

Print ISSN: 2288-4637 / Online ISSN 2288-4645
doi:10.13106/jafeb.2021.vol8.no1.113

The Fiscal Policy Instruments and the Economic Prosperity in Jordan*

Jumah A. ALZYADAT¹, Iyad A. AL-NSOUR²

Received: September 30, 2020 Revised: November 30, 2020 Accepted: December 05, 2020

Abstract

This study aims to investigate the effects of fiscal policy instruments on economic growth in Jordan using annual data from 1970 to 2019, by applying the VAR model (Vector Auto regression) and the Vector Error Correction Model (VECM). The study also examines the dynamic relationship among economic variables over time using the Granger casualty test, Impulse Response Function, and Variance Decomposition. The results show that not only the public expenditures have a positive effect on economic growth in Jordan, but also the tax revenues positively affect the economic growth in the short-run, and this is because of using the tax revenues to finance the government activities in Jordan. This effect becomes negative in the long run, and this is explained because the tax seems a source of distortions in the economy, The extreme taxes may cause huge distortions in the economy, and these distortions destroys the purchasing power, the aggregate demand, and supply. More governmental dependence on tax revenues is the main source of tax evasion and less efficiency. The effect of taxation will curb any prosperity in the economy. Therefore, the government should estimate the fair tax rates to generate sufficient revenues to finance the public expenditure required to enhance economic prosperity.

Keywords: Fiscal Policy, Public Expenditure, Tax Revenues, Economic Prosperity, Jordan

JEL Classification Code: E62, C13, O23

1. Introduction

Economic growth has occupied an important place in the economic theory and this refers to the government role and responsibility in the economic activities. The economic responsibility of government in the last century was limited because it focused on creating the necessary circumstances for market performance. Liberalizing the economy and decreasing the unemployment rates are one of the main responsibilities of local government (Gabriel & Ezekiel, 2019).

The great depression backs the question about the relative importance of fiscal policy on economic growth (Vav der Wielen, 2020). At the end of the Second World War, Marshal started the economic reconstruction model for the European economy, the governments defined the responsibilities and the size of investments needed to promote economic activity, thus they determined the necessary and sufficient conditions for economic growth (Gurdal, et al., 2020).

Perhaps the most popular models in the economic growth such as the Harrod Domar model says that the new economic indicators and the benchmarking determines the economic success, these indicators are national income and the growth rate in per capita income. The fiscal policy through public revenues and expenditures are vital tools for economic growth. The two groups of variables have an impact on the level and the size of national income through the aggregate demand. The public (governmental) demand for goods and services and investment are necessary factors for economic stability and the full employment level in the economy (Halkos & Paizanos, 2015). This point will be achieved by increasing the size of public expenditures, compared to the public revenues in the depression stage, and vice versa in the inflation stage (Rosoiu, 2015).

The fiscal policy in the period of inflation, means that the level of national income is less than the full employment point, so it is possible to move the aggregate demand for

*Acknowledgments:

[1] The authors extend the appreciation to the Deanship of Post Graduate and Scientific Research at Dar Al Uloom University for funding this research.

[2] The authors declare no conflict of interest.

¹First Author and Corresponding Author. Assistant Professor, Department of Finance and Banking, College of Business Administration, Dar Aluloom University, Riyadh, Kingdom of Saudi Arabia [Postal Address: Al Falah, Riyadh 13314, Saudi Arabia] Email: jalzyadat@dau.edu.sa

²Department of Advertising and Marketing Communication, Imam Mohammad Ibn Saud Islamic University, Riyadh, Kingdom of Saudi Arabia. Email: nsour_2005@yahoo.com

© Copyright: The Author(s)

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

higher point through public expenditures, increase in the public demand for goods and services will increase the demand for the production factors, and as a result the national income may increase (Ozer & Karagol, 2018). The multiplier and the accelerator may affect the level of national income, and this effect depends on the situation in the economic activity, so the total effect of the fiscal policy at the level of national income have direct effects on the size of public expenditure and revenues (Rosoiu, 2015).

In most countries, especially in the developing countries, the fiscal policy is a key factor of the direction of the economic cycle (Procyclical), public expenditures increase and taxes decrease in economic prosperity, and on the contrary, the public expenditures decrease and taxes may arise in the economic recession (Alesina, et al. 2008). On the other hand, higher tax rates may lead to higher levels of public expenditures, some of which may boost economic growth (Stoilova, 2017). Changes in tax policy and public expenditure affect the level of personal income, which in turn affects the purchasing power of goods and services, and the output level and income gets affected as well.

Moreover, there is confirmed evidence that fiscal discipline has a negative effect on economic growth in the short-run and at the same time the increases in the tax multiplier tend to be larger than the cuts in the public expenditure (Van der Wielen, 2020). This means that the fiscal policy plays a significant and direct influence on the level and structure of output and income through changes in the public expenditure and taxation.

The theoretical and practical studies have not agreed on the importance of fiscal policy in economic activity, the results of earlier studies are different because of a set of methodological factors such as the selected countries in the sample, level of the economic activity in such countries, the study time, the control variables, and the method used (Alqadi & Ismail, 2019). Jordan, like other developing countries, depends on the fiscal policy for economic stability. Therefore, this study aims to analyze the role of fiscal policy in economic prosperity in Jordan.

2. Literature Review

Most of the research results have found that the fiscal policy is a key reason for economic growth in the short as well as in the long run (Ozer & Karagol, 2018), also, there is a significant relationships among public expenditures, tax revenues, and economic growth in most countries. The Empirical evidence found a weak relationship between fiscal policy and economic activity but it is still vital (Halkos & Paizanos, 2015).

