



THE IMPACT OF GOVERNMENT EXPENDITURES ON UNEMPLOYMENT: A CASE STUDY OF JORDAN



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ABSTRACT

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In this paper, we estimate the effects of Government spending on unemployment in Jordan for the period 1990 to 2019. By using the ARDL co-integration test we found a negative and statistically significant long-run relationship between government spending and the unemployment rate in Jordan. An increase in government spending by a per cent of GDP is found to reduce unemployment by about 0.43 percentage points in the same year. We also noticed that, in the short-run, government spending has a positive and significant impact on unemployment.

JEL Classification:

C51, E62, H50, O54.

Contribution/ Originality: This study uses new estimation methodology to find a connection in both short and long run between Jordan government expenditure and unemployment.

1. INTRODUCTION

The economic theory proposes a series of clarifications on the negative relationship between public spending and the unemployment rate. First, government spending excludes private spending, especially spending on investments that would increase efficiency and convince the change in production. In theory, public spending can be allocated to infrastructure and mentoring to increase growth, but in practice, most spending goes to government-determined reallocation or consumption, which does not improve productivity. Secondly, the level of public spending may impose other government interference in the operation of the private sector, specific guidelines that limit economic development and productivity.

Another ARDL investigation has shown that, as authorities spend, the increase in production will also boost higher. However, much research shows that tax cuts may have greater effects on production growth. According to Okun's law, production hurts unemployment. This means that when production increases, unemployment will decrease. There is also research indicating that as public spending increases, unemployment decreases. According to the results of these surveys, taxes will also have a major impact on unemployment.

Conducting an empirical study in Sweden can yield interesting results. Sweden has a long history of high taxes and remains one of the countries in the international world with the best tax burden. Furthermore, there is great

consideration within the government among the population of Sweden. The model is an ARDL version with output, taxes, interest rate, spending and unemployment as established variables. Two trend variables are also protected in the VAR: a linear trend and a nonlinear shape. The information used in the analysis is Swedish quarterly records ("Statistics Sweden") and Sweden's leading financial institution. The data is from 1994 to 2012.

According to business analysts, extensive financial strategy stirs work and diminishes joblessness. Existing investigations for the United States economy approve this customary perspective on Ravn and Simonelli (2007). Shockingly, the connection between open spending and joblessness stays vague because there is clashing experimental proof on the viability of money related motivations for joblessness. Monacelli, Perotti, and Trigari (2010) show experimental proof that financial motivations improve joblessness by applying an auxiliary investigation of VAR and constructs a reproducible co-incorporation model with relating erosion in the style of Mortensen and Pissarides (1994).

Brückner and Pappa (2012) show that financial extensions decline unemployment rate from a VAR auxiliary investigation and present another Keynesian form with relating rubbing that may clarify the test. Accordingly, our inquiries are sufficiently simple: Can financial boost or government spending improve joblessness? If this is true, what is the enormous increment in broad daylight spending that improves the unemployment rate?

Lack of openings for work intensifies the joblessness circumstance in which few people with employments, inside the workforce, with the vital capabilities, aptitudes and capacities are willing and searching for work. However, they can't look for some kind of employment (Adawo, Essien, & Ekpo, 2012). As per (Jhingan, 2008) insufficiency in openings for work prompts automatic joblessness of individuals who are eager to work with the triumphant pay, however, cannot get employment opportunity. The work arranges measure the extent of the accessible work power procured in the monetary framework (Nwosa & Emma-Ebere, 2017).

As indicated by observational proof from Holden and Sparrman (2013) government spending can expand the degree of business and lessen joblessness in each created and developing nation. Nonetheless, despite enormous government spending being spent on proficient divisions, for example, foundation, safeguard of citizenship, training, and wellbeing in Africa, there has been a consistent increment in the joblessness stage on the landmass.

Ram (1986) most current causality studies have reported that differences like the underlying statistics, the examination of the process, and duration studied can provide an additional explanation for the range of results. A few years later, Ahsan, Kwan, and Sahni (1992) added different variables to find a long and short-term relationship between public spending and unemployment. They found a positive relationship between public spending and unemployment in the short term, but in the long term, the connection between the variables was negative.

In the case of Nigeria, although investigations such as Momodu and Ogbole (2014) and Obayori (2016) attempted to examine the impact of monetary coverage on unemployment, they did not contain the two monetary policy provisions in their evaluation. They effectively included public spending and omitted revenue (important about financial coverage).

