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IMPACT OF OIL PRICE FLUCTUATIONS ON OMAN'S EMPLOYMENT RATE (1991-2017)

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Abstract

As the Sultanate of Oman is categorized as a wholly oil dependent economy, its macroeconomic variables *such as* employment rate might be answerable to any changes in crude oil price. In keeping with the said issue, this study attempts to figure out whether there is long-run relationship between crude oil price fluctuations and Oman's employment rate.

By employing Autoregressive Distributed Lag (ARDL) approach that developed by Pesaran, Shin, and Smith (2001), the study investigates whether oil price fluctuations have an impact on Oman's employment rate for the period from 1991 to 2017 (no data available before 1991) and whether there is a long run connection between the variables of interest.

Time series data of 27 annual observations of the two variables helped this study not to reject the Null-Hypothesis that there is no long run relationship between the said variables (Since F-statistic is below the I1 Bound, the study cannot reject the Null hypothesis (No long-run relationships exists)). Though, the Sultanate of Oman needs to develop the quality of its human resources and to care truly about the diversification, industrialization and privatization.

Key words

Autoregressive Distributed Lag (ARDL); Oil Price Fluctuations and Unemployment Rate

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1. Introduction

"Other things being equal, all governments would like to reduce unemployment. The questions are: "Can it be done?" and "If so, at what cost?" Governments should not wait for high unemployment to get established before they start to worry about it. It may be easier to prevent it from getting high that to bring it down once it is entrenched". (Lipsey and Chrystal, 2007, p582)

1.1 Employment in Oman

Based on the estimation of May 27, 2015, the Sultanate's total population mounted at 4,187,516 individuals, out of this number 1,849,412 (44.2 per cent) were foreigners (De Bel-Air, 2015). Oman is considered a labour importing economy, drawing most of its foreign labour force from Asian nations like India, Bangladesh, Pakistan, and Sri Lanka. Bangladeshis and Pakistanis together stood at 87 per cent of the labor force during 2013. (Das and Gokhale, 2010) and (De Bel-Air, 2015). Eighty-two per cent of all expatriates were laboring in the private sector that year, and 12 per cent were positioning at managerial and "white collar" posts. The flow of external workers to the Sultanate has been growing during the 2000s up till today. Lagging youth employment and increasing poverty levels stimulated popular protests during the year 2011 which reduced speed of economic diversification and the process of private sector's development. However, sectoral Omanisation quotas are now very necessarily required and the employment of Omani citizens in every business unit has become compulsory. Aggressive measures also target foreign residents in irregular status quo which has resulted in a number of massive amnesty and deportation campaigns since 2010. (De Bel-Air, 2015)

Oman is characterized as a "young" society; a projected 41.2 per cent of its people is below the age of 15, and 53.9 per cent is between 15 to 60 year old. Statistics show that every year almost 30,000 students successfully complete their secondary schooling and are ready to move in the job market. The struggle in the job market starts at this stage, as utmost young Omanis moving into the job market find it very difficult to have an occupation. This is because of the lack of vocational/higher education and/or the nonexistence of practical work experience compared to foreign workers working in same positions. This type of unemployment among local youths creates a main problem for Omanis and their government. Omani development policy contains an "Omanization" drive aimed at growing the percentage of Omanis in the labour market. (Das and Gokhale, 2010)

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The number of job seekers in Oman has registered a 2.6 per cent average annual growth over the 2003-2010 periods, totalling 146,385 people and forming 11.75 per cent of the nation's workforce. As much as 98.92 per cent of these job seekers are Omani citizens. The rise in the number of job seekers in Oman is credited to employment over-saturation at government establishments, and the increasing number of graduates including Secondary Certificate holders passing out every year from various academic institutions as well. However, the Omani unemployment rate during such period, in fact, witnessed a robust decline, from as high as 14.4 per cent in 2003 to 11.75 per cent in 2014. (Muscat daily, 2015)

