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The impact of Government Spending on the Growth rate of the Iraqi Economy for the period 1990-2017

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This study aims to analyse and measure the impact of government spending on economic growth in Iraq. It will do this by measuring the impact of public expenditure on growth with regards to the Gross Domestic Product (GDP) during the period 1990-2017. The study used the Augmented Autoregressive distributed lag model (ARDL). To prove the hypothesis, the study was divided into three chapters with a conclusions and recommendations provided. This study hypothesises that there is no significant effect of public spending on economic growth during the study period. The study presents and examines theoretical understandings and applications via quantitative analysis. The main findings of the study show that there is no coordination and coherence between public expenditure and economic growth in achieving the objectives set for economic policy in Iraq. The results indicated that there is a weak effect of government expenditure on GDP growth.

Key words: *Government Spending, Iraq, GDP*

Introduction

Public spending is an important and fundamental partnership of the state's financial activity and is the means to implement its finance policy. Therefore, public spending is one of the most important instruments of financial policy and reflects the interventionist role of the state in directing economic activity in order to achieve economic growth. Stability and growth depend on the ability of economic structures to protect that spending from inflation or income leaks. Public spending trends in Iraq have been linked to economic and political conditions where Iraq lacks a financial policy that regulates public spending and directs economic growth. In Iraq, the Budget is prepared using the ‘budget of the items’; one of the oldest types

of budgets where financial allocations are distributed according to the balance of items between ministries and institutions using a method of estimating and relying on the previous year's expenses. In this study, the researcher attempts to analyse the impact of government spending on the growth of GDP in Iraq for the period 1990-2017.

Research importance

The importance of the current research stems from general government spending and the impact of this on economic growth. Of equal importance is ascertaining the impact of public spending in order to increase economic productivity and revitalisation. Improperly directed public spending does not make for strong and consistent economic growth.

Research problem

The research problem centres on a lack of clarity. Government vision lacks clarity in terms of the impact spending has on economic growth. There is an obvious misallocation of public funding in Iraq. The misallocation relates to consumer and public expenditure, two areas that derive little income.

Research Objective

The research aims to analyse and measure the impact of public spending for economic growth in Iraq using the Augmented ARDL model.

Research hypothesis

Despite the continuous rise in government spending rates during the research period, no significant effect of spending on economic growth in Iraq was identified.

Literature Review

Ayman Boukaz (2015) aims to understand the nature of the relationship between public spending and economic growth, the impact of economic recovery programs on economic growth in Algeria and, the most important finding; that public expenditure does not affect economic growth. The study shows that an increase public spending does not build a diversified and productive economy. The hydrocarbons sector, it was revealed, played an instrumental role in economic growth. The model was estimated using the normal least squares method (OLS).

Biswal et al study (1999) and others : tested Wagner's law against the Keynesian hypothesis by examining the relationship between national income and government spending in Canada for the period (1950-1995). With regards to short- and long-term effects, the study concluded that the relationship between the two variables is only possible in the longer term.

Jodylyn (2005) presents evidence using the Granger Causality Test, co-integration and error correction method on long-term relationships between government spending and economic growth in the Philippines (1980-2004). It was found that short-term changes in real GDP have positive effects through government spending.

Sinha Dipendra (2007) considered the relationship between government spending and GDP per capita in Thailand using advanced economic measurement techniques. The results showed no causality in both GDP and government spending. The (ARDL) co-integration test revealed weak evidence of the long-term relationship between the two variables.

Satish Verma, Rahul (2010) examined the relationship between government spending and economic growth in India for the period 1950-198. The results showed a relationship between economic growth and public spending in the long run.

Section I: The concept of government investment spending

Public expenditure is one instrument of finance policy by which the state shows the extent of its intervention in economic activity. State intervention in economic activities leads to conceptualising government spending as ‘public expenditure (Mithani, 1998). Public expenditure is defined as a monetary amount spent by a public authority with a view to satisfying a public need (Donijo, 2004). In other words, it is the amount of money paid by a public person for the satisfaction of public needs (Sri.Abdul, 2011). Public expenditure is allocated on the basis of its relationship with national wealth in that it relies on the formation of a society’s physical capital (Abdul-Hussein, 1985).

Section II: The Concept of Economic Growth

Economic growth is defined as the steady (long-term) increases in per capita real income (Wayne, 2006).
It is also defined as an increase in (GDP) and resources and elements used in the production process (David, 2006). It is also seen as an increase in the quantity of goods and services that can be produced when both labour and capital are used optimally. Economic growth is measured by changes in GDP and in real per capita GDP (Colander, 2006). Economic growth, therefore, can be seen as:

1. An increase in average per capita income,
2. A real increase, not a cash increase and;
3. A continuous, long-term increase in per capita income.

