مجلة جامعة تشرين – سلسلة العلوم الاقتصادية والقانونية

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Determining the Impact of Government Spending on Unemployment Levels in Syria During the Period 1990-2011 (An Econometric Study)

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□ ABSTRACT □

The study aims to determine the impact of government spending on unemployment levels in Syria during the period 1990-2011, in long and short terms, we use annual data on unemployment levels, government spending and gross domestic product at constant 2000 prices. The Autoregressive Distributed Lag Models ARDL is used for Econometric Study.
The main results of this paper shows an equilibrium relationship between unemployment levels and other variables. The negative and significant value of the correction coefficient is (-1.98).So, the imbalances that may occur in the short term can be corrected and returned to the equilibrium in the long term. In addition, there is a positive and weak relationship between government spending levels and unemployment levels, this means that government spending during the period of study, wasn't effective in reducing unemployment levels, which requires a review of the applied spending policy to achieve the desired goals.

Keywords: unemployment levels, government spending, GDP. ARDL Model.

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تحديد أثر الإنفاق الحكومي على مستويات البطالة في سورية خلال الفترة 1990-2011 (دراسة قياسية).

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(تاريخ الإيداع 1 / 1 / 2023. قُبِل للنشر في 12 / 1 / 2023)

□ ملخّص □

تهدف الدراسة إلى تحديد أثر الإنفاق الحكومي على مستويات البطالة في سورية خلال الفترة 1990-2011، على المدى الطويل والقصير، حيث نستخدم بيانات سنوية عن مستويات البطالة والإنفاق الحكومي والناتج المحلي الإجمالي بأسعار عام 2000 الثابتة. في الدراسة القياسية تم استخدام نماذج الانحدار الذاتي ذي الفجوات المتباطئة ARDL . حيث أظهرت النتائج الرئيسية لهذا البحث وجود علاقة توازنية بين مستويات البطالة والمتغيرات الأخرى. قيمة معامل التصحيح تساوي (1.98-)، وهي قيمة سالبة ومعنوية، لذا فإن الاختلالات التي قد تحدث على المدى القصير يمكن تصحيحها وإعادتها إلى التوازن على المدى الطويل. بالإضافة إلى ذلك، هنالك علاقة إيجابية وضعيفة بين مستويات الإنفاق الحكومي ومستويات البطالة، مما يعني أنَّ الإنفاق الحكومي خلال فترة الدراسة لم يكن فعّالاً في تخفيض مستويات البطالة، الأمر الذي يتطلب إعادة النظر في سياسة الإنفاق المطبقة لتحقيق الأهداف المرجوة منها.

الكلمات المفتاحيه: مستويات البطالة، الإنفاق الحكومي، الناتج المحلي الإجمالي، نموذج ARDL .

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Introduction:

The Economic crises that afflicted global economies have demonstrated the importance of fiscal policy and its role in stimulating labor markets and struggling an unemployment. In this contest, The government spending represents the most important side of fiscal policy for influencing on the labor market, either directly by government employment, or indirectly through its effect on investment and production levels, which affects on unemployment rates. In Syria, during the period of study, a fiscal policy based on reducing public spending was adopted, and accompanied by fluctuating of unemployment rates. which raises question about the effectiveness of the spending policy in affecting unemployment level during period of study.

Importance of research and its Objectives

The importance of the research lies in the importance of the problem that is addressed in unemployment. Because of an unemployment is a deep problem with economic social and political dimensions, which requires determining the impacts of applied macro policies on the labor market, particularly public spending. It's very important to determine the effectiveness and the feasibility of government spending in reducing unemployment rates since the impacts of macroeconomic policies range from temporary effects to long-term structural effects on both of economic and social levels. Thus, the aim of the study is to evaluate the effectiveness of the spending policy in struggling unemployment, by using an econometric model that is suitable for explaining the relationship between the variables during the research period.

Research problem:

The main research problem lies in the following questions:

- What is the nature of the relationship between public spending and unemployment in Syria during the period 1990-2011?
- What is the impact of government spending policy on unemployment level in Syria during the period 1990-2011?

Research Hypothesis:

1. There is a co-integration relationship between government spending and unemployment leads to equilibrium levels in the long term.
2. There is a positive and significant relationship between government spending and unemployment level.

