COVID-19 Pandemic on Macroeconomic Dynamics in Nigeria: An Assessment

Serifat A. FOLORUNSO[1], Tolulope T. OSINUBI[2], Oluwadare O. OJO[3] & Morufu A. FOLORUNSO[4]

[1]University of Ibadan Laboratory for Interdisciplinary Statistical Analysis (UI-LISA), Ibadan, Nigeria

[2]Obafemi Awolowo University, Ile-Ife, Nigeria

[3]The Federal University of Technology, Akure, Nigeria

[4]Federal School of Statistics, Ajibode, Ibadan, Oyo State, Nigeria

Email: [1]serifatf005@gmail.com; [2]tosinubi@oauife.edu.ng; [3]daruu208075@yahoo.com; [4]folorunsomoruf@fssibadan.edu.ng

Abstract

This paper assessed the impact of COVID-19 on macroeconomic dynamics in Nigeria, which translated to pressure on the value and depreciation of the naira, job loss, deferment and inability to manage debts, industrial production shutdown and supply chain disruption, price hike and demand reduction, among others, at the peak or during the lockdown period of the COVID-19 pandemic. Macroeconomic variables such as gross domestic product (GDP), inflation, prices, economic growth, national income, employment and others were seriously affected. This assessment is based on the available literature on the development and outcome of the COVID-19 pandemic on the economy of Nigeria. Findings show the effect on the Nigerian mono-economy which relies mostly on crude oil exportation for earnings, economic prosperity and forecast. During the period, the international price for crude oil was at an all-time low, which meant a reduction in income for a fragile and double-digit inflation economy. The high dependence on raw materials from foreign sources for major manufacturing industries had a degree of negative impact, as finished product processing slowed down and the supply chain distorted during and after the lockdown. This study indicates that the sharp drop in Nigeria's GDP growth was due to the stoppage in economic activity during the lockdown in April 2000 to curb the spread of the coronavirus.

Keywords: Central Bank of Nigeria, COVID-19, Macroeconomic variables, Nigeria

Introduction

The world generally is experiencing a pandemic that has affected everyone, irrespective of age, gender or race. The disease is caused by a coronavirus, named COVID-19, which originated in the Wuhan province of China and spread to every other part of the world (Nnanna, 2020).

The COVID-19 pandemic challenge can be explained from Galtung's (1973) conflict transformation theory which is about how limitation manifests into a greater problem. In another sense, the situation may mean access to a goal has been blocked without a credible alternative, therefore a bigger problem develops. The disease and the complexity of its development have immediate and long-term impacts on the economy, and the uncertainty on the right economic policy to tackle its effects has been a great challenge for Nigerians and policymakers.

Albert (2020) viewed the situation from a peace and security perspective. To curb the spread of COVID-19 and to secure public health, measures forcing Nigerians to stay at home were introduced. The maintenance of social and physical distancing and the wearing of face masks were initially seen as a violation of personal liberty by some Nigerians. They viewed staying at home for weeks as life-threatening, as many Nigerians live on daily incomes. Many claimed that "hunger kills more than COVID-19". Albert (2020) emphasised that a nation may not witness physical war and yet it is not peaceful if people live in fear, trauma and lack. It is a socio-economic war without boundaries. The restriction order movement led to insecurity, and incidences of unrest were occasionally experienced in some states, as evidenced by armed robberies, and attacks on farm products and food trucks.

The pandemic has had serious hit on Nigeria's sick and fragile economy. The effects were severe as the economy was yet to recover from a recession. In addition, it is an economy dependent on crude oil sales with inflation in double digits and an unfavourable naira exchange rate being (Olubusoye & Ogbonna, 2020). The Nigerian 2020 budget was badly distorted; assumptions and estimates were unrealisable because a vital economic variable had become unfit. It led to limited ability to implement capital projects, and slowed down infrastructural development and national growth. It gave rise to limitation in spending and decline in demand for goods and services, closure of factories and reduction in the production of goods and sales. The manifestation effects were salary freezes and job losses in the private sector, especially the industrial and the private education sectors that are employers of a significant percentage of the labour force or manpower in the country.

The closure of educational institutions to control the spread of COVID-19 led to a season of increase in the number of out of school children, youth and adults, as a greater percentage could not afford the cost of online studies. The educational disruption was most felt by the disadvantaged members of the society because they could hardly afford the cost of internet facilities. The effect on Nigeria's international trade was negative as it became severely unfavourable. Oil prices dropped, the naira became unstable, and the importation of raw materials for production was badly affected. Regional trade and economic stability were not spared (Sodipe et al., 2020).

The impact of COVID-19 on Nigerian consumers and industrial markets were intense as it affected the demand or purchasing power of consumers in the short- and medium- term. This somehow resulted in the panic buying of essential goods and made some items expensive. Demand fluctuation and price hikes were common; and common economic variables remained unpredictable (KPMG Nigeria, 2020). It resulted in cash flow constraints as debtors' periods became elongated because the means to collect some debts were blocked as there was no way some debts could be paid. Nearly all financial institutions were adversely affected. Banking services were poor because of the shortage of cash flow in the system.

The COVID-19 challenge exposed the weakness of the Nigerian health infrastructure. Testing centres were either not available or not enough to manage the situation. The negligence and lack of will to develop the health sector came to the fore as provisions for epidemics and emergencies were either lacking or non-existent. The reliability of foreign health care services and poor faith in the expertise of Nigerian health care professionals turned around to haunt the top officials of the Nigerian government and the general populace as the lockdown which was like a war situation prevented international travel. Likewise, the withdrawal or avoidance of services by some primary health care providers at the peak of the COVID-19 lockdown severely affected patients with chronic health conditions. The consequence in some cases resulted in the death of citizens and some major stakeholders that were drivers of the economy and this may in turn have slowed down processes and decision making in their various businesses and investments.

