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Fiscal Policy Sensitivity of the Output Gap in the Iraqi Economy, 2004-2017

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The main objective of this research is to identify the effect of the output gap on fiscal policy in the Iraqi economy during the period 2004 - 2017. What kind of fiscal policy is operating in the Iraqi economy? Is it the automatic fiscal policy? In order to achieve this, the output gap was calculated and based on natural and adjusted government revenue and expenditure data using the Hodric Prescott Refinery (HP). The results showed a common integration relationship and the long-term and short-term effects of the policy gap on finance policy. The financial policy in Iraq is consistent with or consistent with the direction of the economic cycle expressed by the negative output gap.

Key words: *Revenue, government expenditure, output gap, fiscal policy.*

Introduction

One of the most important problems for economists and policymakers is the extent to which the actual output of an economy aligns with its potential output. Measuring this convergence and divergence leads us to measure the so-called output gap, which expresses the difference between the actual output of a given economy and its potential output. The potential output reflects the maximum of goods and services that an economy can produce when it is operating at full capacity and optimum efficiency. Thus, the rise and fall of the potential output is followed by a positive and negative output gap and decline, both of which are not ideal, because they indicate that the economy is operating at an inefficient rate. That is, it is either over-using or not using its resources sufficiently. But it is possible to make fundamental changes in fiscal policy through so-called discretionary financial policies. These policies deal with discretionary or structural changes that reflect a deliberate change in spending programs or tax revenues which reduce the negative effects of positive and negative output gaps. These gaps must be estimated and monitored in the present and in the future. Closing these gaps can be followed by an expansive fiscal policy that increases government spending or cuts taxes to raise total demand and close negative gaps in output. In contrast, when there is a positive output gap, a contractionary fiscal policy can be adopted to reduce demand and resist inflation by cutting

spending and/or raising taxes. In other words, the government or economic policymakers can deliberately use the state budget to adjust the course of the economy by adjusting the course of some macroeconomic variables in the economy which play a primary role in controlling the undesirable effects of output gaps such as investment, consumption and interest rates.

The problem that faces the Iraqi economy (and most of the countries that rely on rent resources) is that these resources do not guarantee the sound management of the economy and may lead to complications in the budget and make government spending less accountable. On the other hand, these revenues are subject to fluctuations in the international market. This is reflected in the fluctuations in spending, which requires governments to adopt the method of automatic fiscal policy. The adoption of fiscal policy, in line with the economic cycle, tends to increase spending when revenue increases, but in the event of revenue default the government is unable to meet its obligations. This is not in line with the concept of discretionary fiscal policy that focuses on reversing the economic cycle.

Methodology

The focus of this research is that the Iraqi economy does not operate at the level of possible output, due to the lack of optimal exploitation of available economic resources, especially in the non-oil sector, which confirms the existence of negative output gap between the actual output and possible output. This requires automatic fiscal policy through a fiscal policy consistent with the output gap, and tends to increase spending when revenues rise, which lowers when they fall. This is not in line with the concept of discretionary fiscal policy that focuses on reversing the economic cycle. This research proceeds from the following hypotheses:

1) It is possible to adopt modern scientific methods that regulate the management of oil revenues and exit from a reliance on these resources.
2) The Iraqi economy is suffering from a negative output gap resulting from an excessive dependence on the oil sector and the subsequent neglect of other productive sectors.
3) The fiscal policy in Iraq follows an automatic approach rather than a discretionary approach, that is, in line with the direction of the output gap.

The Concept of Fiscal Policy

Fiscal policy has a distinct place among other economic policies since it directly affects the lives of individuals in its focus on daily life. It is one of the main tools used by the government for directing the course of economic activity, with respect to relative stability in prices, employment rates, and desirable growth rates, in order to increase the welfare of individuals and to redistribute income and wealth in a fair manner. Importantly, the vital goal that fiscal

policy seeks to achieve is economic stability. It is not sustainable to continue to either stagnate or inflate in the long term. In order to achieve this stability certain mechanisms need to be addressed, for example, - social security and unemployment, progressive taxes on income, correlations between consumer spending on residual income and changes in interest rates which operate without the need for government intervention within the financial system. In response to cyclical economic fluctuations, additional time to policymakers can be given in order for them to make appropriate and clear decisions, and thus stay in line with the direction of the cycle of economic cycle (Cottarelli & Jaramillo, 2012).