Section III: Analysis of public expenditure in Iraq during the period of research

When we track the allocation and structure of public expenditure in Iraq, we note that the size and place of spending is a noticeable factor. This was brought about by the economic sanctions imposed on Iraq after the second Gulf War as a result of the suspension of crude oil exports. These exports provided the main source of revenue for the public budget. Political turmoil that engulfed Iraq after 2003 also played a role in reducing public expenditure at that time.

With regards to the data presented in Table 1 below, it is clear that total public expenditure decreased during the period 1990-2003. It is also clear that a negative compound growth rate of approximately 14.82% led to a decrease from 8795.9 million dinars in 1990 to approximately 1093.5 million dinars in 2003. The decline included general expenditure, namely consumer spending and investment spending, from 7045.3 million dinars to 984.2 million dinars for the same period. In addition to this decline, investment spending decreased from 1750.6 million dinars to 109.4 million dinars. The reason for this decline can be found in the circumstances experienced by the Iraqi economy during this period: the Gulf War, the subsequent economic sanctions and the imposition of an economic blockade led to significant damage to infrastructure and economic productivity.

Table 1: The evolution of the structure of public expenditure in Iraq for the period (1990-2017) at constant prices. The value is one million dinars

year	GE	growth rate*	CE	growth rate*	IE	growth rate*	Relative importance*		GDP	GE / GDP
	1	2	3	4	5	6	3:01	5:01		
1990	8795.9	---	7045.3	---	1750.6	---	80.1	19.9	29711.1	29.6
1991	3788	-56.93	3388.8	-51.9	399.2	-77.2	89.46	10.54	10682	35.46
1992	3874.1	2.27	3048.5	-10.04	825.5	106.78	78.69	21.31	14163.5	27.35
1993	2640.8	-31.83	1917.2	-37.11	723.6	-12.35	72.6	27.4	18453.6	14.31
1994	1289.9	-51.15	1110.8	-42.06	179.2	-75.24	86.11	13.89	19164.9	6.73
1995	989.8	-23.27	868.1	-21.85	121.7	-32.06	87.7	12.3	19571.2	5.06
1996	919.2	-7.13	857.5	-1.22	61.7	-49.27	93.28	6.72	21728.1	4.23
1997	834.3	-9.24	735.6	-14.22	98.8	59.95	88.16	11.84	26342.7	3.17
1998	1104.6	32.39	989.6	34.54	115	16.4	89.59	10.41	35525	3.11
1999	1101.7	-0.26	886.4	-10.43	215.3	87.27	80.46	19.54	41771.1	2.64
2000	1521.7	38.13	1169.4	31.92	352.4	63.69	76.84	23.16	42358.6	3.59
2001	1805.8	18.67	1300.8	11.24	505.1	43.33	72.03	27.97	43335.1	4.17
2002	2359.7	30.67	1288.4	-0.95	1071.3	112.11	54.6	45.4	40344.9	5.85
2003	1093.5	-53.66	984.2	-23.61	109.4	-89.79	90	10	26990.4	4.05
2004	13953	1175.98	12643.3	1184.68	1309.7	1097.71	90.61	9.39	41607.8	33.53
2005	8366.2	-40.04	6916	-45.3	1450.2	10.73	82.67	17.33	43438.8	19.26
2006	8033.3	-3.98	6785.5	-1.89	1247.8	-13.96	84.47	15.53	47851.4	16.79
2007	6175.5	-23.13	4953.6	-27	1221.9	-2.07	80.21	19.79	48510.6	12.73
2008	9154.6	48.24	7323.7	47.85	1830.9	49.84	80	20	51716.6	17.7
2009	8813.8	-3.72	7284	-0.54	1529.8	-16.45	82.64	17.36	54720.8	16.11
2010	12971.5	47.17	9958.2	36.71	3013.3	96.97	76.77	23.23	57751.6	22.46
2011	14165.8	9.21	9759.6	-1.99	4406.2	46.23	68.9	31.1	63650.4	22.26
2012	14496.3	2.33	10449.5	7.07	4046.8	-8.16	72.08	27.92	71680.8	20.22
2013	16121.8	11.21	10657	1.99	5464.8	35.04	66.1	33.9	76922	20.96
2014	11060.1	-31.4	7760	-27.18	3300.1	-39.61	70.16	29.84	77073.8	14.35
2015	9206.9	-16.76	6778.9	-12.64	2428	-26.43	73.63	26.37	78985.23	11.66
2016	8726	-5.22	6658.1	-1.78	2067.9	-14.83	76.3	23.7	89269.11	9.77
2017	9804.2	12.36	7665.9	15.14	2138.3	3.4	78.19	21.81	87421.24	11.21
Overall average							**79.37**	**20.63**		
Compound growth	**37.41**		**0.31**		**0.74**					

Source:

1.Central Bank of Iraq - Annual Economic Report for the years(2017-1990)

2.Iraqi Ministry of Finance, Budget Department and Final Accounts Department-1990) (2017.