The other results found the positive causal relationship between fiscal policy and economic growth (Benos, 2009; Ozer & Karagol, 2018; Boiciuc & Orțan, 2020). The study of Easterly and Rebelo, (1993) proved the importance of fiscal

policy for economic growth, trade taxes, and income tax in the poor and developed countries, Ocran (2011) supports the significant positive effect of public expenditure and tax on economic growth. Other studies confirmed the positive effect of public expenditure and the negative effect of tax revenues on economic growth, (Almasaeed & Tsaregorodtsev, 2018). Engen and Skinner (1992) found a strong negative impact of public expenditure and taxation on economic growth. The public expenditure has a positive effect on growth and the tax revenues curb the growth.

By using the Granger causality to investigate the causality between fiscal policy and economic growth, the study by Aremo and Abiodun (2020) showed that no significant causality between the two variables could be established among the variables in the low and middle-income Sub-Saharan African countries. Gurdal et al. (2020) found a bidirectional causality relation between economic growth and public expenditure, and no causal relationship between economic growth and tax revenue, also they showed a bidirectional short and long run causality relationships between economic growth and tax revenue, while the long-run causality relationship between economic growth and public expenditure has been proved.

The relationship between public expenditures and economic growth is subject to change in the long run, because it seems a cause and effect at the same time. While other studies indicate that the growth rate of public expenditure over time is the engine for economic growth (Angelopoulos & Philippopoulos, 2007), on the contrary, the weak relationship is proved as well (Auteri & Costantini, 2004; Zulfiqar, 2018). The studies refer to such contradiction in the fundamental differences and the assumptions of the model, the first point of view depend on the Wagner's law, which emphasizes that economic growth contributes to the growth in the public sector, i.e. the impact runs from the economic growth to public expenditure, but Wagner says that such expenditure has faster increases than economic growth, this point of view indicates that large public expenditure will curb and destroy the economic growth and the fact that government activities are implemented ineffectively is proved (Gatsi et al., 2019).

The other point of view relies on the Keynesian model, which considered public expenditure to be a vital tool for the fiscal policy which can accelerate economic growth (Loizides & Vamvoukas, 2005). Keynesians emphasize the positive effect of public expenditure on economic growth by the multiplier effect, while the neo-classical argue that the negative effect of public expenditure on economic growth will happen in the economy. The expansionary fiscal policy by of the public expenditure will lead to the crowding-out effect and the compaction between the private and public activities will increase the interest rates and tax rates, and as a result the economic growth may be failed in the end (Alqadi & Ismail, 2019).

The role of public expenditure in stimulating economic growth is a subject of debate in developed and developing countries (Lindaue & Velenchik, 1992). The practical research proved the contradiction results, for example, some studies show that the effect of public expenditure on economic growth is insignificant (Lindaue & Velenchik, 1992; Anwar et al., 1996; Alesina & Perotti, 1996; Lee et al., 2019). Hsieh and Lai (1994) found that public expenditure has a small proportion of economic growth, while the study of (Saez et al., 2017) suggested that public expenditure and economic growth have no significant relationship in the EU countries, but the other studies have confirmed the key role of public expenditure in economic growth (Ahsan et al., 1989; Kneller, 2007; Alexiou, 2009; Dudzeviciute et al., 2018; Nguyen, 2019a). Wu et al. (2010) strongly support Wagner's law which says that public expenditure is a helpful factor for economic growth and the causal relationship between tax revenue and economic growth is proved as well (Canicio & Zachary, 2014).

The positive effect of expenditure and the size of the public sector on economic growth is proved (Diamond, 1989; Tanzi, 2000; Alesina et al., 1998; Cakerri et al., 2014). The increase of 1% in the public expenditure will increase the economic growth by 0.2365% (Havi & Enu, 2014). The size of government in the economy is measured by the share of total expenditure to GNP positively affected the economic growth in the short and the long run (Loizides & Vamvoukas, 2005), so the smaller public sector may be good for economic growth (Angelopoulos & Philippopoulos, 2007).

The Studies distinguished between the effect of public expenditure on economic growth over time, the positive relationship between public expenditure and economic growth in the long run is proved (Oladele et al., 2017; Yoong et al., 2020), and the significant negative relationship between them in the short run is proved as well (Lin, 1994), while Gebreegziabher (2018) confirms that government consumption positively affected the economic growth in the short and the long run, so the size of government has played a positive effect on economic growth in the short and the long run (Koeda & Kramarenko, 2008).

Most of the studies have confirmed the negative effect of the public expenditure components on the economic growth in most of the surveyed countries (Barro, 1991), and the effect of capital expenditure on economic growth are not proved. Some studies have found that capital expenditure has less effect on growth than private investment, while the capital expenditure has a positive and significant effect on economic growth (Gupta, 2018). Devarajan, et al. (1996) found that current expenditure has positive effect on the economic growth in developing countries; by contrast, the capital expenditure has negative effect on per-capita income.

The study of Lee et al. (2019) analyzed the function of public expenditure in the Chinese and the Korean economies and they found that public expenditure has a low effect on

economic growth in China, while the source of expenditure by general public service and social security has a significant positive effect on growth rate. In the Korean economy, the results have differed, so there is a positive and a negative relationship between functional public expenditure and economic growth. Maingi (2017) concludes that the components of public expenditure positively affect the economic growth, and the study of (Babalola & Aminu, 2011; Bojanic, 2013; Adeline et al., 2014; Cyril, 2016) indicate that public expenditures on education, health, economic services and other main activities is an engine of the private sector, economic stability and growth. Basuki et al. (2020) found that regional public expenditure on education, health, marine, fisheries and agriculture in Indonesia ineffectively in promoting economic growth.

The taxation policy in the economy plays an important role in generating economic growth, and the conclusion of the previous studies is that the relationship between tax revenues and economic growth is not proved, while some studies have discussed the distortions caused by tax revenues on the economy, so the final effect of tax is usually negative on the growth, so the taxation system is the source of inefficiency in the economy and the influence of quantities supplied and demanded is confirmed. Other studies emphasized the importance of tax revenues in financing the public expenditure (Yi & Suyono, 2014; Rosoiu, 2015). McNabb (2018) and Dladla and Khobai (2018) show the negative effect of tax revenues on economic growth. Atems (2015) and Al-tarawneh et al. (2020) confirmed the negative effect of tax on the economic growth in the short and long run, while Romer and Romer (2010) suggest that increase the tax / GDP by 1% will decrease the GDP by 3%. In contrast, Gebreegziabher (2018) and Munir and Sultan (2018) found that tax revenue has positively affected economic growth in the short and the long run.