Literature Review:

- **(Al-Ali, 2015),** "**The effect of general expenditure change in the unemployment rate in Syria Analytic study (2000 – 2012)**", master thesis, Damascus University. In this study, the researcher discussed the effect of public spending on the number of workers, total investment and total consumption, using the descriptive and the statistical analysis methodology, this study, by employing correlation and simple linear regression concludes that public spending was insufficient to absorb the number of workers, but has a positive impacts on total consumption and total investment . Another conclusion is an increase in government spending by one billion Syrian pounds will lead to an increase in total consumption by 1.067 billion Syrian pounds will provide 911 new job opportunities annually , and increasing investment by 328 million Syrian pounds which providing 723 job opportunities annually.

- **(Rukn El Din, 2015), "Public Spending and the Labor Market in Algeria, An Econometric Study 1980-2014.** University of Setif, Algeria. The study aims to investigate the impact of public expenditures on employment rates in Algeria during the period 1990-

2014. employment rate, proportion of spending to gross domestic product GDP, the rate of inflation, interest rates and debt ratio are the variables used in this study, by applying autoregressive distributed Lag (ARDL) methodology ,the study concludes, there is a long run relationship between employment rate and rest of variables in the model, and public spending effect is positive and weak in the short and long term, and employment rate was inelastic to the proportion of spending to GDP.

- (Kamal Aichi, Salim Bouhaidel, 2010),"Government Spending As A Tool for expanding employment Horizons 2010, University of Batna, Algeria. The study dealt with determining the role of the government spending in raising employment rates and analyzing its impact on expanding the horizons and development of the employment sector in Algeria during the period 2001-2010 by studying the correlation between government spending rates and recorded hiring rates in the studied period. since, study concludes, it is possible to rely on The Keynesian approach in revitalizing the labor market, where an unemployment rates declined and has got stability at around 10% in 2010.

differences of study

The current study differs from previous ones in tow point .First it is one of the few researches which deals with the impact of government spending on the labor market and unemployment problem in Syria. Second, the difference in econometric methodology and studied variables.

Research Methodology

The descriptive analytical approach is used to analyze the data obtained from the Central Bureau of Statistics, and the ARDL approach is used to analyze the relationship between unemployment and government spending.

The period of research

The research studies the impact of government spending on unemployment levels during the period 1990-2011.

Results and Discussion

First: The Development of government spending in Syria during the period 1990-2011

Studying of government expenditure allows of knowing the economic orientation of the state, through the mechanism which used to manage this expenditure. So for analyzing the total government spending and its trends, we divided the period of study into two parts as shown in following tables:

Table. (1) Development in Total expenditure and GDP during the period (1990-1999).

Year	Government Spending 2000	Annual Growth Rate %	GDP 2000	Annual Growth Rate %	Government Spending to GDP ratio %
1990	113,322	-	491,443	-	23
1991	142,337	25.60	523,637	6.55	27.2
1992	140,760	-1.10	562,224	7.37	25
1993	164,464	16.84	553,148	-1.61	29.7
1994	167,047	1.57	586,444	6.10	28.5
1995	174,424	4.42	614,612	4.80	28.4

1996	186,188	6.74	684,017	11.29	27.2
1997	204,380	9.77	721,751	5.52	28.3
1998	219,722	7.50	731,893	.411	30
1999	245,480	11.72	787,588	7.61	31.2

Source : Data is calculated by researcher based on data of the statistical Bulletin issued by Central Bureau of Statistics (billion .SYP).

Table (1) shows an increases in the volume of government spending along the nineties period. Government spending increased from 113 billion SY.P in 1990 to 245 billion SY.P in 1999, with an average growth rate of 8.03% and a fluctuation rate around the average of 21.4%. The annual growth rates were fluctuating and reflected the fluctuation in fiscal policy with a standard deviation of 8.04, and a volatility coefficient of 99.49%. The highest growth rate was 25.6% in 1991 and the lowest rate was -1.10% in 1992. During the specified period, public expenditure ratio to GDP, did not exceed 28%, on average.

During the period 1991-1995, Syria witnessed an economic recovery imposed by the urgent need for reform, and necessity of putting in place mechanisms in order to get out of the severe crisis ,through a set of laws, such as Investment Law No.10, which allowed the local and foreign private sector to invest in the country, and partial liberalization of foreign trade, these measures were met with a positive response in GDP growth rates that reached to 7% in 1992, the public spending to GDP ratio increased in ratio of government spending to GDP. The total amount increased from 23% in 1990 to 28.8% in 1995. Government spending was directed towards projects related to providing water, electricity and communications. The percentage of execution in the budget during the period of study ranged between 91-94% (Kanaan, Public Finance and Financial Reform in Syria, 2003).

