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COVID-19, Oil Price Shock and Banking System Funding: Impact Analysis of the Nigeria Economy

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Abstract: The study investigates the impact of COVID-19 Pandemic, Oil Price Shock on the Nigeria Banking Sector from the period dated 1st February 2020 to 30th June, 2020. Monthly data were collected from National Bureau of statistics for a period of six months. Data on confirmed cases of COVID-19, global oil prices, and bank credit to private sector were use as variables for the study. The descriptive and analytical techniques were used to analyze the data. The results reveal that there is positive relationship between COVID-19 confirmed cases and the Nigeria banking sector funding of the economy. Contrarily, the result further reveals that there is a significant negative relationship between global oil price shock and banking sector funding of the Nigeria economy. This means that Nigeria banking sector funding of the economy was negatively impacted by and follows global oil price slump. The study concludes that cumulatively the feats of COVID-19 Pandemic and Oil price shock are determinant variables that have impacted on the ability of the banking sector to fund the Nigeria economy.

1. Introduction

The corona virus is the most significant external shock on Nigeria economy. The emergence of this pandemic has virtually impacted on all the sectors of the economy including the banking and finance industry. To contain the spread, nations all over the world including Nigeria government took the option of locking down some sector of the economy, placing restrictions on movement of people and goods within and outside the country. The lockdown directives led the shutdown of many businesses especially those who cannot do their job from home, while people and corporate institution offering essential services are allowed to operate (Iwedi, Kocha and Oriakpona, 2020).

There is this growing concern over the state of Nigeria banks following the immediate effects of the Covid-19 on the industry. The issue of low interest rate, side by side with the significant impact of the pandemic, is telling on core banking performance parameters such that banks have shifted from the likes of payments and technology businesses to commission-based income. Also, the contiguous impact of COVID-19 and Oil price slump on the banking industry revolves around increase credit risk of corporate and retail customers of the banks. In first half of 2020, the industry witnessed a 14% rise in non-performing loans (NPLs), According to June 2020 report of the National Bureau of Statistics (NBS), non-performing loans in Nigeria banks increased to N1.218 trillion from N1.059 trillion recorded in 2019 December.

The upward trend in deterioration of bank asset quality (NPLs) is attributed to non-payment of loans by bank obligors, the slump in global oil prices, plunging currency, foreign exchange shortage and dwindling economy of Nigeria as a result of the coronavirus shock which induced lockdown across the world. This impact has necessitated banks operating in Nigeria to restructure 35,639 credit facilities of business that were negatively impacted by the coronavirus pandemic. It is on this premise this paper is carried out to investigate the impact of COVID-19, pandemic, oil price slump on the banking sector funding of the Nigeria economy.

2. Literature Review

The literature review was done as follow:

2.1. COVID-19 Pandemic, Oil Price Shock and Bank Asset (Loan) Portfolio

With the economic slowdown, banks are identifying significant increases in credit risk. The oil price slump coupled with the global health crises have negatively impacted on Nigerian banks credit profiles. According to Adesoji (2020) asset quality deteriorate significantly depending on the duration and severity of the oil price shock and Coronavirus turn oil. The National Bureau of Statistics (2020) reports showed that critical sectors like the Oil and gas sector contributed the largest share to non-performing loans in Nigeria banks, recording 22 percent increase, construction sectors recorded 93.4% increase and commerce and trade recorded 17.5% rise. However, other sectors like agriculture, transportation, power and energy and education recorded decline.

Table 1: Bank Lending Portfolio

Sector	*Credit Allocation*	*% of NPL*	*Impact*
Commerce, Trade	6.76%	17.5%	High Impact
Manufacturing	15.79%	9.12%	High Impact
Oil and Gas	20.84%	23.95%	High Impact
Real Estate	3.62%	5.13%	High Impact
ICT	4.99%	6.94%	Low Impact
Education	0.36%	0.7%	Moderate Impact
Financial Services	6.82%	0.55%	Moderate Impact
Health	N/A	1.22%	|Moderate Impact
Agriculture	4.19%	4.53%	Moderate Impact

Source: KPMG COVID-19 Report 2020

2.2. COVID-19 Pandemic, Oil Price Shock and Bank Funding and Liquidity

When funding and liquidity of banks are mentioned, we are looking at frequency of intermediation function of bank within the period of lockdown and oil price slump. The twin shocks of COVID-19 and oil price slump have impacted on banking sector deposits and borrowing (Iwedi *et al,* 2020). The worsening global financial conditions have influence availability of funding and credits lines, general reduction in domestic deposit level by the inability of banks to mobilize new deposit, increase in deposit rates with inter-banks rates and downgrading of country risk to B also increased cost of borrowing and trade lines. Also, the twin shock have impacted banks liquidity position such as that cash inflow from loan repayment have decline significantly and cash withdrawal by depositors to meet their funding needs have increased (KPMG, 2020)

2.3. Empirical Review

Nuhu (2020) examine the impact of the Covid-19 on the financial markets; evidence from China and USA. The study applied a regression model time series data from China COVID-19 Statistic Reports and Trading Economies from 1st March 2020 to 25th March 2020. The study used the Shanghai Stock Exchange as a sample for China and the New York Dow Jones as a sample for the USA. The study found that there is a positive significant relationship between the COVID-19 confirmed cases and all the financial markets.