By definition, public or government spending is the expense incurred through public authorities such as the central, national, and neighbourhood governments to meet people's collective social needs (Grenade & Wright, 2012). Unemployment (or unemployment) occurs when humans are out of work and actively looking for paintings.

According to Akrani (2011) coverage of public spending is no longer simple; it accelerates financial growth and promotes employment opportunities in addition to playing a useful role in reducing poverty and inequalities in income distribution in countries in development. Nature carried out with the help of nearby authorities, state and national companies, impressive with those of companies or personal businesses. He also claims that recurring costs are government prices that are repeatedly made from year to year and capital expenditures are the costs of new production, extensions of land, and the acquisition of other constant properties. In this paper, we aim to find a relationship between government expenditure and unemployment by estimating the ARDL model. The empirical

analysis also aims to find the long run as well as the short-run relationship between our dependent and independent variables through cointegration

2. LITERATURE REVIEW

The argument that higher work taxes are accountable for better unemployment amounts and it appears to be very appealing. In addition to many theoretical outcomes derived from static models, there is a broader view that higher taxes and unemployment have simultaneously increased during the seventies and eighties, and that Asian nations confirmed greater stages of each variable in evaluation to other economies, such with the China, wherein labour taxes and unemployment decreased. Lane and Perotti (1998) found that, inside the salary compensation issue of government, consumption reason significantly more grounded withdrawals in trades. According to Burgert and Gomes (2011) future potential issues of utilizing total information of administration spending to gauge its impacts on yield and different factors that take a gander at how changes in various specialists' expenses proliferate in the economy.

Rocha and Divino (2002) studied the association among taxes on family expenditures and the unemployment rate in Brazil and Mexico. These researchers utilized the ARDL models and the results indicate that in both countries, the real interest rate is positively associated with unemployment, whereas taxes on family income are negatively associated with unemployment. Moreover, Yuan and Li (2000) dealt with the issue in a traditional Real Business Cycle model and found that using pressure on "why increasing government spending" may additionally push unemployment upwards. According to Ahsan et al. (1992) the public expenditure countrywide profits nexus, fail to account for overlooked variables which can supply upward push to deceptive causal ordering among variables and, in general, yields biased consequences.

Keynes in Sukirno (2002) states that the purpose or interference of the government is critical if the financial system is regulated via an unrestricted market, as the economy does no longer reach complete employment level nor it reaches such stability. One form of intervention is through monetary coverage. In this case, Keynes implies expansive monetary coverage through tax reductions and the addition of government expenditure.

Ramey (2011) found that the impacts of increments in government spending on utilization, unemployment, and genuine compensation bolster the consequences of the neoclassical model. The neoclassical model predicts that families diminish utilization and supply more work because of increments in government uses financed by single amount charges. For the time being, this lessens the balance of genuine pay and builds the peripheral item of capital. Loan fees rise, energizing an expansion in the venture; capital aggregates and the genuine compensation comes back to its steady-state level.

Moreover, McKay and Reis (2016) appear that redistributive arrangements, for example, unemployment rate, can have a significant effect in hosing total shocks when the fiscal approach doesn't completely react to variation in total activity. The fiscal approach is set at the national level and can't depend upon the nearby financial shock. They offer exact help for the unemployment rate as a stabilizer by seeing that utilization reacts less to antagonistic shocks in areas with the progressively liberal unemployment rate because the jobless have increasingly discretionary cash flow.

Zulhanafi, Aimon, and Syofyan (2013) endorse that national government spending appreciably impacts unemployment. If government expenditure increases, like capital expenditure to improve infrastructure, it's going to boom output, and the expanded output will boom the call for elements of manufacturing, one of which is employment; for this reason, this sort of situation might result in lowering the joblessness rate. Conversely, if government spending decreases, it's going to abate the manner of manufacturing of products and services output, so the demand for elements of manufacturing will also decrease inflicting the unemployment price to growth.

Josaphat and Oliver (2000) examined that, the development results of presidency expenditure for a panel of thirty developing international locations including Nigeria over the years of 1970s and the 1980s, with specific

attention on sectoral expenses. The number one studies consequences showed that the share of government capital expenditure in a gross domestic product is definitely and drastically correlated with the financial increase, however, cutting-edge expenditure is insignificant. The result at the sectoral level discovered that government funding and general expenditures on schooling are the simplest outlays that stay substantially associated with growth for the duration of the analysis.