As a necessary development of fiscal policy in the modern era, the adoption of discretionary fiscal policy reflects the intended changes in spending programs or tax revenues (Carl & Fair, 2007). This addresses issues that consider the control of periodic fluctuations in expenditures and revenues and then applies a different budget for each level of national income referred to as cyclical adjustment or adjustment budget balance. These adjustment mechanisms can provide a clearer view of the basis of the short-term deficit or surplus resulting from economic fluctuations. Others consider discretionary fiscal policy to offer deliberate budget changes as a result of changes in the tax code and in legislation on spending programs in response to disturbances in economic conditions (Henderson & William, 1991).

Discretionary fiscal policy is defined as a policy that refers to discretionary or structural changes which reflect a deliberate change in key elements of spending or tax revenue programs, and deal with issues related to economic cycles or disturbances directly by changing spending or the tax base (Ayeb, 2010). We cannot imagine that discretionary fiscal policy comes to fruition as soon as possible because of Time Logs, which is the length of time between cyclical shock and effective policy response (Gordon, 2003).

Fiscal Policy in Countries rich with Natural Resources

In order to adopt a suitable scenario for application in richer countries, the International Monetary Fund (IMF) called for the adoption of a scenario that is based on Friedman's permanent income hypothesis and is one of the procedures for self-correction (Maroof, 2015). This includes the effect of developing natural resource activity on sustainable government consumption and savings and solidifies the idea of intergenerational equity, by making regular government spending described as a general trend line that mediates potential revenue fluctuations resulting from price changes, allowing for stable financing of development needs and avoiding bottlenecks caused by weak absorptive capacity in these countries (Roberto & Monigliano, 2007). The general mathematical formula used to adopt the permanent income base for sustainable government expenditures from natural resources in any time period is as follows:

$$]\frac{T_{t+n}}{(1+R)^n}\ \Sigma_{t=0}^{n} + F_t\ [\mathrm{R} = GE_t$$

Where (GE_t) represents government expenditure on natural resources, (F_t) accumulated revenues from natural resources at the end of the previous year, (Tt + n) returns of natural wealth collected by the government during the lifetime of natural resources, (R) average real return of natural wealth, (t) express time, and (n) number of years expected until end production of natural resources.

Many countries have applied this formula to convert assets into tangible benefits. Botswana has applied rules limiting spending as a proportion of GDP by only 40%. In Ghana, 70% of the average oil revenue is deposited for seven years (30%) into a fund for future generations (Segure, A. 2012). The adoption of appropriate financial rules to contain the fluctuations in the revenues of the resources is derived by deducting a percentage of these revenues and keeping them in special funds. This type of approach was seen in more than 60 funds and 37 countries. It thus creates financial surpluses to confront unexpected declines in revenues and the funds are then available for use in crises, such as those seen in Abu Dhabi, Trinidad and Togo. These funds can also be used to sterilise capital inflows to mitigate the effects of the 'Dutch disease', as in the case of Saudi Arabia, Kuwait and Kazakhstan. Australia and Peru tied the ratio of public debt to the GDP of Mexico, Nigeria and Timor-Leste and have introduced a revenue-binding law restricting the ceiling on budget revenues. All these measures were designed to create financial surpluses to be saved for future generations by curbing the heavy effects of government spending on the public budget resulting from income variability (Andrew, 2014).