Baret, Celner, O'Reilly and Shilling (2020) investigated the impact of the COVID-19 on the financial markets and banks. The study found evidence of significant effects of COVID-19 on the general financial markets as recently the world experienced fall in shares prices, oil prices equality and bound prices. Xinhuan (2020) study found that there is a significant impact between COVID-19 and China financial market such that the financial market in China have remain generally stable compared with Overseas market despite the spread of the Corona Virus. Tesfaye (2020) explore the impact of the Covid-19 pandemic on Ethiopia's Private Banking System. The study use ten years historical data from 2010 to 2019 to found that the pandemic has effect on both Balance Sheet and Income Statement of banks.

Wakode, (2020) studied the influence of Covid-19 on the credit exposure of a bank. The study employ the statistical tool of the multivariate analysis of variance to choose and find out that there is significant impact between Covid-19 and bank risk metrics. Demirguc-Kant, Pedraza and Ruiz (2020) assess the impact of Banking Sector performance during the Vovid-19 crisis. The study found that the crisis and the countercyclical lending role that banks are expected to play have put baking systems under significant stress, with bank stocks underperforming their domestic market and other non-bank financial firms. Erdem (2020) analyzes whether there is relationship between the freedom of countries and their stock market movements in response to COVID-19 announcements. The result reveals that markets are significantly negatively affected by the pandemic such that the index returns decrease and volatilities increase.

However, in Nigeria, Iwedi, Kocha and Onakpono (2020) studied Covid-19 pandemic, global trade war and impact on the Nigeria economy. The study employed the descriptive methodology to evaluate Covid-19 pandemic, global trade was and its impact on the Nigeria economy. The study found that coronavirus crippled the Nigeria economy in term of social, religious and economic activities while the measures taken to contain the spread of COVID-19 impacted on Nigeria citizens in many ways such as job loss, higher food prices, disruption, to health care and education services.

3. Data and Methodology

The descriptive and analytical techniques were used to investigate the impact of COVID-19 pandemic, crude oil price shock on Nigeria financial service sector. – time series data on Covid-19 confirmed cases for Nigeria, crude oil prices, bank deposits, bank credit, and banks earnings, use as variables for this study while multiple regression analysis with the application of Eview Software package were use for the analysis. Thus, the model for this study is specified as:

$$BFD = f(COVID19, OILPRICE) \quad (1)$$

When equations 1 is transformed into econometric equation, we have equations 2

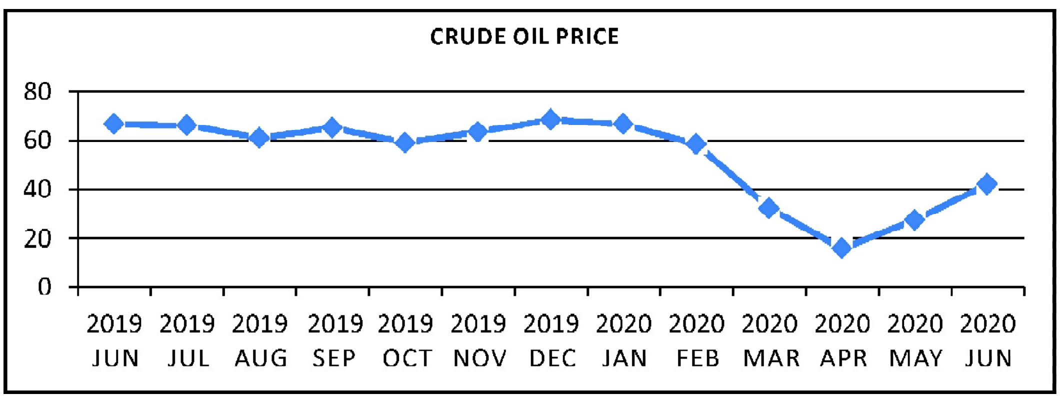
$$BFD_t = \beta o + \beta_1 \, COVID19_t + \beta_2 \, OILPRICE_t + eit \quad (2)$$

Where BFD_t is dependent variable, BFD is banking sector funding proxy for bank credit to private sector. COVID19 is confirmed cases of COVID-19 in Nigeria and OILPRICE is the crude oil price proxy by crude petroleum – bonny light.