Gashi et al. (2018) confirms the positive relationship between tax revenues and economic growth (Obloh et al., 2018; Nguyen, 2019a; Gabriel & Ezekiel, 2019; Joseph & Omodero, 2020). Many studies have not found much impact of income taxes on growth in the long run (Anastassiou & Dritsaki, 2005; Palic et al., 2017; Olabode & Abraham, 2020; Neog & Gaur, 2020). While a few of such studies have also shown less significance of tax revenues on the GDP (Das, 2019). So it can be said that the effect of the tax on economic growth should be explained with taking into consideration the methodology used and economic situation of the country for which the study is being done (Saafi et al. 2017).

Finally, the discussions about the role of taxation in economic growth can be divided into two parts. The first part confirms that tax rates reductions are the only way to motivate the economic growth, while other part of studies confirm the direct negative effect of tax reductions on the economic growth and such reductions has a negative effect on the budget revenues, and as a result the financial

resources will be lower than estimated for government expenditure on infrastructure, education, administration, etc., which can harm the economic growth (Wołowicz et al., 2014).

3. Methodology and Model Specifications

To assess the role of fiscal policy in the economy, the literatures showed that there are different views regarding which variable best represents fiscal policy. While many researchers have used tax as a proxy for fiscal policy (Dladla & Khobai, 2018; Al-tarawneh, 2020). Other researchers used budget deficit as a proxy of fiscal policy in their estimates (Ali, & Ahmad, 2010; Shihab, 2014). Other studies used public expenditure for fiscal policy (Easterly & Rebelo, 1993; Kneller, 2007; Angelopoulos & Philippopoulos, 2007; Benos, 2009; Havi & Enu, 2014; Halkos & Paizanos, 2015; Aremo & Abiodun, 2020). Some studies have divided public expenditure into various components (Devarajan et al., 1996; Auteri & Costantini, 2004; Adeline et al., 2014; Cyril, 2016). Researchers argued that there is no strong correlation between the three policy variables and economic growth when studied individually (Ocran, 2011). Most literature on fiscal policy and economic growth which has emerged attempts to examine the two fiscal policy instruments namely public expenditure and taxation simultaneously (Ocran, 2011; Babalola & Aminu, 2011).

This study aims to analyze the effects of fiscal policy on the economic growth in Jordan; annual data of 1970 - 2019 is used. Economic growth measured by the growth rate of real GDP. The public expenditures and tax revenues represent fiscal policy. Following (Loizides & Vamvoukas, 2005; Anastassiou & Dritsaki, 2005; Ocran, 2011; Joharji & Starr, 2011; Babalola & Aminu, 2011; Canicio & Zachary, 2014; Rosoiu, 2015; Oladele et al., 2017; Zulfiqar, 2018; Hlongwane et al., 2018; Aremo & Abiodun, 2020; Olabode & Abraham, 2020) Vector Auto-regression (VAR) will be used to determine the relationships between research variables. In addition to the Impulse Response, Function (IRF), the Granger Causality, Variance Decomposition test and Unrestricted Vector Auto-regression (UVAR) will be used.

$$X_t = \alpha_0 + \alpha_1 X_{t-1} + \alpha_2 X_{t-2} + \dots + \alpha_p X_{t-p} + \varepsilon_t$$

Where represents the vector of variables used to estimate, and can be rewritten as follows. $X_t = [Y_t, G_t, T_t]$, Y_t : Gross domestic product (GDP), G_t : Government expenditure, T_t : Tax revenues. The lags for variables in the model makes it suitable for analyzing the transition mechanisms of fiscal policy effects. If the variables in the model are jointly integrated, the Vector Error Correction Model (VECM) can be used, which is a restricted model for the VAR model, in

order to determine the direction of causation and estimate the speed of adjustment of short-term disequilibrium to the long-term equilibrium between variables (Jang & Ogaki, 2004). The VAR model can be rewritten as a Vector Error Correction Model (VECM) as follows (Oxley and Greasley, 1998):

$$\Delta X_t = \alpha_0 + \sum_{i=1}^m \alpha_i \Delta X_{t-i} + \sum_{j=1}^n \alpha_j \Delta X_{t-j} + \delta EC_{t-1} + U_t$$

The EC represents error correction term, to express the dynamic by which a return to the equilibrium condition in the long term, in other words, to correct any imbalance to reach the equilibrium position in the long run between the dependent variable and the independent variables. The VECM model for two variables X and Y illustrated using two equations as follows (Oxley and Greasley, 1998):

$$\Delta X_t = \alpha_0 + \sum_{i=1}^m \beta_i \Delta Y_{t-i} + \sum_{j=1}^n \beta_j \Delta X_{t-i} + \delta EC_{t-1} + \varepsilon_{2t}$$

$$\Delta Y_t = a_0 + \sum_{i=1}^m b_i \Delta Y_{t-i} + \sum_{j=1}^n c_j \Delta X_{t-i} + dEC + \varepsilon_{1t}$$

4. Empirical Results and Interpretations

The Time series data has the trend factor and this factor reflects the conditions affecting on all research variables, either in the same direction or in the opposite one. The stationary of the time-series tested using the Augmented Dickey-Fuller (ADF) according to the regressed equation that includes the intercept and the trend variable (Dickey, and Fuller, 1981):

$$\Delta X_t = \alpha_0 + \beta T + \delta X_{t-1} + \sum_{j=1}^{m-1} \beta_j \Delta X_{t-i} + \varepsilon_t$$

Table (1) shows the unit root tests using the ADF test, all variables are stationary in the first difference, which means that the time series used in the study are integrated from the first time lag (1). The null hypothesis is rejected because of the non-stationary and the unit root test from the first difference of time series data at a significant level (5%).