***Ratios were calculated by the researcher**

The years after 2003 recorded an increase in the volume of public expenditure but in a downward manner: 2004 saw KD 13953 million with a positive growth rate of 1175.98%; investment spending reached 1309.7 million dinars (9.4%) and; the proportion of public spending of GDP rose to 33.53%. This significant increase in the volume of public spending is due to the economic and political changes experienced by the Iraqi economy following

2003. These changes were represented in the transition from a central planning system to a market mechanism and access to the global economy. What cannot be overlooked or discounted is the resumption of oil exports after the lifting of the economic blockade (Ministry of Planning, 2007).

The period 2005-2017 witnessed a fluctuation in the volume of public expenditure with a compound annual growth rate of 1.33%. 2013 recorded the highest volume of public expenditure amounting to 16,121.8 million dinars. The percentage of consumer spending of total public expenditure was 66.10% compared to 33.90% of investment spending, while the lowest volume of public expenditure during 2007 amounted to 6175.5 million dinars. The reason for this fluctuation in public spending is due to several reasons, the most important of which included the 2005 budget and subsequent budgets for the Kurdistan Region of Iraq. Here, the federal budget preparation law allocated a certain percentage of the general budget to cover the expenses of the region. This percentage increases or decreases according to allocations in the federal budget; it reached 17% of total public expenditure in 2005 (Laila and Sarmad, 2008). The other reason was the adoption of a new salary scale for employees - No. 22 of 2008. It aimed to improve the quality of living for certain groups and the creation of new ministries and departments.

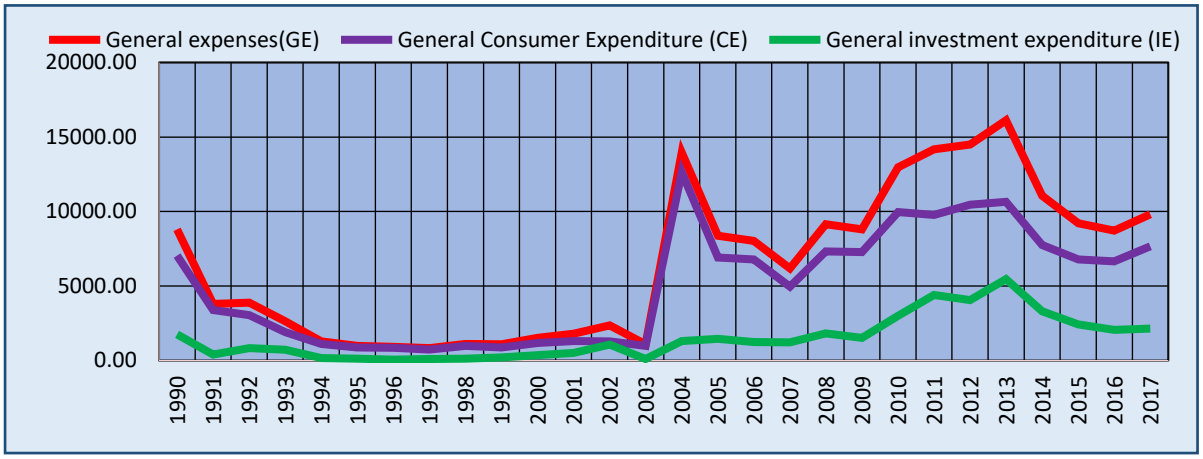
In summary, the economic structure of public spending, in the areas of consumer and investment spending, is as follows:

1. Consumer spending occupies the largest and most important part of public expenditure during the research period and in an upward trend mostly. The overall average, relative importance reached 79.37% due to economic, social and political challenges faced by the country. The annual compound growth rate of consumer spending was 0.31%;

2. During the research period, investment spending fluctuated as the overall average, relative importance reached 20.63%. At the same time, the compound growth rate was 0.74% and;

3. With regards to Figure 1 below, the trend towards restructuring public spending in favour of investment spending, especially in the last years of the research period, evolved between 1990-2017.

Figure 1. The Evolution of Public Expenditure, Consumer and Investment Expenditure in Iraq for the Period(2017 - 1990)



Source: Prepared by the researcher based on Table 1 data.

Section IV: Analysis of the trends of economic growth in Iraq during the period-1990) (2017:

GDP is the most comprehensive measure of a state's output of goods and services. It consists of the following elements: the sum of the currency values of each component of consumption (C), total investment (I), government spending (G), net exports (X) and, Imports (M) produced by the state during a specified period. These elements above may be represented by the following agency codes (Samuelson and Nord, 2006): GDP=C+I+G+(X-M). It is also defined as the value of production of final goods and services achieved during a year; in other words, the sum of the values added to producers during a year. The domestic production is reflected in the growth of income and therefore improves the socio-economic welfare of society (Roger, 2012).