4. Results and Interpretations

This section presents the descriptive and econometric results of the ordinary least square regressions, Johansen co-integration test and the pairwise granger causality test. The first result is the graphical analysis as label figure 1, 2 and 3

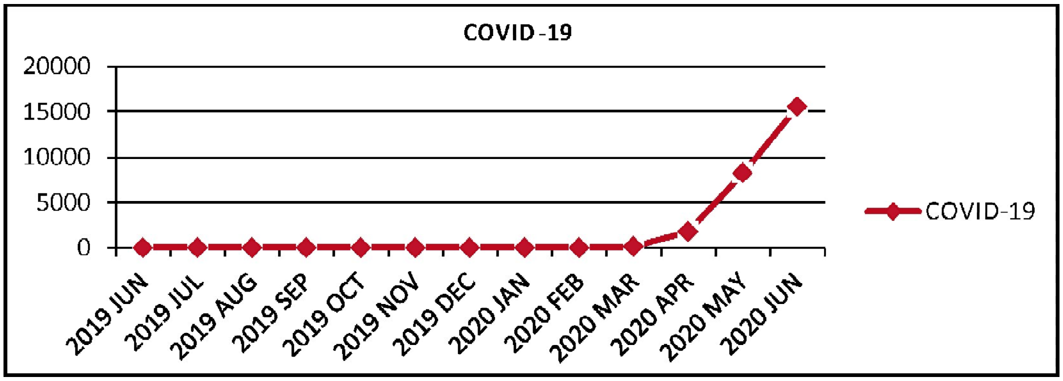
Figure 1: Global Crude oil Prices



The values of crude oil in the global market during the period of this pandemic evidently show that the prices maintained an irregular trend throughout the period under review. In January 2020 the prices was 66.68 USD per barrel, it decline to 58.45 USD per barrel in February 2020, it slump again to 32.29 USD per barrel in March 2020. In April 2020, drastically decline to 15.87 USD per barrel and increase again to 27.62 USD in May 2020 and in June 2020 it further increased to 42.15 USD in 2020.

Figure 2 shows that the figure of COVID-19 confirmed cases in Nigeria maintained an increasing trend during the period chosen for this study. In February

Figure 2: Confirmed Case of COVID-19 in Nigeria



2020, the country recorded one (1) index case in Ogun state south west Nigeria. In March 2020 and April, the figure rose to 114 and 1797 confirmed cases across 35 states including Federal Capital Territory Abuja. In May and June 2020, the figure increased astronomically to 8248 and 15540 confirmed cases in Nigeria.

Table 1: Unit Root Test

	D(BANK FUNDING)	*D(COVID19)*	*D(OILPRICE)*
ADF Statistics	-3.675125	-10.98561	-4.809839
1%	-4.200056	-4.200056	-3.523070
5%	-3.175352	-3.175352	-2.986225
Probability	0.0228	0.0000	0.0000

Source: Eview 9.0 output

The unit root test in table 1 shows that the variables of COVID-19, oil price shock and banking sector funding of the economy during the pandemic were stationary at first difference. The stationarity properties of these variables were further confirmed by its associated probability which is less than 0.05 level of confidence. The result from the stationarity test therefore calls for long-term relationship.

The result of the co-integration test shows that the value of trace (75.12503) and max-eigen statistic (60.43439) is greater that the critical value (29.79707 and 21.13162) at 5 percent at none hypothesis, therefore, we reject the null hypothesis of there is no co-integration equation in this model. The second and third null hypotheses say that there is at most 1 or 2 co-integrating equation. A look at the value of trace and max-eigen statistic shows that value of trace statistic is less than the critical

Table 2: Johansen Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	*Eigenvalue*	*Trace Statistic*	*0.05 Critical Value*	*Prob.***
None *	0.995889	75.12503	29.79707	0.0000
At most 1	0.735059	14.69065	15.49471	0.0658
At most 2	0.007237	0.079897	3.841466	0.7774

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: Eview 9.0 output

Table 3: Johansen Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	*Eigenvalue*	*Max-Eigen Statistic*	*0.05 Critical Value*	*Prob.***
None *	0.995889	60.43439	21.13162	0.0000
At most 1 *	0.735059	14.61075	14.26460	0.0441
At most 2	0.007237	0.079897	3.841466	0.7774

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: Eview 9.0 output

value at 5 percent while the value of max-eigen statistics is greater than the critical value at 5 percent. so we agree with the null hypotheses that in this model we have at most 1 or 2 co-integration equation. This implies the series are co-integrated that is exhibit a long run relationship.