To determine the required number of time lags, the test AIC (Akaike Information Criterion), SC (Schwarz's Criterion) are used. Table (2) shows the results of the tow tests mentioned above, the results determining the two-time lags, the number of time lags reaches (2), and this result is consistent with the data period and the other literature.

Table 1: Augmented Dickey-Fuller Test

Variable	Level		1 st difference	
	Intercept	Trend and Intercept	Intercept	Trend and Intercept
G	2.750105*	-0.445348	-3.177003*	-4.241419*
T	2.196682	-0.589278	-3.101498*	-3.856295*
GDP	2.360194	0.178142	-1.217577	-2.313017*

* Means that it is significant at the level of 5%

Table 2: Results Time lags test

Data Trend:	None	None	Linear	Linear	Quadratic
Rank or	No Intercept	Intercept	Intercept	Intercept	Intercept
No. of CEs	No Trend	No Trend	No Trend	Trend	Trend
Akaike Information Criteria by Model and Rank					
0	41.81581	41.81581	41.84629	41.84629	41.66395
1	41.17303	40.98515	41.01259	40.65989	40.65886
2	41.10269	40.94981	40.94207	40.54314	40.52866
3	41.33836	41.18483	41.18483	40.72827	40.72827
Schwarz Criteria by Model and Rank					
0	42.16666	42.16666	42.31409	42.31409	42.24870
1	41.75778	41.60888	41.71429	41.40057	41.47751
2	41.92134	41.84643	41.87768	41.55671	41.58121
3	42.39091	42.35433	42.35433	42.01472	42.01472
L.R. Test:	Rank = 2	Rank = 1	Rank = 2	Rank = 1	Rank = 2

Determining the non-stationary variables in the long-run equilibrium, the co-integration test is used as well as to find the equilibrium relationship among variables in the long run using the maximum likelihood method (Johansen & Juselius, 1990). The tables 3 and 4 show that the co-integration relationship is existing and the research variables are co-integrated. This means that there are long-run equilibrium relationships among variables, and there is no difference between each other in the long run. The conclusion shows that there is a long-run relationship between economic growth and fiscal policy instruments (government expenditure and tax revenues). In this case, the Vector Error Correction Model (VECM) may be used.

The VECM results show that the Error Correction Term (ECT) in the economic growth model is significant and negative; which means that economic growth in Jordan is adjustable for the changes in the long run, so the economic growth is a function in the changes in the fiscal policy components (public expenditure and tax revenues). The Error Correction coefficient in the equation estimates 0.01, and this statistically indicated that the level of the back for equilibrium on among variables in the long-term reach is

1% annually, so the economy can automatically be adjusted for any changes in the long-term equilibrium in the one year coming later.

The table 5 illustrate the VECM results which indicate that the economic growth in Jordan can adjust to changes in the fiscal policy in the long run, and as a result the public expenditure is positively affected while the tax revenues are negatively affected the economic growth in Jordan in the long run. The table also illustrates the economic growth in Jordan can respond to changes in the fiscal policy in the short run, finally the result confirms that public expenditures and tax revenues positively affect the economic growth in Jordan in the short run.

The Granger Causality test used to decide the directional relationship between the research variables (Stock and Watson, 2001), the table (6) shows that causal relationship between the fiscal policy and economic growth in the Jordanian economy is significant, in more details the Granger casualty test shows that there is a causal bidirectional relationship between public expenditure and economic growth, while the causal unidirectional relationship between tax revenues and economic growth is proved.

Table 3: Co-integration Rank Test (Trace)

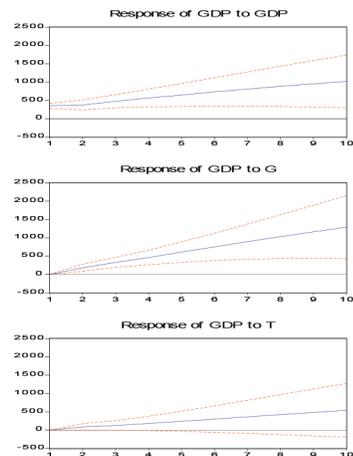
Hypothesized		Trace	0.05	
No. of CE(s)	Eigen Value	Statistic	Critical Value	Prob.**
None *	0.454552	35.16459	35.01090	0.0481
At most 1	0.147524	7.887901	18.39771	0.6943
At most 2	0.015555	0.705457	3.841466	0.4010
Trace test indicates 1 co-integrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				

Table 4: Co-integration Rank Test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.454552	27.27668	24.25202	0.0193
At most 1	0.147524	7.182444	17.14769	0.6930
At most 2	0.015555	0.705457	3.841466	0.4010
Max-eigenvalue test indicates 1 co-integrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				

Table 5: Results of VECM

Variables	D(GDP)	
Long Run Equation		
EC(-1)	-0.010018	[-2.04148]
G(-1)	3.458580	[3.83067]
T(-1)	- 2.222779	[-3.01422]
Short Run Equation		
D(GDP(-1))	-0.051846	[0.30246]
D(GDP(-2))	0.33152	[1.55474]
D(G(-1))	0.430019	[1.16310]
D(G(-2))	0.681004	[1.84613]
D(T(-1))	0.480665	[1.16495]
D(T(-2))	-0.051432	[-0.12878]

Response to One S.D. Innovations ± 2 S.E.**Figure 1:** Impulse Response Function (IRF)**Table 6:** Granger causality test

Null Hypothesis:	F-Statistic	Probability
G does not Granger Cause GDP	13.0942	0.00000
GDP does not Granger Cause G	10.4995	0.00019
T does not Granger Cause GDP	3.62404	0.03512
GDP does not Granger Cause T	0.25595	0.77535
T does not Granger Cause G	2.78116	0.07314
G does not Granger Cause T	2.38044	0.10460

