

# The Impact of Government Expenditures on Economic Growth in Jordan (1980-2013)

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## Abstract

The purpose of this study is to measure the impact of government expenditures on economic growth in Jordan during the period between 1980-2013. To achieve the goal of this study, the multiple linear regression model, linking the study variables was used. Then, the model was analyzed using the OLS model. The results indicate that there is a positive impact for both total government expenditure and current government expenditure on economic growth. This result supports the Keynesian model. Based on the findings of the empirical analysis, the study recommends that capital government expenditure should be directed mainly to current productive economic activities in order to stimulate activities in the economic sectors.

**Keywords:** government expenditures, economic growth, Jordan

## 1. Introduction

Fiscal policy plays an important role in governmental efforts to enhance growth and development in an economy, through the variation of its revenue and expenditure profiles. It is one of the government policies that influence economic activities by raising the revenue through taxation and control of the level of expenditure (Anyanwu, 1993).

According to the simple Keynesian model, an expansionary fiscal policy aims to stimulate the economy, by either increasing the government expenditure, cutting taxes or both. It is expected that the government will not get the desired tax revenue collection to finance the government spending in the next period if this policy fails to achieve the desired growth rate (Al Bataineh, 2012).

Patricia and Izuchukwu (2013) illustrate that aggregate demand toward economic recession may be increased by the rise of government spending. In this case, government spending would be an effective tool in economic recovery. According to the Keynesian view, governments could depend on the private sector to stimulate the economy. The government will borrow money from this sector and then return the money in various spending programs. In general, government expenditure could have a positive influence on economic growth if there were high levels of government consumption which affect aggregate demand.

Government expenditure represents the engine of economic growth by contributing to the increase in the productive capacity of the local economy, especially if it is directed correctly toward important economic sectors. This, in addition to directing government expenditure toward non-vital economic sectors (which did not generate revenue to support the government budget), lead to deficit in the state budget. This may be a cause for economic recession.

Overall, this study looks at the impact of government expenditures on economic growth in Jordan during the period between 1980-2013.

## 2. Problem of the Study

Jordan suffers from a deficit in the general budget and a decline in the balance of payments, which limits its ability to stimulate economic growth. The quality of government spending represents a key determinant of the ineffectiveness of the state budget. The current government expenditure on the primary requirements of the state, such as employee salaries, doesn't generate income to reduce the budget deficit. Comparatively, the capital

government expenditure used on investment projects leads to increased state revenue. If the budget deficit continues, the state will resort to reducing its expenditures in order to alleviate debt and obligations. This could lead to a decline in economic conditions.

### 3. Objectives of the Study

This paper aims to achieve the following purposes:

- 1) Determine the impact of total government expenditure on economic growth in Jordan during the period between 1980 and 2013.
- 2) Determine the impact of capital government expenditure on economic growth in Jordan during the period between 1980 and 2013.
- 3) Determine the impact of current government expenditure on economic growth in Jordan during the period between 1980 and 2013.

### 4. Hypothesis of the Study

Ha1: There is a significant positive impact for the total government expenditure on economic growth in Jordan.

Ha2: There is a significant positive impact for the capital government expenditure on economic growth in Jordan.

Ha3: There is a significant positive impact for the current government expenditure on economic growth in Jordan.

### 5. Literature Review

Numerous studies have been conducted to investigate the relationship between government spending and economic growth. This section discusses some literature on the linkage between government expenditure and economic growth.

Abu-Eideh (2015) examined the causal relationship between public expenditure and the GDP growth in Palestine during the period between 1994 and 2013. The results revealed that there is a long-running relationship between public expenditure and GDP growth. It was also found that public expenditure and GDP have a cause and effect relationship with each other.

Olulu et al. (2014) investigated the empirical relationship between government expenditure and economic growth in Nigeria through the period between 1980 and 2010. The results indicated that there is an inverse relationship between government expenditure and economic growth in Nigeria. The results also revealed that government expenditure in Nigeria could increase foreign and local investments.

