

## **Oil Prices and Nigerian Aggregate Economic Activities**

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**Abstract:** *This paper examines the oil prices and Nigerian aggregate economic activities. The data series employed were guttered from various sources such as the central bank of Nigeria statistical Bulletin, Economic and Financial Review, and the publications of International monetary fund. The study employed the linear Dynamic VAR. results from VAR showed that oil price shocks and output in Nigeria is negative. This shows that oil prices shock leads to reduction in gross domestic products. It is recommended that government should diversify its revenue base and develop other sectors of Nigerian economy to contribute significantly to the growth not of Nigerian Economy.*

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### **I. Introduction**

The spontaneous increases in oil revenue which was as a result of the middle East war of 1970's led to unexpected and un-imagined wealth for Nigeria which failed to metamorphosize to increase in growth of Nigerian Economy . This gradually led to clever neglectation of other viable sectors of Nigerian Economy. Therefore, an average Nigerian becomes so sensitive to oil price and all the variables surrounding it, to the extent that any development in the international oil market invites an almost instantaneous reaction from domestic Economy agents. Oil is annually currently producing over 90 percent of Nigerians export income and has a deep influence on government spending Scerri and Rent,(2007) noted that changes in oil prices also have impact on budgeting estimate.

The relationship between oil prices and Economic activities has been so contentious and also a perennial topic in literature not only in academic circle but for practitioners. The initial summit was that increase in oil prices was a pre-requisite to most Economic Recession in Nigeria. It is indispensable fact that world oil price fell shapely in the middle of 2014 brought to an end, a four years stability of around \$102 per barrel. Furthermore, the remainder of this paper is organized as follows in the next section, we provide a brief review of the global oil market, oil and the Nigerian Economy, comparative analysis of the recent reduction in world oil price and the proceeding ones, In section III, we set out an empirical model to estimate oil prices and Nigerian aggregate Economic activities. A discussion of data and relevant variables construction is provided in this section. Following this, in the forth section where we discuss the estimation strategy along with the results. A brief conclusion is provided in the fifth section.

### **Overview Of The Global Oil Market**

The global oil industry is dominated by the organization of petroleum exporting countries (OPEC) with the largest share of total world output. Even though its share of world production has declined, OPEC still controlled over 40 percent of world exports of crude and petroleum products till 2013.

Production by member countries of OPEC is determined by a quota system. As a cartel, OPEC'S main objective is to maximize revenue from oil production for its members. As a result, it tries to influence total production in order to attract a higher price for crude oil in world markets.

OPEC's production is however, supplemented by independent producers. As the share of independent producers increases, OPEC's hold on world oil markets diminishes.

A major characteristic of the world oil market is the uncertainty and high levels of price fluctuations. These fluctuations have corresponding effects on exports and public revenues. In prices are usually induced by movements in supply and demand.

The periods of price hikes are normally major events. The first of such major events occurred with the 1973 oil price shock. This was followed by another price hike in 1970/1980. The oil price rose to US\$147 per barrel in 2008. Even though the oil price has declined since that period, it still remains above US\$70 per barrel.

Oil prices fell sharply in the second half of 2014, bringing to an end a four year of stability around \$105 per barrel.

For oil importing countries such as Nigeria has caused unquantifiable for many nations especially Nigeria suffering where many of the states governors could not pay their workers salaries. In fact, this has compelled federal government to liquidate execs on crude oil account to bail these states out of their financial predicament (bail out money for the states).

The global experience shows that the exploitation of oil or other natural resources have not always produced the economic boom and development that was expected. Paradoxically, developing-countries over the last four decades, especially when one considers the big revenue gains to the oil exporting countries since 1973 when oil prices soared. A cardinal ingredient for the transformation of oil resources into long-term growth and development is the management of oil resources.