Output Gap

All countries, especially the more developed ones, as well as international organisations, including the IMF, are interested in estimating the potential output and the output gap as useful information for economic policymakers in addressing cyclical and non-cyclical economic fluctuations resulting from the economic cycle. This is one of the most important things for economists and economic policymakers with respect to the ups and downs of economic activity. Is the extent to which the (actual) output of the long-term potential output of the economy approaches, whether GDP is higher or less than potential output (Benes & N'Diaye, 2004). There are two types of gaps facing economies that can be identified (Jahan & Mahmud, 2013; Paula, 1997):

1. Positive output gap: This occurs when the GDP is larger than the potential GDP, or the output of the economy is at full capacity and occurs when demand is high. In response, the economy works at a higher level than its productive potential. In other words, factories and workers work at maximum efficiency and capacity.

2. Negative output gap: In the case of negative difference, when the actual GDP is less than the potential GDP, or the output of the economy is at full capacity, it is said that the economy suffers from a negative gap, and that there is surplus capacity or laxity in the economy due to weak demand and rising unemployment rates. The negative gap refers to the lack of exploitation of some available economic resources and the inefficiency of economic performance.

Measuring Methods of Possible Output and Output Gap

The output gap is an important source of data on the economic cycle as well as for inflationary and deflationary trends in the economy. The Keynesian believes that the overall equilibrium situation is ideal, GDP fluctuates around this ideal situation, and the demand gap reflects the fluctuations of the economic cycle. The economy is supposed to be in equilibrium or in a stable state and therefore the output is equal to the actual output, but the various shocks can produce fluctuations around the possible output, and the long-term shocks determine the possible output, while the short-term shocks define the output. It is clear that the output gap only appears in the short term and that the long term can make the actual output equal to the possible output (Ladiray, Mazzi & Sartori , 2003).

The Hodric-Prescott Filter Method (HP-Filter)

This method is based on simple statistical methods that use single-variable or multivariate filters, through which a time-dependent trend or a linear vector of actual output or analysis of actual output is calculated into several chains representing changes in actual output. This is in order to correct or refine the time series and determine the general trend of these series and is used in macroeconomic studies to arrive at a time series of long-term equilibrium values. The process of preliminaries leads to the elimination of changes in the short term and the preservation of values (HP) is based on calculating the series (Y*) of the series (Y) so that the time series variance (Y*) is as low as possible around the second difference for it. The general equation for this filter is according to the one used by Robert & Edward (1997):

$$\boldsymbol{Min}[\boldsymbol{\Sigma}_{t=1}^{T}\ (\mathbf{Y_t} + Y^*_t)^2 + \lambda\ \boldsymbol{\Sigma}_{t=2}^{T-1}(\Delta Y^*_{t-1} - \Delta Y^*\mathbf{t})^2]$$

This equation is used to estimate a polite time series of the output by minimising the output variance around this polite series. The minimisation process is conditional on a penalty function. The polite function is calculated provided that the original function is minimised around the polite function with a penalty constraint. (Y), the original variable (actual output), (Y*), the rational variable (possible output),(λ) the penalty coefficient or the so-called damping coefficient. The process of refining the time series is controlled by the penalty coefficient. Whenever the higher the value of the coefficient the more the process of refining and the less

the sensitivity of the actual output to the short-term oscillations, reaching the general trend line when the penalty coefficient is endless, and the lower the value of the coefficient, there is more possibility of actual output.

Production Function Method (PF)

This method is based on economic theory in order to estimate the potential output and the output gap and is interested in the shocks of demand and the supply side of the economy. It shows the relationship between the output and its inputs from the production elements, and the potential output is represented by an integrated set of inputs such as labour and capital multiplied by productivity. This explains the growth of actual output and potential output on the basis of the behaviour of the production elements. This method can also be used to analyse the contribution of each component of production to the growth of the potential output and offers the possibility of knowing the source of the structural change in the potential output. This method is based on the following Cobb-Douglas function:

$$\mathbf{Yt = At\ Lt^{1-\propto} Kt^{\propto}}$$

Where (Yt) is the actual output in period (t), (Lt) is the labour, (Kt) is the capital element, (At) the total productivity of the factors of production, (α) share of capital in the economy. As the total productivity of the factors of production is not available, it can be measured as a time series by extracting the contribution of the labour and the capital in the actual output for each year of the time series as follows:

$$\text{At} = \frac{\text{Yt}}{Lt^{1-\propto}\, Kt^{\propto}}$$

After obtaining a time series of the total productivity of the production factors, an HP filter was applied to the product series and the output component series in order to obtain the general trend of each variable. The data was then analysed according to the Cobb-Douglas production function in order to derive the growth rate of the actual output and calculate the growth rate of the potential output, thereby extracting the output gap (Hamilton, J. D., 1994).