Torruam et al. (2014) used co-integration analysis to find the impact of public expenditure on tertiary education and economic growth in Nigeria during the period between 1990 and 2011. This study used time series data, with the results indicating that public expenditure has a positive impact on each of tertiary education and economic growth in Nigeria.

Gemmell et al. (2014) examined the long-running relationship between GDP and changes in total government expenditure for a sample of OECD countries through the period between 1970 and 2011. The results indicate a positive relationship in the long run between public expenditure and both tertiary education and economic growth in Nigeria.

Al-Shatti (2014) attempted to find the impact of public expenditure on economic growth in Jordan during the period between 1993 and 2013. The results showed a statistically significant impact of current expenses and capital expenditure on economic growth in Jordan.

Chinweoke et al. (2014) explained the relationship between government expenditure and economic growth in Nigeria through the period between 1992-2011.

The results indicated that there is a positive impact of the federal government expenditure on economic growth in Nigeria, but this impact was insignificant.

Alshahrani and Alsadiq (2014) examined the impact of different types of government expenditures on economic growth in Saudi Arabia during the period between 1969 and 2010. The results revealed that there is a positive impact on economic growth in Saudi Arabia in the following areas: private domestic investments, public investments, healthcare expenditure, openness to trade and spending in the housing sector.

Musaba et al. (2013) investigated the impact of government sectoral expenditure on economic growth in Malawi using time series data during the period between 1980 and 2007. The immediate results indicated that there is no significant relationship between government sectoral expenditure and economic growth, while the long-term results revealed a significant positive relationship between economic growth and expenditure on agriculture and

defense. However, the relationship between economic growth and expenditures on education, health, social protection transportation and communication was negative.

Al-Bataineh (2012) examined the relationship between government expenditure and economic growth in Jordan using time series data for the period between 1990 and 2010. The study revealed that there is a positive impact of the government expenditure at the aggregate level on economic growth, while payment does not have any impact on economic growth in Jordan.

Al-Qaisi (2012) investigated the impact of general expenditures on economic changes in Jordan during the period between 1970 and 2009. To achieve the objective of the study, different linear models were applied. The results showed negative effects of governmental expenditures on deficit in the public budget, internal debt and external debt. Also, the results illustrated that there is a positive relationship between capital expenditure, current expenditures, and gross domestic product.

Olabisi and Funlayo (2012) examined the relationship between the composition of public expenditure and economic growth in Nigeria during the period between 1960 and 2008.

The results indicated that public expenditure on education has a negative impact on economic growth, because of the high rate of rent in the country and the rise in unemployment.

Al-Mazrouei and Nejme (2012) examined the impact of public expenditure on gross domestic product in the United Arab Emirates in the period between 1990 and 2009. Three regression models have been built to achieve the goal of the study. Regression analysis results showed a positive impact of public expenditure on gross domestic product in the UAE.

Mohammadi and Maleki (2012) investigated the effect of governmental expenditure composition on the economic development of economic cooperation organization countries (ECO) during the period between 1995 and 2009. The results revealed that health expenditure by governments have statistically negative effects on the economic development, while educational expenditures by governments, as well as defense expenditures have positive effects on the economic development of ECO countries.

Yilgör et al. (2012) studied the effect of public expenditure on economic growth in Turkey during the period between 1980 and 2010.

The results showed that there is a one-way causal relationship from current, transfer, and total expenditures to economic growth in Turkey.

Dandan (2011) examined the impact of governmental expenditure on economic growth in Jordan during the period between 1990 and 2006. By applying different regression models, the study found that governmental expenditure has a positive impact on economic growth in Jordan.

#### Features of the study

This study is distinct from other studies, because it addresses the impact of current government expenditure and capital government expenditure on economic growth in Jordan, as well as the impact of total government expenditure on economic growth. In addition, the study period is longer compared to those considered in other domestic and foreign studies.

### 6. Theories of Public Expenditure and Economic Growth

The economic literature, especially macroeconomic models, ensures the existence of a relationship between government expenditure and GDP. This relationship has gained much attention from economists and researchers for many decades and has been a subject of intense controversy. There are two opposing views about the nature of this relationship (Al- Ghalepi, 2011).