### **Oil And The Nigerian Economy**

Nigeria achieved independence from Britain in 1960, a time when oil had little or no role in the management of the Nigerian Economic growth. Ayadi et al (2000) reported that the discovery of oil in commercial quantities at Oloibiri, in Nigeria's Niger Delta region, occurred in 1956, but production did not start until 1958. Finding from other studies showed that before the discovery of oil, the Nigerian manufacturing sector grew from 4.8 percent in 1960 to 8.2 percent. Therefore, the contributions of the manufacturing sector and even other sectors started reducing drastically after the discovery of oil commercial quantity.

Nigeria was admitted to (OPEC) Organization of Petroleum Exporting countries in 1990 and by 2003 she became the fifth largest exporter of crude oil. In 2003, it was the fifth-largest supplier of crude oil to the US. It is the seventh largest producer of oil in the world.

The economy of Nigerian is heavily dependent on oil. It accounts for over 90 per cent of the nation's export revenues and over 90 percent of foreign exchange earnings. Over 80 per cent of government revenue comes from this source. In 2003, Nigeria produced an average of 2.1 million barrel per day of oil. However, in 2004, OPEC raised Nigeria's production quota to 2.14 mb/d.

It is ironic that the discovery of oil in Nigeria has not been associated with the country's economic development. Soremekun and Obi (1993) note that the emergence of oil as a mono-cultural base of the domestic economy has magnified the country's economic contradictions. The total impact of these contradictions is the "near permanent situation of national crisis" in which the nationalities of some parts of the country nurture feelings stymied by other parts and thus are in search of reparation.

In the same sentiment, forest (1995) observes that the large windfall from oil has had a number of unforeseen and unintended consequences for the country. These include the power of government to bypass taxpayers in expending funds on unproductive "white elephant" projects. Moreover, there is a lack of public accountability in governance, a neglect of non-oil tax revenue, an unnecessary expansion of state resources and a loss of control and discipline by those in position of authority. Aiyegoro (1997) enumerates on the outcomes associated with oil discovery in Nigeria to include an over-bloated public sector, ambitious public projects, a depreciating currency, badly implemented price and wage controls and the distortion of financial markets through poor public policy. Omotoye (1997) supports this viewpoint by also noting that the demise of the agricultural sector is associated with the oil discovery in Nigeria.

### **Comparative Analysis of the recent reduction in world oil price and the preceding ones**

Compare to previous episode of price declines the past thirty years, the fall in the prices in the second half of 2014 qualifies as a significant event between 1984 - 2013, five other episodes of oil prices declines of 30 percent or more in a six- month period occurred, coinciding with major changes in the global economy and oil markets: an increase in the supply of oil and change in OPEC policy (1985 - 1986); U.S. recessions(1990-91 and 2001); the Asian crisis (1997 - 98); and the global financial crises(2007-09)

There are particularly interesting parallels between the recent episodes made the collapse in the oil prices in 1985-86. After the sharp increase in oil prices in the 1970s, technological developments possible to reduce the intensity of oil consumption and to extract oil from various offshore fields, including the North Sea and Alaska. After Saudi Arabia changed policy in December 1985 to increase its market share, the prices of oil decline by 61 percent from \$24.68 to \$9.62 per barrel between January-July 1986. Following this episode, low prices prevailed for more than fifteen years.

In other commodity markets, episodes of large price declines have mostly been observed in agriculture, typically associated with specific weather conditions. After reaching deep lows during the global financial crisis, most commodity prices peaked in the first quarter of 2011. Since then prices of metals and agriculture and raw materials have declined steadily as a result of weak global demand and robust supplies. In contrast, oil prices fluctuated within a narrow band around \$ 105/barrel (bbl) until June 2014. Softness in the global economy was first offset by concerns about geopolitical risks, supply disruptions and production controls exercised by OPEC (led by Saudi Arabia, its largest oil producer). The last factor in part reflected the willingness of Saudi Arabia and other low cost-producers to withhold output in support of OPEC objectives. The steep decline in the second half of 2014 intensified after a change in the policy at the OPEC meeting in the late November. By the end of 2014, the cumulative fall in oil prices from 2011 peak was much larger than that in non-oil commodity price indices.

