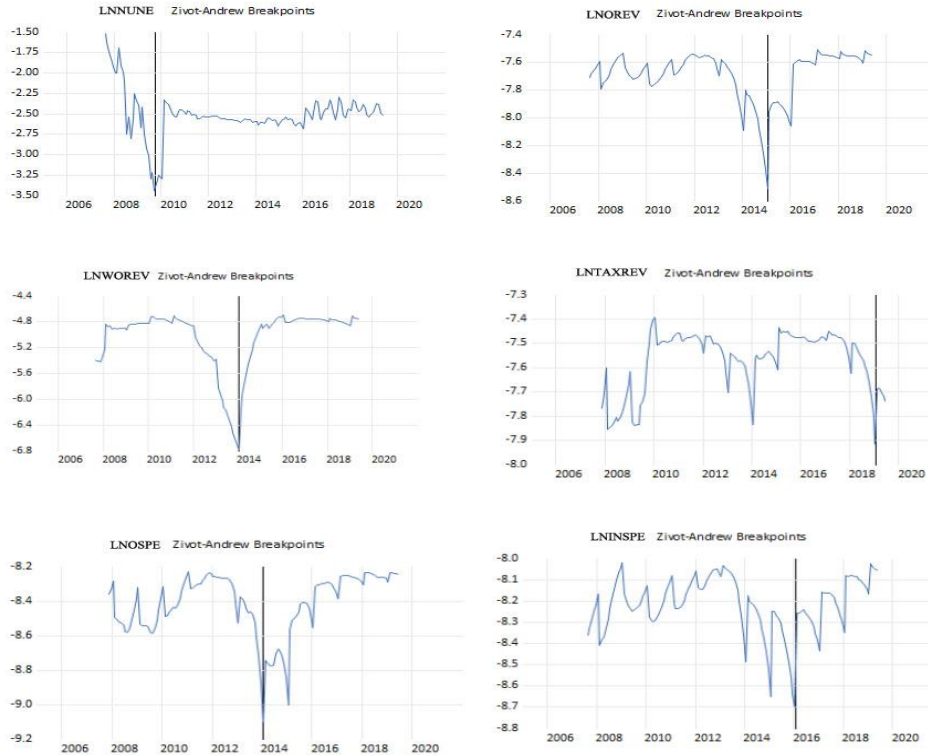


Figure 1 Zivot and Andrews test results for the three models

Source: Outputs of the statistical program (Eviews 11).

#### 4.2. Results of structural breaks tests for time series by (Bai and Perron 1998, 2003):

The autoregressive model with the serial Bai-Perron test was applied to identify structural breaks and determine the structural changes in the relationship between each independent variable with the constant term using separate regression equations for each variable. Bai-Perron (Bai and Perron 1998) (Bai and Perron 2003) proposed a sequential method that starts with testing the presence of a single structural break, but it can also identify multiple structural breaks in the data, up to a maximum of five breaks. The null hypothesis assumes no structural break. Therefore, each variable was tested with the constant term separately to obtain an overview of each variable within the model for the problem being analyzed in order to determine the type of these structural breaks. The time series analysis was conducted without separating each period since monetary and fiscal policies were consistent throughout the study period. However, identifying these breaks provides us with sufficient knowledge about the time series over time and the extent to which the analysis results match with the economic reality of the selected model and the assumptions of economic theory. It should be noted that time series undergo changes under the influence of economic fluctuations, crises, the adopted economic system, policy changes, technological developments, innovations, natural disasters, wars, etc. (Farhani et al., 2023)