The period 1996-1999, was known as The Economic Stagnation period in Syria, where revenues of oil discoveries played a role in covering the economic problems in eighties and caused a kind of laxity in the momentum of the reforms, which were initiated in the beginning of 1990-1995. At this period Syrian economy was greatly affected by factors such as, drop of oil prices, a decrease of cash balances, inability of legislation of investment to provide an attractive environment for productive investment, and absence of structural reforms for the public sector (all these reforms go ahead to useless replacement and renewal processes). returning of drought again greatly which affected agricultural production too, as result, GDP growth rates declined to 1.4% during 1998. These circumstances were met with a fiscal policy based on caution in the spending policy to the point of contraction, with the aim of reducing the deficit and achieving balance in the budget.

The growth rates of total spending during the period 1996-1999 was weak and volatile and below the required rates. The actual implementation rate of the investment budget reached 78.8% and 73.1[1]% during the years 1998 and 1999 respectively, which is an insufficient percentage compared to the required rates of 95% and above (Ghadeer, The Developmental Role of Government Spending ,2010). On other side, financial support for some ration commodities was canceled, salaries and wages were frozen, where the increasing policy of wages stopped from 1994 to 2000, which caused an erosion in wages, as result a proportion of salaries and wages to GDP declined from 10.5% during the period 1992 - 1995 to 8.7% during the period 1996-1999.

During the period 1995-1999, the government sought to build cash reserves, by increasing borrowing from the Central Bank, and imposing new tax. To compensate for the decrease

[1] : The researcher's calculations based on the quarterly bulletin of the Central Bank in Syria.

in cash balances and tax revenue[2], government reduced total spending, especially investment ones. So we can say, the fiscal policy which was adopted in nineties, led to a state of deep economic recession that extended until 2003.The period 2000-2004 is considered a continuation of the deep recession which Syria is suffered from at the end of the nineties, and the beginning of the new millennium.

In year 2005, a new economic orientation was adopted in Syrian ,which aimed to abandon public sector and limit the role of state in investment activity, as result as, fiscal policy continued as Deflationary policy, based on reducing public spending, especially investment one. The following table exhibits changes in public spending and of GDP during the period 2000-2011.

Table (2) Development in Total expenditure and GDP during the period (2000-2011).

Year	Government Spending 2000	Annual Growth Rate %	GDP 2000	Annual Growth Rate %	Government Spending to GDP ratio %
2000	275,400	12.19	903,944	14.78	30.5
2001	312,622	13.52	926,347	2.48	33.7
2002	342,682	9.62	977,423	5.51	35.
2003	385,321	12.44	979,142	0.18	39.4
2004	394,298	2.33	1111,307	13.50	35.5
2005	376,740	-4.6	1233,776	11.02	30.5
2006	368,577	-2.16	1285,483	4.19	28.8
2007	422,111	14.52	1450,709	12.85	29.1
2008	371,287	-12.04	1513,032	4.29	24.5
2009	412,154	11	1516,100	0.17	27.2
2010	434,582	5.44	1609,092	6.15	27
2011	459,549	5.47	1485,966	-7.65	30.9

Source : Data is calculated by researcher based on data of the statistical Bulletin issued by Central Bureau of Statistics (billion .SYP).

Table (2) Shows a gradual increase in total government spending in absolute value. It rose from 275 SYP billion in 2000 to 394 SYP billion in 2004, to decline again to 368 SYP billion in 2006, and rise in 2011 to 459 billion SYP, with a clear decrease by 12% in 2008 compared to 2007, with an average growth rate about 4.35%. As similar to the previous periods, the growth rates of spending fluctuated with a standard deviation of 7.9, the highest growth rate was 14.52% in 2007 and the lowest one was (-12.4%) in 2008.The highest percentage of government spending to output was 39.4% in 2003, and its lowest value was 24.5% in 2008. As previous years, we notice a decrease in the proportion of public spending to the GDP.

During the period 2001-2003, the state re-expanded the volume of public spending to approximately 39.3% of the GDP in 2003, with increasing in growth rates about 12% for the same year. However, this increasing was directed to replacement and renewal in the public sector, and investment in service and social fields such as health and education, which do not cause direct effects on economic growth in the short term, such as year 2003. That means an increases in government spending did not lead to an increase in economic growth, but rather deepened the existing recession.