Omani unemployment rate went up touching 16 per cent during 2017 from 15.80 per cent in the year of 2016. It averaged 18.15 per cent from 1991 to 2017, touching an all-time high of 19.80 per cent in 2000 and a record low of 15.80 per cent in the year of 2015. The Omani unemployment rate is measured with the help of the number of people actively seeking jobs as a percentage of the labour force. (Trading economics, 2018)



This figure shows Oman's unemployment rate (1991-2017)

In spite of Omani enormous oil reserves, big number of the Omanis still suffers from poverty. The main sources of this problem in Oman are unemployment, underpayment and lack of economic diversification. Very recently, Oman has received consideration and attention for touching a number of its Millennium Development Ends. Throughout the spanning from 1990 to 2015, Oman, more than halved extreme poverty and child mortality rates, achieved worldwide primary school enrolment and supported gender equality in education. (Sher, 2017)

Generally, the high rate of unemployment has not weighed on Omani economy due to the fact that oil revenues have supported the government to allocate payments to its people. Since 2014,

however, international oil prices have dropped by about 50 per cent. With oil accounting for 46 per cent of Omani GDP and 84 per cent of government revenues, the price fall has forced the Muscat authorities to tighten its budget and start taxing Omanis instead of allocating allowances. Unless the oil market turns around or Oman starts taking serious steps towards diversify its economy, the origins of poverty in Oman might grow much more and its progress toward the Millennium Development Goals might reverse. If changes are not made at a national level, the poverty in Oman will continue to get worse. (Sher, 2017)

Recent localization policies in Gulf nations in general, and in the Sultanate of Oman in particular, play an important role in determining future migration trends by dropping unemployment among nationals by regulating the inflow of foreign labourers. Though such localization policies having risks. Watching the future, Oman possibly will face a labour crisis because of its speedily growing economic activity. The demand for labour could be much higher than the national supply. Consequently, it remains to be realized how successful the policy of Omanization will be in supporting the national economy by replacing the immigrants with local workers. (Das and Gokhale, 2010)

1.2 Brief literature review

Earlier scholarships document that oil price growths and volatility result in growing inflation as well as unemployment and consequently lower macroeconomic growth and financial assets. (Dhaoui and Khraief, 2014)

Economists have long been intrigued by practical evidence that proposes that oil price shocks might be much related to macroeconomic performance. This concern dates back to the age of 1970s. Even though the know-how of the 1970s carries on to play a significant role in arguments of the connection between oil and the macroeconomic variables, there have been several new "oil price shocks" since the 1970s, markedly the1986 collapse of oil prices and the 2000 boom in oil prices as well as the oil price rises linked with the Gulf war (1990–1991) and Iraq war in 2003. Given this richer case history, arguments take a better position compared to the two decades ago to differentiate the idiosyncratic features of each oil crisis from the systematic effects. (Barsky and Kilian, 2004)

Unemployment is indeed one of the significant macroeconomic concerns that faced by all governments and economies. It has, in fact, both social and economic effects for all nations; so governments attempt their best to adopt helpful policies to increase employment rate. Moreover,

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policy makers examine various elements and phenomena that might have impact on growing unemployment and crop up with new proposals, recommendations and polices to develop employment rate. There is a belief that developed economies have lesser rate of unemployment compared to the developing economies, and that due to the nature of polices government choose to increase employment, much demand in product market, more available resources for production and higher per-person income. While developing countries have huge rates of unemployment as a result of the lower demand of products and most importantly inadequate resources and low per-person income. (Ahmad, 2013)

Unemployment is considered a significant article of study in macroeconomics, unfortunately, it still remains unwell understood. Notable disagreement continues concerning such elementary questions as whether unemployment is generally voluntary or not, and whether business cycles generally reproduce changes in equilibrium unemployment or variations around a comparatively stable equilibrium. Such study offers a model that produces considerable business-cycle frequency movements within the rate of equilibrium unemployment. Such fluctuations are determined by real input prices through a "worker discipline scheme" efficiency wage model, where firms employ additional inputs along with labour. According to this model, rises in prices of non-wage input result in declines in wages, because of a zero-profit situation in the commodity industry, and unemployment needs to increase for workers in order to take the lower wages. The two input prices the study shed light on are real oil prices and interest rates. (Carruth, Hooker and Oswald, 1998)

