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DETERMINANTS OF PROFITABILITY IN THE NIGERIAN OIL SECTOR

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ABSTRACT

Crude oil is a major source of income in Nigeria. There is no doubt that Nigeria has not yet been able to diversify significantly into other sectors. With the dwindling prices of petroleum products in Nigeria and of course all over the world, it has become imperative to identify the factors influencing performance in the oil sector. This study, therefore, accesses the factors that influence the performance of oil companies in Nigeria. Three major oil companies were studied, namely Chevron, Shell, and Total. These selected companies are among the ten largest oil companies in Nigeria. Size, Capital intensity, Liquidity, Sales, and inflation were tested against performance. The variables were tested for stationarity using unit root test; the data were detrended accordingly. The data were regressed and the outcome shows that only sales significantly and positively influenced performance. Company Size, Liquidity, Capital Intensity showed an insignificant relationship with performance. The oil companies should therefore increase sales to increase performance. Moreover, this is a pointer that Nigeria needs to diversify as soon as possible. This has become necessary with the new technological innovations. Also, inflation showed a negative influence on performance. This is bad for growth The Government should therefore set policies that would reduce inflation as much as possible. This work has not been published before and will be useful to the Nigerian Government and other stakeholders in the oil sector, with regards to coming up with new ideas and innovations that could move the oil sector forward.

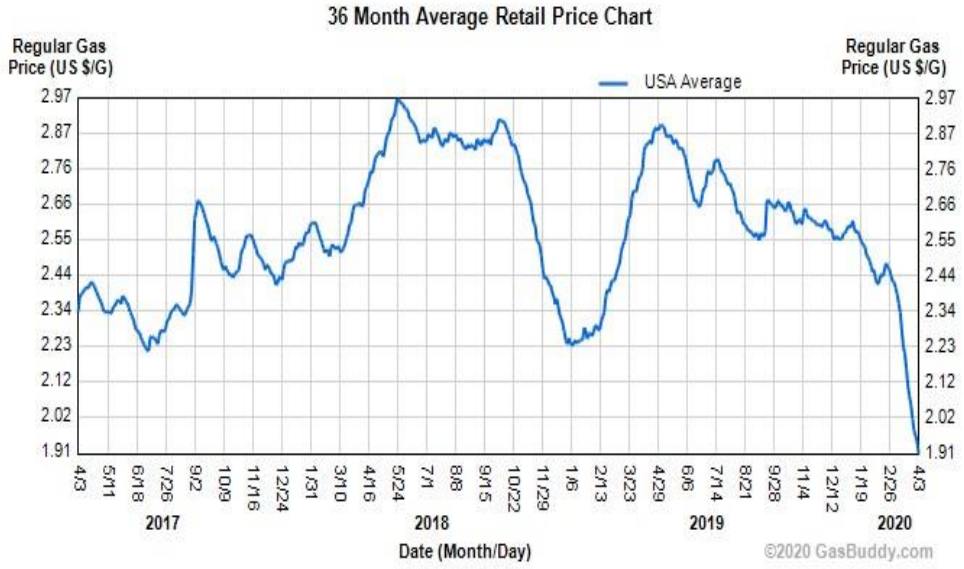
INTRODUCTION

Organizations, especially profit-oriented ones must be performance conscious to remain a going concern. Therefore, profit maximization is a crucial aspect

of every management if the organization must continue in business. The profit is simply total earnings less operating expenses. Increased retained earnings increases shareholders' funds and literature has shown that the announcement of increased profitability would invariably increase stock prices.

Profit maximization is a basis for any organization to survive in the long run. Gitman and Zutter, (2012) see profitability as a pre-requisite of achieving other financial objectives. Profitability is a major yardstick for measuring the performance of entities. Little wonder it is an integral part of the financial statement or financial reporting.

The oil sector in this pandemic era has been bedeviled with a major setback. It has been a free fall as shown on the table below:



The OPEC has met often but it seems no real solution has been achieved. This has caused the author to ask a pertinent question at this time: "what factors drive the profitability of oil companies"?

