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### Oil Export and its Impact on the Growth of Non-oil Sectors in Oman “is there any Spread Effects!?”

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**Abstract:** The main goal of this paper is to find out if there is a spread effects from Oil export sector to non-oil sectors in Oman during the period (1973 to 2014). It tries to test the hypotheses of “export as an engine of economic growth and to compare the growths rates of oil sector and non-oil sectors in Oman. Using a Koyck distributed lag scheme, the impact of oil export fluctuation on six economic sectors was examined and tested. the main results suggest that the growth rates of all Omani sectors were much higher during the periods of rise in oil prices than during the period of oil recession. It is also indicated that there are spread effects from oil exports to the rest of the economy during the period of oil bomb .However, when the component (total GDP - non-oil GDP) effects are excluded the results suggest no evidence of relationship between oil exports and total GDP. When the inflationary effect is excluded and a Koyck distributed lag scheme are imposed, the econometric results suggests that in Oman, real output of all sectors, has not responded to growth in oil export sector. In other words there is no spread effects from oil sector to the rest of the economy . In addition, dummy variables in all cases are not statistically significant, which suggests that the intercept of real output did not increase during periods of rise in export prices.

**Keywords:** Oil Exports, Sectoral Output, Economic growth, Sultanate of Oman.

**JELC:** C3, C22, F43.

## 1. INTRODUCTION

### 1.1 Background

Oman considered one of the oil-producing countries; participating in global production of oil through its National company and its foreign partners; about 942 thousand barrel per day produced in 2013; its export also 833 thousand barrels per day; and estimated oil reserves of 5.5 billion barrels, accounting for 1.2% of the total crude oil reserves in the GCC and about 0.4% of the world's oil reserves.

Oman has been exporting oil for more than forty years. For the year 2014; the percentage of oil exports about 65.5% of the total exports, nearly 43% of GDP. The share of oil exports to GDP went to its lowest level (35 per cent) in 1999, when oil prices (nominal price) were very low (less than US\$13 per barrel). The sharp rise in oil prices during the period of 1999-2014 pushed this percentage to its highest level which is 47% per cent in 2008, (Center for Statistics, various years).

### **1.1 Significance of Oil Sector in the Omani Economy**

As indicated by many researchers, the Oman economy depends heavily on the production and exportation of oil. All its economic sectors revolve around revenues generated by oil exports data in table 1 classifies Gross Domestic Product (GDP) of the Omani economy by type of economic activity. It can be seen from the table that the petroleum and mining sector forms the mainstay of the economy in Oman. Oil production has the greatest contribution to GDP than other economic activities (40-56 per cent). This percentage was much higher in during the oil boom 1973-1985 (56.7 per cent) and approximately 43.6 per cent in average during the period of 2000-2014.

The second most important sector is the service sector representing wholesale and retail trade, transport and communications, finance and insurance and real estate and other services. These sectors contributed 40.0 per cent of GDP in 2014. The third and fourth essential sectors are the manufacturing and construction sectors. These sectors contributed around 5.7 % and 3.2% in 2000 but increased to 9.9% and 12.6% in 2014. It is clearly that these sectors also are significantly affected by the fluctuations in oil prices. The agriculture sector plays a very small role in the Omani economy. This sector contributed to less than 3 per cent of GDP during the period of 2000-2014.

The oil sector in Oman has become a backbone of the economy; since it has a huge financial returns; as it is the main source of hard currency, and the most important factor to raise the income .the performance of Omani economy improved significantly due largely to the mid-year upturn in oil prices (up to \$100 per barrel). Actually, The period from 2000 to 2013 is one of the best years of Oman's economy in terms of economic performance because of rising oil prices. The rise in oil prices in this period has helped to build Omani budget surpluses; trade surpluses and foreign reserves. however, the sharp decline in oil prices has upset the positive relationship between oil revenue and economic performance where the equilibrium situation has changed of the surplus to a deficit of RO 3 billion during the period 2015-2017(Omani budget 2016-2017)

### **1.3 Research problem and Objectives**

Oman has been exporting oil for more than forty years but it is economy still depends on oil sectors so heavily. Therefore the research problem can be addressed as following, is there any spread effects from oil sectors to non-oil sector in Oman?. Consequently, the main objectives of this paper is that to assess the relationship between the growth rates of oil exports and the growth rates of non-oil sector and to find out if there is any spread effect from oil sectors to non-oil sectors in Omani economy.