### **What account for the reduction in world oil prices in recent time**

It is indisputable fact that market forces (demand and supply) determine to some extent the long-run trend in total world oil prices. Also, market sentiment and expectations in the short-run.

As for any storable commodity, underlying demand and supply conditions of oil determine the long-run trend in prices, while in the short-run movements in market sentiment and expectations (in some cases driven by geopolitical and OPEC decisions) exert an influence too. Prices may respond rapidly to surprises in the news even before the actual changes occur. In 2014, relevant events included geopolitical conflicts in some oil producing regions, OPEC announcements, and the appreciation of the U.S. dollar. Long-term developments in supply and demand have also played important roles in driving the recent decline in oil prices.

1. Trend in market forces of demand and supply. Recent developments in world oil markets have occurred against a long-term trend of greater than anticipated supply and less than anticipated demand. Since 2011, US share oil production has persistently surprised on the upside, by some 0.9 million barrels per day (mb/d, about 1 percent of global supply) in 2014. Expectations of global oil demand have been revised downwards on several occasions during the same period as economic growth disappointed. Between July and December 2014 alone, the projected oil demand for 2015 has been revised downward by 0.8 mb/d (IEA, 2014a and 2014b). Global growth in 2015 is expected to remain much weaker than it was during the 2003-08 period when the oil prices rose substantially. Further, the oil-intensity of global GDP has almost halved since the 1970s as a result of increasing energy efficiency and declining oil-intensity of energy consumption.
2. Dynamism in OPEC aims: It is known that Saudi Arabia has dominated the supply of total world oil. She can either increase or reduce OPEC oil supply and stabilize prices within a desired band. This changed dramatically in late November 2014 after OPEC failed to agree on production cuts. The OPEC decisions to maintain its production level of 30 mb/d signaled a significant change in the cartel's policy objectives from targeting an oil price band to maintaining market share.
3. Receding geopolitical concerns about supply disruptions. In the second half of 2014, it became apparent that supply disruptions from conflict in the Middle East had unwound, or did not materialize as expected. In Libya, despite the internal conflict, production recovered by 0.5 million per day (about ½ percent of global production) in third quarter of 2014. In Iraq, as the advance of ISIS stalled, it became apparent that oil output could be maintained. In addition, the sanctions and counter-sanctions imposed after June 2014 as a result of the conflict in Ukraine had little effect on oil and gas markets thus far.
4. U.S Dollar appreciation. In the second half of 2014, the US dollar appreciated by 10 percent against major currencies in trade-weighted nominal terms. A U.S. dollar appreciation tends to have a negative impact on the price of oil as demand can decline in countries that experience erosion in the purchasing power of their currencies. Empirical estimates of the size of the U.S. dollar effect cover a wide ranges: the high estimates suggests that a 10 percent appreciation is associated with a decline of about 10 percent in the oil price, whereas the low estimates suggest about 3 percent or less.

Although the exact contribution of each of this factor cannot be quantified with precision, it is clear that the dominant factor in the price fall has been changes in the supply conditions, stemming from the expansion of oil output in the United States receding concerns on supply disruptions and OPEC's switch to a policy of maintaining market share.

### **Consequences Of Recent Reduction In World Oil Prices.**

1. Input costs. Lower oil prices reduce energy costs generally as prices of competing energy materials are forced down too, and oil-fired electrical material power is cheaper to produce. In addition, since oil is feedstock for various sectors, including petrochemicals, paper, and aluminum, the decline in price directly impacts a wide range of processed or semi-processed inputs. The transportation, petrochemicals, and agricultural sectors and some manufacturing industries would be major beneficiaries from lower prices.
2. Real income shifts. Oil price declines generate changes in real income benefiting oil-importers and losses hurting oil-exporters. The shift in income from oil exporting economies with higher average saving rates to net importers with the higher propensity to spend should generally result in stronger global demand over the medium term. However, the effects could vary significantly across countries and overtime: some exporting economies may be forced by financial constraints to adjust both government spending and revenue.
3. Unemployment, poverty and income inequality. Since reduction or declines in oil revenue will generate low productivity, shift in income. This two will definitely lead to reduction in the level of investment and hence reduction in income which will advance to low standard of living which of course is prerequisite to poverty and income inequality.