The Model Description

The study relied on available data with respect to the Iraqi economy during the period 2004-2017 in order to measure the sensitivity of fiscal policy to the output gap by calculating the potential GDP and its deviation from actual output as a measure of when and how much government intervention was required. The HP filter method was used to obtain the possible output and then the output gap. This is a method of calculating the cyclically adjusted financial balance in response to the output gap in order to exclude the effect of the economic cycle

expressed by the output gap because the Iraqi economy is showing the effects of the economic cycle expressed by the output gap through the oil output and revenues from these sales. Research looked at the early stages of the economic cycle and studied its reflection on the prices of oil and other raw materials.

The cyclically adjusted periodic balance can be calculated in two ways:

1. Method 1: Calculating the output gap (OG) as a percentage of the implied product and indicate the difference between actual output and implied output according to the following formula:

$$= \frac{GDP - GDPhp}{GDPhp} \text{ OG}$$

Where OG represents the output gap, (GDP) the actual output, and (GDPhp) possible output obtained from the actual output data using the HP filter method.

2. Method 2: Estimating the elasticities of revenues and expenditures to the output gap (in other words, the sensitivity of revenues and expenditures to the output gap), as following:

Once the government revenue is adjusted periodically, it can be derived by adjusting the actual revenues to exclude the effect of the deviation of the output that is possible from the actual output, and with the revenue elasticity (α) the size of the periodic effect or the so-called periodic effect force of discretionary revenue. As in the following equation:

$$GR_{CA} = GR \left(\frac{GDPhp}{GDP}\right)^{\alpha} \quad \ldots\ldots \alpha > 0$$

Where GR_{CA} represents the adjusted government's annual revenue (discretionary), (GR) the government's periodic revenue, GDPhp possible output, GDP the actual output, and (α) the elasticity of government revenues (discretionary) to (the output gap) is based on the assumption that the proportion of revenue is adjusted periodically to periodic revenues and the percentage of potential output to actual output.

We can estimate the elasticities (α, β) in order to indicate the amount of government revenue and expenditure that is adjusted periodically according to the following:

$$\ldots\ldots(1) \; Ln\left(\frac{GDPhp}{GDP}_{1}\right) + \alpha_0 = \alpha \frac{GRhp}{GR}) \; Ln($$

$$\ldots\ldots (2) \; Ln\left(\frac{GDPhp}{GDP}_{1}\right) + \beta_0 = \beta \frac{GEhp}{GE}) \; Ln($$

The foundation of this research is based on the estimation of these equations (1, 2) where that estimation of equation (1) enables us to know the sensitivity of the discretionary government revenue represented by (GRhp / GR) in response to the changes in the output gap represented by the independent variable (GDPhp /GDP). This relationship shows the value of function slope (α 1), which itself represents the elasticity of the function (in other words, the slope of the exponential function equals its parameter), and the estimation of equation (2) enables us to know the sensitivity of the discretionary government expenditure represented by the change in the dependent variable (GEhp / GE) in response to changes in the output gap represented by the variable (GDPhp / GDP). This relationship is shown by the value of the function (β1), which itself represents the elasticity of the function (since the slope of the exponential function equals its parameter).

Data used in the Research

This study used the data available in the statistical publications of the Central Statistical Organisation of the Iraqi Ministry of Planning for various publications, as well as the data of the annual statistical publications issued by the Central Bank of Iraq across several years. The data represented quarterly figures for the period 2004-2017, and showed a series of 56 observations per GDP, government revenues and government expenditures as in Appendixes (1&2) for the purpose of obtaining the possible output and the adjusted revenue and expenditure. An HP filter was used to obtain these results as shown in Appendix 3. In order to estimate the equations (1, 2) the data was prepared according to the equation variables.