To understand the importance of GDP and associated growth, an analysis of these indicators for Iraq was necessary. For the duration of the research period, prices experienced constant fluctuations because of wars, economic sanctions, political upheavals and the subsequent deterioration of security and stability after 2003.

Table 2: Development of (GDP) in Iraq at constant prices (1990-2017)

year	GDP	growth rate
1990	29711.1	57.8
1991	10682	-64.05
1992	14163.5	32.59
1993	18453.6	30.29
1994	19164.9	3.85

1995	19571.2	2.12
1996	21728.1	11.02
1997	26342.7	21.24
1998	35525	34.86
1999	41771.1	17.58
2000	42358.6	1.41
2001	43335.1	2.31
2002	40344.9	-6.9
2003	26990.4	-33.1
2004	41607.8	54.16
2005	43438.8	4.4
2006	47851.4	10.16
2007	48510.6	1.38
2008	51716.6	6.61
2009	54720.8	5.81
2010	57751.6	5.54
2011	63650.4	10.21
2012	71680.8	12.62
2013	76922	7.31
2014	77073.8	0.2
2015	78985.2	2.48
2016	89269.1	13.02
2017	87421.2	-2.07
Compound growth		4.08

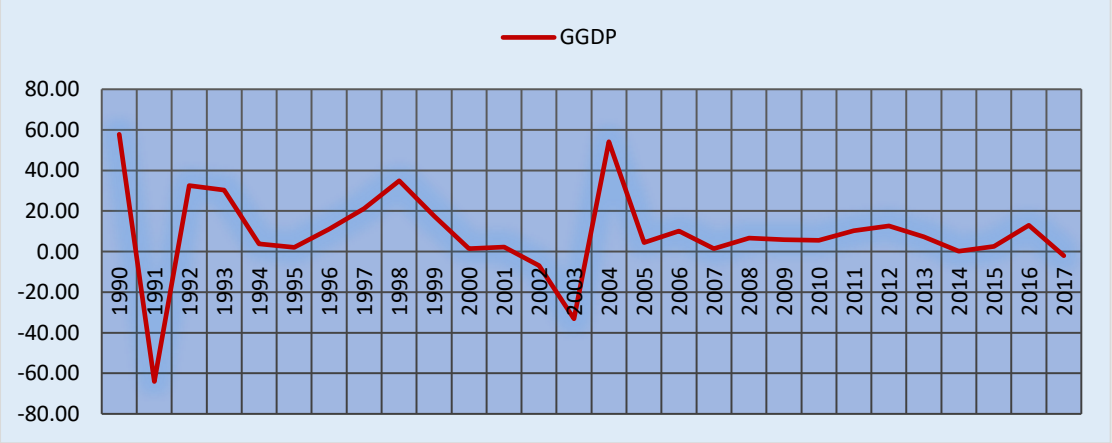
Source: Ministry of Planning and Development Cooperation, Central Organization for Statistics and Information Technology, National Accounts Directorate, Statistical Groups for different years ;World Bank, database, data on Iraq.

With regards to Table 2, it is evident that gross domestic product had dropped to 10682 million dinars in 1991, after 29711.1 million dinars in 1990. This demonstrates a negative growth rate of approximately 64.05%. This decline is attributable to the outbreak of the Second Gulf War and its devastating effects on infrastructure. This single event brought about the cessation of production and the suspension of oil exports in particularInvestment . .and economic sectors were either paralysed or destroyeIn addition to the decline in investment and most economic sectors as a result of the economic blockade and attended the raw materials involved in production.

GDP recorded an annual growth rate of 32.59% and 30.29% for the years 1992 and 1993 respectively. This growth depended on the export of oil in ways that were not subject to the control of the United Nations. In light of the contributions of other sectors, the growth rate recorded a significant decline for the years 1994 and 1995 because of economic impact of sanctions. Subsequently, GDP recorded a significant increase for the period 1996-1999 where annual growth rates of 11.02%, 21.24%, 34.86% and 17.58% were respectively achieved. This growth was a result of the oil-for-food program which partially eased economic sanctions on Iraq .The growth rate then negatively declined to 6.9% in 2002.

With respect to 2003-2017, it is noted that the growth recorded a negative rate during the year 2003, reached 33.1%. The circumstances of that year, the collapse of the Iraqi state and the cessation of economic activity contributed to this reduction. Subsequently, the annual growth rate achieved 54.16% in 2004 as a result of Iraq's willingness to trade with the outside world, the lifting of sanctions and the complete resumption of oil exports.

Figure 2. Annual Growth Rate of GDP in Iraq for the Period(2017 - 1990)



Source: Prepared by the researcher based on Table 2.

