

Investigating the Effects of Increase in Oil Prices on Manufacturing Companies in Nigeria.

Bukola Olalekan Bolaji, Ph.D.¹ and Gbolagade Akin Bolaji, Ph.D.²

¹Department of Mechanical Engineering, University of Agriculture, P.M.B. 2240, Abeokuta, Nigeria

²Department of Civil Engineering, University of Agriculture, P.M.B. 2240, Abeokuta, Nigeria

*E-mail: bobbolaji2007@yahoo.com

ABSTRACT

This paper investigates the effects of increases in oil prices on manufacturing companies in Nigeria. Various types of petroleum products consumed in various manufacturing companies were analyzed. The results of the findings showed that 64% of the companies consume diesel more than other products, 24% of the companies consume petrol, while 8% and 4% of the companies consume lubricating oil and kerosene more than other products, respectively. The results obtained revealed that increment in the prices of petroleum products affects the cost and quantity of raw materials, reduces production capacity of some companies, it reduces the market demand of products causing a reduction in profit or rate of turnover. Finally, various measures that could be taken by Government to cushion the effect of increase in the oil prices on companies were suggested.

(Keywords: oil prices, petroleum products, manufacturing companies, Nigeria)

INTRODUCTION

The problem of increases in the oil prices has grown throughout the years. Until today increases in the price of oil have become one of the most crucial matters confronting society in general and industries and manufacturing companies in particular. The attention of national policy makers has been constantly called to the social, economic, and industrial inconveniences and the disadvantages the incessant increases in the prices of oil have caused. Advocates of societal and industrial protection have called for appropriate legislations and regulations to control the regular increases in oil prices so as to reduce the tension and inconveniences encountered by industries due to these factors (Odogwu, 2003).

Hydrocarbons (oil and gas) are organic components formed over a million years ago from the fossils of small plants and animals and presently it is the world's premier energy source. Its place is not seriously challenged by any other energy source, especially in the area of transportation, and most especially in the developing countries that have no access to other complex sources of energy such as nuclear power (Avuru, 2000). Nigeria's petroleum industry is unique. History, economics, geography and not the least, politics have combined to shape the size, define nature and determine the complexion of the country's most strategic industry. Despite being the poorest oil rich country in the world, Nigeria would in the years ahead continue to contribute to the world energy (Eromosele, 2003).

According to Duke (1995), the purpose of good maintenance of the oil sector is ensuring that there is proper exploration, appropriate sorting, storage, collection, transport, refining, etc. of crude oil. The proper management of oil is expected to contribute significantly to the development of manufacturing companies and the maintenance of a high standard working condition.

Presently, there are four refineries in Nigeria, one in Warri, two in Port Harcourt, and one in Kaduna. Cumulatively, these refineries have an installed capacity of 445,000 barrels. However, for years, the refineries have been functioning below expectation and capacity because they were not well maintained. As a result, owing to the last few years of military activities, Nigeria has been experiencing regular acute fuel shortages, including long queues for petrol, diesel and kerosene (Dennis, 1992; Omoregbe 2003).

Akpieyi (1997) noted that prices of oil kept increasing because the oil producing nations have raised the prices of crude oil. The prices of oil are also affected by US Dollar exchange rates, since the oil companies use US Dollars to buy oil from the world market. Generally, sharp increases in oil prices hurt net oil importing nations and benefit net oil exporters. For net oil importers, increase in the oil prices act similarly to a tax increase, decreasing consumer disposable income may often lead to a tighter monetary policy and have higher interest rates with higher inflation and weaker economic growth. Then would otherwise be the case of keeping the prices of crude oil high immensely benefits the economics of the oil producing nations (Rondinelli, 1996).

Manufacturing companies or industries in Nigeria are faced with various manufacturing problems as a result of increase in prices of fuel and oil. For them to meet up with the standard of production and in order not to alter their production processes, large quantity of fuel is needed to power their generating plant since they are partially or completely rely on their own diesel generators because the grid electricity supply that is available through state monopoly is erratic and unreliable. This paper investigates the effect of the constant increment in oil prices on the manufacturing companies in Nigeria and it also recommends effective measures that could be taken to solve problem caused by incessant increase in the prices of oil.