Estimation and Testing of Model

Stationary Test of the Time Series: Before starting to estimate the elasticities of revenues and expenditures, it was necessary to ensure how stationary the time series of variables was by conducting a unit root test in order to know whether the variables are not integrated second-class or more, but integrated at the level I (0) or at the first difference I (1). One of the most common tests used in this area is an adjusted Dicky - Fuller (ADF). Table 1 indicates the results of this test.

Table 1: The results of the Expanded Dicky Fuller test (unit root) for time series at the level and at the first difference

Variables	At level			At first difference		
Demotion	ADF test	P. Value	Result	ADF test	P. Value	Result
Ln(GDPhp/ GDP)	-3.4721	0.0008	Stationary	-2.8543	0.0345	Stationary
Ln (GRhp / GR)	-3.0234	0.0435	Stationary			
Ln(GEhp / GE)	-2.1212	0.2113	Non-Stationary			

Table 1 shows that all variables are free from the problem of being non-stationary, as this was determined by the probability of the P-Value which was less than 5% at the level of the natural logarithms of the ratio of the possible output to the actual output Ln(GDPhp / GDP), Ln(GRhp / GR)); i.e., they are stationary at the level, and the P-Value is less than 5% at the first difference of the natural logarithm variable government expenditure adjusted periodically to government expenditure Ln(GEhp / GE), that is, meaning the variable stationery at the first difference.

Co-Integration Test: In order to test the existence of long-term relationships between the variables (output gap and fiscal policy expressed in government revenues and expenditures), the Bounds test was applied to the Co-integration by using an autoregressive distributed lag model (ARDL). This is because it is not required that all variables are equally integrated and can be applied when one of the variables is stationary at level I(1) and I(0) and it does not work in the case that any of the variables are stationary or integrated A second-level I(2). Also, the ARDL model gives an unbiased model of long-term estimates. In order to apply the border test, two hypotheses must be tested :

Null hypothesis (H0 = 0): there is no correlation between the time series of the variables studied.

Alternative Hypothesis (H1 ≠ 0): there is a correlation between the time series of the variables studied.

In order to accept or reject the null hypothesis, researchers compared the F test and its value with its lower and upper critical values. The lower critical value shows that the series is stationary at the level, while the upper critical value shows that the series is stationary at the first difference. While the co-integration decision between variables was obtained according to the following:

If the value of F is higher than the critical value of (F), then it can be determined that the variables are co-integrated into the first level, then the null hypothesis (H0 = 0) is rejected, and the alternative hypothesis (H1 ≠ 0) is accepted.

If the value of F is lower than the critical value of (F), then it can be determined that the variables are not co-integrated into the first level. In this case, the null hypothesis can be accepted (H0 = 0), and the alternative hypothesis (H1 ≠ 0) can be rejected. In other cases, the decision is not settled.

After using the Bounds test, the value of F (19.55) was obtained showing the maximum critical value of 7.34 at a significance level of 10%. This indicates that there are common long-term output gaps, revenues and expenditures in the Iraqi economy. This result is not strange and is in line with the reality of the Iraqi economy in which the actual output in the Iraqi economy throughout the period of the study depends heavily on the output of the oil sector, which depends on the price of oil. This is further linked to the fluctuations of the global economy between recession and recovery. On the other hand, this will deepen the negative output gap, which was explained previously. In other words, the actual GDP is less than the potential GDP or the output of the economy at full capacity, where there is a lack of demand and there is no exploitation of available economic resources or an inefficiency of economic performance. All this led to the adoption of a semi-comprehensive state budget on both sides of revenue and expenditure of oil revenues, which would explain the relationship of long-term integration between the negative output gap in the Iraqi economy and fiscal policy, which further explains the adoption of an expansive fiscal policy. This was seen in the form of increasing government spending and a reduction of tax rates in the Iraqi economy to raise the total demand in order to close the chronic negative gap in the output.