It is possible to verify the results of the (Zivot and Andrews) tests through the (Multiple breakpoint tests) using the regression model with the (Bai-Perron) test, as shown in Table (4) in the regression equation for each variable separately with the overall constant limit of the regression equation. The result for the crude oil revenue variable (LNOREV) (2007M07, 2010M01, 2012M07, 2015M01, 2017M07) in consecutive order, matches the reality of the Iraqi economy. As for the result of the general revenue variable without oil (LNWOREV) (2007M1, 2010M05, 2014M01, 2016M07, 2019M01), it also matches the reality of the Iraqi economy. The result for (LNTAXREV) was (2007M07, 2011M04, 2014M01, 2016M07, 2019M01), which matches the reality of the Iraqi economy as these years represent a decrease (or increase) in crude oil prices, which reflects on the mechanisms of financing the federal general budget through taxes. As for the operating general expenditure variable (LNOPSPE), the breakpoints were (2008M06, 2011M06, 2014M01, 2016M07, 2019M06). This result is related to the first result of crude oil revenue, as it can be observed that every shock or breakpoint in the crude oil revenue variable is followed by another one in the operating general expenditure variable. As for the investment general expenditure variable, the result was (LNINSPE) (2007M07, 2011M07, 2014M01, 2017M01, 2019M07), which is close to the previous result for the operating general expenditure for the same reasons.

It should be noted that any shock to revenues in all its forms (whether an increase or a decrease) is quickly followed by a shock to public expenditures in all its forms. This is an expected result according to economic theory. A decrease in general revenues that fund the federal general budget in Iraq leads to a decrease in the money supply and therefore a decrease/increase in the size of public spending. These results have negative or positive implications for employment rates in the Iraqi economy. The Iraqi government seeks to increase employment and job opportunities solely through operational and investment spending, which is inversely proportional to the size of general revenues in the economy. Therefore, the impact of fiscal policy tools on unemployment is only through the tools of the general budget and its ability to meet the salaries of public sector employees and the government's ability to increase employment to reduce the number of unemployed individuals.

Table No 4 Bai-Perron test results

Break Test	F-Statistic	Critical Value *	Break Date
<b>LNOREV</b>			
0 vs. 1*	18.78166	8.58	2007M07
1 vs. 2*	17.87191	7.22	2010M01
2 vs. 3*	15.77073	5.96	2012M07
3 vs. 4 *	14.17686	4.99	2015M01
4 vs. 5 *	10.33578	3.91	2017M07
Break Test	F-Statistic	Critical Value *	Break Date
<b>LNWOREV</b>			
0 vs. 1*	405.7130	8.58	2007M11
1 vs. 2*	236.3852	7.22	2010M05
2 vs. 3*	163.9271	5.96	2014M01
3 vs. 4 *	125.6224	4.99	2016M07
4 vs. 5 *	100.0054	3.91	2019M01
Break Test	F-Statistic	Critical Value *	Break Date

LNTAXREV			
0 vs. 1*	68.96357	8.58	2007M07
1 vs. 2*	49.65081	7.22	2011M04
2 vs. 3*	34.29663	5.96	2014M01
3 vs. 4 *	26.44601	4.99	2016M07
4 vs. 5 *	21.53581	3.91	2019M01
Break Test	F-Statistic	Critical Value *	Break Date
LNOPSPE			
0 vs. 1*	32.14035	8.58	2008M06
1 vs. 2*	19.53049	7.22	2011M06
2 vs. 3*	13.76055	5.96	2014M01
3 vs. 4 *	11.47725	4.99	2016M07
4 vs. 5 *	9.488782	3.91	2019M06
Break Test	F-Statistic	Critical Value *	Break Date
LNINSPE			
0 vs. 1*	61.37012	8.58	2007M07
1 vs. 2*	40.73741	7.22	2011M07
2 vs. 3*	28.63119	5.96	2014M01
3 vs. 4 *	22.79524	4.99	2017M01
4 vs. 5 *	18.00283	3.91	2019M07

Source: Outputs of the statistical program (Eviews 11).

#### 4.3. Estimation results of models with variable systems (Regime Switching Models):

Smoothing regime switching models have been analyzed using the autoregressive (AR) model, where the variable  $X_t$  is considered as a function of its previous value  $X_{t-1}$ . The autoregressive (AR) models take the following form. (Meitz and Saikkonen 2021, 603): -

$$X_t = \mu + \theta_1 X_{t-1} + \theta_2 X_{t-2} + \dots + \theta_p X_{t-p} + Z_t \dots \quad (35)$$