Like previous declines, the current fall in oil prices takes place against the backdrop of both cyclical and structural developments that might affect the growth impact in;

- Weak growth. Disappointing global growth prospects and weak oil demand are likely to be responsible in some part for the price drop (Hamilton, 2014a and 2014b) demand shocks driven changes in oil prices tend to have a smaller impact on growth.
- Limited support from monetary policy. The monetary policy loosening that was typically associated with demand shocks driven oil price declines in the past is unlikely to materialize. Specifically, with policy interest rates of major central banks already at or near the zero lower bound, the room for additional monetary policy easing is limited should declining oil prices lead to a persistent undershooting of inflation expectations.
- Small response of demand. Post-crisis uncertainties associated with financial vulnerabilities, rapid household debt growth, elevated unemployment, and slowing long-term growth potential may encourage households and corporations to save real income gains from falling oil prices, rather than to consume and invest.
- Changing nature of the relationship between oil and activity. Recent research suggests that impact of the oil prices on overall activity has significantly declined since the mid-1980s as a result of the falling oil intensity of GDP, increasing labour market flexibility and better anchored inflation expectations. The weakened income effect would reduce the responsiveness of demand of price changes.
- Reduced investment in new exploration or development. Lower oil prices would especially put at the risk oil investment project in low income countries (e.g. Mozambique, Uganda) or in unconventional sources such as shale oil, tar sands, deep sea oil fields (especially in Brazil, Mexico, Canada and United States) and oil in the Arctic zone.

## II. Methodology

The method of analysis in this study is called the Linear Dynamic VAR approach. However, economic theory may not atimes be adequate to determine the specific relationship among variables. There are times when it is more logical to allow the data to specify the dynamics in a relationship. VAR makes little or no theoretical demands on the structure of the relationship in a model. VAR helps researchers to understand interrelationship among economic variables. (Enders, 1996). The general specification is:

$$A(L)y(t) = \epsilon(t)$$

$$A(L) = A_{11}(L) \begin{pmatrix} A_{12}(L) \\ A_{21}(L) & A_{22}(L) \end{pmatrix}$$

$$y(t) = \begin{pmatrix} y_1(t) \\ y_2(t) \end{pmatrix}$$

$$\epsilon(t) = \begin{pmatrix} \epsilon_1(t) \\ \epsilon_2(t) \end{pmatrix}$$

## III. Results

Table 1 presents the overall summary statistics for thw data employed in this study in respect to distribution, (DS) which is discount rate displays normal distribution. However, other data series were not normally distributed.

Statistic	Oil price/b (OP)	Exchange rate (RE) (index)	Money (LM) (log)	Interest rate (DS)	Inflation (cp)	Industrial production index (IP)
Mean	\$23.14	242.66	24.63	13.80%	40.24%	84.67
Median	\$22.45	123.61	23.76	13.50%	11.33%	90.34
Maximum	\$38.47	848.62	27.86	26.00%	150.40%	106.96
Minimum	\$11.03	65.97	21.66	6.00%	1.23%	50.32
Standard deviation	\$8.01	214.06	1.82	4.62%	47.23%	14.76
Skew ness	0.41	1.96	0.23	0.33	0.89	-0.59
Kurtosis	0.44	2.96	1.62	3.03	2.46	2.10
Jarque-bera	6.63	32.02	7.82	1.80	13.96	9.16

Also from table 2, it is obvious that oil prices, real exchange rates and industrial production index failed to be stationary at first difference but became stationary at second difference.

