INTERNATIONAL JOURNAL OF
MULTIDISCIPLINARY STUDIES ON MANAGEMENT,
BUSINESS, AND ECONOMY

ISSN: 2735-5446 VOLUME 2, ISSUE 2, 2019, 25 – 31. www.egyptfuture.org/ojs/

Crude Oil Fluctuations and Government Expenditure: Jordanian Evidence An Econometric Study During The Period (1990 - 2017)

Mahmoud Hussein Al-Wadi*

Business Faculty -Middle East University-Amman-Jordan

Abstract

*The developing countries, including Jordan, face challenges and difficulties in adjusting their fiscal policy because there is an increasing demand for public expenditures that determine and justify public revenues**.** There is a relationship between the fluctuations in oil prices and the volume of public expenditure, which is proven by the standard study, and thus the following problem can be formulated: How much oil price volatility affects the public expenditure policy in Jordan. A Least squares method, Granger-causality tests was used. We find that that oil prices have significant impact on government spending This indicates the importance of variable X in the interpretation of Y and its significance. The study also fined that the oil price rates have a direct impact on government spending in Jordan, and the increase in oil prices by 1% leads to an increase in the general policies of spending in Jordan by 52.20%.*

Keywords

government expenditure, oil fluctuations, Jordanian.

Introduction

The importance of public spending lies in the role it plays as an effective tool of the state's fiscal policy, whose functions have evolved over the ages with the development of public needs. It has borne the brunt of the development of all sectors of the national economy through its fiscal policy to address many economic problems. General reflects the effectiveness of the government and its impact on economic activity.

The developing countries, including Jordan, face challenges and difficulties in adjusting their fiscal policy because there is an increasing demand for public expenditures that determine and justify public revenues. The State uses public revenues to finance its expenditures according to the financial rule.

From the above, it is clear that there is a relationship between the fluctuations in oil prices and the volume of public expenditure, which is proven by the standard study, and thus the following problem can be formulated: How much oil price volatility affects the public expenditure policy in Jordan

Review of Public expenditures scenario in Jordan

Public finance policy is defined as the policy of managing and using public revenues and expenditures to achieve the objectives derived from the state's economic, social and political situation (Khatib and al-Shamiyya, 2012). Traditionally, the fiscal policy is seen as performing three functions: improving efficiency Economic development through reallocation of resources, improved income distribution and economic stability. The function of economic stabilization is linked to the role of fiscal policy in achieving the main objectives of macroeconomic policy makers Economic growth and the stability of the general price level. The budget deficit amounted to 8.6% of nominal GDP in 2011. In addition to the above, the Jordanian economy has been subjected

* *Corresponding author*: VpHumanities@meu.edu.jo

to severe external shocks, represented by an increase in the bill of energy imports resulting from frequent interruptions in the flow of natural gas from Egypt and the resort to importing fuel products at a high cost of generating electricity, To bear the burden of protecting consumers from rising energy prices through subsidies and social spending; which led to a rise in the central government deficit, and an increase in operating losses in the National Electricity Company public shareholding that supports electricity tariffs. The pressure on the state budget in 2012 was exacerbated by the political conditions of some neighboring Arab countries and by contributing to the burden of providing housing and medical services to refugees coming from Syria. Given the importance of fiscal policy in moving the pace of activity to the economic role in Jordan, and under these conditions and developments, this study will try to identify the impact **oil price volatility on the public expenditure policy in Jordan.**

Public expenditures increased by (2.9 percent) in 2016 over the year 2015. This rise was an outcome of an increase in current expenditures and a decrease in capital expenditures.

Current expenditures recorded an increase in the amount of JD 294.8 million (4.5 percent) in 2016 compared to 2015 to stand at JD 6,919.3 million, accounting for 25.2 percent of GDP compared to 24.9 percent of GDP in 2015. The rise in current expenditures was a result of the increase in the values of many of their components, mainly the military expenditures, which rose by 10.9 percent, the social benefits also increased by 2.4 percent (prominently, pensions and compensation expenditures). In addition, the "purchases of goods and services" item went up by 10.2 percent and the compensation of employees by 1.9 percent. In contrast, the interest payments of public debt (domestic and external) as well as “subsidies” item (including goods subsidies) were down by 8.7 percent and 17.0 percent, respectively.