MATERIALS AND METHODS

In carrying out this research, questionnaires consisting of a set of questions designed to gather information and data for the analysis were administered to the workers of various manufacturing companies in Lagos and its environs. The recipients of the questionnaires were Managing Directors, General Managers, Human Resources Managers, Engineering Managers, and others such as Production Managers, Supervisors, and so on. In this study, out of 98 questionnaires that were administered, 50 were returned and the rest of the questionnaires were irretrievable. In constructing the questionnaire, the following areas were born in mind: effects of the increase in prices of oil on the cost and quantity of raw materials used for production, effects on sales, demand and profit.

RESULTS AND DISCUSSION

The results obtained from the survey are grouped into the following categories: cost and quantity of raw materials, production capacity, type of most used petroleum products, products price and profit, and the availability of alternative to petroleum products. The results are presented under these categories:

Effects of Increase in Oil Prices on Cost and Quantity of Raw Materials

Table 1 shows the effect of increase in the oil prices on cost and quantity of raw materials purchased by the companies. The increase in prices of oil increases the cost of the raw materials of 80% of the companies, 40% of these companies experienced high increase and 40% of the companies also experienced low increase while the cost of raw materials of the rest 20% were not affected. Similarly, the increase in prices of oil affected the quantity of raw materials purchased by 82% of the companies and the rest 18% were not affected. The effect was severe on 20% and minimal on 62% of the companies.

Table 1: Effect of Increase Oil Prices on Cost and Quantity of Raw Materials.

Classification	No of Respondent		Percentage of Respondent	
	Cost	Quantity	Cost	Quantity
High Effects	20	10	40	20
Low effects	20	31	40	62
No Effect	10	9	20	18
Total	50	50	100	100.

Effects of Increase in Oil Prices on Production Capacity

Table 2 shows the effects of increase oil prices on the production capacity of the manufacturing companies. It shows that majority of the manufacturing companies (about 90%) are currently experiencing reduction in their production capacities due to the hike in oil prices. From the table, 10% of the companies were not affected by the hike in oil prices (they still maintain 100% production), 40% of the companies experienced 20% reduction in their production capacity (80% production), 30% of the companies also experienced 30% reduction in

their production capacity (70% production). Ten percent of the companies are producing at 60% capacity and the remaining 10% are producing below 50% capacity.

Table 2: Effects on Production Capacity.

Effects on Production	No of Respondents	Percentage of Respondents
100% Production	5	10
80% Production	20	40
70% Production	15	30
60% Production	5	10
Less than 50% production	5	10
Total	50	100

Type of Most Used Petroleum Products

Table 3 shows type of petroleum products that is used mostly for the running of daily activities in manufacturing companies and industries. 64% of the companies used diesel more than other products for the running of their daily activities, 24% of the companies consume petrol more than other products for their activities, while 8 and 4% of the companies use lubricating oil and kerosene respectively more than other petroleum products for the running of the company's daily activities.

Table 3: Type of Most Used Petroleum Products.

Effects on Production	No of Respondents	Percentage of Respondents
Diesel	32	64
Petrol	12	24
Lubricating oil	4	8
Kerosene	2	4
Total	50	100

Effects of Increase Oil Prices on Products Price and Profit

The effects of increase in oil prices on product price and profit are shown in Table 4. As shown in the table, 66% of the companies have increased the prices of their products due to the hike in oil prices and 34% of the companies are still maintaining the prices of their products. Also, 30% of the companies experienced increase in their

profit or rate of turnover, while 40% experienced a reduction in their profit, and the profit or rate of turnover of 30% of the companies remain the same (no effect).

Table 4: Effects of Increase in Oil Prices on Products Price and Profit.

Effect	No of Respondent		Percentage of Respondent	
	Product price	Profit	Production	Profit
Increase	33	15	66	30
Decrease	0	20	0	40
No Effect	17	15	34	30
Total	50	50	100	100.