Section V: Measuring the Impact of Consumer and Investment Spending on the Growth Rates of GDP in Iraq for the Period 1990-2017:

In this research, the objective of the standard model is to show the impact of public spending on economic growth in Iraq as well as its affirmation of hypotheses concerning economic theory. Therefore, the standard model equation includes two types of variables: external variables (independent) which include consumer (CE) and investment spending (IE). Internal variables include GDP growth as a dependent variable and expression of economic growth in Iraq. The equation of the model can be formulated as follows:

GDP = $f(CE, IE)$

GDP = $\beta_0 + \beta_1 CE + \beta_2 IE + U_i$ ……. (1)

To apply modern, standardised methods, there must be a sufficient number of variables. Since this research includes only 27 views, accurate results cannot be obtained. Too address this problem, it is necessary to convert the time series from annual to quarterly by using a Eviews. Thus, a quarterly time series consisting of 112 views for the period (1990-2017) were formed. The research data was obtained at constant prices (base year 100 = 1988) during the research period. Data was derived from several sources and tools, the most important of which were the Ministry of Planning and Development Cooperation, Central Statistical Organization, Monetary Fund Al-Arabi, statistical totals, annual bulletins of the Central Bank of Iraq and, the International Monetary Fund.

First: the theoretical framework of the standard model:

1. Test the stability of time series: The most important step in data analysis is to test the stability of the time series in order to avoid problems of spurious regression. Regardless of the good results of the t, F and R2 tests, they do not give real value to the results and cannot provide a meaningful economic explanation. There are three conditions that must be met for the time series to be stable:

1. The stability of the arithmetic mean :E (Y_t) =;.
2. Stability of any variation mean :var (Y_T) =$ð^2$Y;and
3. The existence of a common correlation between the two-time series (Yt + k, Yt) that depends on the amount of displacement (k) so that the variance is as follows:
   $Y_K=C_{0V}(Y_t, Y_{T+K})=E[(Y_T-\mu)(Y_{t+k}-\mu)]$

There are several unit root tests to determine the stability of the time series and the degree of integration. Examples of these tests are a Simple Dickey-Fuller, phillips-perron and Augmented Dickey- Fuller (ADF) test developed by David Dickey and Wayne Fuller. It is the most commonly used in standard tests and takes the following formulae (Haiyan et al., 2009):

1. $\Delta X_t = a_1X_t\text{-}1 + \sum\beta_j\Delta X_{t-j}$
2. $\Delta X_t = a_0 + a_1X_{t-1} + \sum\beta_j\Delta X_{t-j} + et$
3. $\Delta X_t = a_0 + a_2X_{t-1} + \sum\beta_j\Delta X_{t-j} + et$

After the ADF, two hypothese will be tested:
The first is the null hypothesis (HO = a = o), the second the alternative hypothesis (H1: a> 0). If the calculated t value is greater than the t-tabular value, the null hypothesis is rejected in favour of the alternative hypothesis. This means there is no unit root for the time series and is

stable at Level I (0). If it is a case where the calculated t value is less than the tabular value t, the null hypothesis is accepted. This means that the time series is unstable.

2. Characterization of ARDL

Recent developments in econometric analysis reveal that most time series are often unstable. Therefore, it is possible to find that some time series move away from their average over time, while others may converge on average over time. Time series that deviate from their mean are unstable, so the conventional estimate gives false results or false regression (R^2 is greater than DW). Therefore, several models have emerged that determine the common integration of unstable time series such as Engel (1981), Engel- Granger (1987), Johansen (1991), ARDL (Pesaran and Shine 1999) developed by Pesaran et al. (2001) (Emeka and Aham, 2016).

The ARDL model is a dynamic modelling method of common integration that has been widely used in recent years. This model provides a way to enter time-lagged variables as independent variables in the model (Saed and Michel, 2012). The advantage of this model does not require the variables of the model to be integrated in the same order. They can be used even if the variables are integrated from the zero class I (0) or even integrated class I (1) or a combination between them (Birendra, 2012). This model also offers efficient and unbiased capability because it is self-binding; the advantages are that it is even used in small samples.

This model provides long and short-term economic analysis according to an Unrestricted Error Correction Model (UECM). A long-term relationship between variables is tested according to the Bounds Test Approach by comparing the calculated F value with the tabular value F. If the calculated F value is greater than the upper limit of the critical value, the null hypothesis (HO: b = 0) will be rejected and the alternative hypothesis (H1: b ≠ 0) accepted. This then means that a long-term integration relationship between variables exists. If the calculated value F falls between the upper and lower limits (critical values), the result is inconclusive. If the calculated value of F is less than the minimum critical values, there is no long-term relationship (Santos Alimi, 2014).