Capital expenditures decreased by JD 69.2 million in 2016 compared to 2015 to stand at JD 1,029.2 million, accounting for 3.8 percent of GDP against 4.1 percent of GDP in 2015. Thus, capital expenditures accounted for 12.9 percent of total public expenditures. The ratio of achievement in 2016, measured by the ratio of actual capital expenditures to planned capital expenditures in the Budget Law, declined to reach 78.5 percent compared to 93.5 percent in 2015. Looking at the components of capital expenditures, it is noted that "buildings and construction" item made up the largest proportion of total capital expenditures, accounting for 46.3 percent. Capital expenditures with current nature (including subsidies for government units, purchases of goods and services, compensation of employees, and "studies and research" item) accounted for 35.8 percent of total capital expenditures. However, the remaining 17.9 percent was distributed among other items, particularly, machines, equipment, furniture, supplies and lands (CBJ, 2016)

Literature review

Theoretically different studies that were employed to show the relationship between oil fluctuation and government expenditure policy. Although there is available literature on the negative relationship between oil price shocks and gross national product for developed countries, the impact on macroeconomic variables in developing countries has not been established yet.

The following table summarizes these studies and its results

Table (1) Summary of a selected literature

Authors/ (year) Study Aim	sample	Methodology used	Study Period	Main Results
Zukarnain Zakaria, Sofian Shamsuddin (2017) *Causality Relationship between Crude Oil Variables and Budget Variables in Malaysia*	Malaysia	Granger-causality tests	1978-2014	crude oil variables studied have no long run causality relationship with government expenditure
Leonardo Quero-Virla (2016) *Macroeconomic Effects of Oil Price Fluctuations in Colombia*	Colombia	vector auto-regression model	2001- 2016	a 10% increase in the oil price generates 0.4% increase in GDP growth
Akin and Babajide (2011) *Impact of oil price shocks on selected macroeconomic variables in Nigeria*	Nigeria	Granger-causality tests	1985-2007	insignificant effect of oil price increases and decreases on government expenditure
Hamad, Al-Hiti,and Saber Mohammed (2011) *The impact of oil revenue fluctuations in macroeconomic indicators and performance of stock markets in the GCC countries*	KSA and UAE	lower squares method	1980- 2005	Oil market returns have an impact Positive in the performance of the Gulf financial markets sample of the study
Oriakhi and Iyoha (2013) *Impact of oil price shocks on selected macroeconomic variables in Nigeria*	Nigeria	Granger-causality tests	1970-2010	significant consequences on real government expenditure
Balakla (2013) *Developments in Oil Prices and their Reflections on the General Budget of the Arab Countries during the Period (2000-2009*)	Arab Countries	vector auto regression (VAR) method	2000-2009	Positive implications Due to the rise in oil prices during the study period, which led to a rise in cash flows, Which resulted in an increase in the capacity of financial authorities to expand spending. Thus improving the performance of economic activity
Hammadi (2009)	Arab	regression	1986-2008	the existence of a positive

Oil price fluctuations and their implications for financing development in Arab countries during the period 1986-2008	countries	OLS method		relationship between high oil prices And financial resources for Arab oil countries. It also concluded that most of the Gulf States and Libya Algeria is among the most affected by oil price volatility
Jbir and Zouari-Ghorbel, (2009) *Recent oil price shock and Tunisian economy*	Tunisia	vector auto regression (VAR) method	1993-2007	positive and negative oil price shocks have significantly affected government spending
Eltony and Al-Awadi (2001) *Oil price fluctuations and their impact on the macroeconomic variables of Kuwait: A case study using a VAR model. International Journal of Energy Research*	Kuwait	VAR model	1984- 1998	positive impact on government expenditure
Almulali and Che- Sab(2013) *Exploring the impact of oil revenues on OPEC members' macro economy. Energy Review*	OPEC countries	vector auto-regression model	1995-2012	positive impact on government expenditure
Farzanegan and Markwardt (2009) *The effect of oil price shocks on the Iranian economy. Energy Economics*	Iran	VAR approach	1988- 2004	marginal impact of oil price fluctuations on real government expenditures
Ebrahim and Mohammad (2012) *Asymmetric impacts of oil prices and revenues fluctuation on selected macroeconomic variables in Iran*	Iran	VAR approach	1990- 2008	oil price increase influences government capital expenditure and current expenditure
Dizaji (2014) *The effects of oil shocks on government expenditures and government revenues nexus (with an application to Iran's sanctions)*	Iran	vector auto regression (VAR) and vector error correction (VEC) models	1992- 2012	oil revenue (proxy for oil prices(had strong influence on the current and capital expenditure
Lorde and Thomas (2009) *The macroeconomic effects of oil price fluctuations on samll open- oil-producing country: The case of Trinidad and Tobago*	of Trinidad and Tobago.	VAR approach	1985- 2006	increases in oil prices had a positive effect on government revenues and consumption.