**Table 2: KPSS test for stationarity**

Variable	KPSS Statistics			Remarks
	Level	1 <sup>st</sup> difference	2 <sup>nd</sup> difference	
Oil price (OP)	0.301	2.243	-	1 (1)
Exchange rate (RE)	0.556	0.052	-	1 (1)
Money supply (LM)	1.345	0.367	0.205	1(2)
Interest rate (DS)	0.823	0.059	-	1(1)
Inflation (CD)	1.133	0.724	0.43	1(2)
Industrial production (IP)	0.893	0.091	-	1(1)

**Table 3: Vector Auto-regression estimates**

Independent variable	70.999 Dependent Variable					
	OP	RE	LM	DS	CP	IP
OP (-1)	0.888*	0.011	0.000	-0.000	-0.001	0.003
OP (-2)	0.097	0.001	0.000	-0.000	0.001*	-0.001
RE(-1)	0.971	1.415*	0.000	0.001	-0.004	-0.025
RE(-2)	-0.708	-0.519	-0.000	-0.000	0.001	0.008
LM(-1)	400.426	138.22	0.928*	-3.898	10.426*	9.433
LM(-2)	-603.86	-128.437*	0.087	4.119	-6.988	-8.553
DS(-1)	-13.759	1.523	-0.000	0.628*	-0.033	0.001
DS(-2)	18.997	-1.682	0.002	-0.185	-0.176	0.178
CP(-1)	7.822	0.018	-0.004	-0.047	1.096	0.034
CP(-2)	-0.362	-0.227	0.004	0.039	-0.171	-0.033
IP(-1)	-8.22	-1.507*	0.001	0.015	-0.030	0.699*
IP(-2)	6.234	0.216	-0.002	0.039	-0.069	0.047
Constant	4.827.603	-134.301	-0.388	-4.368	-73.163*	6.366
Adj.R2	0.766	0.981	0.998	0.844	0.982	0.911

Table 4 displayed the results of the VAR estimates; each column relays the equation for each endogenous variable in the system. For example, the lagged value of oil price (OP(-1)) was the only variable that shows a significant determinant of oil price. However, the real exchange rate is determined by lagged values RE(-1)α RE(-2), the lagged values of money supply (LM(-1) and LM(-2)) and the lagged value of the industrial production index {IP(-1)}

Table 5 shows the results of the variance decomposition association with the VAR model. In each table, SE refers to forecast error and each column shows how much in percentage of the forecast error is explained by each variable in the VAR. This approach is referred to as the variance decomposition, because it shows information on the relative significance of each random shock to the variables in the VAR system.

Table 5 represents that the one-period ahead forecast error in oil prices is due to only variations in oil prices. As for the other forecast horizons, variations in oil prices are the most significant factors, while inflation and the industrial production index show a same effect.

**Table 5: Variance decomposition of OP**

Period ahead	S.E	OP	RE	LM	DS	CP	IP
	325.60	100.00	0.00	0/00	0.00	0.00	0.00
	448.72	99.22	0.19	0.31	0.44	0.17	0.57
	511.01	98.51	0.38	0.38	0.45	0.53	0.74
	546.93	95.60	0.42	0.44	0.36	1.03	0.92
	576.12	95.88	0.37	0.45	0.34	1.65	1.09
	583.32	94.31	0.37	0.37	0.32	2.44	1.24
	602.41	94.52	0.38	0.38	0.32	3.11	1.36
	615.18	93.51	0.41	0.39	0.36	3.92	1.51
	624.00	92.41	0.45	0.36	0.48	4.77	1.58
	632.62	93.44	0.52	0.35	0.62	5.52	1.70

For example, the five period ahead forecast error in oil price is 98.88 percent due to variation in oil prices, 1.65 percent is due to variations in inflation and 1.09 percent is due to variation in industrial output. The policy implication of this is that inflation and industrial output have minimal impact on oil prices.

Forecast errors recorded in the exchange rate are as a result of instability in exchange rates, oil prices, monetary shock and the industrial output.

Table 6, The policy implication of this result is that real exchange rates are determined by oil prices, industrial output and the level of money stock. However, besides slightest variation in monetary stock, all the other variation in the system contribute to the forecast.