Second: Testing and estimating the standard model:

1. Stability test variables:

The stability of the study variables will be tested using Eviews 9.5. It will use a Unite Root Test by means of the Dicky Fuller statistic (ADF). After testing the variables, the following outputs are evident:

Table 3: Stability test using Augmented Dickey- Fuller

UNIT ROOT TEST RESULTS TABLE (ADF)				
Null Hypothesis: the variable has a unit root				
	At Level			
		GDP	CS	CI
With Constant	t-Statistic	-3.6359	-1.2980	-1.6191
	Prob.	***0.0066***	***0.6283***	***0.4692***
		***	n0	n0
With Constant & Trend	t-Statistic	-3.9619	-2.6767	-2.5388
	Prob.	***0.0129***	***0.2485***	***0.3092***
		**	n0	n0
Without Constant & Trend	t-Statistic	-2.5322	-0.3198	-0.7337
	Prob.	***0.0116***	***0.5680***	***0.3964***
		**	n0	n0
	At First Difference			
		d(GDP)	d(CS)	d(CI)
With Constant	t-Statistic	-4.9635	-3.0721	-2.7584
	Prob.	***0.0001***	***0.0320***	***0.0680***
		***	**	*
With Constant & Trend	t-Statistic	-4.9602	-3.0320	-2.7284
	Prob.	***0.0005***	***0.1290***	***0.2277***
		***	n0	n0
Without Constant & Trend	t-Statistic	-4.9936	-3.0338	-2.7408
	Prob.	***0.0000***	***0.0027***	***0.0065***
		***	***	***
Notes: a: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1% and (no) Not Significant				

Source: Prepared by the researcher based on the outputs of the program (Eviews9.5).

With regard to Table 3, the time series of the variable dependent (GDP) is stable and the presence of a constant is at 1% significance. Without a constant and a trend at the level of significance 5%, this will be an integrated series of Class I(0) . The remaining variables (CE,

IE) were not stable, so the test was carried out after measuring the first differences in the time series. In doing this, it was discovered that stability was achieved at a level of 1%; without a breaker and without a constant and direction. Given this, these variables will be integrated class I (1).

2. Estimation of the model using ARDL Augmented

After testing the stability of the variables, it was noticed that some variables were stable at level I (0) and others at the first difference I (1). Therefore, the model will be estimated using the Augmented Autoregressive Distributed Lag Model (ARDL). However, according to M.H Pesaran et al. (2001), one of the conditions for using ARDL is that the dependent variable must be stable at I (1). The testing shown here demonstrates that the variables Y and X were generated on the basis of (Y = Yt-1 + et) and the regression coefficient p = 1; i.e., that Y contains a single root and that the dependent variable must be stable first degree (Paesran and others, 2001).

Clearly, the Augmented ARDL model will be used as it does not require that the dependent variable be stable at the first difference. The difference between this model and the normal ARDL model is the Bounds Test, where in the boundary test of the Augmented ARDL model, the calculated F is compared to the tabular F. This comparison is not shown in EViews; however special tabular values are provided by Chung Yan Sam and others (Chang and others, 2018).

Table 4: Estimation of ARDL Model

Dependent Variable: GDP				
Method: ARDL				
Sample (adjusted): 1990Q3 2017Q4				
Included observations: 110 after adjustments				
Dynamic regressors (2 lags, automatic): CE IE				
Number of models evalulated: 18				
Selected Model: ARDL(2, 2, 0)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDP(-1)	1.459928	0.065316	22.35182	0.0000
GDP(-2)	-0.619222	0.057544	-10.76079	0.0000
CE	0.007484	0.000766	9.775736	0.0000

CE(-1)	-0.011846	0.001383	-8.565653	0.0000
CE(-2)	0.004677	0.000952	4.915113	0.0000
IE	-0.000621	0.000856	-0.725727	0.4697
C	0.490051	1.115046	0.439489	0.6612
R-squared	0.906016	Mean dependent var		6.729180
Adjusted R-squared	0.900541	S.D. dependent var		21.50474
S.E. of regression	6.781975	Akaike info criterion		6.727935
Sum squared resid	4737.504	Schwarz criterion		6.899784
Log likelihood	-363.0364	Hannan-Quinn criter.		6.797638
F-statistic	165.4881	Durbin-Watson stat		2.390530
Prob(F-statistic)	0.000000			

Source: Prepared by the researcher based on the output of the program (Eviews9.5).

With respect to Table 4, the statistical tests demonstrate the quality of the estimated model where the explanatory power of the model (R^2 coefficient) was (0.9106) and the value of Augmented.0.900) . This means that independent variables account for 90% of the variables in the dependent variable. In addition, the calculated value of F is (165.48) with a statistical level of (0.0000) and indicates the quality of the model's significance. Consequently, the null hypothesis (Ho: b = 0) is rejected and the alternative hypothesis (H1: b ≠ 0) accepted as it indicates the model's significance.