The growth of Employment displays an abruptly asymmetric reaction to ups and downs of oil price, in contrast to the expectation of regular equilibrium business cycle models. The 2 year employment reaction to an oil price increase growths (in greatness) with energy intensity, capital intensity, and durability of product. Job ruin indicates high greater short-run vulnerable to shocks in oil and monetary than creation of job in every single sector with the clear exception of young, small plants. Shocks in Oil, likewise, create significant reallocative impacts. For instance, estimation has been taken that job reallocation increased by 11 per cent of employment during 3-4 years in response to the oil shock of 1973. Greater than 80 per cent of such response reveals higher job reallocation movement within manufacturing. (Davis and Haltiwanger, 2001)

The conclusion the study caught from its results that crude oil prices have considerable effect on three key macroeconomic variables in Nigeria which are GDP; money supply and unemployment. This set up severe implication for macroeconomic management of the state for the reason that; money supply is a key macroeconomic policy tool, whereas GDP and unemployment are major macroeconomic policy objectives. Suppose these fundamental macroeconomic variables are affected by an instable, almost changeable exogenous variable such as prices of crude oil, and then the economy turn out to be highly susceptible to irregular external shocks. To minimize this, diversification of the economy is must in order to make it less oil dependent. (Umar and Kilishi, 2010)

By using micro panel data to investigate the impacts of oil price fluctuations on employment and real wages, at the aggregate and industry levels, the study came to figure out that the oil price growths lead to a considerable drop in real wages for all labourers, however, increase the relative wage of skilled employees. Whereas the short-run impact of an oil price growth on total employment is negative, the long-run impact is actually positive. The study finds that movements in oil prices encourage ups and downs in employment shares and relative wages across markets. Nevertheless, little evidence is found that oil price fluctuations produce labour to steadily flow into those sectors with relative wage rises. (Keane and Prasad, 1996)

The transmission apparatuses over which oil prices impact the real economic activity contain both supply and demand channels. The effects of supply side are in relation with the fact that crude oil is a fundamental production's input, and therefore a rise in oil price results in an increase in production costs that encourages firms to lower output. Likewise, Oil prices changes too involve effects of demand-side on consumption and investment. Consumption is impacted not directly due to the fact it is positively related to disposable income (personal income after deducting income tax). The scale of this impact is in turn stronger the more the shock is perceived to be on-going. Furthermore, oil prices have a negative impact on investment by growing firms' costs. (Ghalayini, 2011)

2. Data Description and Methodology

2.1 Data

Following the previous literature, this study used annual data, and the estimation covers the period starting in 1991 and ending in 2017, actually 27 observations of two variables - crude oil price fluctuations and Oman's unemployment rate (to check for employment trends in Oman). The study completely considered secondary data, sourced from International Monetary Fund, World Bank and World Data Atlas https://knoema.com/atlas/Oman/topics/Economy/National-

Accounts-GDP-by-Expenditure-at-constant-2010-prices-US-Dollars/Real-gross-capital-formation

Hypothesis

No long run relationship between crude oil price fluctuations and Oman's employment rate

<u>Variables</u>

- Crude oil price fluctuations independent variable
- Oman's Unemployment Rate dependent variable

2.2 Problem of the study

Unemployment is indeed one of the significant macroeconomic concerns that faced by all governments and economies. It has, in fact, both social and economic effects for all nations; so, governments attempt their best to adopt helpful policies to increase employment rate (Ahmad, 2013). Earlier scholarships document that oil price growths and volatility result in growing inflation as well as unemployment and consequently lower macroeconomic growth and financial assets. (Dhaoui and Khraief, 2014)

The Sultanate of Oman is a highly oil dependent economy, therefore its macroeconomic variables such as employment rate might be subject to any fluctuations in crude oil price. In accordance with the said issue, this study attempts to figure out to what extent the Oman's employment rate is impacted by crude oil price fluctuations and is there any long run relationship between these two variables (crude oil price and employment rate) taking the time period from 1991 to 2017 into our consideration.