Generally, this paper tries to examine the impact of fluctuations in oil exports on economic growth and in specifically to study the response of sectoral output to fluctuation and expansions in oil exports in Omani. It is divided into six sections. After the introduction, section two gives a brief review of literature

**Table 1**  
**Omani Gross Domestic Product by Economic Activity (million OR)**

	1973	%	1985	%	2000	%	2014	%
7.5	94.5	56.3	1767.3	49.0	3775.9	46.5	12,647.40	40.2
Agriculture	16.7	9.9	81.1	2.2	168.2	2.2	406.0	1.3
Manufacturing	0.6	0.35	78.9	2.1	429.5	5.7	124.5	9.9
Water, Elect and Construction	25	14.9	103.7	2.8	236.6	3.15	951.2	3.0
Transportation	4.4	2.6	242.2	6.7	361.3	4.8	1574.7	5.0
Wholesale and Trade	8.3	4.9	428	11.8	567	7.5	2083.6	6.6
Other Activities	16.2	9.6	889.6	24.7	2070.9	27.6	9156.2	29.1
GDP at Market Prices	167.7		3599.6		7500.6		31450.8	
Services	28.9	17	2070.9	43	2999.2	39.9	12814.5	40.0

*Sources:* National Center for Statistics and Information Statistical Year Book various years.

and section three compares the rates of growth of Omani oil exports and the rates of growth of Omani non-oil sectors. Section four examines the relationship between exports and Economic Growth in the Omani economy. The response of sectoral output to expansion in oil exports is examined in section five. The main conclusions of the paper is summarized in section six.

## **2. A BRIEF REVIEW OF THE LITERATURE**

The hypotheses of exports lead growth' model (or leading sector) and the effect of an export motivation on the economy activities have been well documented in the literature. Export growth models suggest that the hypothesized relationship between export growth and GDP over time is central to the 'exports as an engine of growth' model (Thirlwall and Dixon, 1979; Metwally, and Tamaschke, 1980; Moran 1983; Riedel, 1984; Lee, 1989; Esfahani, 1991; Sadorsky, 1996; Ghatak 1997; and Yahia and Metwally, 2007). those researchers argued that, Exports contribute to economic growth directly (through direct contributions to GDP) and indirectly through contributions to GDP per medium of spread effects. The indirect contribution to growth holds Hirschman-type linkages and can largely be measured as a sequence of multiplier-accelerator impact (Hirschman, 1958). The question of determining time lags between export growth and economic growth must then be central to empirical examination of exports and economic growth. However, it is expected that the current period will provides the most important weight and geometrically declining weights will be imposed from the current period to assess the if there is a spread effect to the rest of the economy (that is a Koyck distributed lag scheme(1954). Amirkhalkhali, S. and A. A. Dar (1995), argued that an expansion of exports plays a crucial role in determining the GDP growth and the stability of the balance of payment. It also allowing for expansionary aggregate demand policies oil exports fluctuations and its impact on economic growth and performance of oil producers in the Middle East and north Africa region has been analysed by a number of researchers (Metwally and Tamaschke, 1980; Metwally and Abdel-Rahman, 1985; Altunisik, 1996; Al-Yousif, 1997; Metwally, and Tamaschke, 2001; Bahgat, 2004; Yahia and Metwally 2007). According to these researchers, two major oil shocks ( 1973 &1986) have affected the world in general and members of OPEC in particular. As a result of this shock, the price of oil fell

dramatically and the oil producers suffered huge losses in oil revenues. However, The oil prices started rising sharply in 1999 and reached their higher level in 2011. As result, oil demand returned to its normal levels in the period of 1999 and the oil producer enjoyed high level of oil revenue again.

The behaviour of GCC trade sector and its impact on economic growth has been the subject matter of a number of empirical studies. One may mention the contributions by (Shaalán and Handy,1991; Al-Yousif,1997; Metwally, 2004; Hosseini and Tang, 2014; Delacroix, 1977) among others.

Shaalán and Handy (1991) argue that the rate of growth in government expenditure during the last three decades follows closely the rate of growth in oil exports in Oman, Saudi Arabia and the United Arab Emirates, but not in Kuwait. Al-Yousif (1997) investigates the interaction between exports and economic growth in several oil producing countries namely Saudi Arabia, Kuwait, UAE, AND Oman over the period 1973-1993. He applied aggregate production function model, which involved output, labour, capital, exports, government expenditure and terms of trade. His findings indicate that a significant positive correlation between exports and aggregate output exists.