Authors are increasingly studying the factors that influence profitability due to its importance in the survival of any organization. Yazdanfar, (2013) posited that the influence of the forces of prices and organizations' efficiencies has further increased competition which in turn has increased the difficulty of companies meeting up in terms of profit generation and sustainability. The study of factors influencing profitability has therefore become eminent for managerial decisions if any organization must be afloat.

LITERATURE REVIEW

Starting from more recent articles, Echekoba, and Ananwude, (2016) studied the extent to which financial structure influences the profitability of Nigerian oil firms. The study covered a period of twenty-one years, ranging from 1993 to 2013. Fourteen companies from the oil and gas sector were selected for the study. The variables studied were return on assets (ROA), return on equity (ROE), profit before tax (PAT), and earnings per share (EPS); these were

regressed against the debt to equity ratio. The regression result showed that the financial structure of Nigerian oil companies displayed a negative influence on performance. This study is, however, quite different from what one would be expected. Unless of course, we infer that the oil companies had so much more debt that did not boost the returns on investment as much as expected.

The study of Echekoba and Ananwude, (2016) is however in tandem with the study carried out by Foo, Jamal, Karim, and Ulum (2015); Cole C, Yan Y, Hemley D (2015), and Tailab MMK. One would begin to think of the reasons why the capital structure should have a negative influence on performance. One would rather reason as logical the study by Ali SA, Zia SA, Razi A. (2012) who discovered a significant and positive relationship between capital structure and the performance of oil companies in Pakistan.

Feeny (2000) studied the causes of profitability using 180,738 tax firms from the Australian Tax Office. The result from the simple regression showed that profitability is influenced significantly by Size and Capital intensity. This result has some similarity with that of Goddard, Tavakoli, and Wilson (2005) who investigated the factors determining profitability in the manufacturing and service entities in France, Italy, Belgium, and the UK. Their regression result demonstrated that net income is influenced negatively by the firm's size and gearing ratio, but positively by Liquidity and share price.

In a study carried out in the oil and gas sector of Pakistan, Amir Shah and Sana (2006) examined the impact of working capital management on the profitability of the oil and gas sector of Pakistan. Their work opined that the inventory turnover, average debtors' collection period, and sales growth negatively influence profitability; while the account payable turnover impact positively on profitability. This outcome differs from that of Chowdhury and Amin (2007) in Dhaka who examined the causes of profitability of quoted pharmaceutical establishments on the Dhaka stock exchange. Their result displayed that return on assets influences profitability. Again the work of Chowdhury and Amin (2007) that accessed the Malaysian non-banking financial sector intending to reveal the causes of profitability had different findings. The study posits that credit tendency, operational expense capitalization, and loan intensity were the key influences on profitability.

Bhayani (2010) explored the factors impacting the net income of the cement industry in India. His study covered 2001 – 2008. The study revealed that liquidity, interest rate, the company's age, inflation, and the selected companies' operating ratio displayed a significant effect on performance. In another study, Nunes, Serrasqueiro, and Sequeira (2009) investigated the factors impacting net income in the service sector in Portuguese. The study revealed a positive correlation between the selected companies' Size, growth, and profitability; while the lesser level of debt and fixed asset support better profitability. This result is in tandem with that of Asimakopoulos, Samitas, and Papadogonas (2009). They accessed the non-financial quoted firms, in Athen to evaluate the causes of profitability. Their outcome showed that sales growth, investment, and size impacted positively on net income. While working capital and leverage negatively influence profitability.

Tan & Floros (2012) accessed 101 banks in China to define the causes of performance. They used panel data covering 2003 - 2009. The result from the General Method of Moments (GMM) revealed that inflation, cost efficiency, stock market development, and banking sector development positively influences profitability.

An investigation that took place in the united states of America by Ha-Brookshire (2009) as cited in the work of Odusanya, Ibrahim Abidemi; Yinusa, Olumuyiwa Ganiyu; Ilo, Bamidele M. (2018), scrutinized the causes of profitability in the non-manufacturing company. The outcome of the study revealed that only size out of three factors influenced entrepreneurship and performance. In another related study, Dong & Su (2010) studied the link that could occur amid net income and working capital of quoted firms listed in the Vietnam capital market. The study reveals an existing relationship cash conversion cycle and profitability. Stierwald (2010) evaluated the factors impacting net income in Australia. Investigating 961 big businesses and using fixed-effect regression the result exposed profitability as being influenced positively by the business size, lagged profit, and productivity level.