[2] **:As a result of the drop in oil prices and capital Flight to Lebanon in the years 1994-1995and tax evasion .**

During the period 2004-2006, the volume of total government spending decreased from 394 billion SYP in 2004 to 368 billion SYP in 2006, at the expense of reducing the volume of investment spending from 190 billion SYP in 2004 to 145 billion SYP in 2006, but the current spending increased from 203 billion SYP in 2004 to 223 billion SYP in 2006. In years 2007-2008, the global food crisis, and bad climatic conditions that led to colossal damage to agricultural production, had a colossal impact on economic growth rates, which did not exceed 4% and led to an economic recession.

The economic recession was offset by a reduction in total spending, where the percentage of total spending of GDP decreased from 29% in 2007 to 24.5% in 2008 and, reducing the percentage of implementation of the investment budget to 70%.

The global financial crisis at the end of 2008 had a major role in emphasizing the importance of fiscal policy and its role in stimulating aggregate demand, as a result government spending grew during 2009 by 11%, with an increase of 2.5% of GDP compared with 2008. But the paradox here is, if the growth in spending did not lead to growth in GDP, as 2009 the growth rate was 0.17 %, how can spending policy affective?

In 2010, The Growth rate was 5.44% compared with 2009, in consistency with government's direction towards to annual increase about 10% in minimum of public spending[3]. In 2011, growth rate of government spending was 5.74% and almost equal to growth rate in 2010. In this context, we should mention, an increase in percentage of total spending of GDP to 30.9% is due to the decrease in GDP by 7.65% as consequences of Syrian crisis.

Second: The development of unemployment rates in Syria during the period 1990-2011.

In general during the period 1990-2011, unemployment rates in Syria were relatively high. with a decrease in some periods according to official statistics. Primarily, it is attributed to high population pressures(population boom in the seventies and the eighties), that caused an increase in the number of newcomers to labor market. the development plans had targeted labor market made were also lack, as a result it wasn't possible to control unemployment rates. In addition, economic growth rates during the relevant period did not contribute to create of job opportunities that helped to absorb numbers of new individuals in labor market. The following figure shows the development of unemployment rates during the period 1990-2011.



Figure (1) The evolution of unemployment rates during the period 1990-2011.
Source: by researcher, based on the labor market surveys - Central Bureau of Statistics.

[3] **: Government Financial Statement 2011, 2012.**

Figure (1) shows , an unemployment rates witnessed many transitions during the studied period. The rates decreased from 7.2% in 1990 to 6.8% in 1991 with steadiness of this percentage - according to official statistics - till 1995. The unemployment rates slump was accompanied by a situation of recovering. The Syrian economy had witnessed situation of recovering as a result of reform steps that have been adopted, including enactment of laws and legislations to enable domestic and foreign private investment and expansion of spending on infrastructure projects, electricity, water and communications.

The unemployment rate rose again to 7.2% in 1996 and up to 10.3% in 2001 and 12.3% in 2004. During 1996-2003 the country had witnessed an economic stagnation as a result of the deflationary policies, such as reducing government spending, especially investment one. Stopping employment policy was adopted too, from the second half of nineties until the beginning of the new millennium. In the years 2005, 2006, and 2007, unemployment rates decreased to 8%, 8.2%, and 8.4%, respectively, to rise again to 10.8% in 2008, with a decrease to 8.1% and 8.6%, respectively, during the years 2009 and 2010. It rose again to 14.9% in 2011. From previous number, we can note a variation in the annual unemployment rates, with a standard deviation of 1.88 and volatility average coefficient about 21.2%. In this context, it is necessary to point out , there are many objections to the official numbers of unemployment rates, especially during the period 2005-2008, where all economic conditions were ripe for high unemployment rates, such as notably decline in GDP growth rates, decrease in investment rates and, closure thousands of workshops and factories, especially in Aleppo and Damascus as a result of flooding the local market with Turkish goods. In addition regional and global conditions caused a recurrence of a large part of Syrian employment abroad, the result was an increase in the number of the unemployed, but official statistics indicated to decrease in unemployment rates.

Third : An Econometric study

3-1 The variables of the study:

1- Unemployment: It is symbolized by UNEMP , and represents the number of unemployed individual.

2- Public spending: It is symbolized by GOV , and represents government sector purchases of goods and services at constant 2000 prices.

3- Gross domestic product: It is symbolized by GDP, at constant 2000 prices.

In order to determine the most appropriate model for estimating the relationship between the variables, we must study the stationarity of time series and determining the degree of their integration .