2.3 Estimation Technique

The study investigates the long run relationship between crude oil price fluctuations and Oman's employment rate. This relationship is estimated using autoregressive distributed lag (ARDL) bound test approach which has been suggested by Pesaran and Shin (1999) and Pesaran (2001). This approach has become very popular in the recent years because of the following advantages:

As stated by Nkoro and Uko (2016), Belloumi (2014), Chittedi (2012and Oskenbayev, Yilmaz, and Chagirov (2011),), Hasan and Nasir (2008), this approach has the following advantages:

- method is influential even for small sample size examinations;
- it aids to assess long-run and short-run relationship models;

- it determines causality and explanatory and explained variables;
- it can be used irrespective of the stationary properties of the variables in the sample.

According to them this approach is selected due to the advantages it has over the earlier methodologies, for instance, Engel and Granger (1987), Johansen and Juselius (1990), fully modified OLS procedure of Phillips and Hansen's (1990) and Vector Autoregressive (VAR), in a sense that it eases a restrictive assumption that all variables (dependent and independent) need to be integrated of order one, that is I(1) variable. Actually, ARDL method lets some variables to be integrated of purely order 1, and some of order 0 or jointly co-integrated. So, in the case of uncertainty state of variable features, ARDL method might be most appropriate. Furthermore, the estimates of ARDL model are unbiased and efficient.

In the same vein, Hasan and Nasir, (2008) placed that, compared to other Vector Autoregressive (VAR) models, ARDL Model has ability to offer accommodations of big number of variables.

Alqattan & Alhayky (2016) indicate that, Pesaran, Shin, and Smith (2001) developed a version of the autoregressive distributed lag (**ARDL**) model as a substitute co-integration method termed as the error correction version. This ARDL assists in testing the existence of long-run relationships between variables under consideration. With this model, the short-run and long-run relationships among series of interest caught simultaneously. The ARDL approach is more valuable and beneficial in such regard.

First of all, the data has been tested for unit root, to avoid the probability of spurious problem. Other diagnostic tests are done to discover serial correlation. In case the data is found I(0) or I(1), the ARDL model to co-integration is applied containing three steps.

First, the presence of a long-run relationship between the variables is recognized by testing for the significance of lagged variables in an error correction mechanism regression.

Second, adding the first lag of the levels of each variable to the equation in order to create the error correction mechanism equation and a variable addition test is achieved by computing an F-test on the significance of all the lagged variables.

The next step is to consider the ARDL form of equation where the optimal lag length is nominated based on one of the standard criteria for example the Akaike Information (AIC) or Schwartz Bayesian (SIC). Then the restricted version of the equation is resolved for the long-run solution.

The ARDL equation:

$$d(Yt) = c + \lambda Yt - 1 + \beta Xt - 1 + \sum_{i=1}^{m} a_{i,i} * d(Yt - i) + \sum_{i=0}^{k} a_{i,i} * d(Xt - 1) + \varepsilon t$$

 $c + \lambda Yt - 1 + \beta Xt - 1$: represents the long run relationship

 $\sum_{i=1}^{m} a_{i}^{i} + d(Yt - i) + \sum_{i=0}^{k} a_{i}^{2} + d(Xt - 1) + \varepsilon t$: represents the short run relationship

2.4 Empirical Estimation and the Results

VAR Lag Order Selection Criteria was carried out to determine the number of selected lags for the two variables (Unemployment rate and Oil prices) to guarantee non-residual autocorrelation. Then, we determined the order of integration of all variables using the unit root tests (the two variables are integrated of order one I(1)). This is done, to ensure that the variables are not I(2) in order to avoid spurious problem. The Augmented Dickey Fuller (ADF) test applied to the first difference of the data series rejecting the null hypothesis of non-stationarity for the variables used in this study (see *Table1 and 2*).