Table 7: Variance Decomposition

Period	S.E.	GDP	G	T
1	365.6393	100.0000	0.000000	0.000000
2	609.7235	97.34036	1.488792	1.170847
3	958.9413	96.13254	2.997283	0.870173
4	1256.449	95.35487	3.374909	1.270224
5	1534.556	94.56064	4.177241	1.262124
6	1794.632	94.42563	4.337324	1.237046
7	2015.228	94.20920	4.602237	1.188560
8	2229.519	94.22218	4.693251	1.084569
9	2420.147	94.23654	4.742858	1.020604
10	2604.809	94.24783	4.801063	0.951108
Ordering: GDP G T				

The literature confirmed the size and type of shocks affect the fiscal policy instruments, so most of research aims to analyze the impact of random shocks on the economic growth. The Impulse Response Function and the Variance Decomposition are the main tools that implement this goal. In the figure (1), the GDP response to the random shock is measured by the constant deviation in public expenditure, and this deviation is subject to positive and direct changes in the second lag period, and in the coming periods. The table (7) describe the Variance Decomposition and indicates that the public expenditure can explain 1.5% of the random errors in the economic growth during the second period, so the impact continuously increased to the tenth period with 5%. The same result decides that the random deviation in the tax revenues is positively and directly affected in the second period and in the coming periods. The changes in tax revenues explain (1%) of random errors in the economic growth within all periods. The conclusion says that 5% of variation in the forecasting of the economic growth in Jordan refers to public expenditure, 1% refers to tax revenues and 94% of the variations refer to the economic growth itself in the period after ten.

5. Conclusion and Policy Implications

This study aimed to analyze the effects of fiscal policy and its instruments on the economic growth in Jordan. The results not only shows that the public expenditures have a positive effect, and the tax revenues have a negative effect on the long-run economic growth in Jordan, but also that the public expenditures and tax revenues have a positive effect on the short-run economic growth in Jordan. Granger casualty confirms the causal bidirectional and unidirectional relationship of public expenditure and tax revenues with the economic growth respectively.

The Impulse Response Function and Variance Decomposition techniques show that public expenditures positively and directly affect the economic growth. 1.5% change in the public expenditures will increase the economic growth by 5%, while 1% change in the tax revenues will increase economic growth by 1%.

According to the research results, it can be said that public expenditures have a positive effect on economic growth in Jordan and this result is consistent with other studies that confirmed this result. The study of Quraan (1997) showed that the increase of public expenditures by 1% will increase the economic growth by 2.27%, the results are consistent with (Dandan, 2011; Al-Fawwaz, 2016; Alkasasbeh et al., 2018; Almasaeed & Tsaregorodtsev, 2018), and it found that public expenditure has a positive effect on the economic growth in Jordan (Al-Shatti, 2014).

The other studies, such as the study (Marian, 1997) proves that the public expenditures gave a negative effect on the economic growth measured by the per capita income. Other studies decided that the tax revenues have a positive effect on the economic growth in the short run, and such studies explain that tax revenues are a key source of finance to the government expenditures in Jordan, and the negative effect, in the long run, is confirmed, the study by Al-tarawneh (2020) shows that tax has a negative effect on economic growth in the short and long run in Jordan. The extreme taxes may cause huge distortions in the economy, and these distortions destroyed the purchasing power, the aggregate demand, and supply. More governmental dependence on tax revenues is the main source of tax evasion and less efficiency. The effect of taxation will curb any prosperity in the economy. Therefore, the government should estimate the fair tax rates to generate sufficient revenues to finance the public expenditure required to enhance economic prosperity.

References

- Adeline, N. I., Slyvia, U.A., Ifeoma, M. O., & David, U. (2014). Fiscal Policy and Economic Growth in Nigeria: Emphasis on Various Components of Public Expenditure. *Singaporean Journal of Business, Economics and Management Studies*, 2(12), 37-54. <https://doi.org/10.12816/0006800>
- Ahsan, S. M., Kwan, A. C., & Sahni, B. S. (1989). Causality between Government Consumption Expenditure and National Income: OECD Countries. *Public Finance*, 44(2), 204 – 224.
- Alesina A., Campante, F. R., & Tabellini G., (2008), Why Fiscal Policy often Pro cyclical?. *Journal of the European Economic Association*, 6(5), 1006–1036. <https://doi.org/10.1162/JEEA.2008.6.5.1006>
- Alesina, A., & Perotti, R. (1996). Fiscal Expansions and Adjustment in OECD Countries: Composition and Macroeconomic Effects. *NBER Working Paper No. 5730*. <https://www.nber.org/papers/w5730> (DOI): 10.3386/w5730