3-2 Time Series Stationary Tests.

Time Series Stationary test is the most important step in determining the model of the relationship between studied variables, which is known as Unit Root test .There are several tests, most notably Dickie Fuller (DF), Augmented Dickie Fuller (ADF), KPSS test, and Philip Peron PP test.

In our study, the Augmented Dickey Fuller test (ADF) is used, and since we have got the following results:

Table (3) Augmented Dickey Fuller's Test

Unit root at Level	UNEMP	GOV	GDP
Level			
ADF – Intercept and Trend	- 4.472	-3.768	-2.067
Test Critical Value at 5%	-3.710	-3.71	-3.644

Result	ADF >T-Critical (Absolute Value)	ADF >T-Critical (Absolute Value)	ADF < T-Critical (Absolute Value)
ADF - Prob	0.0130*	0.0453*	0.533
Trend – t statistic	4.464	3.678	2.086
Trend- Prob	0.0012*	0.0043*	0.0514
Trend- sig	Sig	Sig	Not -sig
Constant C t- statistic	2.578	3.373	2.548
Constant C -Prob	0.027	0.0071*	0.020
Constant- sig	Sig	Sig	Sig
Result	Series is stationary at level	Series is stationary at level	Series is not stationary at level
First Deference			
ADF - Intercept and trend			-3.486
Test Critical Value at 5%	-	-	-3.658
ADF - Prob	-	-	0.070
Result	-	-	ADF < T-Critical (Absolute Value)
Trend – t statistic	-	-	0.433
Trend- Prob	-	-	0.067
Trend- sig	-	-	Not -sig
Constant C t -statistic	-	-	1.380
Constant-Prob	-	-	0.185
Constant- sig	-	-	Not -sig
ADF- Intercept	-	-	-3.71
Test Critical Value at 5%	-	-	-3.020
Result	-	-	ADF < T-Critical (Absolute Value)
ADF - Prob	-	-	0.012*
Constant – t statistic	-	-	2.087
Constant-Prob	-	-	0.0219*
Constant- sig	-	-	sig
Result			Series is stationary at first Difference
Order	I(0)	I(0)	I(1)

Significance level: 5% (*).

Table (3) presents, findings of unit root test for variable unemployment (UNEMP), public expenditure (GOV),and Gross Domestic Product (GDP).

For both series, (UNEMP)and (GOV) the null hypothesis (time series has unit root), is rejected at level, which means , the series are stationary at the level ,and the order of each one is I(0).

For series (GDP) the null hypothesis (time series has unit root), cannot be rejected at level. but can be rejected at first difference, which is means, the series is stationary at first difference, and the order of series is I(1).

As consequence, (UNEMP)and (GOV) series are integrated of (I0) and,(GDP) series is integrated of I(1).So to estimate the long-term relationship between, Unemployment Levels Government expenditure, Gross Domestic Product, we can use- Autoregressive Distributed Lag model ARDL (Svilokos, 2016).

3-3 Estimation of ARDL Model.

The next table is represents an estimation of relationship between the variables of the study, and following results were obtained.

Table (4) Outcomes of ARDL Model Estimating

Dependent Variable: UNEMP				
Method: ARDL				
Sample (adjusted): 1993-2011				
Included observations: 19 after adjustments				
Maximum dependent lags: 4 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (4 lags, automatic): GOV GDP				
Fixed regressors: C				
Number of models evaluated: 100 Selected Model: ARDL(1, 3, 0)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
UNEMP(-1)	-0.989603	0.189587	-5.219794	0.0002
GOV	0.002528	0.000423	5.977198	0.0001
GOV(-1)	0.003385	0.000498	6.797910	0.0000
GOV(-2)	0.000388	0.000526	0.737953	0.4747
GOV(-3)	-0.004721	0.000647	-7.291848	0.0000
GDP	0.181636	0.124023	1.464536	0.1687
C	47879.21	36199.43	1.322651	0.2106
R-squared	0.962561	Mean dependent var		459991.6
Adjusted R-squared	0.943842	S.D. dependent var		154131.8
S.E. of regression	36525.69	Akaike info criterion		24.12673
Sum squared resid	1.60E+10	Schwarz criterion		24.47468
Log likelihood	-222.2039	Hannan-Quinn criter.		24.18562
F-statistic	51.42060	Durbin-Watson stat		2.161286
Prob(F-statistic)	0.000000			

Resource : output of Eveiwes10.