To empirically examine the long-run relationships and short run dynamic interactions among the variables under consideration (unemployment rate and crude oil price fluctuations), the study applies the autoregressive distributed lag (ARDL) co-integration technique. The ARDL co-integration approach was developed by Pesaran and Shin (1999) and Pesaran et al. (2001). It has three advantages in comparison with other previous and traditional co-integration methods. The first one is that the ARDL does not need that all the variables under study must be integrated of the same order and it can be applied when the under-lying variables are integrated of order one, order zero or fractionally integrated. The second advantage is that the ARDL test is relatively more efficient in the case of small and finite sample data sizes.

As appeared in *Table 3*, the R-squared (0.913959) is not more than the value of Durbin-Watson stat (0.995649), proving that there is no spurious regression.

Then the study got to the *Table 4* (ARDL Long Run Form and Bounds Test), in this table the Fstatistic is smaller than I1 Bound, accordingly the Null hypothesis (No long-run relationships exist) cannot be rejected, proving that there is no long-run relationship between oil prices and unemployment rate. This is so called the equation of ARDL. As there is no co-integration in the equation, what we had to do to be sure that the model is good was to estimate ARDL (short-run model) by testing for serial correlation (see *table5*) and stability of the model (see *figure1*). After doing the same, the model was found stable and did not suffer from any serial correlation.

Table1 Results of Unit Roots Tests at First Difference: Augmented Dickey-Fuller Unit Root Test on D(UNEMPLOYMENT)

Null Hypothesis: D(UNEMPLOYMENT) has a unit root Exogenous: None Lag Length: 0 (Automatic - based on SIC, maxlag=2)						
			t-Statistic	Prob.*		
Augmented Dickey-Fuller test	statistic		-2.276809	0.0247		
Test critical values:	1% level 5% level 10% level		-2.660720 -1.955020 -1.609070			
*MacKinnon (1996) one-sided p-values. Augmented Dickey-Fuller Test Equation Dependent Variable: D(UNEMPLOYMENT,2) Method: Least Squares Date: 09/05/18 Time: 19:50 Sample (adjusted): 1993 2017 Included observations: 25 after adjustments						
Variable	Coefficient	Std. Error	t-Statistic	Prob.		
D(UNEMPLOYMENT(-1))	-0.350294	0.153853	-2.276809	0.0320		
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.175291 0.175291 0.347789 2.902975 -8.559215 1.651503	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion Hannan-Quinn criter.		0.020000 0.382971 0.764737 0.813492 0.778260		

Note:

Since ADF Test a critical value at 5% level is – its absolute value- (1.955020) is less than test Statistic which is – its absolute value- (2.276809), we cannot accept the Null-Hypothesis (D(UNEMPLOYMENT) has a unit root), and instead we accept the Alternative Hypothesis that (D (UNEMPLOYMENT)) has no unit root.

Table2

<u>Results of Unit Roots Tests at Second Difference:</u> <u>Augmented Dickey-Fuller Unit Root Test on D(OPRICE)</u>

Null Hypothesis: D(OPRICE) has a unit root

Exogenous: None

Lag Length: 0 (Automatic - based on SIC, maxlag=1)