Benefits of previous studies:

This study came to discuss two very important issues of price volatility of oil and the performance of fiscal policy during the economic cycle, as fundamental variables in life. Previous studies have led the researcher through his findings and the recommendations made to give a background and conceptual framework for the variables of the study, giving impetus to the researcher To build the methodology of the study by identifying the problem as well as building a model for measuring price fluctuations And its impact on fiscal policy in the Jordanian economy.

Methodology and Data used

To analyse the impact oil price volatility on the public expenditure policy in Jordan, a Least squares method, Granger-causality tests was used. Data of oil prices are Organization of the Petroleum Exporting Countries (OPEC), were data of public expenditure in Jordan from Central Bank of Jordan.

Statistical analysis of data and results discussion

The Least squares method was used to determine the impact of oil price fluctuations on the public spending policies in Jordan.

The regression equation for data given according to (Eviews) program is as follows:

$$Y = 1823.86 + 52.20 * X \ldots\ldots 1$$

This equation refers to predicting the future value of Y (public expenditure) if the value of X (oil prices) is known.

The general form of the previous equation is:

$$y = C + \beta * X$$

It is clear from the above equation that the coefficient of correlation between the two variables is positive, ie, the oil price rates have a direct impact on government spending in Jordan, and the increase in oil prices by 1% leads to an increase in the general policies of spending in Jordan by 52.20%.

This value can be obtained by multiplying the standard error value by T

COEFFICIENT = STD.error * t- Statistic

52.20 = 13.25 * 3.94

EViews - [Equation: EQ01 Workfile: UNTITLED::Untitled\]

File Edit Object View Proc Quick Options Add-ins Window Help

View Proc Object Print Name Freeze Estimate Forecast Stats Resids

Dependent Variable: Y
Method: Least Squares
Date: 02/03/18 Time: 21:39
Sample: 2000 2016
Included observations: 17

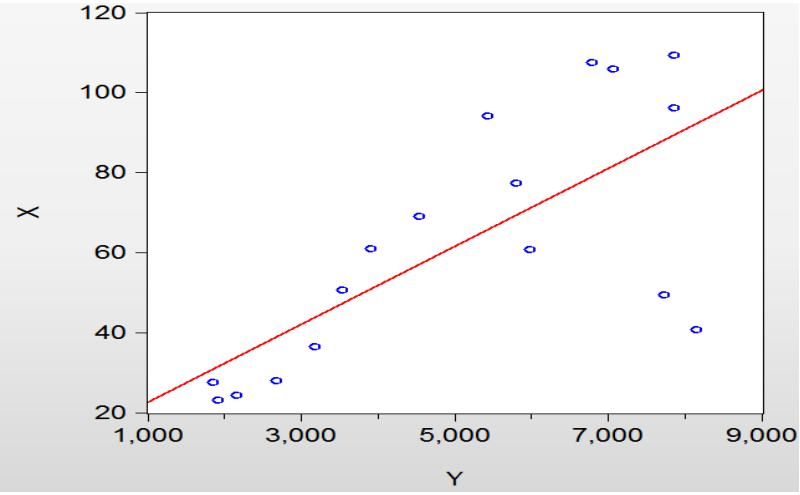
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1823.856	918.4239	1.985854	0.0656
X	52.20281	13.24729	3.940640	0.0013