3. Bounds Test

The ARDL model works in I (0) and I (1) so there are two tabular values for the F count, where the first value represents the minimum and assumes that the data is stable at I (0). The second value represents the upper limit and assumes that the data is unstable in its level but

stable at I (1). When comparing the value of the tabular F statistic, there are clearly three results:

1. f calculated > f tabular I(1): the alternative hypothesis is accepted as it indicates a common integration relationship;
2. f calculated < f tabular I(1): no common integration relationship is evident and;
3. f I(0) < f calculated < f I(1): a non-determining area where the decision is made for the existence of co-integration in case the data is stable in its level. However, in case the data is stable at the first difference the decision here relates to a lack of co-integration.

Table 5 below shows the Bounds Test:

Table 5: Bounds test with special F values

Test Statistic	Value	k
F-statistic	8.811210	2
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.32	4.09
5%	3.02	5.05
2.5%	3.73	5.99
1%	4.65	7.13

With regard to Table 5, the value of F calculated as greater than the value of F tabular. At a 1% level of significance, this indicates a long-term, balanced relationship between the variables. Therefore, the alternative hypothesis is accepted and the null hypothesis rejected.

1- Unrestricted error correction model UECM (short-term and long-term relationship)

The error correction model refers to a short-term relationship where the error correction coefficient measures the speed of processing short-term imbalances against long-term equilibrium. So, the error correction parameter signal should be negative as well as significant

A. Short-term relationship:

From Table 6 below, it is noted that the short-term parameters of independent variables were significant at a level of 1% and, according to the probability column (Prob) except IE variable, was not significant at a level of 5%. Evidently, the results indicate a direct

relationship between (CE) and (GDP) and demonstrates an increase in consumer spending by 1%. This results in an increase of GDP by 0.0074%. However, there is an inverse relationship between the consumption of previous years D (CE (-1)) and GDP. Additionally, these results indicate a weak impact of consumer and investment spending on GDP growth. This is brought about by the fact that the bulk of GDP comes from the oil sector and that this sector is vulnerable to government spending. The error correction parameter was (-0.16) and is significant at a level of 1%, indicating that 16% of short-term deviations in the previous period (t-1) can be corrected to rebalance in the long run.

Table 6: Short Term Relationship

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP(-1))	0.619222	0.057544	10.760786	0.0000
D(CE)	0.007484	0.000766	9.775736	0.0000
D(CE(-1))	-0.004677	0.000952	-4.915113	0.0000
D(IE)	-0.000621	0.000856	-0.725727	0.4697
CointEq(-1)	-0.159295	0.031448	-5.065280	0.0000
Cointeq = GDP - (0.0020*CE -0.0039*IE + 3.0764)				

Source: Prepared by the researcher based on the output of the program (Eviews9.5).

B. Long-term relationship:

Table 6 above presents the long-term impact of the variables consumer spending and investment spending on GDP. The long-term, balanced relationship indicates that consumer spending has a positive impact on GDP but was not statistically significant. As is eveident from Table 6 above, the long-term parameters of the consumer spending variable are positive. On the other hand, the probability value of Prob was greater than 5% and indicates that no significant long-term effect is discernible. In addition, investment spending has a negative impact on GDP. The probability value (Prob) has been greater than 5% and indicates no long-term significant effect.

Table 7: Long Term Relationship

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CE	0.001979	0.002114	0.935842	0.3515
IE	-0.003901	0.005332	-0.731728	0.4660
C	3.076381	6.973371	0.441161	0.6600

Source: Prepared by the researcher based on the output of the program (Eviews9.5).

With regards to Table 7 above, there is no significant effect of public spending on economic growth. The results are contrary to the logic of economic theory for the following reasons:

1. The general budget in Iraq begins with a deficit and ends in surplus. This reflects an inaccurate budget forecast and low rates of implementation, especially in relation to the process of economic growth and increased productivity;
2. The investment budget constitutes a lower percentage in the general budget compared to the operational. This is in addition to low rates of implementation owing to a lack of capacity, expertise of authorities and the instability of security and political contexts and;
3. Iraq adheres to its budget balancing items in that it does not promise goals and does not have a clear vision. The separation between the works of ministries and the construction of the Budget is apparent.
4. Economic growth depends mainly on interaction and trading with the outside world through oil prices, production quantities, global demand. This, in and of itself, provides a distorted picture of growth.

1- Test safety and stability model:

As previously mentioned, the ARDL model provides for integrity and stability through a set of interagency tests:

1- Serial correlation and Heteroskedasticity and Autocorrelation tests: These tests will be conducted via the statistical program 12stata for more accurate results. Subsequent to testing, results were obtained and are presented in Table 8 below.

With regard to Table 8 below, it is noted that the value of (chi) is not significant at a level of 5%. So, the hypothesis of nothingness is accepted and means that there is no problem of

serial correlation. Therefore, the model is not affected by problems of Heteroskedasticity and autocorrelation.