In a study carried out in China, Ito and Fukao (2010) as cited in the work of Odusanya, Ibrahim Abidemi; Yinusa, Olumuyiwa Ganiyu; Ilo, Bamidele M. (2018), evaluated the determinants of profitability in the Japanese manufacturing company that has a connection with China. The study covered 1989 – 2002 and the result revealed that local purchases and local sales increase profitability. Burja (2011) investigated the Romanian chemical industry to establish the causes of profitability. He revealed a positive coherence between debt level, Inventory efficiency, efficiency of investment, leverage, and net income.

After studying the factors influencing profitability in insurance companies in Pakistan, both life and non-life, Malik (2011) revealed that a major connection exists between the size and the company's volume. However, the outcome of the study further shows that the company's age did not impact on profitability. Alipour (2011) investigated whether working capital has any major impact on net income. He studied 1063 Quoted companies in the Tehran stock exchange using Pearson's and multiple regression, the study shows the working capital management influences profitabilities. Again, in Indian, Charumathi (2012) evaluated the life insurance companies to reveal the factors that influence profitability. The study shows a major and positive correlation between Liquidity, company size, and profitability among leverage, company size, premium growth, liquidity, and equity capital that were analyzed.

Mistry (2012) did a study covering five years in the Indian automotive industry. His' study showed that inventory turnover ratio, debt to equity ratio, and company size, affect significantly and positively the net income while liquidity negatively and significantly influenced profitability. In another study by Woraphon and Termkiat, (2012), they analyzed the influence of crude oil price on the net income of Thailand's quoted oil companies covering 2001 -

2010. The panel data regression reveals that the oil price significantly influences the net income in the food and energy sector.

A study on the causes of net income in the pharmaceutical sector in Nigeria done by Innocent, Mary, and Matthew (2013) covering 2001 – 2011 as cited in the work of Asimakopoulos, I., Samitas, and Papadogonas, (2009) revealed an insignificant and negative relationship between total assets, creditor's velocity, debt turnover ratio, turnover ratio, and profitability. Only the inventory turnover ratio had a significant though negative relation with profitability. Boadi, Antwi, and Lartey (2013) investigated the factors influencing profitability in Ghana's insurance companies. The study shows a major influence by Liquidity and leverage on profitability. Again, Agiomirgianakis, Magoutas, and Sfakianakis (2013) explored the tourism sector in Greece to examine the causes of profitability. They found out that size, low-cost financing, and company age have a major and positive impact on net income.

In a related study, Yazdnafar (2013) evaluated lagged net income and the Size, growth, productivity, of 12,530 non-financial small firms to define the causes of profitability. These firms were picked from four diverse sectors in Sweden. He found that lagged net income, size, growth, and productivity positively influences profitability. The commercial banks and Islamic banks in Qatar were accessed in a study by Elsiefy (2013) with the bid to determine the factors influencing profitability. He discovered that, in the Islamic bank, there is a connection between net income and liquidity.

Al-Jafari and Alchami (2014) evaluated factors affecting the Syrian banks' profitability with the use of the generalized method of moments (GMM), They found that credit risk, bank size, management efficiency, and liquidity ratio influence profitability significantly. Alkhazale and Almsafr (2014) investigated Jordanian Banks to conclude on the factors influencing their profitability. The study covered 1999 – 2013. The fixed effect regression model revealed that net income is a function of the size, liquidity, and capital structure of the banks in Jordan. Also, Pratheepan (2014) accessed 55 manufacturing companies in Sri Lanka to assess the factors influencing net income. He found out by exploring the static panel that tangibility impact negatively on net income. The study also showed that leverage and the selected businesses' liquidity had an insignificant connection with net income.