- Alesina, A., Perotti, R., Tavares, J., Obstrfeed, M., & Lichengreen, B. (1998). The Political Economy of Fiscal Adjustment. *Brookings Papers on Economic Activity*, (1), 197–266. <https://doi.org/10.2307/2534672>
- Alexiou, C. (2009). Government Spending and Economic Growth: Econometric Evidence from the South Eastern Europe (SEE). *Journal of Economic and Social Research*, 11(1), 1-16.
- Al-Fawwaz, T. (2016). The Impact of Government Expenditures on Economic Growth in Jordan (1980-2013). *International Business Research*, 9(1), 99 – 105. <http://dx.doi.org/10.5539/ibr.v9n1p99>
- Ali, S., & Ahmad, N. (2010). The effects of fiscal policy on economic growth: Empirical evidences based on time series data from Pakistan. *The Pakistan Development Review*, 49(4), 497-512. <https://doi.org/10.30541/v49i4ipp.497-512>
- Alkasasbeh, O., Haron, N., & Abueid, A. (2018). The impact of government expenditures, taxes on economic growth in Jordan. *American Based Research Journal*, 7(12), 32-38.
- Almasaeed, A., & Tsaregorodtsev, E. (2018). The Impact of Fiscal Policy on the economic growth of Jordan. *International Journal of Economic and Finance*, 10(10), 145–161. <https://doi.org/10.5539/ijef.v10n10p145>
- Alqadi, M., & Ismail, S. (2019). Government Spending and Economic Growth: Contemporary Literature Review. *Journal of Global economics*, 7(4), 1- 4.
- Al-Shatti, A. (2014). The effect of fiscal policy on economic development in Jordan. *International Business Research*, 7(12), 67-76. <http://dx.doi.org/10.5539/ibr.v7n12p67>
- Al-tarawneh, A., Khataybeh, M., & Alkhawaldeh, S., (2020). Impact of Taxation on Economic Growth in an Emerging Country. *International Journal of Business and Economics Research*, 9(2), 73-77. <https://doi.org/10.11648/j.ijber.2020.0902.13>
- Anastassiou, T., & Dritsaki, C. (2005). Tax Revenues and Economic Growth: An Empirical Investigation for Greece Using Causality Analysis. *Journal of Social Sciences*, 1(2), 99-104. <https://doi.org/10.3844/jssp.2005.99.104>
- Angelopoulos, K., & Philippopoulos, A. (2007). The growth effects of fiscal policy in Greece 1960-2000. *Public Choice*, 131, 157–175. DOI: 10.1007/s11127-006-9111-3.
- Anwar, M., Davies, S., & Sampath, R. (1996), Causality between Government Expenditure and Economic Growth: An Examination Using Co integration Techniques. *Public Finance*, 51(5), 166–184.
- Aremo, A. G., & Abiodun, S. T. (2020). Causal Nexus among Fiscal Policy, Economic Growth and Income Inequality in Sub-Saharan African Countries (1995-2016). *African Journal of Economic Review*, 8(1), 1–25.
- Atems, B. (2015). Another look at tax policy and state economic growth: The long run and short run of it. *Economics Letters*, 127, 64-67. <https://doi.org/10.1016/j.econlet.2014.12.035>
- Auteri, M., & Costantini, M. (2004). Fiscal policy and economic growth: The case of the Italian regions. *Review of Regional Studies*, 34(1), 72-94.
- Babalola, S. J., & Aminu, U. (2011). Fiscal policy and economic growth relationship in Nigeria. *International Journal of Business and Social Science*, 2(17), 244 - 249
- Barro, R. (1991). Economic Growth in a Cross Section of Countries. *The Quarterly Journal of Economics*, 106(2), 407-443. <https://doi.org/10.2307/2937943>
- Basuki, A. T., Purwaningsih, Y., Soesilo, A. M., & Mulyanto, M. (2020). Determinants of Economic Growth in Indonesia: A Dynamic Panel Model. *Journal of Asian Finance, Economics and Business*, 7(11), 147-156. <https://doi.org/10.13106/jafeb.2020.vol7.no11.147>
- Benos, N. (2009). Fiscal policy and economic growth: Empirical evidence from EU countries. *MPRA Paper No. 19174*. <https://mpra.ub.uni-muenchen.de/19174/>.
- Bojanic, A. N. (2013). The Composition of government expenditures and economic growth in Bolivia. *Latin American Journal of Economics*. Doi:10.7764/LAJE.50.1.83
- Boiciuc, I., & Orțan, D. (2020). Estimating Composition of Government Expenditures and Economic Growth in Bolivia. *Journal of Economics*, 50(1), 83–105.
- Cakerri, L., Petanaj M., & Muharremi, O. (2014). The effect of government expenditures on economic growth. The case of Albania. *European Journal of Social Sciences Education and Research*, 1(2), 242–254. <https://doi.org/10.26417/ejser.v2i1.p242-253>
- Canicio, D., & Zachary, T. (2014) Causal Relationship between Government Tax Revenue Growth and Economic Growth: A Case of Zimbabwe (1980-2012). *Journal of Economics and Sustainable Development*, 10(21).
- Cyril, U. M. (2016). The effect of fiscal policy on economic growth in Nigeria. *Journal of Finance and Accounting*, 4(3), 140-145. doi: 10.11648/j.jfa.20160403.16
- Dandan, M. M. (2011). Government Expenditures and Economic Growth in Jordan. *International Conference on Economics and Finance Research IPEDR*, Singapore, Vol. 4. 467 – 471
- Das, D. (2019). Causality between Tax Revenue and Economic Growth in India (1992-2017). *International Journal of Business Insights and Transformation*, 12(1), 42-47.
- Devarajan, S., Swaroop, V., & Zou, H. F. (1996). The composition of public expenditure and economic growth. *Journal of Monetary Economics*, 37(2), 313-344. [https://doi.org/10.1016/s0304-3932\(96\)90039-2](https://doi.org/10.1016/s0304-3932(96)90039-2)
- Diamond, J. (1989). Government Expenditure and Economic Growth: An Empirical Investigation. *IMF Working Paper WP/89/45*. <http://dx.doi.org/10.5089/9781451974157.001>
- Dickey, D., & Fuller, W. (1981), Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root, *Econometrica*, (49), 1057-1072. <https://doi.org/10.2307/1912517>
- Dladla, K., & Khobai, H. (2018). The impact of taxation on economic growth in South Africa. *MPRA Paper No. 86219*. Online at <https://mpra.ub.uni-muenchen.de/86219/>
- Dudzeviciute, G., Simelyte, A., & Liucvaitiene, A. (2018). Government expenditure and economic growth in the European