Hosseini and Tang (2014) concluded unidirectional causality relationship moving from oil and non-oil exports to economic growth, but oil export has a negative effect on the economic growth of Iran. However, Delacroix (1977) supposed that the exports of raw materials do not help in economic growth. If the country does not use the raw materials in the industrial process it will stay underdeveloped. So using raw materials in the industry will help in economic growth and will lead to developing the country.

### **3. STUDY REFERENCES**

#### **3.1 Relationship between Oil Exports and Sectoral Output Growth in Oman**

The aim of this section is to test if there is relationship between Omani oil exports and its Non-oil sectoral output. If such a relationship exists, this would suggest that the two variables do not drift too far apart from each other over time. This would imply that growth in Non-oil GDP in Oman is simply a reflection of growth in its oil exports. However if there is no evidence of this relationship, the relative level of Omani GDP may be increasing or decreasing over-time, compared with its oil exports (Yahia and Metwally 2007).

The impressive increase in Omani GDP has taken place after the oil embargo in 1973 and the consequent export price rises, It is therefore, attributable to the performance of the export sector and especially to the increasing oil prices.

Table 2 represents estimates of the (constant proportional) rates of growth over the three periods that experienced fluctuations in oil prices since 1973. Giving the information illustrated above , three periods that experienced fluctuations in Oman oil exports since 1973. were distinguished as following:

1973 – 1984

1985- 1999

1999 - 2014

The first and third periods represent significant increases in oil exports . while the second period represent the years of relative lower levels of oil exports. The growth rates of sectoral output were calculated using the following regression model:

$$\text{Log}_e Y_{it} = b_0 + b_1 t + \mu_i \quad \dots(1)$$

Where  $Y_{it}$  denotes the output of the  $i$ th sector country in period  $t$  (*evaluated in current values and measured in Omani Rial.*) and  $t$  represents time. The coefficient  $b_1$  represents the proportional (constant) rate of growth .

**Table 2**  
**Rates of Growth of Sectoral Output (%)**

<i>Sec</i>	<i>1973-1984</i>	<i>1985-1999</i>	<i>2000-2014</i>	<i>1973-2014</i>
Oil Exports	0.18 (6.4)	0.03 (3.9)	0.11 (11.9)	0.08 (18)
Total non-oil output	0.28 (7.5)	0.06 (20)	0.12 (27)	0.10 (18)
Agriculture	0.17 (14)	0.05 (13)	0.06 (11.8)	0.06 (19)
Mining	0.22 (3.14)	0.04 (4.3)	0.14 (9.1)	0.12 (15.9)
Manufacturing	0.36 (30)	0.08 (16.2)	-0.001 (-0.01)	0.14 (12.4)
Water, Elect and Construction	-0.044 (-0.13)	0.07 (8.0)	0.16 (7.6)	0.08 (16.3)
Transportation	0.30 (7)	0.078 (3.8)	0.10 (17)	0.09 (14)
Wholesale and Trade	.30 (10.9)	0.029 (1.9)	0.11 (11)	0.089 (12)
Services	-0.027 (-0.027)	0.05 (11.)	0.10 (31.)	0.03 (5.7)

The results of the estimated model are given in table 2. It seems to suggest that the rates of growth of output of Omani oil exports and output of total non-oil output were greater during the periods (1973-1984 and 2000-2014) when oil prices were very high than the period of 1985-1999 when oil prices were very low (less than US\$13 per barrel) ). The data in Table 3 also shows that growth rates of all Omani non-oil sectors were much higher during the periods of oil boom (1973-1984 and 2000-2014) than during the period of oil recession (1985-1999). Actually, the values of non-oil sectoral output , had dropped significantly over the period 1985- 1999. As a result, the growth rates of all sectors were extremely smaller during 1985-1999 period rather than other periods.

## 4. METHODOLOGY

### 4.1 Types and Source of Data

In order to examine the interaction between oil exports and economic growth in Oman ‘export as an engine of growth hypothesis’ will be tested in this study. The time span covered by the series is from 1973

to 2014 giving 43 observations and all series were expressed in logarithmic form. The Relevant data in this paper has been carefully collected from National Omani Center for Statistics and Information Statistical Year Book and the united nation databases. All Computations were performed using software package called E-views version 5.1, 2005.

It is important to indicate that all variables were calculated in the natural logarithm and the type of first difference (that is:  $\log_e X_t - \log_e X_{t-1}$ ), (as suggested by Yahia and Metwally, 2007) which is basically a percentage change was used in order to estimate all equations.