3. METHODOLOGY

The main purpose of this paper is to find a connection in both the short and long run between government expenditure and unemployment in Jordan. The first step is to check the data for stationarity hence we run the Augmented Dickey-Fuller (ADF) test. The first order ADF equation is given in Equation 1.

$$\Delta UNEM_t = \gamma_0 + \gamma GEXP_{t-1} + \gamma_2 t + \varepsilon_t \quad (1)$$

Where; $\Delta UNEM_t$ is change in unemployment in time period t.

γ_0 is income in time period 0.

$\gamma GEXP_{t-1}$ is income government expenditure in time period t-1.

$\gamma_2 t$ is income tax in time period 2.

ε_t is the error term.

Thus change in unemployment in period t is given by income in period 0 plus income government expenditure in period t-1 plus income tax in period 2 plus the error term

The ADF test for higher order is given in Equation 2.

$$UNEM_t = \gamma_0 + \gamma_1 UNEM_{t-1} + \gamma_1 UNEM_{t-2} + \dots + \gamma_{p-2} UNEM_{t-p+2} + \gamma_{p-1} UNEM_{t-p+1} + \gamma_p UNEM_{t-p} + \omega_t \quad (2)$$

Where; $UNEM_t$ is unemployment rate in time period t.

γ_0 is income in time period 0.

$\gamma_1 UNEM_{t-1}$ is income in time period 1. Unemployment rate in time period t-1.

$\gamma_1 UNEM_{t-2}$ is income in time period 1*unemployment rate in time period t-2.

$\gamma_{p-2} UNEM_{t-p+2}$ is income time period p-2*unemployment rate in time period t-p+2.

$\gamma_{p-1} UNEM_{t-p+1}$ is income in time period p-1*unemployment rate in time period t-p+1.

$\gamma_p UNEM_{t-p}$ is income in time period p*unemployment rate in time period t-p.

ω_t is the error term.

Thus unemployment rate in period t is given by income in time period 0 plus income in time period 1*Unemployment rate in time period t-1 plus income in time period 1*unemployment rate in time period t-2 plus income time period p-2*unemployment rate in time period t-p+2 plus income in time period p-1*unemployment rate in time period t-p+1 plus income in time period p*unemployment rate in time period t-p plus the error term.

In next step, we added and subtracted term $\gamma_p \gamma_{t-p+1}$ to obtain.

$$UNEM_t = \gamma_0 + \gamma_1 UNEM_{t-1} + \gamma_2 UNEM_{t-2} + \dots + \gamma_{p-2} UNEM_{t-p+2} + (\gamma_{p-1} + \gamma_p) UNEM_{t-p+1} - \gamma_p \Delta UNEM_{t-p+1} + \omega_t \tag{3}$$

Where; $UNEM_t$ is unemployment rate in time period t.

γ_0 is income in time period 0.

$\gamma_1 UNEM_{t-1}$ is income in time period 1*unemployment rate in time period t-1.

$\gamma_2 UNEM_{t-2}$ is income in time period 2*unemployment rate in time period t-2.

$\gamma_{p-2} UNEM_{t-p+2}$ is income in time period p-2*unemployment rate in time period t-p+2.

$(\gamma_{p-1} + \gamma_p)UNEM_{t-p+1}$ is (income in time period p-1 plus income in time period p)*unemployment rate in time period-p+1.

$\gamma_p \Delta UNEM_{t-p+1}$ is income in time period p* by change in unemployment in time period t-p+1

ω_t is the error term.

Thus unemployment rate in time period t is given by income in time period 0*unemployment rate in time period t-0 plus income in time period 1*unemployment rate in time period t-1 plus income in time period 2*unemployment rate in time period t-2 plus (income in time period p-1 plus income in time period p)*unemployment rate in time period-p+1 minus income in time period p* by change in unemployment in time period t-p+1 plus the error term

Next, add and subtract $(\gamma_{p-1} + \gamma_p)UNEM_{t-p+2}$ from Equation 3 we obtain:

$$UNEM_t = \gamma_0 + \gamma_1 UNEM_{t-1} + \gamma_2 UNEM_{t-2} + \dots - (\gamma_{p-1} + \gamma_p)UNEM_{t-p+2} - \gamma_p \Delta UNEM_{t-p+1} + \varepsilon_t \tag{4}$$

Where; $UNEM_t$ is unemployment rate in time period t.