If:  $(\mu, \theta_1, \theta_2, \dots, \theta_p)$  are the parameters of the model, and  $(Z_t)$  are uncorrelated random variables with zero mean and variance  $(\sigma_z^2)$ , then:

$$E(Z_t) = 0$$

$$E(Z_t Z_{i+k}) = \begin{cases} 0 & k \neq 0 \\ \sigma_z^2 & k = 0 \end{cases}$$

And through the analysis of time series for the period under study of the Iraqi economy, the variables of public expenditure (operational and investment) and public revenues (oil revenues, general revenues excluding oil revenues, and tax revenues) were chosen as independent variables, and the number of unemployed as a dependent variable representing unemployment. Two basic systems were estimated considering the previous variables, where the first system represents inflation or the system of rising prices (economic recovery period), estimating the parameters of the system and the likelihood of following it by the variables and the likelihood of transition from it to another system.

While the second system is the system of recession or price decrease (internal and external shocks system), taking into consideration the specificity of the Iraqi economy regarding structural shocks experienced during the research period, such as the increase and decrease in oil prices, which represent a case of inflation or recession, as it is directly related to the size of public revenues and therefore public expenditure. The results are shown in table number (5).

The first thing that can be observed from the table is the value of the linear model, which reached a squared value of (1247.04) for the likelihood test. This is a large positive value, indicating the rejection of the null hypothesis that states the linearity of the model between variables, and accepting the alternative hypothesis that states the non-linearity of the relationship.

It is also observed from the table that the relationship between the variables in the best regression model is at (AR(1)) with a significance level less than 5%, and at (AR(2)) with a significance level less than 5% as well. However, the second model indicates a positive relationship, which contradicts the logic of economic theory that states the inverse relationship between independent and dependent variables. Therefore, we rely on the autoregressive model (AR(1)), which gives a negative value indicating the inverse relationship.

Similarly, in the first regime (Regime 1), a negative value is observed for the operational expenditure variable, indicating an inverse relationship. This means that a 1% increase in operational expenditure leads to a 0.037% decrease in the number of unemployed individuals. As for the second regime, all variables have shown positive and statistically significant values, which does not align with the economic theory that suggests a negative inverse relationship between oil revenues, non-oil revenues, and the number of unemployed individuals. However, the tax revenue variable has shown a positive and statistically significant value. This means that a 1% increase in tax revenue leads to a 0.006% increase in the number of unemployed individuals, which is very weak due to the prevailing financial system that relies on tax reduction and tax evasion, as well as the overall inefficiency of the tax system in Iraq.

Table No 5 Estimation results (MSAR)

Markov-switching autoregression						
Sample: 2005m5 thru 2021m12			Number of obs = 200			
Number of states = 2			AIC = -12.3605			
Unconditional probabilities: transition			HQIC = -12.2871			
Log likelihood = 1247.0465			SBIC = -12.1791			
lognune	Coefficient	Std. err.	z	P> z	[95% conf. interval]	
<b>lognune</b>						
opspe	-0.0003703	0.0002067	-1.79	0.073	-0.0007754	0.0000348
inspe	0.0002745	0.0001876	1.46	0.143	-0.0000932	0.0006423
orev	0.0000488	0.0001377	0.35	0.723	-0.000221	0.0003186
worev	0.0000218	0.0000345	0.63	0.528	-0.0000458	0.0000894
taxrev	0.0000695	0.0000819	0.85	0.396	-0.0000911	0.0002300
<b>ar</b>						
L4.	0.9993811	0.0000402	2.5e+04	0.000	0.9993024	0.9994598
<b>State1</b>						
_cons	-8.314162	0.4041578	20.57	0.000	7.522027	9.106297
<b>State2</b>						
_cons	8.317295	0.4041615	20.58	0.000	7.525153	9.109437
sigma	0.0004588	0.0000229			0.0004159	0.000506
p11	0.9694844	0.0639565			0.3146237	0.9995454
p21	0.0043952	0.9770542			0.0005776	0.0326201

Source: Prepared by the researcher based on the outputs of the statistical program (STAT v.17).