- Union countries. *International Journal of Social Economics*, 45(2), 372–386. <https://doi.org/10.1108/IJSE-12-2016-0365>.
- Easterly, W., & Rebelo, S. (1993). Fiscal policy and economic growth: An empirical investigation. *Journal of Monetary Economics*, 32(3), 417–458. [https://doi.org/10.1016/0304-3932\(93\)90025-b](https://doi.org/10.1016/0304-3932(93)90025-b)
- Engen, E. M., & Skinner, J. (1992). Fiscal Policy and Economic Growth. *NBER Working Paper No. 4223* <https://www.nber.org/papers/w4223>
- Gabriel, E. D., & Ezekiel, A. I. (2019). The Nexus between Tax Revenue and Economic Growth in Nigeria. *International Journal of Applied Economics, Finance and Accounting*, 4(2), 45-55. DOI:10.33094/8.2017.2019.42.45.55
- Gashi, B., Asllani, G., & Boqolli, L. (2018). The Effect of Tax Structure in Economic Growth. *International Journal of Economics and Business Administration*, 6(2), 56-67. <https://doi.org/10.35808/ijeba/157>
- Gatsi, J. G., Appiah, M. O., & Gyan, J. A. (2019). A test of Wagner's hypothesis for the Ghanaian economy, *Cogent Business & Management*, 6(1), <https://doi.org/10.1080/23311975.2019.1647773>
- Gebreegziabher, S. (2018). Effects of Tax and Government Expenditure on Economic Growth in Ethiopia. In: A. Heshmati & H. Yoon (Eds.), *Perspectives on Development in the Middle East and North Africa (MENA) Region*. Springer, Singapore. https://doi.org/10.1007/978-981-10-8126-2_5
- Gupta, R. (2018). The Impact of Government Expenditure on Economic Growth in Nepal. <http://dx.doi.org/10.2139/ssrn.3099218>
- Gurdal, T., Aydin, M., & Inal, V. (2020). The relationship between tax revenue, government expenditure, and economic growth in G7 countries: new evidence from time and frequency domain approaches. *Econ Change Restruct.* <https://doi.org/10.1007>
- Halkos, G., & Paizanos, E. (2015). Fiscal policy and economic performance: A review of the theoretical and empirical Literature. *MPPRA Paper, No. 67737*. <https://mpa.ub.uni-muenchen.de/67737>
- Havi, E. D., & Enu, P. (2014). The Effect of Fiscal Policy and Monetary Policy on Ghana's Economic Growth: Which Policy Is More Potent?. *International Journal of Empirical Finance*, 3(2), 61-75.
- Hsieh, E., & Lai, K. S. (1994). Government spending and economic growth: The G-7 experience. *Applied Economics*, 26(5), 535-542.
- Hlongwane, T. M., Mongale, I. P., & Lavis, T. A. (2018). Analysis of the Impact of Fiscal Policy on Economic Growth in South Africa: VECM Approach. *Journal of Economics and Behavioral Studies*, 10(2), 231-238. [https://doi.org/10.22610/jebs.v10i2\(j\).2232](https://doi.org/10.22610/jebs.v10i2(j).2232)
- Jang, K., & Ogaki, M. (2004). The Effects of Monetary Policy Shocks on Exchange Rates: A Structural Vector Error Correction Model Approach. Ohio State University. *J. Japanese Int. Economics*, (18), 99–114. doi:10.1016/S0889-1583(03)00042-X
- Johansen, S., & Juselius, K. (1990). Maximum Likelihood Estimation and Inference on Cointegration with Applications to Demand for Money. *Oxford Bulletin of Economics and Statistics*, 52, 169-210. <https://doi.org/10.1111/j.1468-0084.1990.mp5202003.x>
- Joharji, G. A., & Starr, M. A. (2011). Fiscal policy and growth in Saudi Arabia. *Review of Middle East Economics and Finance*, 6(3), 24-45. <https://doi.org/10.2202/1475-3693.1305>
- Joseph, F. I., & Omodero, C. O. (2020). The Nexus between Government Revenue and Economic Growth in Nigeria. *Economics and Business*, 34, 35–45. <https://doi.org/10.2478/eb-2020-0003>
- Kneller, R. (2007). No miracles here: Trade policy, fiscal policy and economic growth. *The Journal of Development Studies*, 43(7), 1248-1269.
- Koeda, J., & Kramarenko, V. (2008). Impact of Government Expenditure on Growth: The Case of Azerbaijan, *IMF Working Paper WP/08/115*.
- Lee, J. C., Won, j., & Jei, S. Y. (2019). Study of the Relationship between Government Expenditures and Economic Growth for China and Korea. *Sustainability*, 11, 6344. doi:10.3390/su11226344
- Lindaue, D. L., & Velenchik, A.D. (1992). Government Spending in Developing Countries: Trends, Causes, and Consequences. *The World Bank Research Observer*, 7(1), 59–78. <https://doi.org/10.1093/wbro/7.1.59>
- Lin, S. A. (1994). Government spending and economic growth, *Applied Economics*, 26(1), 83-94. DOI:10.1080/0003684940000064
- Loizides, J., & vavoukas, G. (2005). Government Expenditure and Economic Growth: Evidence from Trivariate causality testing. *Journal of Applied Economics*, 8(1), 125-152. DOI:10.1080/15140326.2005.12040621
- Maingi, J. N. (2017). The Impact of Government Expenditure on Economic Growth in Kenya: 1963-2008. *Advances in Economics and Business*, 5(12), 635-662. DOI:10.13189/aeb.2017.051201
- Marian, N. (1997). The Role of the Public Sector in the Jordanian Economy: Analytical Study. *Derasat*, 24(2), 359-372.
- Mcnabb, K. (2018). Tax Structures and Economic Growth: New Evidence from the Government Revenue Data set. *Journal of International Development*, 30, 173–205. DOI: 10.1002/jid.3345
- Munir, K., & Sultan, M. (2018). Are some taxes better for growth in Pakistan? A time series analysis. *International Journal of Social Economics*, 45(10), 1439-1452. <https://doi.org/10.1108/IJSE-09-2017-0416>
- Neog, Y., & Gaur, A. K. (2020). Tax structure and economic growth: A study of selected Indian states. *Economic Structures*, (9)38. <https://doi.org/10.1186/s40008-020-00215-3>
- Nguyen, H. H. (2019a). The Role of State Budget Expenditure on Economic Growth: Empirical Study in Vietnam. *Journal of*