γ_0 is income in time period 0.

$\gamma_1 UNEM_{t-1}$ is income in time period 1*unemployment rate in time period t-1.

$\gamma_2 UNEM_{t-2}$ is income in time period 2*unemployment rate in time period t-2.

$(\gamma_{p-1} + \gamma_p)UNEM_{t-p+2}$ is (income in time period p-1 plus income in time period p)*unemployment rate in time period-p+2.

$\gamma_p \Delta UNEM_{t-p+1}$ is income in time period p* by change in unemployment in time period t-p+1.

ε_t is the error term.

Thus unemployment rate in time period t is given by income in time period 0 plus income in time period 1*unemployment rate in time period t-1 plus income in time period 2*unemployment rate in time period t-2 minus

(income in time period p-1 plus income in time period p)*unemployment rate in time period-p+2 minus income in time period p* by change in unemployment in time period t-p+1 plus the error term.

The final form of ADF model is given in Equation 5

$$\Delta UNEM_t = \gamma_0 + \delta UNEM_{t-1} + \sum_{i=2}^p \rho_i \Delta UNEM_{t-i+1} + \varepsilon_t \tag{5}$$

Where $\delta = 1 - \sum_{i=1}^p \gamma_i$ and $\rho_i = - \sum_{j=1}^p \gamma_j$

Where; $\Delta UNEM_t$ is change in unemployment rate in time period t.

γ_0 is income in period 0.

$\delta UNEM_{t-1}$ is the standard deviation of unemployment rate in time period t-1.

$\sum_{i=2}^p \rho_i \Delta UNEM_{t-i+1}$ is the summation proportion of change in unemployment rate in time period t-i+1

ε_t is the error term.

Thus change in unemployment rate in time period t is given by income in period 0 plus the standard deviation of unemployment rate in time period t-1 plus the summation proportion of change in unemployment rate in time period t-i+1 plus the error term.

In Equation 5 the coefficient of interest is δ ; if $\delta = 0$, and the equation is in stationary on first differences.

We can find this relationship by estimating the ARDL model. So, in next step, we will establish the ARDL methodology. The ARDL model for dependent variable (unemployment) and independent (government expenditure) variable is given in Equation 6.

$$UNEM_t = \mu + \sum_{i=1}^n \varphi_i UNEMP_{t-i} + \sum_{i=0}^n \lambda_1 GEXP_{t-i} + v_t \tag{6}$$

Where; $UNEM_t$ is unemployment rate in time period t.

μ is the mean.

$\sum_{i=1}^n \varphi_i UNEMP_{t-i}$ is the summation proportion of unemployment rate in time period t-1.

$\sum_{i=0}^n \lambda_i GEXP_{t-i}$ is the summation of government expenditure in time period t-1.

v_t is the schotastic term.

Thus unemployment rate in time period t is given by mean plus the summation proportion of unemployment rate in time period t-1 plus the summation of government expenditure in time period t-1 plus the schotastic term

$$UNEM_t = \mu + \varphi_i UNEM_{t-i} + \dots + \varphi_n UNEM_{t-n} + \lambda_o GEXP + \lambda_1 GEXP_{t-1} + \dots + \lambda_y GEXP_{t-m} + v_t \tag{7}$$

Where $UNEM_t$ is the unemployment rate in time period t.

μ is the mean.

$\varphi_i UNEM_{t-i}$ is the proportion of unemployment rate in time period t-i.

$\varphi_n UNEM_{t-n}$ is the proportion of unemployment in time period t.

$\lambda_o GEXP$ is government expenditure * lambda in time period 0.

$\lambda_1 GEXP_{t-1}$ is government expenditure in time period t-1 * λ_1 .

$\lambda_y GEXP_{t-m}$ is government expenditure in time period t-m * λ_y .

v_t is the schotastic term.

Thus unemployment rate in time period t is given by mean plus the proportion of unemployment rate in time period t-I plus the proportion of unemployment in time period t plus government expenditure * lambda in time period 0 plus government expenditure in time period t-1 * λ_1 plus government expenditure in time period t-m * λ_y plus the schotastic term.