Testing of the Long- and Short-Term Effect between the Output Gap and the Fiscal Policy

There are two prerequisites for measuring the long- and short-term effects between the dependent variable and the independent. The first is that the variables are co-integrated and the second is that the short- and long-term causal test was among the variables; the long-term causal direction was determined by testing the significance of the ECTt-1. If this parameter is negative and morally significant at a significant level (5%), a long-term relationship between the output gap and the fiscal policy was found. By way of the Granger-Causality test, the value of this parameter was found to be -0.2022 which is statistically significant at P-Value (0.0040). The results of the short-term causality indicate that the revenue does not cause the output gap, and the output gap does not cause revenue. The same is seen between expenditure and the output gap, since revenues and expenditures do not cause each other in the short term.

The long-term impact can be estimated between the output gap, revenue, and expenditure, and the restricted error correction model (ECM) can be separated to determine short-term effects and response or adaptation. Table 2 shows the long-term and short-term coefficients based on the ARDL model according to an AIC test.

Table 2: The results of the long-term and short-term test shown to affect the output gap on fiscal policy

Variables	Long-term		Short-term	
Demotion	AIC	P. Value	AIC	P. Value
GRhp / GR (Dependent V.)	- 2.5768	0.0021	-1.2341	0.0002
GEhp / GE (Dependent V.)	6.6230	0.0431	0.8129	0.0232
GDPhp / GDP (Independent V.)	When it increased by one-unit, discretionary revenue decreases by -2.5768. The discretionary expenditure rises by 6.6230.		When it increased by one unit, the discretionary revenue decreases by -1.2341. And the discretionary expenditure rises by 0.8129.	

This gap shows that the output gap positively affects expenditure and negatively affects long-term revenues. The increase in the gap between the actual output and the possible output by 1% will lead to an increase in expenditures by 6.6230% and a decrease of revenues by 2.5768%. This is because the output gap in the Iraqi economy is a negative gap, which is a decrease in output in the various non-oil productive sectors, thus reducing the tax rates since they are related to the size of the output in different sectors and activities, thus decreasing overall revenues in the long run. The expenses must be increased in order to treat the lack of demand and close the negative output gap chronically suffered by the Iraqi economy as mentioned earlier. The results of the short term test did not differ from the results of the long term test much, as the form of negative relationship is between the output gap and revenue, and the shape of the positive relationship or parity between the output gap and expenditure, and only changed the value of slopes (transactions). This indicates the absolute dependence on the oil sector and oil revenues in the Iraqi economy, and the absence of planning and vision for exiting this impasse.

Econometrics Problems Tests

Most of the statistical tests confirmed that the estimated model succeeded in overcoming most of these tests, since it is important that the random errors or residuals are not self-linked (Serial Correlation). This means that the model must be free of the problem of serial-correlation. The Lm test was 6.59 and the P.-value was 11.58% for the equation of discretionary revenue, and the value of 5.65 for the equation of the discretionary expenses and the P.-value was 8.78%, both larger than 5%. Therefore, the null hypothesis (H0) was rejected which states that the residuals (3) below shows these tests and the other tests for the difference of heterogeneity or heterogeneity (Heteroscedasticity), since the P-value of the test is greater than 5% then the models do not suffer from Heteroscedasticity.

Table 3: Results of tests of Econometrics problems

Problems	Serial Correlation Test		Heteroscedasticity Test	
Estimated Model	Lm test F- statistic	P. -Value	Hs test F- statistic	P. -Value
Equation (1) Model	6.59	0.1158	2.64	0.5890
Equation (2) Model	5.65	0.8780	1.95	0.6812

Estimating the Elasticities of Discretionary Revenue and Expenditure (α1, β1)

After ascertaining the model data as stationary and the existence of a co-integration relationship, the long- and short-term relationship between the output gap and fiscal policy was tested, ascertaining the direction of causation and the absence of models of econometrics problems. According to E-views programming outcomes and the equations (1, 2) we get the elasticities (α1, β1) as shown in table 4.