Bashar and Islam (2014) as cited in the work of Odusanya, Ibrahim Abidemi; Yinusa, Olumuyiwa Ganiyu; Ilo, Bamidele, (2018) found that account payable have a negative connection with net income while inventory possesses a positive relationship with the profitability of the pharmaceutical companies in Bangladesh. Moreover, the study by Zaid, Ibrahim, and Zulqernain (2014) revealed size and liquidity as the determinants of profitability in construction companies in Malaysia. They also discovered that capital structure inversely affects profitability.

Mohamed and Hazem, (2015) investigated the factors that determine the profitability of industrial firms in Oman. The study evaluated 17 quoted industries on the Muscat securities. The study covered 2006 – 2013. The

determining factors used for the study were the size of the firm, firms' growth, working capital, fixed assets, financial leverage, and average tax rate. The result of the panel OLS revealed that the size of the firm, firms' growth, working capital, and fixed assets significantly and positively influence the influences profitability; while financial leverage and average tax rate had a negative influence on profitability though only financial leverage was significant.

Zeeshan, Zahid. Farrukh, Muhammad, and Assad, (2016) studied the power and energy sector in Pakistan with a bid to reveal the major factors that influence profitability. The panel data ran for 16 companies revealed that the company, electricity crises, and company growth positively influence profitability. Financial leverage, company age, and productivity however negatively affect profitability.

Mustapha, (2017) Examined the causes of profitability of Nigerian quoted banks. The study covered 2001 – 2015. The result from the regression and GMM show that capital adequacy ratio, efficiency ratio, and credit risk influence the banks' profitability in the long run, among which only capital adequacy was significant. Also, gross domestic product and market concentration significantly influence the Nigerian bank's profitability in the short run. Odusanya, I. A., Yinusa, O. G. Ilo, B, (2018) accessed 114 quoted companies in Nigeria to reveal the determinants of profitability. The study covered 1998 – 2012. They found that lagged profitability has a major and positive influence on profit. But, it's not the same for interest rate, short-term leverage, financial risk, and inflation rate; as they showed an inversely major influence on profitability.

Lorena, Danijel, and Marko, (2018) evaluated 8678 Croatian companies to ascertain the factors influencing profitability. The study covered 2003 – 2014. The result shows that the firm's size, growth, lagged profitability, and concentration index have a significant effect on profitability.

Summary Of Review

There are quite a handful of studies on the determinants of profitability. Feeny (2000) studied tax firms. Tavakoli, and Wilson (2005); Ito and Fukao (2010); Pratheepan (2014) accessed the manufacturing sector. Chowdhury and Amin (2007); Innocent, Mary, and Matthew (2013); Bashar and Islam (2014) studied the pharmaceutical companies. While Chowdhury and Amin (2007) engaged in the non-banking sector. Bhayani (2010) focused on the cement industry. Nunes, Serrasqueiro, and Sequeira (2009) carried out their study on the service industry. And, Asimakopoulos, Samitas, and Papadogonas (2009); Yazdnafar (2013) investigated the non-financial firm. Tan & Floros (2012); Elsiefy (2013); Al-Jafari and Alchami (2014); Alkhazale and Almsafr (2014); Mustapha, (2017) accessed the banking sector. Ha-Brookshire (2009) studied the non-manufacturing sector.

Stierwald (2010) studied different companies in Australia. Burja (2011); Charumathi (2012) evaluated key functions of profitability in the chemical

industry. Malik (2011); Boadi, Antwi, and Lartey (2013) studied the insurance industry. Mistry (2012) studied the automobile industry.

Woraphon and Termkiat, (2012) studied the oil and gas industry; their study, however, dwelt on the effect of oil prices on other commodities. Agiomirgianakis, Magoutas, and Sfakianakis (2013) focused on the tourism sector. Zaid, Ibrahim, and Zulqernain (2014) studied the construction company. Zeeshan, Zahid. Farrukh, Muhammad, and Assad, (2016) focused on the power and energy sector. Odusanya, I. A., Yinusa, O. G. Ilo, B, (2018) and Lorena, Danijel, and Marko, (2018) studied various quoted companies.

None of the available studies concentrated on the causes of profitability in the Nigerian oil and gas sector indicating that they are either none existent or scarce. Therefore, the researchers hope to bridge the gap.