Where, UNEM is the unemployment rate and GEXP is the government expenditure. The term “t” is the time period and “v” is the error term. The key aim of this study is to get the long-term coefficient values of both UNEM and GEXP. So, the basic idea is to calculate the steady state level of $UNEM_t$ and $GEXP_t$, the steady state form is given in Equation 8:

$$UNEM^* = \eta_0 + \eta_1 GEXP^* \quad (8)$$

Let assume $GEXP^*$ is constant

$$GEXP^* = GEXP_t = GEXP_{t-1} = \dots = GEXP_{t-x} \quad (9)$$

In next step, we substituted the Equation 9 into Equation 6 to find a long run coefficient

$$UNEM^* = \frac{\mu}{1 - \sum \rho_i} + \frac{\sum \lambda_i}{1 - \sum \rho_i} GEXP^*$$

$$UNEM^* = \frac{\mu}{1 - \rho_1 - \rho_2 - \dots - \rho_n} + \frac{\lambda_1 + \lambda_2 + \dots + \lambda_m}{1 - \rho_1 - \rho_2 - \dots - \rho_n} GEXP^* \quad (10)$$

or

$$UNEM^* = A_0 + A_1 GEXP^* \quad (11)$$

The basic goal is to find both short-run and long-run coefficients and we can get long-run coefficients by assessing the Equation 12.

$$\Delta UNEM_t = \mu + \sum_{i=1}^{n-1} \varphi_i \Delta_i UNEM_{t-i} + \sum_{i=0}^{m-1} \lambda_1 \Delta GEXP_{t-i} + \delta_1 UNEM_{t-1} + \delta_2 GEXP + v_t \quad (12)$$

Where; $\Delta UNEM_t$ is the change of unemployment rate in time period t.

μ is the mean.

$\sum_{i=1}^{n-1} \varphi_i \Delta_i UNEM_{t-i}$ is the summation of change in unemployment rate in time period t-i.

$\sum_{i=0}^{m-1} \lambda_1 \Delta GEXP_{t-i}$ is the summation of change in government expenditure in time period t-1.

$\delta_1 UNEM_{t-1}$ is the standard deviation in time period 1* unemployment rate in time period t-1.

$\delta_2 GEXP$ is the standard deviation in time period 2* the government expenditure.

v_t is the error term in time period t.

Thus change of unemployment rate in time period t is given by the mean plus the summation of change in unemployment rate in time period t-I plus the summation of change in government expenditure in time period t-1 plus the standard deviation in time period 1* unemployment rate in time period t-1 plus the standard deviation in time period 2* the government expenditure plus the error term.

The $GDPP_t$ and $MCDC_t$ variables state the long-term parameters in the autoregressive distribution lag (ARDL) model (Enders, 2015).

4. DATA AND VARIABLES

We employ time-series data between the period of 1990 and 2019 collated from World Bank (WDI). The region of analysis is Jordan. A total of five dependent and independent variables are used in this study. The dependent variable is the unemployment rate and the independent variables are Private investment (PINV), Official development assistance (ODA), Gross fixed capital formation (GFCF), and employment opportunities (EMOP).

Table-1. Statistics summary results.

Statistics	UNEM	PINV	GEXP	ODA	GFCF	EMOP
Mean	15.088	84.542	20.254	27.680	23.883	6.443
Median	14.650	88.159	21.137	24.024	23.765	6.416
Maximum	21.951	89.817	25.194	86.604	33.088	6.689
Minimum	11.900	71.150	15.271	10.946	17.774	6.128
Std. Dev.	2.632	6.057	3.410	17.961	4.414	0.174
Skewness	1.246	-0.928	-0.251	1.9281	0.339	-0.164
Kurtosis	3.803	2.337	1.592	6.3942	1.918	1.686
Jarque-Bera	8.570	4.856	2.7905	32.989	2.040	2.291
Probability	0.013	0.088	0.2477	0.000	0.360	0.317
Observations	30	30	30	30	30	30

The summary statistics are given in Table 1. A total of thirty observations are included in our data set. The mean value of the unemployment rate between the period of 1990 and 2019 is 15.09%. The maximum unemployment rate value in Jordan is 21.95 between the period of 1990 and 2019 and the minimum value is 11.90. Both skewness and kurtosis values of unemployment rate data are positive.

4.1. Augmented Dicky Fuller Stationarity Test

To estimate a relationship between the unemployment rate and government expenditure the first thing we need do check is either our data set has a unit root or not.

So, we ran an ADF test to check the stationarity of the data and results are given in Table 2.