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			t-Statistic	Prob.*	
Augmented Dickey-Fuller test statistic			-4.435080	0.0001	
Test critical values:	1% level		-2.660720		
	5% level		-1.955020		
	10% level		-1.609070		
*MacKinnon (1996) one-s	ided p-values.				
Augmented Dickey-Fuller Dependent Variable: D(OF Method: Least Squares Date: 09/05/18 Time: 19: Sample (adjusted): 1993 20 Included observations: 25	Test Equation PRICE,2) 54 017 after adjustments	20	I.		
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
D(OPRICE(-1))	-0.912428	0.205730	-4.435080	0.0002	
R-squared	0.450135	Mean dependent var		0.480400	
Adjusted R-squared	0.450135	S.D. dependent var		21.42484	
S.E. of regression	15.88714	Akaike info criterion		8.408075	
Sum squared resid	6057.627	Schwarz criterion		8.456830	
Log likelihood	-104.1009	Hannan-Quinn criter.		8.421597	
Durbin-Watson stat	1.946870				

Note:

As ADF Test a critical value at 5% level is – its absolute value- (1.955020) is less than ADF test Statistic which is – its absolute value- (4.435080), the Null-Hypothesis (D(OPRICE) has a unit root) can be rejected and as alternative we accept the Alternative Hypothesis that (D(OPRICE) has a unit root) has no unit root.

Table3

Estimation using ARDL model

Dependent Variable: UNEMP Method: ARDL Date: 09/05/18 Time: 19:56 Sample (adjusted): 1993 2017 Included observations: 25 after adjustments Maximum dependent lags: 4 (Automatic selection) Model selection method: Akaike info criterion (AIC) Dynamic regressors (4 lags, automatic): OPRICE Fixed regressors: C Number of models evalulated: 20 Selected Model: ARDL(2, 2) Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
UNEMP(-1) UNEMP(-2) OPRICE OPRICE(-1) OPRICE(-2)	1.448019 -0.620999 0.006383 -0.005146 -0.005719 3.331711	0.160494 0.166757 0.004167 0.005753 0.004668 1.154057	9.022283 -3.723977 1.531635 -0.894352 -1.225086 2.886957	0.0000 0.0014 0.1421 0.3823 0.2355 0.0094
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood F-statistic Prob(F-statistic)	0.958019 0.946971 0.297344 1.679859 -1.721390 86.71635 0.000000	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion Hannan-Quinn criter. Durbin-Watson stat	SJ	18.13200 1.291227 0.617711 0.910241 0.698847 1.921237

*Note: p-values and any subsequent tests do not account for model selection.

Note:

In the above table (Table3), the R-squared (0.958019) is not more than the value of Durbin-

Watson stat (1.921237), proving that there is no spurious regression.

Estimation Command:

ARDL UNEMP OPRICE @

Estimation Equation:

UNEMP = C(1)*UNEMP(-1) + C(2)*UNEMP(-2) + C(3)*OPRICE + C(4)*OPRICE(-1) + C(5)*OPRICE(-2) + C(6)