DATA, HYPOTHESES & RESEARCH MODEL

The data we would be testing for this study are Size, Capital intensity, Liquidity, Inflation, and Sales. These were the data used by the majority of the literature reviewed. These data were collected from three of the oil companies that ranked among the first ten oil companies in Nigeria.

The data were tested for stationarity using the unit root test and all the data displayed unit root issues and were all detrended as shown below:

Chevron: Summary of Detrended Data

	ADF	1%	5%	10%	Prob.	
Size	-4.804875	-3.920350	-3.065585	-2.673459	0.0019	2(1)
Capital Intensity	-3.304193	-3.920350	-3.065585	-2.673459	0.0322	2(1)
Liquidity	-3.606656	-3.886751	-3.052169	-2.666593	0.0173	1(1)
Sales	-4.089634	-3.886751	-3.052169	-2.666593	0.0067	1(1)
Inflation	-3.142267	-3.886751	-3.052169	-2.666593	0.0423	0
Profit Before Tax	-3.790477	-3.886751	-3.052169	-2.666593	0.0121	1(1)

Shell: Summary of Detrended Data

	ADF	1%	5%	10%	Prob.	
Size	-4.831956	-3.886751	-3.052169	-2.666593	0.0016	1(1)
Capital Intensity	-6.197991	-4.004425	-3.098896	-2.690439	0.0002	1(1)
Liquidity	-6.142756	-3.920350	-3.065585	-2.673459	0.0002	1(1)
Sales	-	-	-	-	0.0065	1(1)

	4.102796	3.886751	3.052169	2.666593		
Inflation	-3.142267	-3.886751	-3.052169	-2.666593	0.0423	0
Profit Before Tax	-4.317757	-3.886751	-3.052169	-2.666593	0.0043	1(1)

Total: Summary of Detrended Data

	ADF	1%	5%	10%	Prob.	
Size	-5.305623	-3.920350	-3.065585	-2.673459	0.0007	2(1)
Capital Intensity	-3.485804	-3.886751	-3.052169	-2.666593	0.0220	1(1)
Liquidity	-4.934580	-3.886751	-3.052169	-2.666593	0.0013	1(1)
Sales	-3.780070	-3.886751	-3.052169	-2.666593	0.0123	1(1)
Inflation	-3.142267	-3.886751	-3.052169	-2.666593	0.0423	0
Profit Before Tax	-4.581201	-3.886751	-3.052169	-2.666593	0.0025	1(1)

The Combined Data: Summary of Detrended Data

	ADF	1%	5%	10%	Prob.	
Size	-4.024601	-3.886751	-3.052169	-2.666593	0.0076	1(1)
Capital Intensity	-4.148958	-3.920350	-3.065585	-2.673459	0.0065	1(1)
Liquidity	-5.108297	-3.920350	-3.065585	-2.673459	0.0011	1(1)
Sales	-3.535949	-3.886751	-3.052169	-2.666593	0.0199	1(1)
Inflation	-3.142267	-3.886751	-3.052169	-2.666593	0.0423	0
Profit Before Tax	-4.287545	-3.886751	-3.052169	-2.666593	0.0045	1(1)

HYPOTHESES

Ho_1: There is no significant and positive relationship between profitability and the size of oil companies in Nigeria.

Ho_2: There is no significant and positive relationship between profitability and the capital intensity of oil companies in Nigeria.

Ho3: There is no significant and positive relationship between profitability and the liquidity of oil companies in Nigeria.

Ho4: There is no significant and positive relationship between profitability and the sales of oil companies in Nigeria.

Ho5: There is no significant and positive relationship between inflation and the profitability of oil companies in Nigeria.