#### 1) The Wagner's Law/Theory of Increasing State Activities

The German economist Adolf Wagner is the principal theorist of this law. In 1982, he was the first one who noted the relationship between economic growth and government expenditure. He formulated a law which was called "the continued expansion for the government activity". That law determined that government expenditure grows continuously, in its absolute or relative size, by the development achieved in the community. This means that there is a need to increase state expenditures, according to the following three reasons identified by Wagner (Bird, 1971).

a) The demand for public goods is growing with the high rates of industrialization, and the public sector is expanding in order to ensure the efficiency of economic performance.

b) The results of economic development lead to the expansion of cultural services, social care and education,

leading to higher government expenditure.

c) Government interference for management and financing the natural monopolies.

The supporters of this theory believe in effective intervention in the economy by the government; through spending and saving money in order to stimulate demand for goods and services, as well as to ensure economic growth and stability. However, this contrasts with the approach of the supply side of public finances, where the expenditure distorts economic growth by inflation.

2) The Keynesian Theory

The theory of British economist John Maynard Keynes has formed a new direction in economic thought. He believed that the problem does not lie in the supply side, which focused on theories and previous laws, but in the side of aggregate demand. The Keynesian point of view gives utmost importance to expenditures, with the main goal being increased effective demand. It was found that the increase in government expenditures should be considered a basic tool of economic policy (Nelson & Plosser, 1984).

**7. Model Specification**

The Multiple Linear Regression model was built based upon a study by Olabisi and Funlayo (2012). The model is specified as follows:

$$GDP = f(TGE, \text{Capital GE}, \text{Current GE}) \tag{1}$$

In econometrics, the function (1) can be transformed as:

$$GDP = \lambda_0 + \lambda_1 TGE + \mu \tag{1}$$

$$GDP = \lambda_0 + \lambda_2 \text{Capital GE} + \mu \tag{2}$$

$$GDP = \lambda_0 + \lambda_3 \text{Current GE} \tag{3}$$

Where:

GDP = Gross Domestic Product

TGE = Total Government Expenditure

Capital GE = Capital Government Expenditure

Current GE = Current Government Expenditure

$\lambda_0$  = Intercept of the regression line

$\lambda_i$  (i = 1, 2, 3) = Coefficient of weights of the components of government expenditure.

**8. Data Analysis and Discussion**

This study set up an econometric model to test the relationship between government expenditure and the growth of the Jordanian economy. The study uses annual data from 1980 to 2013. The sources of this data were :the Central Bank of Jordan statistical bulletin and the Department of Statistics.

Description of Study Variables: The table below reflects a summary of the statistical results for the variables of the study.

Table 1. Summary of results of descriptive statistics

Max	Min	SD	Mean	Variable
0.293019	0.030699	0.057598	0.099901	GR GDP
0.184324	-0.023088	0.057909	0.081972	GR Total GE
0.507042	-0.361927	0.233906	0.070924	GR Capital GE
0.222979	-0.02457	0.067631	0.092894	GR Current GE

Source: Results of the statistical analysis.

Growth in Gross Domestic Product (GRGDP): The mean of growth in gross domestic product was about 10%, and the standard deviation was approximately 6%. This growth ranged between about 3% as a minimum and approximately 29% as a maximum.

Growth in Total Government Expenditures (GR Total GE): The mean of growth in total government expenditures

was about 8%, and the standard deviation was approximately 6%. This growth ranged between about -2% as a minimum, and approximately 18% as a maximum.

Growth in Capital Government Expenditures (GR Capital GE): The mean of growth in capital government expenditures was about 7%, and the standard deviation was approximately 23%. This growth ranged between about -36% as a minimum, and approximately 51% as a maximum.

Growth in Current Government Expenditures (GR Current GE): The mean of growth in current government expenditures was about 9%, and the standard deviation was approximately 7%. This growth ranged between about -2% as a minimum and approximately 22% as a maximum.