Substituted Coefficients:

```
\label{eq:UNEMP} \begin{split} &UNEMP = 1.44801880451*UNEMP(-1) - 0.620999135283*UNEMP(-2) + \\ &0.00638259329887*OPRICE - 0.00514556595133*OPRICE(-1) - 0.00571892298242*OPRICE(-2) + \\ &3.33171134387 \end{split}
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Cointegrating Equation:

$$\begin{split} D(UNEMP) &= 3.331711343864 \ \ -0.172980330769*UNEMP(-1) \ \ -0.004481895635*OPRICE(-1) + \\ 0.620999135281*D(UNEMP(-1)) + 0.006382593299*(UNEMP - (-0.02590986*OPRICE(-1) + \\ 19.26063691 \) + 0.005718922982*D(OPRICE(-1)) \) \end{split}$$

Table4 ARDL Bounds Test (Long run relationship between variables)

ARDL Long Run Form and Bounds Test Dependent Variable: D(UNEMP) Selected Model: ARDL(2, 2) Case 2: Restricted Constant and No Trend Date: 09/05/18 Time: 20:07 Sample: 1991 2017 Included observations: 25

	Conditional Error Cor	rection Regression		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	3.331711	1.154057	2.886957	0.0094
UNEMP(-1)*	-0.172980	0.062740	-2.757092	0.0125
OPRICE(-1)	-0.004482	0.002209	-2.029285	0.0567
D(UNEMP(-1))	0.620999	0.166757	3.723977	0.0014
D(OPRICE)	0.006383	0.004167	1.531635	0.1421
D(OPRICE(-1))	0.005719	0.004668	1.225086	0.2355
e	Levels Eq Case 2: Restricted Con	uation stant and No Trend		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
OPRICE	-0.025910	0.015633	-1.657360	0.1139
С	19.26064	0.754380	25.53175	0.0000
EC = UNEMP - (-0.0259*OPRICE	E + 19.2606)			

F-Bounds Test

Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
		Asymp	ototic: n=1000	
F-statistic	3.854801	10%	3.02	3.51
K	1	5%	3.62	4.16
		2.5%	4.18	4.79
		1%	4.94	5.58
Actual Sample Size	25	Finite	te Sample: n=30	
·		10%	3.303	3.797
		5%	4.09	4.663
		1%	6.027	6.76

Note:

Since F-statistic is smaller than I1 Bound, we cannot reject the Null hypothesis (No long-run relationships exist) and we accept it and prove that there is no long-run relationship between oil prices and unemployment rate). This is so called the equation of ARDL.

Table5

Check for Serial Correlation -ARDL(Short-run) Model

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.028330	Prob. F(1,22)	0.1684
Obs*R-squared	2.110352	Prob. Chi-Square(1)	0.1463

Test Equation: Dependent Variable: RESID Method: Least Squares Date: 09/05/18 Time: 22:51 Sample: 1993 2017 Included observations: 25 Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UNEMP(-1)) D(OPRICE) RESID(-1)	-0.229379 0.000701 0.427553	0.220202 0.004373 0.300207	-1.041674 0.160209 1.424194	0.3089 0.8742 0.1684
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.078317 -0.005472 0.337650 2.508160 -6.731884 1.960921	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion Hannan-Quinn criter.	-C C C C C C).026922).336730).778551).924816).819118

Note:

While the F-Value is statistically insignificant (0.1684) which is above (0.05) critical value, so we cannot reject the Null-hypothesis that there is no serial correlation.





Figure1 (A and B) show that the model is good and stable because it lies between 5 per cent boundaries.

3. Conclusion

According to an IMF statement, regardless of robust economic growth, unemployment among Omanis is high and producing employment for the growing population is an insistent challenge for the authority. Speaking of the steps taken by the government over 2011 to generate jobs, the IMF believed, "Current policy actions have resulted in a large growth in public sector employment. whereas general job growth has been strong, most fresh jobs in the private sector have moved to expatriate employees. (MuscatDaily, 2011)

With the help of employment of Autoregressive distributed lag (ARDL) approach that praised by Pesaran, Shin, and Smith (2001), the study investigates whether oil price fluctuations have an impact on Oman's employment rate for the period from 1991 to 2017 and whether there is long run relationship between the variables of interest. Annual time series data of 27 observations of the two variables helped this study to accept the Null-Hypothesis that there is no long run relationship between the aforementioned variables. So, as there is no link between oil price fluctuations and employment (unemployment rate) the problem of unemployment seems to be structural unemployment rather than cyclical one.