**Table 6: Variance decomposition of RE**

Period Ahead	S.E	OP	RE	LM	DS	CP	IP
1.	28.99	0.31	99.72	0.00	0.00	0.00	0.00
2.	52.62	1.17	94.88	2.47	0.63	0.01	1.45
3.	71.66	3.53	90.42	3.59	0.16	0.02	3.35
4.	88.23	7.16	83.44	4.13	0.11	0.02	5.27
5.	100.61	11.28	72.30	4.33	0.10	0.01	6.91
6.	115.01	15.32	76.44	4.39	0.11	0.01	8.21
7.	124.44	14.36	66.28	4.36	0.15	0.01	9.63
8.	132.21	21.32	64.44	4.22	0.18	0.03	9.88
9.	142.66	24.13	60.01	4.11	0.23	0.04	11.04
10.	147.11	27.48	58.32	3.96	0.28	0.09	11.82

**Table 7 variance decomposition of LM**

Period ahead	S.E	OP	RE	LM	DS	CP	IP
1.	0.04	0.09	2.04	98.82	0.00	0.00	0.00
2.	0.07	0.13	1.57	92.99	0.00	0.98	0.36
3.	0.09	1.04	1.77	95.76	0.26	1.65	0.44
4.	0.11	2.23	2.45	91.47	1.05	2.16	0.61
5.	0.13	3.26	3.63	88.31	2.28	2.70	0.96
6.	0.15	3.88	5.28	83.14	3.76	2.93	1.45
7.	0.16	4.06	7.39	76.91	5.35	3.14	2.22
8.	0.17	3.47	9.66	73.92	6.84	3.22	3.19
9.	0.19	3.66	12.45	67.05	8.19	3.46	4.33
10.	0.20	3.17	15.26	64.14	9.44	3.52	5.63

Table 8 shows that industrial production, exchange rates and oil prices contribute to forecast errors in interest rates in the Nigerian economy during the sample period. If one considers the six-period ahead forecast error in interest rates, 83.14 percent is due to variations in the interest rate, 5.27 percent is due to variations in industrial production and 2.65 percent is due to variations in oil prices. As in table 7, the results in table 8 indicate that oil price variability is a significant contributor to forecast errors in the discount rate.

**Table 8: Variance decomposition of DS**

Period ahead	S.E	OP	RE	LM	DS	CP	IP
1.	1.83	0.83	1.52	0.53	98.06	0.00	0.00
2.	2.51	0.62	1.26	0.48	96.44	0.15	0.67
3.	2.62	0.66	1.16	0.66	96.51	0.29	0.85
4.	2.94	0.16	1.17	0.63	95.26	0.40	2.36
5.	3.01	0.06	1.32	0.67	93.11	0.51	3.95
6.	3.11	2.91	1.66	0.69	87.89	0.63	5.62
7.	3.16	3.71	2.11	0.66	86.44	0.75	6.44
8.	3.12	4.44	2.62	0.70	84.19	0.88	7.43
9.	3.27	5.12	3.11	0.67	83.14	0.99	8.44
10	3.32	5.71	3.88	0.70	80.20	1.11	8.32

Table 9 present some robust results, due to the fact that all the variables have an impact on the forecast errors in the CP, For example, 96.94 percent of the one-period ahead forecast error in the inflations in monetary supply. It should be noted that other variable did not contribute much at this level. However, when one considers the eight-period ahead forecast error in the inflation rate, all of the variables exert some impact. The most significant and logical result is that, besides variability in the inflation rate, monetary supply volatility contributes more than any other factor to forecast errors in inflation.

Finally, table 10 reports the error decomposition of the industrial production index. The results show that forecast errors in industrial production are attributed to volatility in real exchange rates. However, changes in oil prices are only slightly important. When one examines tables 6 and 10, it becomes clearer that oil price changes affect real exchange rates, while the latter affect industrial production. A cursory analysis of table 4 shows that the aforementioned relationships are not statically significant. Therefore, whatever impact oil price changes exert on industrial production, they are indirect and of no consequence.