The transition matrix was as follows:

$$\begin{bmatrix} 0.969484 & 0.063956 \\ 0.004395 & 0.977054 \end{bmatrix}$$

If the probability of transition in the first regime (Regime 1) at time period (t) (the prevalent system) is (96.94%), meaning that most of the time, the system governing the number of unemployed (unemployment) and its relationship with operational, investment, and revenue expenditures is a system of high ratios, with a probability estimated at (97.70%) of always transitioning to the prevalent system in the period (t+1), this implies that the prevailing system is a system of high ratios.

Economically interpreting this result, during the prevalent period, with the economic recovery and the increase in crude oil prices, for example, due to the increase in global demand that leads to the size of general revenues, which is reflected in an increase in oil revenues that cover the majority of public expenditures in Iraq. This, in turn, leads to an increase in the ratio of operational expenses (operation in the public sector that depends on general federal budget revenues). With an increase in the ratio of unemployed individuals (unemployment), the Iraqi government tends to increase employment in institutions and government ministries in order to alleviate the pressure on the government by the people, and for other political considerations that aim to achieve the same goal by employing a larger number of university and institute graduates, thus increasing the number of disguised unemployment within the economy.

However, the probability of transitioning to Regime 2 during period (t) is 6.39%, which means that an increase in the number of unemployed individuals rarely occurs when there is a decrease in general revenues and public spending, both operationally and investment-wise, according to the estimated model results. On the other hand, the probability of transitioning to a regime of decreased spending and revenues in period (t+1) is 0.43%, which is also a weak percentage.

Figure 2 illustrates the various Switch Smoothing transitions and changes that occurred in the relationship between the four variables according to the estimated model. It can be observed that several transitions occurred between the two systems, with the lower part of the figure representing the presence of the regime in Regime 2, which prevailed during the period from 2006 to 2007 due to the security situation in Iraq, which resulted in an increase in unemployment and low oil production during that period. It shifted in the mid-2007 until 2010, only to reoccur after 2010 until the end of the research period due to multiple shocks experienced by the economy, whether due to security situations or crises resulting from repeated decreases in global oil prices, which negatively impact the Iraqi economy.

But the higher diagram indicates the existence of a system in the circulation system, and this system prevailed during the period from the end of 2007 until 2010, which was the period in which global crude oil prices reached record numbers, as the barrel was valued at \$147. This coincided with the global financial crisis, which had a positive impact on the Iraqi economy due to the decrease in global commodity prices, especially considering that the Iraqi economy relies heavily on funding the general federal budget through crude oil revenues. This led the Iraqi government to seek to employ larger numbers within the government ministries after the relative security stability during that period, especially the ministries of interior and defense. Similarly, after 2010, they also shifted towards the end of the study period for the same reasons mentioned in the previous system interpretation.

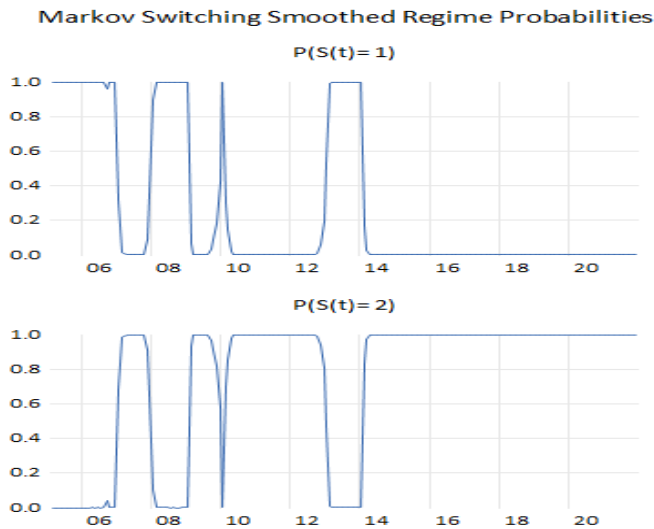


Figure 2 Smooth transitions of the Markov model

From the above analysis, it is possible to judge the effectiveness of fiscal policy in controlling unemployment levels, whether in terms of the number of unemployed or the overall unemployment rate during the study period. This is evident in the first system (the boom system) being higher than the second system (the recession system). The financial policy tools used by the Iraqi Ministry of Finance, which control the size of spending and the channels of public investment and operational spending within the economy, are somewhat prevailing. The General Federal Budget intervenes by adding additional allocations for government employment within the economy, which leads to a reduction in the number of unemployed, both in the short and long term. This result confirms the decrease in the value of the second system (the recession system), as well as the significance of oil revenue coefficients in the estimated model at a probability level of less than 5%.