- Asian Finance, Economics and Business*, 6(3), 81-89. <https://doi.org/10.13106/jafeb.2019.vol6.no3.81>
- Nguyen, H. H. (2019b). Impact of Direct Tax and Indirect Tax on Economic Growth in Vietnam. *Journal of Asian Finance, Economics and Business*, 6(4), 129–137. <https://doi.org/10.13106/jafeb.2019.vol6.no4.129>
- Oboh, J. O., Chinonyelum, O. J., & Edeme, R. K. (2018). Tax Revenue and Economic Growth in Selected ECOWAS Countries, Evidence from Sure Model. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 8(3), 310-324. <http://dx.doi.org/10.6007/IJARAFMS/v8-i3/4917>
- Ocran, M. K. (2011). Fiscal policy and economic growth in South Africa. *Journal of Economic Studies*, 38(5), 604-618. <https://doi.org/10.1108/01443581111161841>
- Olabode, A., & Abraham, I. A. (2020). Tax Revenue and Economic Growth Nexus: Empirical Evidence from the Nigerian Economy. *European Journal of Economic and Financial Research*, 4(2), 18– 41. Doi:10.46827/Ejefr.V4i2.832
- Oladele, M. F., Mah, G., & Mongale, I. (2017). The Role of Government Spending on Economic Growth in A Developing Country. *Risk Governance & Control: Financial Markets & Institutions*, 2(1), 140-146. <http://dx.doi.org/10.22495/rgcv7i2c1p2>
- Ozer, M., & Karagol, V. (2018). Relative effectiveness of monetary and fiscal policies on output growth in Turkey: An ARDL bounds test approach. Equilibrium. *Quarterly Journal of Economics and Economic Policy*, 13(3), 391–409. doi: 10.24136/eq.2018.019
- Oxley, L., & Greasley, D. (1998). Vector Autoregression, Cointegration and Causality: Testing for Causes of the British Industrial Revolution. *Applied Economics*, 30, 1387-1397.
- Palić, I., Žmuk, B., & Grofelnik, B. (2017). The long-run impact of personal income taxation on economic development: Evidence from Croatia. *Croatian Review of Economic, Business and Social Statistics*, 3(1), 35-44. DOI: 10.1515/crebss-2017-0003
- Quraan, A., (1997). Government Expenditures and Economic Growth in Jordan, an Empirical Investigation. *Abhath Al-Yarmouk, Humanities Social Sciences Series*, 13(1).
- Romer, C. D., & Romer, D. H. (2010). The macroeconomic effects of tax changes: Estimates based on a new measure of fiscal shocks. *American Economic Review*, 100(3), 763-801. <https://doi.org/10.1257/aer.100.3.763>
- Rosoiu, I. (2015). The Impact of the Government Revenues and Expenditures on the Economic Growth. *Procedia Economics and Finance*, 32, 526–533.
- Saafi, S., Mohamed, M. B. H., & Farhat, A. (2017). Untangling the causal relationship between tax burden distribution and economic growth in 23 OECD countries: Fresh evidence from linear and non-linear Granger causality. *The European Journal of Comparative Economics*, 14(2), 265-301. <http://dx.doi.org/10.25428/18242979/201702-265-301>
- Saez, M. P, García, S. A., & Castaneda, D. R. (2017) Government expenditure and economic growth in the European Union countries: New evidence. *Bulletin of Geography. Socio-economic Series*, 36, 127–133. <http://dx.doi.org/10.1515/bog-2017-0020>
- Shihab, R. A. (2014). The causal relationship between fiscal policy and economic growth in Jordan. *International Journal of Business and social science*, 5(3), 203 – 208.
- Stock, J., & Watson, M., (2001). Vector Auto regressions, *Journal of Economic Perspectives*, 15(4), 101- 116
- Stoilova, D. (2017). Tax structure and economic growth: Evidence from the European Union. *Contaduría y Administración*, 62(3), 1041-1057. <http://dx.doi.org/10.1016/j.cya.2017.04.006>
- Tanzi, V., (2000), The Role of the State and the Quality of the Public Sector, *IMF Working Paper WP/00/36*.
- Van der Wielen, W. (2020). The macroeconomic effects of tax changes: Evidence using real-time data for the European Union. *Economic Modelling*, 90, 302-321. <https://doi.org/10.1016/j.econmod.2020.03.007>
- Wołowiec, T., Skica, T., & Galya, G. (2014). Income taxes, public fiscal policy and economic growth, *e-Finanse: Financial Internet Quarterly*, 10(3), 52-64. http://dx.doi.org/10.14636/1734-039X_10_3_001
- Wu, S.Y., Tang, J. H., & Lin E. S. (2010). The impact of government expenditure on economic growth: How sensitive to the level of development?. *Journal of Policy Modeling*, 32(6), 804–817. <https://doi.org/10.1016/j.jpolmod.2010.05.011>
- Yi, F., & Suyono, E. (2014). The Relationship between Tax Revenue and Economic Growth of Hebei Province Based on the Tax Multiplier Effect. *Global Economy and Finance Journal*, 7(2), 1–18.
- Yoong, F. T., Latip, A. R. A., Sanusi, N. A., Kusairi, S., Prasetyo, P. E., Olilingo, F. Z., & Asriati, A. (2020). Public Debt and Economic Growth Nexus in Malaysia: An ARDL Approach. *Journal of Asian Finance, Economics and Business*, 7(11), 137-145. <https://doi.org/10.13106/jafeb.2020.vol7.no11.137>
- Zulfikar, K. (2018). Fiscal Policy for Inclusive Growth: A Case Study of Pakistan. *Pakistan Economic and Social Review*, 56(1), 21-46.