In what follows below, the paper highlights some suggestions:

- In order to encourage private organisations to employ local workers, the quality of Omani human resources should be developed through providing Omani nationals with appropriate and suitable education (general, technical) and right vocational training. This provision needs to be aligned to the demand of labour market.
- Oman needs to accelerate its steps towards diversification, industrialization, and privatization, with the purpose of getting free from its oil dependency to generate more opportunities to the increasing numbers of nationals entering the labor force.
- Localization (Omanization) policy should be checked, reviewed and redefined as (as per the MuscatDaily (2011, p1) "It is not simply replacing foreign workers with Omanis. It is a process whereby opportunities are developed for Omanis to compete in and be able to fairly secure the emerging job openings in an equal and competent manner".

4. <u>References</u>

Ahmad, F., 2013. *The effect of oil prices on unemployment*: Evidence from Pakistan. Business and Economics research journal, 4(1), p.43.

Alqattan, A.A. and Alhayky, A., 2016. *Impact of Oil Prices on Stock Markets*: Evidence from Gulf Cooperation Council (GCC) Financial Markets.

Barsky, R.B. and Kilian, L., 2004. *Oil and the Macroeconomy since the 1970s*. *Journal of Economic Perspectives*, 18(4), pp.115-134.

Belloumi, M., 2014. *The relationship between trade, FDI and economic growth in Tunisia*: An application of the autoregressive distributed lag model. *Economic systems*, *38*(2), pp.269-287.

Davis, S.J. and Haltiwanger, J., 2001. Sectoral job creation and destruction responses to oil price changes. Journal of monetary economics, 48(3), pp.465-512.

De Bel-Air, F., 2015. Demography, migration, and the labour market in Oman.

Dhaoui, A. and Khraief, N., 2014. *Empirical linkage between oil price and stock market returns and volatility: Evidence from international developed markets* (No. 2014-12). Economics Discussion Papers.

Carruth, A.A., Hooker, M.A. and Oswald, A.J., 1998. Unemployment equilibria and input prices: Theory and evidence from the United States. Review of economics and Statistics, 80(4), pp.621-628.

Ghalayini, L., 2011. *The interaction between oil price and economic growth*. *Middle Eastern Finance and Economics*, 13, pp.127-141.

Hasan, A. and Nasir, Z.M., 2008. *Macroeconomic factors and equity prices*: An empirical investigation by using ARDL approach. *The Pakistan Development Review*, pp.501-513.

Keane, M.P. and Prasad, E.S., 1996. *The employment and wage effects of oil price changes*: a sectoral analysis. *The Review of Economics and Statistics*, pp.389-400.

MUSCAT-DAILY., 2011. UNEMPLOYMENT IS A MAJOR CONCERN IN OMAN: IMF URL: <u>https://www.muscatdaily.com/Archive/Business/Unemployment-is-a-major-concern-in-Oman-IMF(Date visited:02-09-2018)</u> MUSCAT-DAILY., 2012. UNEMPLOYMENT IN OMAN. ULR:<u>https://www.muscatdaily.com/Archive/Oman/Unemployment-in-Oman2</u>(Date visited:18-08-2018)

MUSCAT-DAILY., 2015. UNEMPLOYMENT RATE IN THE SULTANATE TOUCHES 11.75%. URL:<u>https://www.muscatdaily.com/Archive/Oman/Unemployment-rate-in-the-</u>sultanate-touches-11.75-3ypo (Date visited:18-08-2018)

Nkoro, E. and Uko, A.K., 2016. *Autoregressive Distributed Lag (ARDL) cointegration technique*: application and interpretation. *Journal of Statistical and Econometric Methods*, *5*(4), pp.63-91.

Oskenbayev, Y., Yilmaz, M. and Chagirov, D., 2011. *The impact of macroeconomic indicators* on stock exchange performance in Kazakhstan. African Journal of Business Management, 5(7), p.2985.

Umar, G. and Kilishi, A.A., 2010. *Oil price shocks and the Nigeria economy*: a variance autoregressive (VAR) model. *International Journal of Business and Management*, 5(8), p.39.

Sher, N; 2017. *Unemployment: Causes of Poverty in Oman.* <u>https://borgenproject.org/causes-of-poverty-in-oman/(visited date 18-8-2018)</u>

TRADINGECONOMICS.,2018.**OMAN-UNEMPLOYMENTRATE.**URL:https://tradingeconomics.com/oman/unemployment-rate.(Date visited:18-8-2018)

Das, K.C and Gokhale, N., 2010. *Omanization Policy and International Migration in Oman.* URL:<u>http://www.mei.edu/content/omanization-policy-and-international-migration-oman</u> (Date visited:18-08-2018)