According to results, unemployment is not stationary on the level but has a unit root on first I (0) difference. The GEXP and GFCF are also has a unit root on the first difference because the probability value is greater than

0.01 on the level. The remaining three variables are stationary on the level. We concluded that, some variables are stationary on level and some variables has a unit root on first difference. So, we can use ARDL test because series has a combination of both level and first difference data stationarity.

Table-2. Unit root ADF test.

H ₀ : Series is stationary				
	Level I (0)		First Difference I (1)	
	Intercept and Trend	P-value	Intercept and Trend	P-value
UNEM	-1.372	0.847	-5.204	0.001
GEXP	-2.315	0.413	-5.544	0.000
PINV	-5.986	0.000	-5.216	0.002
ODA	-3.440	0.065	-6.825	0.000
GFCF	-2.159	0.492	-4.746	0.003
EMOP	-7.771	0.000	-13.936	0.010

Note: 1%, 5% and 10% represent the ***, ** and * significance level.

In the next step, we will check either co-integration exists between the dependent and independent variables. We ran about F-statistics test for this and results can be seen from Table 3.

Table-3. F-bounds test.

F-statistic	11.7269	
Significant level	I (0)	I (1)
a=10%	2.08	3
a=5%	2.39	3.38
a=2.5%	2.7	3.73
a=1%	3.06	4.15

If the calculated F-statistic value falls underneath the lower bound we would conclude that the variables are I (0), so no cointegration exists in this case. If the F-statistic value exceeds the upper limit I (1), we finish that we've cointegration. Finally, if the F-statistic falls among both limits, the test is inconclusive. In our case, the Bound F-statistics value is (11.7269) which is greater than both the lower and upper limit. So, we concluded that the long-run association occurs between dependent and independent variables.

5. EMPIRICAL FINDINGS

In this chapter, we estimate both long and short-run coefficient and the results of long-run parameters are given in Table 4. According to the results, there is a negative relationship between the unemployment rate and government expenditure.

Table-4. ARDL Long run Coefficients (1, 0, 1, 2, 0, 0).

Variable	Coefficient
GEXP	-0.407** (-0.192)
PINV	-0.251** (-0.098)
ODA	0.134*** (-0.028)
GFCF	-0.213* (-2.034)
EMOP	12.500** (-2.242)
C	-51.149 (-1.489)

Note: *** p<0.01, ** p<0.05, * p<0.1.
Standard errors in parentheses.

The relationship between both variables is statistically significant at the level of 5%. It means that, when the government spends more, then more jobs will be created and unemployment will be decreased. The GEXP coefficient value is -0.407, which implies that if government expenditure increases by one percent unemployment rate will decrease by 0.4072 percent. The relationship between private investment and unemployment rate is negative and statistically significant.

The findings suggest that ODA harms the unemployment rate which we attributed to corruption and funds not been allocated properly. GFCF has a negative but statically significant connection with the unemployment rate. If GFCF increases by one unit the value of unemployment will be decreased by 0.21 units.

On the other hand, there is a positive relationship existing between unemployment and government expenditure in short-run Table 5. It means that in short term government expenditure harms unemployment and this can be attributed to the crowding out effects of government. The private investment has a negative relationship with unemployment in both short and long run.

Table-5. ARDL short run coefficients (1, 0, 1, 2, 0, 0).

Variable	Coefficient
UNEM(-1)	0.416*** (0.102)
GEXP	0.237** (0.102)
PINV	-0.340** (0.135)
PINV(-1)	0.193 (0.115)
ODA	-0.015 (0.016)
ODA_{t-1}	0.025** (0.010)
ODA_{t-2}	0.067*** (0.012)
GFCF	-0.124** (0.052)
EMOP	7.2911 (2.956)
C	-29.833 (18.624)
Diagnostic Results	
F-statistic	30.074
Adjusted R-squared	0.9064
DW Test	2.72

The GFCF has a positive connection with UNEM in short run. The R-squared value explains how well the regression model fits the observed data. In our case, the R-squared value is 0.9376, which reveals that 93.76 % of the data fit the regression model and remaining counts as an error term.