Availability of Alternative to the Petroleum Products

Table 5 shows the availability of alternative to the used of petroleum products in the manufacturing companies. 90% of the components were of the view that there is no readily available alternative to replace petroleum products currently employed for the running of their companies. But 10% of the companies believe that they can still diversify or substitute for the petroleum products they are currently using in their companies.

Table 5: Availability of Alternative to the Petroleum Products.

Availability of Alternative	No of Respondents	Percentage of Respondents
Yes	5	10
No	45	90
Total	50	100

CONCLUSION

The most contentious issue in Nigeria today is the incessant increase of the prices of petroleum products. The study analyses the effect of increase in oil prices on manufacturing companies in Nigeria. It reveals that most companies in Nigeria depend heavily on the use of petroleum products for the running of their daily production activities. The results show that increase in prices of oil has serious effects on the cost and quantity of raw materials purchased,

reduces the market demand of the product, which also reduces the profit or rate of turnover of the company. The high cost of diesel has greatest effect on most companies because majority of the companies use diesel more than any other products for the running of their daily activities. Therefore, the continuous rising in the prices of petroleum products has seriously affected the industrial sector of the country.

RECOMMENDATIONS

The following are the recommended appropriate measures that could be taken to cushion the effect of increase in the oil prices on manufacturing companies in Nigeria:

- The Federal Government should ensure that there is an anti-trust law, which would restrict arbitrary increases in oil prices in the country.
- The government should encourage the private sector by provision of incentives for the establishment of more refineries in the country.

Companies need to diversify and source for alternatives to the petroleum products they are currently using in their companies. They also need to support on-going research on alternative fuels in our various institutions and research centers.

REFERENCES

1. Akpieyi, J. 1997. *Managing Domestic Fuel Scarcity*. Advert Communications Limited: Lagos, Nigeria.
2. Avuru, A. 2000. "Sustaining Industrial Harmony in Nigeria's Petroleum Industry". *National Production Strategy for Nigerian Oil*. 3(2): 12-13.
3. Duke, E. 1995. "Understanding the Petroleum Sector of the Nigerian Economy". *NAPETCOR*. 1(2): 4-6.
4. Dennis, J.G. 1992. *Privatization and Deregulation in Global Perspective, Exploring the Implication of Privatization*. McGraw-Hill: New York, NY.
5. Eromosele, V. 2003. "Nigerian Economic, Environmental and Petroleum Business". *Journal on the Petroleum Industry*. 12(1): 83-86.
6. Odogwu, J. 2003. "Higher Oil Prices, Government Should Avoid Putting the Cart before the Horse".

The Guardian Newspaper Limited. Lagos, Nigeria. 11th August: 10-11.

7. Omoregbe, Y. 2003. *Oil and Gas Law in Nigeria*. Matt House Press: Lagos, Nigeria.
8. Rondinelli, D.A. 2003. *Privatization and Economic Transformation: The Management Challenge*. Routhledge Publication and Co: New York, NY.

ABOUT THE AUTHORS

Dr. Bukola Olalekan Bolaji is a Senior Lecturer in the Department of Mechanical Engineering, University of Agriculture, Abeokuta, Nigeria. Dr. Bolaji is a Registered Engineer and is also a member of the Nigeria Society of Engineers, Nigerian Institution of Engineering, and Environment and Behaviour Association of Nigeria. He holds a Ph.D. degree in Thermofluids. His research interests are in the areas of refrigeration and air-conditioning, Energy, heat transfer, and environmental engineering.

Dr. Gbolagade Akin Bolaji is a Lecturer in the Department of Civil Engineering, University of Agriculture, Abeokuta, Nigeria. Dr. Bolaji is a registered Engineer and is also a member of the Nigeria Society of Engineers. He holds a Ph.D. degree in Water Resources and Environmental Engineering. His research interests are in the areas of floods and environmental engineering.

SUGGESTED CITATION

Bolaji, B.O. and G.A. Bolaji. 2010. "Investigating the Effects of Increase in Oil Prices on Manufacturing Companies in Nigeria". *Pacific Journal of Science and Technology*. 11(2):387-390.

 [Pacific Journal of Science and Technology](http://www.akamaiuniversity.us/PJST.htm)