R-squared	0.508658	Mean dependent var	5084.382
Adjusted R-squared	0.475902	S.D. dependent var	2270.246
S.E. of regression	1643.536	Akaike info criterion	17.75722
Sum squared resid	40518140	Schwarz criterion	17.85524
Log likelihood	-148.9364	Hannan-Quinn criter.	17.76696
F-statistic	15.52865	Durbin-Watson stat	0.402044
Prob(F-statistic)	0.001308		

The constant C = 1823.856 shows that if the price of oil is non-existent, the average government expenditure equals 1823.856%

The validity of the relation between oil prices and government spending in Jordan can be tested through R2, which shows the strength of the relationship between the two variables. From the previous table, the value is equal to 0.51 and is not strong nor weak and positive.

F-STATISTIC = 15.53 We find that that oil prices have significant impact on government spending This indicates the importance of variable X in the interpretation of Y and its significance.



A weak positive correlation between the two variables is evident from this figure

References

1. Akin, I., Babajidie, F. (2011), Impact of oil price shocks on selected macroeconomic varaibles in Nigeria. Energy Policy, 39, 603-612.

2. Almulali, U., Che Sab, C.N. (2013), Exploring the impact of oil revenues on OPEC members' macroeconomy. Energy Review, 37(4), 416-428
3. Balakla Brahim, (2013), Developments in Oil Prices and their Reflections on the General Budget of the Arab Countries during the Period (2000-2009), Researcher magazine, No. 12,, University of Qasdi Mrabah, Ouargla, Algeria.
4. CJJ (2016), annual report, Central Bank of Jordan, pp. (50-51)
5. Dizaji, F.S. (2014), The effects of oil shocks on government expenditure and government revenues nexus (with an application to Iran's sanctions). Economic Modelling, 40, 299-313.
6. Ebrahim, E., Mohammad, A.A. (2012), Asymmetric impacts of oil prices and revenues fluctuation on selected macroeconomic variables in Iran. Journal of Basic and Applied Scentific Research, 2(8), 7930-7937.
7. Eltony, M.N., Al-Awadi, M. (2001), Oil price fluctuations and their impact on the macroeconomic variables of Kuwait: A case study using a VAR model. International Journal of Energy Research, 25, 939-959.
8. Farzanegan, M., Markwardt, G. (2009), The effect of oil price shocks on the Iranian economy. Energy Economics, 31, 134-151.
9. Hamad Hussein Ali, Al-Hiti, and Saber Mohammed (2011), The impact of oil revenue fluctuations in macroeconomic indicators and performance of stock markets in the GCC countries, Anbar University Journal of Economic and Administrative Sciences, vol. 4, no. 7.
10. Hammadi (2009), Oil price fluctuations and their implications for financing development in Arab countries during the period 1986-2008, Unpublished MA, Faculty of Economic and Management Sciences, Huseiba Ben Bouali University, Chlef, Algeria.
11. Jbir, R., Zourai-Ghorbel, S. (2009), Recent oil price shocks and Tunisian economy. Energy Policy, 37, 1041-1051
12. Khatib, Khaled and Ahmed Al-Shamia (2012). Foundations of Public Finance، Dar Wael Publishing and Distribution, Jordan.
13. Lorde, T.J., Thomas, C. (2009), The macroeconomic effects of oil price fluctuations on samll open- oil-producing country: The case of Trinidad and Tobago. Energy Policy, 37, 2708-2716.
14. Oriakhi, D.E., Iyoha, D.O. (2013), Oil price volatility and its sequences on the growth og Nigerian economy: An examination (1970-2010). Asian Economic and Financial Review, 3(5), 683-702.
15. Zukarnain Zakaria, Sofian Shamsuddin (2017(Causality Relationship between Crude Oil Variables and Budget Variables in Malaysia, International Journal of Energy Economics and Policy, 2017, 7(2), 132-138.
16. Leonardo Quero-Virla (2016(Macroeconomic Effects of Oil Price Fluctuations in Colombia, ecos.econ. vol.20 no.43 Medellín July/Dec. 2016

Received: November 3, 2019
Accepted: December 12, 2019