**Table 9: Variance decomposition if CP**

Period ahead	S.E	OP	RE	LM	DS	CP	IP
1.	2.06	0.57	0.88	1.58	0.06	97.61	0.00
2.	3.18	0.89	2.06	7.77	0.20	90.60	0.08
3.	3.99	0.28	2.77	11.66	1.99	84.66	0.56
4.	4.67	0.58	3.18	13.45	5.46	77.38	1.57
5.	5.66	1.120	3.28	15.22	8.62	70.11	2.62
6.	5.92	2.08	3.22	16.01	11.16	65.22	3.66
7.	6.45	3.15	3.09	19.90	12.77	58.65	4.55
8.	6.88	4.30	2.94	21.55	13.60	54.88	5.27
9.	7.62	5.56	2.77	21.22	13.90	49.88	5.66
10.	7.77	6.62	2.77	23.94	14.00	47.66	6.92

**Table 10 : Variance decomposition of IP**

Period ahead	S.E	OP	RE	LM	DS	CP	IP
1.	1.26	1.32	0.06	0.88	1.44	1.06	95.33
2.	5.44	4.77	2.88	0.90	1.38	0.87	90.02
3.	5.68	6.77	7.41	0.77	1.77	0.80	83.42
4.	6.14	6.89	13.07	0.64	2.23	0.71	76.44
5.	6.669	6.44	18.88	0.68	2.88	0.63	70.77
6.	6.23	5.77	23.88	0.82	3.41	0.55	65.71
7.	7.33	5.43	27.95	0.95	3.77	0.52	61.22
8.	7.62	5.73	31.96	1.11	3.82	0.47	58.44
9.	8.03	6.55	32.06	1.22	3.99	0.44	54.88
10	8.55	7.77	34.06	1.28	3.88	0.33	53.30

This study. The real exchange rate is affected by oil changes. Moreover, industrial production is affected by changes in real exchange rates.

#### IV. Conclusion

From the above results, it is very obvious that oil price shocks and output in economies of the world especially developing nations is negative. This implies that oil shock leads to reduction in Gross Domestic Products. The VAR analysis employed in this study shows that increases in oil prices do not directly lead to an improvement in industrial production. This could be the result of the response of the Nigerian government to increase in oil prices. In a recent report, Ngozi Okonjo-Iweala (2014), the immediate past minister of finance in Nigeria, posits that Nigeria goes through fiscal recklessness when oil prices rise. She notes that past administrations in the country implemented loose fiscal policy with its attendant flawed pattern of borrowing. The debt management strategies are classified as archaic and, coupled with fiscal policy, the economy goes through unnecessary boom-and bust cycles.

Petroleum price could be thought of as a leading factor in the Nigerian economy in the short-run as well as in the long-run. Aktas and Yilmaz (2008) says that increase in domestic price of oil is disincentive to production, therefore an increase in petroleum price in a period before will increase the cost of production and consequently lead to a fall in output of the current period.

It is also important for Nigeria to focus on its endowment of gas resources, in order to diversify its revenue base. The current practice of flaring gas during oil extraction should be discontinued. The country has a huge deposit of gas, which it could harness to generate electricity and thus promote industrialization. Nigeria is currently not aggressive enough in marketing its gas deposits. This recommendation is consistent with Imomoh (1999), who argues that industrial firms in Nigeria should be encouraged to use gas as the fuel of choice because of its environmental friendliness, as well as its price competitiveness. In addition to this, Nigeria should, as matter of urgency, develop an energy policy to guide the activities of the oil and gas sectors of the economy.

Finally, it is critical that manufacturing activities should be promoted by the government. This can be done through several incentives for corporate entities, as well as by creating a conducive atmosphere for such activities. The government's revenue in 2004 was based on an oil price of \$25 per barrel and with the current price exceeding \$50/b, the groundwork is already provided for the country to manage its excess revenue in a way that benefits the citizenry. The petroleum industry in Nigeria is a critical ingredient of its economic turnaround and should be managed in a way that promotes the development of other sectors of the economy.

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