Stationarity of the variables GE and GDP was tested using the Augmented Dickey-Fuller (ADF) test. Table 2 reports the results, which suggest the rejection of the unit root null hypothesis of stationarity for components of government expenditure and GDP at that level.

Table 2. Unit root test results

Variable	ADF (level)	P-value	Integration Order
GR GDP	-3.68785	0.0116*	I (0)
GR Total GE	-3.43024	0.0203**	I (0)
GR Capital GE	-6.70135	0.000*	I (0)
GR Current GE	-4.57118	0.0016*	I (0)

Note. \* rejection the null hypothesis of unit root at 1% significant levels.

\*\* rejection the null hypothesis of unit root at 5% significant levels.

From Table 2 above, we can note that all the variables of the study were stable at that level, therefore we reject the null hypothesis which states that stillness varies. This means that the variables are stable at that level, which is clear from the values of probability which were statistically significant at that level: 5%.

Homogeneous Test: The Breusch-Pagan-Godfrey test was used in order to identify the homogeneity of data studied, and the results were as shown in Table 3.

Table 3. Breusch-Pagan-Godfrey test for homogeneity

Variable	F-statistic	Pro.
GR Total GE	5.290771	0.313
GR Capital GE	0.183504	0.6725
GR Current GE	3.867425	0.620

From Table 3 above, we can observe that there is no problem related to heterogeneity, where the values of statistical significance (probability) for all the variables were insignificant (less than 5%), which indicates that there is no problem in homogeneity.

Serial Correlation Test: The Breusch-Godfrey Serial Correlation LM test was used in order to ensure that there was no serial correlation between the data studied, and the results were as shown in Table 4.

Table 4. Breusch-Godfrey serial correlation LM test

Variable	F-statistic	Pro.
GR Total GE	0.462859	0.7621
GR Capital GE	1.930841	0.1711
GR Current GE	2.454614	0.1114

From Table 4 above, we can see that there is no problem related to serial correlation between the dependent

variable (GRGDP) and all the independent variables. The values of statistical significance (probability) for all the variables were insignificant (less than 5%), which indicates that there is no serial correlation problem.

Regression Analysis: With E-Views software, GDP was regressed on the components of government expenditure, and the results shown in Table 5 below were obtained.

Table 5. Regression analyses test results

Variable	Coefficient	T-Statistic	P- value
GR Total GE	0.564721	3.235053	0.0038*
C	0.053609	3.08138	0.0055
R-squared		0.322359	
GR Capital GE	0.032333	0.621254	0.5408
C	0.097608	7.823719	0
R-squared		0.017241	
GR Current GE	0.428911	2.734286	0.0121*
C	0.060057	3.356288	0.0029
R-squared		0.253638	

Note. \*significant impact at 1% significant levels.

The regression results revealed that there exists a significant positive relationship between total government expenditure and economic growth. However, the results also indicated that current government expenditure has a significant positive impact on economic growth, while capital government expenditure was not significantly related to economic growth.

We can note that total government expenditure explains about 32% of the changes in economic growth, but current government expenditure explain only about 25% from this change (as shown in Table 2).

## 9. Conclusion

The main objective of this study was to examine the impact of government expenditure on economic growth in Jordan during the period between 1980 to 2013.

The following conclusion can be drawn from the study results.

- 1) There is a positive impact for both total government expenditure and current government expenditure on economic growth, which supports the Keynesian model.
- 2) There is no significant relationship between capital government expenditure and economic growth. This may be due to the need for a longer period of time in order to demonstrate the capital government expenditure's effect on economic growth. This is particularly because Jordan is classified as a developing country.

Based on the findings of the empirical analysis, this study provides the following recommendations.

- 1) Capital government expenditure should be directed mainly to current productive economic activities, in order to stimulate activity in the economic sectors.
- 2) Since the analysis showed that total and current government expenditures have a positive effect on economic growth, they require more favorable attention.
- 3) Government should cut down on its capital expenditure and spend more on current investments which will enhance the economic activities in the short-term.

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