## 5. Conclusions

The results of this study suggest that fiscal policy has a significant impact on unemployment in Iraq. The study found that an increase in government spending leads to a decrease in unemployment. This is consistent with the theoretical expectation that government spending creates jobs and increases economic activity.

The study also found that the impact of fiscal policy on unemployment is stronger during periods of economic recession. This is likely because government spending is more effective at stimulating the economy during times of economic weakness.

The study's findings have important policy implications for Iraq. The government can use fiscal policy to help reduce unemployment, especially during periods of economic recession. The government can do this by increasing government spending on infrastructure, education, and other programs that create jobs.

The study's findings are also relevant to other countries with high unemployment rates. Governments in these countries can use fiscal policy to help reduce unemployment by increasing government spending. The study has a number of limitations. First, the study only uses data from Iraq for the period 2005-2021. It is possible that the results of the study would be different if the study used data from a longer period of time or from other countries.

Second, the study uses a relatively simple model to estimate the impact of fiscal policy on unemployment. More complex models may provide more accurate estimates of the impact of fiscal policy.

Future research could address the limitations of this study. Future research could use data from a longer period of time or from other countries. Future research could also use more complex models to estimate the impact of fiscal policy on unemployment.

## References

- Abdullah, R. T., & Husain, A. J. (2022). Economic Growth and Income Inequality: The Role of Fiscal Policy, Iraq as an Example for the Period of 2004-2019. *Journal of Kurdistan for Strategic Studies*, (2).
- Abida, M., & Salman, R. H (2023). The Impact of Fiscal Policy on the Gross Domestic Product as One of the Indicators of Economic Development in Iraq Between 2004-20201.
- Bai, J., & Perron, P. (1998). Estimating and testing linear models with multiple structural changes. *Econometrica*, 47-78.
- Bai, J., & Perron, P. (2003). Computation and analysis of multiple structural change models. *Journal of applied econometrics*, 18(1), 1-22.
- Farhani, R., Aloui, A., & Mohsin, K. (2023). Asymmetric effect of real exchange rate changes on poverty: The role of remittances and the informal sector. *Cogent Social Sciences*, 9(1), 2198782.
- Habeeb, B. G. (2005). The role of domestic non-oil public revenues in the growth of the total non-oil GDP in Iraq for the period (2004-2021) an analytical study Baqer Gurji Habeeb Ameer Abdulhamza Hasan.
- Hammad, S. A., Hadi Shallal, A. A., Ata Allah, A. K., Faisal, F. G., & Abdullah, T. H. (2023). The Impact of Public Spending on Unemployment: A Study on the Iraqi Economy for the Period 2004-2021. *Global Journal of Economics & Business*, 13(4).
- Khairullah, B.N. (2023). Measuring the Impact of Structural Imbalances on Managing Government Spending in Iraq During the Period (2005-2020). *International Academic Journal of Accounting and Financial Management*.
- Marf, N. H., & Noori, N. N. (2022). The Effects of Monetary Policy on Economic Growth in Iraq (2004-2020). *Journal of Kurdistan for Strategic Studies*, (4).
- Mohsin, K. A. (2019). PhD Thesis in Economics (Doctoral dissertation, University of Sousse).
- Obaid, M. K., & Abid, T. A. (2022). The Effect of Indicators of Financial Discipline on Economic Growth in Iraq: A Standard Study Using ARDL Model for The Period (2004-2020). *Journal of Almaarif University College*, 33(4).
- Sleman, H., & Ali, K. (2023). Analysis of The Impact of Fiscal Policy on Some Indicators of the International Economic Relations of Iraq During the Period (2004-2021). *Journal of Kurdistan for Strategic Studies*, (3).
- Zivot, E., & Andrews, D. W. K. (2002). Further evidence on the great crash, the oil-price shock, and the unit-root hypothesis. *Journal of business economic statistics* 20(1), 25-44.