Table (4), shows, the best suggested model is ARDL (1.3.0), i.e. the best model out of 100 tested models is the model with one tardiness for dependent variable (UNEMP), three tardiness for the explanatory variable (GOV),and non for explanatory variable(GDP). With a preliminary reading of the proposed model, we find,R^2 = 0.96, F(statistic) = 51.420, Prob (F-statistic) = 0.0000 ,that means, R-squared value is statistically significant.

3-4 Validity Testes of Model

To ensure that model is free of Econometric problems, we performed following tests:

1-**Serial Correlation LM Test.** **2- Heteroscedasticity Test**.

Table (5) Outcomes of Serial Correlation LM Test & Heteroscedasticity Test

Breusch-Godfrey Serial Correlation LM Test			
Null Hypothesis : No Residual Serial Correlation			
F-statistic	0.6574	Prob. F(2,10)	0. 5392
Obs*R-squared	2.8040	Prob. Chi-Square(2)	0.3315
Heteroskedasticity Test: ARCH			
Null Hypothesis :No Residual Heteroskedasticity			
F-statistic	0.32018	Prob. F(1,16)	0.5793
Obs*R-squared	0.3531	Prob. Chi-Square(4)	0.5523

Resource : output of Eveiwes10.

Table. (5) Shows we cannot reject the null hypothesis in both of tests, because of F statistic value in both tests is bigger than 0.05, which means, neither Serial autocorrelation, nor Heteroscedasticity problem in the residuals is exist.

3- Residual Normality Test

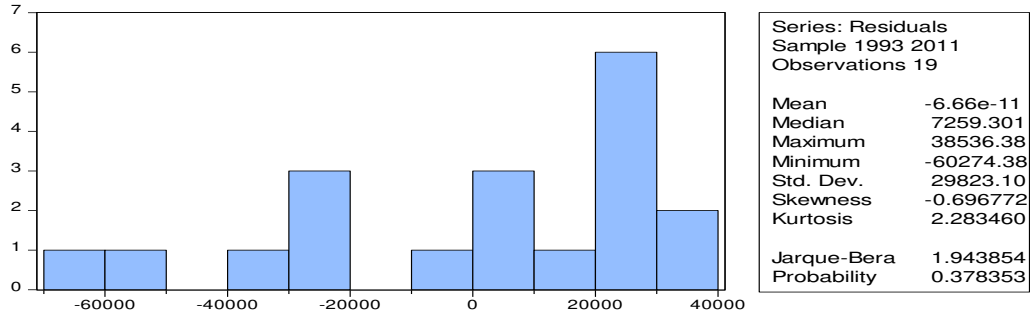


Figure 2 Histogram-Normality Test

Resource : Eveiwes10- program output

Figure (2) shows that ,residuals are distributed normally, and the null hypothesis cannot be rejected, because of the Jarque -Bera statistic is equal to 1.943 and its Probability is equal to (0.378), which is bigger than 0.05.

As consequences of previous tests outcomes, we can say that the model is suitable for determining the impact of public spending on unemployment levels**,** and those outcomes, lead us to apply Co-integration test (Long Run Form &Bound Test) of ARDEL model.

3-5 Long Run Form &Bound Test

In order to verify the existence of a co-integration relationship i.e. a long-term equilibrium relationship between the studied variables, we apply the Long Run Form & Bound Test.

Table. (6) Outcomes of Long Run Form &Bound Test.

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	31.2120	10%	3.63	3.35
k	2	5%	3.1	3.87
		2.5%	3.55	4.38
		1%	4.13	5
Actual Sample Size	18		Finite Sample: n=35	

		10%	2.845	3.623
		5%	3.478	4.335
		1%	4.948	6.028
			Finite Sample: n=30	
		10%	2.915	3.695
		5%	3.538	4.428
		1%	5.155	6.265

Resource : Eveiwes10 outputs

From the previous table (6), we found, F statistic = 31.21, which is bigger than all values at the limits of I(0), I(1), especially at level of significance of 5%, as consequences we reject the null hypothesis about no existing of long-term equilibrium relationship between studied variables, and we accept alternative hypothesis, about existing a long term equilibrium relationship.

6-3-Estimating –Long Run Term relationship.