#### 4.2 Part One: Testing the Impact of Oil Exports on the Economic Growth

Drawing upon the existing literature and following, Metwally and Tamachic 1980[2], Ghatak 1997[18], Yahia and Metwally 2007[6], we consider the following models in order to examine the interaction between oil exports and economic growth in Oman.

$$\ln(Y_t/Y_{t-1}) = b_0 + b_1 \ln(OX_t/OX_{t-1}) + b_2 \ln(Y_{t-1}/Y_{t-2}) + u_t \quad \dots(2)$$

$$\ln(Y_{it}/Y_{it-1}) = B_0 + B_1 \ln(OX_{it}/OX_{it-1}) + B_2 \ln(Y_{it-1}/Y_{it-2}) + B_3 D_t + u_t \quad \dots(3)$$

Where

$$\begin{aligned} \ln Y &= \text{Natural logarithm of GDP} \\ &= \text{Natural logarithm of Oil Exports} \\ &= \text{Natural logarithm of output in } i\text{th sectoral.} \\ &= \text{A dummy variable} \end{aligned}$$

where:

$$D = 0: 1985-1999$$

$$D = 1: 1973-1984; 2000-2014$$

Hence; each dependent variable in each regression model is expressed as a linear combination of lagged values of itself and lagged values of all other variables in the equation. the assumptions of homoscedasticity and Multicollinearity have been tested in all equations as suggested by Farrar and Glauber (1969) and found no crucial concern in this respect. the estimated Durbin's  $b$  (for long periods) statistic support the view that the residuals about the fitted equations were independent (Studenmund, 2000; Gujarati, 2003). The relationship between export growth and GDP (in current prices) for the three periods that exhibit fluctuations in oil prices has been estimated by using the following Equation .

$$\ln(Y_t/Y_{t-1}) = b_0 + b_1 \ln(OX_t/OX_{t-1}) + b_2 \ln(Y_{t-1}/Y_{t-2}) + u_t \quad \dots(4)$$

Where:

$$Y = \text{GDP} \quad OX = \text{Oil exports.}$$

#### 4.3 An Estimation of the Model and an Econometric Findings

The regression results in table 3 suggest that the current period export coefficient is highly significant in all periods including the recession period (1985-1999) In addition, the lagged GDP variable (representing all

lagged exports via the Koyck mechanism) is not significant in the periods that enjoyed high oil prices (1973-1984 and 2000-2014). However, the coefficient of GDP at second difference ( which represent exchange) are significant in the period of rescission.

**Table 3**  
**Omani Oil Exports and Gross Domestic Product (current price)**

	$b_0$	$b_1$	$b_2$	$R^2$	$F$	"Db"
1973-1984	0.54 (1.4)	0.38 (1.09)	0.086 (0.6)	0.17	0.73	2.1
1985-1999	0.38 (3.2)	0.33 (10.6)	0.28 (2.8)	0.91	61.	2.6
2000-2014	0.53 (3.3)	0.45 (7.3)	0.01 (0.08)	0.83	31.	1.7
1973-2014	0.47 (4.7)	0.39 (5.2)	0.13 (2.3)	0.46	15.7	2.1

This might be interpreted as fact that the Omani economy has benefited from the opportunity generated oil exports during the boom periods. As this part of the outcome may be explained as representing the spread effects ‘proper’, the results obviously imply that the omani GDP has benefited from opportunities generated by raise in oil exports. However, the lagged effects are outweighed by the current period contributions which could recommend that the investment opportunities generated are not fully exploited.

To suppress the component effect the contribution of the oil (*i.e.* mining) sector from GDP has been excluded and the changes in the output of the remaining sectors (*i.e.* GDP minus oil) were regressed on changes in oil exports.

The following model was teste:

$$\ln(Y_t/Y_{t-1}) = b_0 + b_1 \ln(OX_t/OX_{t-1}) + b_2 \ln(Y_{t-1}^-/Y_{t-2}^-) + u_t \quad \dots(5)$$

Where:

$$Y = (\text{GDP} - \text{Oil}) = \text{Non-oil output}$$

$$OX^- = \text{Oil exports}$$

The results in Table 4 show that the coefficients of the variable  $(OX_t/OX_{t-1})$  and  $(Y_{t-1}^-/Y_{t-2}^-)$  which represent the changes in the oil exports and the changes in the non-oil sector are not significant at 1973-1984 period of oil export raise but it is significant during 2000-2014 period which has witnessed a very high level of oil prices that generated a potential opportunity for economic growth. However, results of the whole period 1973-2014 suggest that when the component of oil sector is excluded from GDP there is no evidence of spread effects of oil exports to the rest of the economy (non-Oil GDP).