The general significance test F indicates whether model provides a better fit to the data than a model that does not contain independent variables. The f-test compares model with zero predictor variables and decides if your aggregate coefficients have improved the model. If you get a meaningful result, any coefficient you include in your model will improve the model fit. In our case, the F-statistics value lies in a significant range. The Durbin Watson (DW) measurement is an autocorrelation trial of the residuals of a statistical regression analysis. The Durbin-Watson measurement will consistently have an incentive somewhere in the range of 0 and 4. An estimation of 2.0 implies that no autocorrelation is identified in the data set. Values from 0 to under 2 show positive autocorrelation and qualities from 2 to 4 demonstrate negative autocorrelation. The estimation of Durbin-Watson is 2.5728 which mean that no autocorrelation.

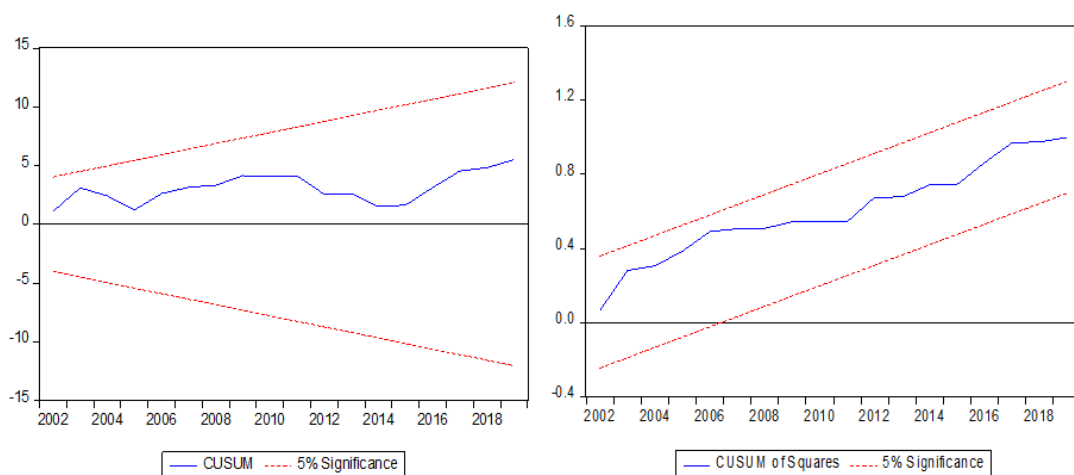


Figure-1. CUSUM and CUSUM of square.

Finally, we verified the cumulative sum tests (CUSUM) and CUSUM of squares (CUSUMSQ), used to verify the stability of the structure in the model and which can be seen in Figure 1. The results explain that the equilibrium of government spending and unemployment coefficient is stable over time because both the red line is within the range, where stability is a requirement to use this model for sample prediction. The results support the result of the variance equation of the ARDL estimates and decrease persistence in the Jordanian economy.

6. CONCLUSION

In theoretical literature, we concluded that lack of job opportunities intensifies the unemployment situation in which some people with jobs, within the workforce, with the necessary qualifications, skills and abilities are willing and looking for work, but cannot find work. Jordan government, like other Asian developing countries, wants to reduce the unemployment rate because the country is a labor-intensive country.

Informed by the widely revised literature, an increase in unemployment will constantly lessen cumulative production and, therefore, slow development. The short-time period results showed that public spending and unemployment are related; this means that Jordan is more consumer-susceptible, so any boom in recurrent spending will increase the unemployment rate and generally tend to lower economic happiness.

In this paper, we found that long-run unemployment decreases if the government spends more on infrastructure, health, and education. We also found a negative relationship between government spending and unemployment. Secondly, we found that Jordan private sector could reduce the unemployment rate if the government provides ease of doing business opportunities on an equal basis. The private sector also reduces the output gap and will also increase the aggregate demand in an economy.

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APPENDIX

Table-6. Harvey test for heteroskedasticity.

Model	F-statistic	1.9736	Prob. Value	0.1050
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Table-7. Ramsey REST test.

Model	F-statistic	0.0057	Prob. Value	0.9407
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Table-8. Multi-collinearity (variance inflation factors)test

Variable	Variance	VIF
UNEM(-1)	0.010490	3.937676
GEXP	0.010493	8.009833
PINV	0.018300	3.630865
PINV(-1)	0.013272	3.294696
ODA	0.000273	2.327627
ODA(-1)	0.000113	2.051557
ODA(-2)	0.000151	3.613707
GFCF	0.002733	3.952910
EMOP	8.741987	1.411853
C	346.8784	NA

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