We can conclude the long run equation from next table :

Table (7) Outcomes of Long Run Form

ARDL Long Run Form and Bounds Test				
Dependent Variable: D(UNEMP)				
Selected Model: ARDL(1, 3, 0)				
Case 2: Restricted Constant and No Trend				
Sample: 1990 2011				
Included observations: 19				
Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
UNEMP(-1)*	-1.989603	0.189587	-10.49443	0.0000
GOV(-1)	0.001580	0.000505	3.129066	0.0087
GDP	-0.181636	0.124023	1.464536	0.1687
D(GOV)	0.002528	0.000423	5.977198	0.0001
D(GOV(-1))	0.004333	0.000564	7.686736	0.0000
D(GOV(-2))	0.004721	0.000647	7.291848	0.0000
Levels Equation				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOV	0.000794	0.000222	3.583989	0.0038
GDP	-0.091293	0.064524	1.414861	0.1825
C	24064.71	17412.60	1.382029	0.1921

Resource : Eveiwes10 outputs

From table, (7) we can deduce the equation of long run term - as follows

$24064.7113 + 0.000794 * GOV - 0.0913 * GDP + \mu_t = UNEMP$

The table No.(7) and previous equation, show the following result:

- The government spending has positive and statistically significant effect on unemployment, while GDP has a negative and non-statistically significant effect.

- The long term- equilibrium coefficient of government spending is significant (0.0002 < 0.05), the sing of coefficient is positive also, which mean there is f positive and significant relationship between unemployment level and public spending . The coefficient value is 0.000794, which means, an increase in public spending by 1% will lead to increasing in unemployment level by 0.00794,(with steadiness of other factors).
- The coefficient value were 0.000794, so the relationship is weak, which contradicts normal rule, that says government spending reduces unemployment level or rate.
- The long term- equilibrium coefficient of gross domestic product isn't significant (0.169 > 0.05).
- We can note from table (7),the parameter of the dependent variable UNEMP(-1) = 1.98, and it's negative and significant, This confirms the co-integration relationship, i.e. the long-term relationship between variables.

previous finding can be explained as follow, spending policy followed by Syrian government, did not reduce Unemployment rate, but it was rather than , a cause to increase it, and this can be explained even though public spending figures (absolute values), were indicating to an expansion in spending, the essence of it, were a deflationary policy ,that contributed to creating a state of economic stagnation that led to weakness of the national economy's ability to create job opportunities that help in reducing unemployment. the weak effect of the exemptions and privileges granted to private sector in pushing it towards productive investments that provide job opportunities, in addition to public spending was not directed towards productive projects that would absorb the surplus labor force, (unproductive spending). On other hand, even though, the growth of GDP, unemployment levels still high, which is called (jobless growth).

3-7-Estimating –Short Run Term relationship

By applying Error Correction Form Test, we obtain an estimation of the relationship between government spending and unemployment level in short term as follow

Table (8).ARDL Error Correction Regression

ARDL Error Correction Regression				
ECM Regression				
Depended Variable D(UNEMP)				
Selected Model .ARDL (1.3.0)				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GOV)	0.002528	0.000330	7.657647	0.0000
D(GOV(-1))	0.004333	0.000326	13.28231	0.0000
D(GOV(-2))	0.004721	0.000498	9.474060	0.0000
CointEq(-1)*	-1.989603	0.159265	-12.49240	0.0000

Resource : Eveiwes10 outputs

Table (8) shows, the value of correction coefficient CointEq (-1)* = - 1.9896,
Prob = 0.0000 , and it fulfills two conditions as statistical significance and negative singe . So when the unemployment index deviates form an equilibrium situation , in period (t-1), 1.98 of errors can be corrected in period (t). Accordingly, we reject the null hypothesis, about, there is no effect of government expenditure on unemployment level in short term.

3 -8 Structural stability test of the estimated ARDL model

For testing the suitability of proposed model in the short and long terms, we apply cumulative sum of residual (CUSUM) test, and cumulative sum of squares of residual (CUSUMQ) test. We test the structural stability of the short and long term coefficients to ensure that used data in this study are free of any structural changes over time. .If the graph of test falls within the critical limits at the level of significance of 5% , coefficients are stable, but if graph lies outside the limits of the critical limits, the coefficients become unstable as follows:

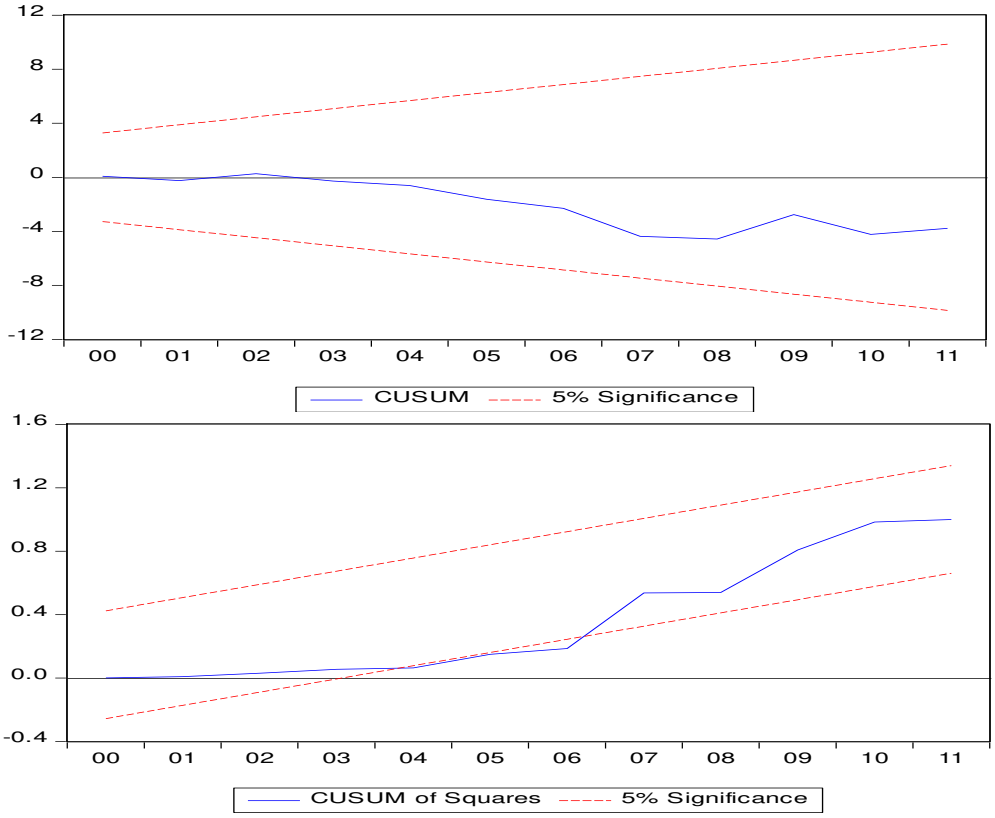


Figure.(3) Structural stability test

From figure (3), we can conclude according to Cumulative Sum (CUSUM) test, estimated coefficients of ARDL model are structurally stable in long and short term, because the graph expressing the model, fell within the critical limits at a significant level of 5%.

According to Cumulative Sum of Squares (CUSUMQ) test, the statistics graph line has gone outside the confidence limits, during the period 2005-2006, but, it returned and became between the limits of confidence after a short period, and this may be due to structural changes during that period, as regional incidents, which caused returning to many Syrian workers, such as (Lebanese incidents). As a rustle, It is safe to say that the model is structurally stable.

Fourth: Conclusions and Recommendations

The main conclusions are:

1- There is a Co-integration relationship between unemployment level, government spending, gross domestic product. Negativity and significance of parameter of ($UNEMP_{(-1)}$) emphasizes this relationship

2- Existence of positive, significant ,and weak affect, of government spending on unemployment levels which contradicts its normal role in reducing unemployment.

3- During the study period, labor market witnessed high unemployment rates and an empirical study proved that fiscal policies, represented by public spending, deepened the problem of unemployment and did not contribute to solving it.
4- The impact of the spending policy on unemployment level was contrary to its normal role, since, spending policy is considered one of the most important economic policies that can be used to reduce the high unemployment rates.
5- The high unemployment rates showed the weakness of exemptions, and concessions were granted to the private sector.
6- The high unemployment rates showed the weakness of the efficiency of the hiring institutions such as (Unemployment combating authority) ,and(Commission for Employment and the Development of Small Projects). they did not achieve the desired goal of their establishment.

The main recommendations are:

1- necessity of reviewing in the spending policy that was followed in order to avoid the negative effects that resulted from it in subsequent periods, especially with regard to unemployment and labor market problems.
2-necessity of directing spending towards productive projects that will create job opportunities and help in absorbing newcomers to the labor market.
3- On the other hand, the necessity of reviewing of policies were adopted by the state to address the problem of unemployment, since high rates of unemployment indicated the lack of seriousness and effectiveness of these policies.
4- in addition to, improving the conditions of the labor market by improving the business environment and easing restrictions and regulatory procedures that related to individual investments and small projects

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