#### 4.4 Part two: An Examination the relationship between Oil Exports and Sectoral Output

Exports as an engine of growth models suggest that various sectors in any economy respond to changes in the major source of income, such as oil exports in the oil producers ( Barro, 1991; Mankiw, Romer and

**Table 4**  
**Omani Oil Exports and Non-Oil GDP**

	$b_0$	$b_1$	$b_2$	$R^2$	$F$	"Db"
1973-1984	1.08 (0.7)	0.35 (0.27)	-0.38 (-1.2)	0.19	0.8	2.8
1985-1999	0.79 (2.6)	0.01 (0.08)	0.20 (0.7)	0.04	0.27	2.07
2000-2014	0.27 (91.09)	0.19 (3.3)	0.53 (2.5)	0.49	5.9	2.4
1973-2014	1.1 (3.3)	0.20 (0.7)	-0.25 (-1.8)	0.10	2.07	2.5

Weil 1992; Salvatore, 1996; Balassa,1985; Metwally, M.M. and Tamaschke, 1980; Moran, 1983; Riedel,1984; Altunisik, 1996; Yahia and Metwally, 2007). Therefore , GDP by type of economic activity of Oman was disaggregated into six sectors in order to examine the response of those sectors to fluctuation in oil exports. It is assumed that the expansion in oil exports would motivate the production of these sectors, through the mechanism of direct effects as well as through less direct spread effects.

The current period will provides the most important weight and geometrically declining weights will be imposed from the current period to assess the if there is a spread effect to the rest of the economy. If the coefficient of the lagged variable of GDP is statistically significant then it could confirm that there is any spread effect from oil export sector to the rest of the economy . the following models are used and tested for the period 1973-2014:

**Model (1)**

$$\ln(Y_{it}) = b_0 + b_1 \ln(OX_{it}) + b_2 D_{it} + u_{it}$$

**Model (2)**

$$\ln(Y_{it}/Y_{it-1}) = b_0 + b_1 \ln(OX_{it}/OX_{it-1}) + b_2 \ln(Y_{it-1}/Y_{it-2}) + b_3 D_{it} + u_{it}$$

Where

$Y_i$  = Output of the ith sector

$OX$  = Oil exports

$D_i$  = A dummy variable

where:

$$D = 0: 1985-1999 \quad D = 1: 1973-1984; 2000-2014$$

All variables are Deflated by GDP Deflator 2005 = 100

The regression results of model 1 in table 5 suggest that the current period export coefficient is highly significant in all periods including the recession period (1985-1999). This are strongly support, those



of Table 3. Accordingly, it could conclude that in Oman, output of all sectors, has responded to growth in oil exports. In other words, the high level of significance of the coefficient  $b_1$  might be interpreted as fact that the Omani economy has benefited from the opportunity generated oil exports during the boom periods. The isometric results also show that the coefficient of the dummy variables of all sectors except trade sector and manufacturing sector have a negative sign which means that those sectors have really negatively affected by the sharply drop of oil exports. However, in order to assess and examine if there is any spread effect from the oil sector to the rest of the economy the equation in the model 20 has been estimated and tested and the regressions results of the model are illustrated in table 5.

**Table 5**  
**The response of non-oil sectors to fluctuation in oil exports Sec/Model**

	$b_0$	$b_1$	$b_2$	$R^2$	$Db$	$b_0$	$b_1$	$b_2$	$b_3$	$R^2$	$Db$
Agriculture	-1.6 (-8.8)	0.70 (13.7)	-0.24 (-3.6)	0.86	1.3	-1.4 (-0.3)	2.5 (0.6)	-0.03 (-0.5)	0.13 (0.28)	0.03	2.3
Mining	-7.6 (-14)	1.7 (12.7)	-0.04 (-0.2)	0.81	1.4	1.4 (3.1)	-0.5 (-1.2)	0.02 (0.3)	-0.02 (-0.23)	0.03	1.7
Manufacturing	-7 (-9)	2.4 (11)	0.21 (0.7)	0.77	0.6	2.5 (1.8)	-1.2 (-0.9)	-0.03 (-0.22)	-0.4 (-2.6)	0.19	1.9
Water, Elect, Construction	-1.9 (-4)	0.9 (7.1)	0.37 (2.1)	0.56	0.8	4.0 (2.3)	-2.8 (-1.7)	0.01 (0.02)	-0.12 (-0.58)	0.08	2.1
Transportation	-2.7 (-7)	1.2 (12.0)	0.20 (1.4)	0.79	0.7	-1.5 (-1.7)	2.5 (2.2)	0.01 (0.08)	-0.12 (-0.88)	0.13	1.9
Wholesale and Trade	-1.7 (-5.9)	1.1 (13.9)	-0.24 (-2.2)	0.85	1.7	-5.7 (-2.5)	6.9 (3.01)	-0.26 (-1.8)	-0.19 (-0.7)	0.27	1.9
Other Activities	-0.6 (-7.4)	1.2 (52)	-0.03 (-1.3)	0.98	1.7	-0.8 (-3.3)	2.01 (9.3)	-0.25 (-3.0)	0.02	0.73	2.3