Model Specification

$PBT = Bo + B_1SIZE_{1.t} + B_2CAP_{1.t} + B_3LIQ_{1.t} + B_4SALES_{1.t} + B_5INF_{1.t} + E_T$

Where:

Size: the size of the selected oil companies proxied by the total asset.
CAP: The capital intensity proxied by shareholders equity
LIQ: liquidity
SALES: Sales
INF: Inflation index

DATA ANALYSES

Descriptive Statistics

Descriptive Analysis for Chevron

	CHEVRON_PBT	CHEVRON_CASH	CHEVRON_SALES	CHEVRON_TOTAL_ASSET	CHWVRON_EQUITY	CHEVRON_INFLATION
Mean	22518.53	9596.632	172900.3	183124.3	103120.8	12.33789
Median	20575.00	9342.000	167402.0	184769.0	105811.0	12.22000
Maximum	47634.00	20939.00	264958.0	266026.0	156191.0	18.87000
Minimum	-2160.000	2117.000	98340.00	77359.00	31604.00	5.390000
Std. Dev.	15294.77	4857.227	50493.71	70366.13	46723.76	3.552815
Skewness	0.091225	0.529323	0.118104	-0.259468	-0.268667	0.002778
Kurtosis	1.833302	2.872230	1.832362	1.571293	1.535285	2.408417
Jarque-Bera	1.103958	0.900168	1.123511	1.829143	1.927011	0.277084
Probability	0.575809	0.637574	0.570207	0.400688	0.381553	0.870627
Sum	427852.0	182336.0	3285105.	3479361.	1959296.	234.4200
Sum Sq.	4.21E+	4.25E	4.59E+	8.91E+	3.93E+	227.2049

Dev.	09	+08	10	10	10	
Observations	19	19	19	19	19	19

Descriptive Analysis for Shell

	SHELL_PBT	SHELL_CASH	SHELL_EQUITY	SHELL_SALES	SHELL_TOTAL_ASSET	SHELL_INFLATION
Mean	64095.37	12917.00	151624.9	325370.1	294691.5	12.33789
Median	33592.00	11730.00	164121.0	318845.0	317271.0	12.22000
Maximum	360935.0	31752.00	219516.0	470171.0	411275.0	18.87000
Minimum	2047.000	-2728.000	62822.00	122000.0	112037.0	5.390000
Std. Dev.	99934.43	9086.513	46989.69	103574.3	92634.21	3.552815
Skewness	2.471051	0.175307	-0.609049	-0.233872	-0.465847	0.002778
Kurtosis	7.387866	2.474369	2.276079	2.176503	2.059461	2.408417
Jarque-Bera	34.57820	0.316047	1.589530	0.710072	1.387529	0.277084
Probability	0.000000	0.853830	0.451687	0.701148	0.499691	0.870627
Sum	1217812.	245423.0	2880873.	6182032.	5599139.	234.4200
Sum Sq. Dev.	1.80E+11	1.49E+09	3.97E+10	1.93E+11	1.54E+11	227.2049
Observations	19	19	19	19	19	19

Descriptive Analysis for Total

	TOTAL_PBT	TOTAL_CASH	TOTAL_EQUITY	TOTAL_SALES	TOTAL_TOTAL_ASSET	TOTAL_INFLATION
Mean	2312.926	16209.58	73010.89	189132.9	171322.0	12.33789

Median	2361.000	18147.00	80892.00	193114.0	191641.0	12.22000
Maximum	3415.000	33185.00	119305.0	264709.0	273294.0	18.87000
Minimum	1354.513	3283.000	29904.00	94323.00	80962.77	5.390000
Std. Dev.	629.5503	9751.245	32056.90	52747.66	69074.63	3.552815
Skewness	0.125871	-0.062448	0.059137	-0.276709	-0.011690	0.002778
Kurtosis	2.201479	1.682480	1.383372	2.130776	1.284667	2.408417
Jarque-Bera	0.554966	1.386571	2.080084	0.840608	2.329807	0.277084
Probability	0.757688	0.499931	0.353440	0.656847	0.311953	0.870627
Sum	43945.59	307982.0	1387207.	3593526.	3255117.	234.4200
Sum Sq. Dev.	7134004.	1.71E+09	1.85E+10	5.01E+10	8.59E+10	227.2049
Observations	19	19	19	19	19	19

The three tables above represent the descriptive analysis of the three sample oil companies in Nigeria. The skewness with an approximation of zero shows (meaning that it is perfectly proportioned around the mean) that the data is normally distributed and thus fit for the analysis. The Skewness measures whether or not a set of data is symmetry or not. A distribution is said to be symmetric if it appears the same to the left and right from the center point.