Table 8: LM test and Heteroskedasticity test

Lagrange-multiplier test

lag	chi2	df	Prob > chi2
1	9.2231	9	0.41694
2	4.0017	9	0.91130

H0: no autocorrelation at lag order

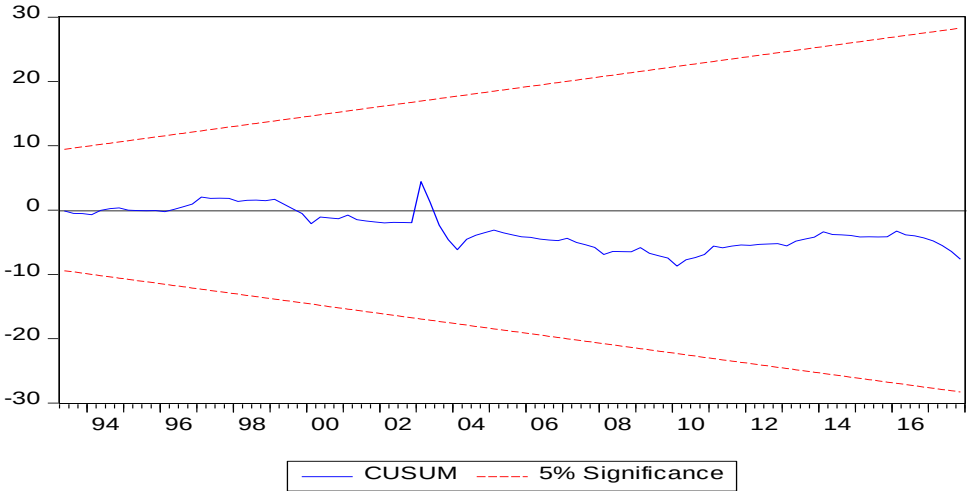
```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of GDP

         chi2(1)      =      2.17
         Prob > chi2  =    0.1407
```

Source: Prepared by the researcher based on the output of the program (stata12).

Structural stability test of the model:

To test the structural stability of the model, the CUSUM test shown below was used .From Figure 4 below, it is apparent that the cumulative sum of residues within the limits of the critical values stands at a significant level of 5%. This indicates the stability of the estimated parameters.

Figure 4. Structural stability of the model



Source: Prepared by the researcher based on the output of the program (Eviews 9.5).

SECTION VI: Conclusions and recommendations:

Conclusion and Recommendations

With regards to this research, the most important conclusions were reached via descriptive and quantitative analytical methods. It is concluded that:

1. The Iraqi economy was exposed several times to economic, political and social unrest that affected the overall economic indicators of the state;

2. Consumer spending accounted for the bulk of public spending in Iraq during the period of research at a relative importance of average of 79.37%. Contrastingly, the relative importance of investment spending amounted to 20.63% on average. This percentage was low and did not reflect real trends towards achieving economic growth.
3. The results of the short-term relationship test showed a positive and significant relationship between consumer spending and economic growth. Despite this, the relationship was deemed to be weak. The relationship between consumer spending for previous years and economic growth was negative and significant. The results showed a negative and non-significant relationship between government investment spending and short-term economic growth.
4. The results of the long-term relationship test showed a positive and non-significant relationship between government consumer spending and economic growth. This was in addition to a negative and non-significant relationship between government investment spending and economic growth. This demonstrated that the impact of public spending was lacking or weak in the long term because public spending, in its entirety, involved expense. Consequently, the productivity capacity of the Iraqi economy was not affected and was reflected in the growth of GDP. Therefore, the rate of economic growth was not affected by Government spending.
5. For the duration of the study, Iraq lacked a robust, precise financial policy. The country continued to prepare its Budget by way of balancing items; one of the oldest methods known. The existence of financial and administrative corruption also prevented the proper implementation of budget items.
6. The economic growth achieved in Iraq was distorted as it relied solely on oil production and exportation, at the expense of other export sectors.

Recommendations

1- Changing the path of spending policy that sacrifices economic growth by favouring consumption over investment and production towards achieving a balance between consumer spending and investment spending through programs and mechanisms to radically change the behaviour of public spending policy by directing government

spending towards activities that create an effective production structure with the possibility of generating value.

2- Diversification of income requires the establishment of a private sector that starts locally and integrates with government activity; this requires balancing public and private sector wages and adopting a wage-linking strategy.
3- Establishing sovereign wealth funds in order to benefit from the financial surplus achieved in previous years through investing that surplus and not directing it to increase consumer spending, this will help in achieving economic growth.
4- Adopt a financial policy that develops the real sector of the Iraqi economy, in addition to trying to find an alternative to balancing items such as programs and performance, which is a modern way of budgeting and gives importance to government programs and objectives and they focus on the same goal and not on the means to achieve it.
5- Activating ways to combat the scourge of administrative and financial corruption at the level of ministries and their bodies, and bodies associated with the implementation of the budget objectives, as well as those that spend the financial allocations, because of this great danger to the objectives and development plans and stand in the way of implementation.

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