From results of the regression in table 4 it was discovered that there is positive relationship between COVID-19 confirmed cases and the Nigeria banking sector funding of the economy. This relationship is statistically insignificant at 5% level of confidence. The coefficient for COVID-19 confirmed cases is 0.091% which implies that for every additional confirmed cases of COVID-19 in Nigeria, the banking sector credit to private sector of the economy was impacted for the same amount as well. Contrarily, the coefficient for oil price shock is -89.23% which means that for each additional slump in global oil price i.e the main stay of the economy, the Nigeria banking sector funding of the economy was impacted to the turn of -89.23% as well. The result further reveals that there is a significant negative relationship between

Table 4: Ordinary Least Square Result

Dependent Variable: Banking Sector Funding (BFD)
Date: 09/25/20 Time: 22:24
Sample: 2019M06 2020M06
Included observations: 13

Variable	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
C	40615.22	1352.203	30.03634	0.0000
COVID19	0.091024	0.086566	1.051498	0.3178
OILPRICE	-89.23633	22.86451	-3.902831	0.0029
R-squared	0.718355	Mean dependent var		36034.20
Adjusted R-squared	0.662026	S.D. dependent var		2140.082
S.E. of regression	1244.147	Akaike info criterion		17.28946
Sum squared resid	15479025	Schwarz criterion		17.41984
Log likelihood	-109.3815	Hannan-Quinn criter.		17.26267
F-statistic	12.75286	Durbin-Watson stat		0.867864
Prob(F-statistic)	0.001772			

Source: Eview 9.0 output

global oil price shock and banking sector funding of the Nigeria economy. The results of other important statistical tools (Adjusted R-squared) reveal that the model is 66.20% fit, that is the model is a good one due to the fact that the independent variable (COVID-19 confirmed cases and slump in global oil price) cumulatively explain the changes in banking sector credit to the private sector in Nigeria.

5. Conclusion

The study investigates the impact of COVID-19 Pandemic, Oil Price Shock on the Nigeria Banking Sector from the period dated 1st February 2020 to 30th June, 2020. Using confirmed cases of COVID-19, global oil prices, and bank credit to private sector as variables for the study. The results reveal that there is positive relationship between COVID-19 confirmed cases and the Nigeria banking sector funding of the economy. Contrarily, the result further reveals that there is a significant negative relationship between global oil price shock and banking sector funding of the Nigeria economy. This means that Nigeria banking sector funding of the economy was negatively impacted by the follows global oil price slump. The study concludes that cumulatively the follows of COVID-19 Pandemic and Oil price shock are determinant variables that have impacted on the ability of the banking sector to fund the Nigeria economy.

References

Adesoji, B.S. (2020). Non-performing loans in Nigeria Banks rise to N1.21 trillion in ! 2020 Nairametrics 9(13).

Baret, S., Celner, A., O' Reilly, M. & Shilling, M. (2020). Covid-19 potential implications for the banking and capital markets sector. Maintaining business and operational resilience. Deloitte Insights.

Demirgue-Kunt, Pedraza and Ruiz (2020). Banking sector performance during the Covid -19 crises. *The World Bank Policy Research working paper series*, 9363.

Erdem, O., (2020). Freedom and stock market performance during covid-19 outbreak. *Finance Research Letter* 36(2020), 1-6.

Iwedi, M., Kocha, C.N. & Onakpono, A. E. (2020). Covid-19 pandemic, global trade wars and impact on the Nigeria Economy. *Academic Journal of Current Research,* 7(5), 71-82.

Jones, D. (2020). Covid-19 pandemic caused increase in cyber fraud and changes in banking.

KPMG Report (2020). The twin shocks (Covid-19 Round and Oil price war) and implication for banking sector. An analysis of COVID-19 and oil price war impacts and potential mitigating measures.

Nuhu, S. (2020). The impact of the Covid-19 on the financial markets: Evidence from China and USA.

Okorafor, I. (2020). Alert! Be aware of Covid-19 cyber-attacks, fraud. CBN Press Release. *www.cbn.gov.ng*.

Olisah, O. (2020). Banks to witness low earnings over Coronavirus. *Nairametrics* 5(4).

Tesfaye, B. L. (2020). The impact of Covid-19 on the Ethiopian Private Banking System. Published PhD thesis of University of South Africa. *http://www.researchgate.net/publication/342106350*.

Wakode, S. (2020). Efficacious scrutinizing of Covid-19 impact on Banking using credit risk metrics. *International Journal of finance and Banking Research,* 6(3), 51-56.

Xin'hua (2020). China Financial market remains stable and Covid-19 impact China Daily-Hong Kong.

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