Kurtosis measures whether the distribution is heavy-tailed or light-tailed concerning a normal distribution. The higher the high kurtosis the more heavy-tailed the distribution is.

Correlation Result of Data:

Correlation Result for Chevron

	PBT	TOTAL_ASSET	EQUITY	CASH	SALES	C_INFLATION
DCHEVRON_PBT	1.000000	0.366650	0.507975	0.562209	0.931418	0.276230
DCHEVRON_TOTAL_ASSET	0.366650	1.000000	0.932261	0.355390	0.398083	-0.053499
DCHEVRON_EQUITY	0.507975	0.932261	1.000000	0.508199	0.468013	0.002673
DCHEVRON_CA	0.56	0.355390	0.50	1.00	0.43	0.3338

SH	2209		8199	0000	2597	65
DCHEVRON_SALES	0.931418	0.398083	0.468013	0.432597	1.000000	0.264295
C_INFLATION	0.276230	-0.053499	0.002673	0.333865	0.264295	1.000000

Correlation Result for Shell

	PBT	TOTAL_ASSET	EQUITY	CASH	SALES	INFLATION
SHELL_PBT	1.000000	-0.220359	0.034023	0.199770	0.369174	0.074565
SHELL_TOTAL_ASSET	-0.220359	1.000000	0.191727	-0.440762	0.184741	0.290681
SHELL_EQUITY	0.034023	0.191727	1.000000	0.382235	0.185132	0.458151
SHELL_CASH	0.199770	-0.440762	0.382235	1.000000	0.203626	-0.033246
SHELL_SALES	0.369174	0.184741	0.185132	0.203626	1.000000	0.233043
INFLATION	0.074565	0.290681	0.458151	-0.033246	0.233043	1.000000

Correlation Result for Shell

	PBT	TOTAL_ASSET	EQUITY	CASH	SALES	INFLATION
TOTAL_PBT	1.000000	0.303728	0.275047	-0.460714	0.432886	-0.211472
TOTAL_TOTAL_ASSET	0.303728	1.000000	0.878845	-0.002732	0.292953	0.237676
TOTAL_EQUITY	0.275047	0.878845	1.000000	0.125843	0.247282	0.286582
TOTAL_CASH	-0.460714	-0.002732	0.125843	1.000000	0.196510	0.045394
TOTAL_SALES	0.432886	0.292953	0.247282	0.196510	1.000000	0.156700
INFLATION	-0.211472	0.237676	0.286582	0.045394	0.156700	1.000000

The correlation result for the three sampled oil companies shows a varied result. As displayed on tables 4.1.3 – 4.1.5, in Chevron, the data showed that sales have a very strong relationship with profitability with a correlation coefficient of 0.9314 this is followed by cash and equity with a correlation coefficient of 0.562209 and 0.507975 respectively. The case is different for Shell and Total. The variables show a slightly weak and very weak relationship with profitability. For example, for shell Ltd, equity, cash, and sales displayed a correlation coefficient of 0.034023, 0.199770, and 0.369174 respectively. This is quite weak. Also, Total Ltd had 0.275047, -0.460714, and 0.432886 respectively for equity, cash, and sales. It is worthy of note that cash showed a negative correlation with profitability; this is unusual as it is expected that the higher the profit the higher the cash. However, it is also possible that this additional profit is immediately re-invested or is in form of receivables.

REGRESSION RESULTS

Dependent Variable: DCHEVRON_PBT				
Method: Least Squares				
Date: 09/08/20 Time: 05:32				
Sample (adjusted): 2002 2019				
Included observations: 18 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-950.6558	4551.599	-0.208862	0.8381
DCHEVRON_TOTAL_ASSET	-0.465570	0.237208	-1.962708	0.0733
DCHWVRON_EQUITY	0.787929	0.422124	1.866582	0.0866
DCHEVRON_CASH	0.453657	0.408846	1.109602	0.2889
DCHEVRON_SALES	0.270608	0.030895	8.758825	0.0000
C_INFLATION	-46.89379	343.1632	-0.136652	0.8936
R-squared	0.923603	Mean dependent var		-147.1667
Adjusted R-squared	0.891771	S.D. dependent var		12659.94
S.E. of regression	4164.884	Akaike info criterion		19.76797
Sum squared resid	2.08E+08	Schwarz criterion		20.06476
Log likelihood	-171.9117	Hannan-Quinn criter.		19.80889
F-statistic	29.01494	Durbin-Watson stat		2.262418
Prob(F-statistic)	0.000003			