After finding these parameters, the equations can be rewritten as follows:

$$\text{Ln}\left(\frac{GRhp}{GR}\right) = 0.0541 + 2.0257\ \text{Ln}\left(\frac{GDPhp}{GDP}\right).....(3)$$

$$\text{Ln}\left(\frac{GEhp}{GE}\right) = 0.0132 + 7.8976\ \text{Ln}\left(\frac{GDPhp}{GDP}\right)..... (4)$$

These are the linear equations estimated using Eviewes9. Thus, the primary objective of obtaining the elasticities of revenue and expenditure (α1, β1) is achieved, and a clear and significant impact of the output gap on fiscal policy can be concluded. The elasticity of expenditures showed a greater response to the output gap of 7.8976, but these elasticities do not represent the elasticities of revenues and discretionary expenditures and instead represent the elasticities of revenues and expenditures (Table 2). This is what was assumed in one of the hypotheses of this research.

Table 4: Results of Estimated Model Test

Problems	Estimated Parameters		t-test of parameters	
Estimated Model	α	β	t- statistic	P. -Value
Estimated Equation (1) Model	0.0541	2.0257	α (1.8761) β (7.1204)	α (0.2341) β (0.0004)
Estimated Equation (2) Model	0.0132	7.8976	α (1.1262) β (6.1729)	α (0.2453) β (0.0020)

Economic Analysis of Results

The estimated elasticities of algebraical signals as shown in Table (4) indicates a negative relationship trend between the output gap as an independent variable and the government revenues and expenditures. If a negative output gap is increased by one unit it leads to a relative response to expenditure by 7.8976 and a relative response in revenue of 2.0257. In times of boom and prosperity, the government pursues an expansive fiscal policy of increased spending and tax cuts to compensate for the lack of demand due to the low level of economic performance in various non-oil sectors, which explains the response to expenditure more than the revenue response. It was also noted that in times of economic recession the government follows a contractionary fiscal policy due to the lack of oil revenues, which also applies to expenditures. However, the rate of increase in tax revenues does not correspond to the low rate of oil revenues (this is what is meant by fiscal policy towards the economic cycle in the Iraqi economy). It is assumed that is normal because the output gap of the Iraqi economy is a negative gap representing a decline in output in various non-oil productive sectors, there is surplus capacity or laxity in the economy and the lack of exploitation of some of the available economic resources is due to weak demand and increasing unemployment rates as well as a general inefficiency in economic performance. Thus, the tax rates are reduced because they are related to the volume of output in the various sectors and activities. The government can be seen to be increasing the production and export of oil to compensate for the shortage of taxes and other sources of revenue. This procedure is automatic and does not fall within the discretionary revenue procedures. In addition, the expenditures must be increased in order to treat the lack of demand and close the negative output gap which the Iraqi economy suffered in a chronic manner. However, the increase in expenditure due to a high negative output gap is greater than the proportion of high revenues, due to the volume of the problems, the deterioration of infrastructure and the spread of the phenomenon of administrative and financial corruption in an unprecedented manner. additionally, it was as a result of the high volume of military spending and compensation for those affected by military and terrorist operations during the period of the research study (2004 - 2017). Iraq is almost entirely dependent on imports for all its food, consumer and construction goods and other goods and services has led to the closure of most of its factories and local activities. This has led to an increase in the burden of the Iraqi government in supporting these activities and providing monthly salaries to all ministries.

All this would work to:

1) Increase the negative output gap due to the disruption of most of the productive sectors from work. Decrease the size of the potential output of the volume of real output, which is the oil sector and services sector, the largest proportion.

2) Increase the volume of expenditures at a large rate in times of prosperity and boom, in order to address the effects of the negative output gap. Expect a decline in times of recession due to the unlimited link with oil revenues.

3) Prepare for a high volume of revenues in times of prosperity due to the high demand for oil due to high levels of global demand and subsequent rise in prices. Prepare for a decline in times of recession with low oil prices; the lack of alternative sources of revenue can compensate for the shortfall in oil revenues.

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