When the inflationary effect is excluded (again deflated by GDP deflator) and geometrically declining weights (a Koyck distributed lag scheme) are imposed from the current period to assess the if there is a spread effect to the rest of the economy. the econometric results of the sectoral analysis support, to a great extent, those of Table 4. Thus, the results of model 2 in table 5 suggests that in Oman, real output of all sectors, with the exception of transportation and wholesale and other economic activities has not responded to growth in exports. In addition, dummy variables in all cases are not statistically significant, which suggests that the intercept of real output did not increase during periods of rise in export prices.

## 5. DESCUSSION THE MAIN RESULTS AND RECOMUNDATION

### 5.1 Discussion

The most important result that raising from the sectoral analysis is that the main sectors such as manufacturing, agriculture, Water, Elect, Construction and mining in the Oman economy does not seem to have responded to changes in oil exports with exception of Transportation and trade sectors.

This confirms weak relation between oil exports and the non-oil sectors in Oman economy. The statistically significant intercept term for those sectors in the Oman economy obviously suggests that a good part of those sectors output grow independently of the growth in oil exports. It may also indicate that the expansion in oil exports is not fully exploited in motivating the production of these sectors (Metwally, 1979).

The other reasons of that this sector engages primarily in the production of import substitutes for which there is a ready demand. There is also the possibility that some of the imported capital goods may not be fully utilized due to market limitations: The expansion in exports is not enough to give the required 'big push' or to create enough demand to justify the economic establishment of a good number of manufacturing industries, particularly in those countries with small populations, relatively small per capita incomes and/or very unequal distributed incomes, It is not surprising, therefore, that most of the increase in oil revenue finds its way to investment overseas, imports of goods and services and to the pile up of reserves and that only a small fraction of oil export proceeds are ploughed back into the economy to build its productive capacity.

## **5.2 Conclusion**

This paper was motivated by the need of an econometric investigation of trade relationship between oil exports and economic growth in Oman. the main results can be summarized as following :

1. The growth rates of all Oman sectors were much higher during the periods of rise in oil prices than during the period of oil recession.
2. The regression results suggest that the current period export coefficient is highly significant in all periods except in the recession period (1985-1999). In addition,
3. The relationship between GD and the lagged GDP variable (representing percentage change in GDP via the Koyck mechanism) is 4-slightly significant at least at the 10% level only in the periods that enjoyed high oil prices (1973-1984 and 2000-2014).
5. When the component effects are excluded the sectoral output investigation indicates that all sectors output in Omani economy confirm that there is no evidence of spread effects of oil exports to the rest of the economy. however, the coefficient of the dummy variables of trade sector (wholesale and retail trade) and manufacturing are statistically significant at least at five per cent level. It suggests that the intercept of these sectors have raised during periods of increase in export prices.
6. Finally, the sectoral output analysis of Oman support the conclusion reached by (metwally 1979) that "the increase in oil exports in oil producer of Medill east and north Africa is not enough to give the required 'take off' or to generate adequate demand to justify the economic establishment of a good number of manufacturing industries.

## **5.2 Recommendation**

First of all, Omani industrialization is the best hope for achieving self-sustained economic rowth. However, the policy of industrialization through " build- and -wait", based on the assumption that as development

proceeds and the level of income increase, plants which are not justified at lower income levels may become justified, may not prove effective for Oman whose size of market is much too small and the higher value of its currency compared to its neighbors might destroy the aim of export policy.

So, it is recommended that "as suggested in five years 2016-2020" development plane that manufacturing and tourism sectors should be the corner stone of economic development and diversity in Oman.

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