Dependent Variable: DSHELL_PBT				
Method: Least Squares				
Date: 09/08/20 Time: 05:34				
Sample (adjusted): 2002 2019				
Included observations: 18 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11824.84	92685.05	0.127581	0.9006
DSHELL_TOTAL_ASSET	-1.363523	1.353874	-1.007126	0.3338
DSHELL_EQUITY	-0.006840	0.705830	-0.009690	0.9924
DSHELL_CASH	-0.271575	3.479434	-0.078052	0.9391
DSHELL_SALES	0.431514	0.286113	1.508191	0.1574
C_INFLATION	1860.445	7651.784	0.243139	0.8120
R-squared	0.227564	Mean dependent var		17093.22
Adjusted R-squared	-0.094284	S.D. dependent var		82767.23
S.E. of regression	86581.15	Akaike info criterion		25.83675
Sum squared resid	9.00E+10	Schwarz criterion		26.13354
Log likelihood	-226.5308	Hannan-Quinn criter.		25.87768
F-statistic	0.707056	Durbin-Watson stat		2.720484
Prob(F-statistic)	0.629346			

Dependent Variable: DTOTAL_PBT				
Method: Least Squares				
Date: 09/08/20 Time: 05:36				
Sample (adjusted): 2002 2019				
Included observations: 18 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	677.0178	284.3750	2.380722	0.0347
DTOTAL_TOTAL_ASSET	-0.007125	0.010716	-0.664934	0.5187
DTOTAL_EQUITY	0.032899	0.022449	1.465474	0.1685
DTOTAL_CASH	-0.076797	0.021696	-3.539659	0.0041
DTOTAL_SALES	0.006907	0.002225	3.104038	0.0091
C_INFLATION	-49.89175	23.60216	-2.113863	0.0561
R-squared	0.674876	Mean dependent var		106.0521
Adjusted R-squared	0.539407	S.D. dependent var		447.1846
S.E. of regression	303.4908	Akaike info criterion		14.52978
Sum squared resid	1105280.	Schwarz criterion		14.82657
Log likelihood	-124.7680	Hannan-Quinn criter.		14.57070
F-statistic	4.981789	Durbin-Watson stat		1.504934
Prob(F-statistic)	0.010622			

The regression results for the sampled firms show that the data are stationary as the R Squared of 0.92, 0.22, and 0.67 for Chevron, Shell, and Total respectively are all lower than their respective Durbin-Watson values. However, Shell displayed a very low R-square showing that the independent variables can only explain the dependent variables at 22%. Chevron and Total have a higher R Squared and so can explain the independent variables better.

Sales have a positive and significant influence on profitability for both Chevron and Total with F-values of 0.0000 and 0.0091 respectively. Cash has a significant but negative relationship for Total only while the other two sampled firms showed an insignificant influence.

The model for Chevron and Total showed F-statistics of 0.000003 and 0.010622; these values are lower than 5% indicating that the variables together have a significant influence on the performance. The model for both firms are therefore shown below:

Chevron:
Performance = -950.6558 - 0.465570SIZE + 0.787929CAP + 0.453657LIQ + 0.270608SALES - 46.89379INF
Total:
Performance: 677.0178 - 0.007125SIZE + 0.032899CAP - 0.076797LIQ + 0.006907SALES - 49.89175INF

We can therefore conclude that only sales have a positive and significant influence on the performance of oil companies in Nigeria. This result simply indicates that, as sales reduce the performance of oil companies will also reduce. It is important therefore that Nigerian oil companies should make efforts to increase sales if the nosiness must grow. The Nigerian Government should also enact policies that will reduce inflation considerably as it has a negative influence on the performance of oil companies, going by the two models stated above.

However, there will be the need to study other oil companies in Nigeria to see if they will display other factors that influence performance.

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