Distance and financial incapability to visit hospitals led many to resort to herbs, fruits, and vegetables, which have great potentials but which Nigeria has refused to develop. The advent of COVID-19 promoted the focus on alternative medicine (herbal mixtures) for treatment. Onyenucheya (2020) reported that it was unofficially recommended as a remedy. The pronouncement of the Oyo State governor (Nigeria), Engr. Seyi Makinde is a reference point. He advocated the use of local solutions to cure persons infected with the coronavirus. The usefulness of some food products such as pap as a source of carbohydrate and alkaloid was an evidence of the local approach. Likewise, the use of herbs, roots, nuts and fruits such as cloves, turmeric, ginger, garlic, neem leaves (*Dogoyaro*) and lemon began to increase. There were improvements in the sales and returns for those involved in the business of traditional herbal mixtures.

This study assessed recent literature that investigated the impact of coronavirus on the Nigerian economy. This contribution is therefore an assessment of some selected literature such as Jackson et al., 2020; Apergi et al., 2020; Ozili, 2020**;** Olubusoye and Ogbonna, 2020; McKibbin and Fernando, 2020; Sodipe et al., 2020; Martin et al., 2020; Olurounbi, 2020; Morsy, 2020; Shutterstock, 2020; Farayibi and Asongu, 2020; Cadamuro and Papadia, 2020; Lenon, 2020; Bakery et al., 2020; Olivier et al., 2020 among others. The rest of the paper is as follows: The next section presents the literature review, followed by the section on details of the effect of the COVID-19 pandemic on macroeconomic dynamics and results. Next, the economic implication of COVID-19 on Nigeria is discussed, and the final section presents the concluding remarks.

Literature Review

Since the outbreak of COVID-19, many papers have emerged in the literature investigating how the pandemic has adversely affected nations economically and socially and more are still being written. This review examines the macroeconomic impact of COVID-19 in Nigeria focusing on both grey and empirical literature. Grey literature include reports from news agencies, individual opinions, government documents, abstracts, working papers, and so on.

COVID-19 and the Nigerian economy

Nnanna (2020) reported in *Business Day*, a Nigerian leading finance and market intelligence news report, that the sector that is most affected by COVID-19 is the micro, small and medium enterprises (MSMEs), and this is because the sector is susceptible to economic shocks as a result of its relatively low savings capacity. Aside from this, the survival of MSMEs is attached to the free movement of goods and people which has been restricted due to the pandemic. Similarly, Chibueze et al. (2020) documented that small and medium enterprises (SMEs) and informal entrepreneurs will be greatly affected by the pandemic and that COVID-19 and the accompanying oil price crash caused a decline in the 2020 budget. Using survey data from June 16-18, 2020 in Nigeria, Agyenim-Boateng et al. (2020) confirmed that COVID-19 has had a noticeable impact on consumer behaviour as the majority of consumers experienced low levels of income, spending, and savings. Consequently, Nigerian consumers became mindful of spending but increased their expenditure on essentials, entertainment, and fuel. This shows that COVID-19 will ultimately increase spending on necessity goods and reduce spending on luxury goods.

Analysing the poverty impact of the post-COVID-19 future, Olurounbi (2020) revealed that the World Food Programme now views the number of people experiencing food crises as doubled due to COVID-19. Statistically, the United Nations Agency in April projected that about

265 million people would experience severe food insecurity by the end of 2020 in both the low- and middle-income countries. This implied that COVID-19 would raise the number of people living in absolute poverty. Onyekwena and Ekeruche (2020) opined that aggregate demand will reduce as a result of a decline in household consumption and investment, but government expenditure, on the other hand, will increase during COVID-19 pandemic in Nigeria. The explanation for this is the high level of debt and low level of government revenue due to falling oil prices.

Furthermore, Ozili (2020) argued that the recent economic crisis is a result of a decline in oil prices and COVID-19 in Nigeria. In the same vein, Olubusoye and Ogbonna (2020) examined the effect of COVID-19 on the Nigerian economy. The authors found that government revenues and economic growth dwindled due to oil price volatility, exchange rate depreciation, and consumer expenditure, while investment, and economic growth fell as a result of fluctuations in stock market prices. These findings imply that COVID-19 has had an adverse effect on Nigeria’s macroeconomic performance. In addition, besides these macroeconomic variables, Albert (2020) was of the view that Nigeria's experience of insurgence and insecurity during the pandemic would negatively affect the macroeconomic performance of the country because insurgence is an additional burden on the economy.

Employing the dynamic ordinary least squares (DOLS) regression, Farayibi and Asongu (2020) studied the economic consequences of COVID-19, as measured by the number of cases in Nigeria with the findings that the impact of COVID-19 on each of inflation, employment, exchange rate, and GDP growth is negative as expected, but insignificant. By implication, the findings from their study indicate that it will take time before macroeconomic variables respond positively to COVID-19. Similar to the findings of Farayibi and Asongu (2020) on the exchange rate, Onwughai (2020) documented that COVID-19 has negatively affected the value of the naira against the dollar; that is, a negative relationship exists between COVID-19 and exchange rate.

In examining the efficacy of Nigeria’s response to COVID-19, Sodipe et al. (2020) outlined the challenges, lessons, and opportunities. The authors listed sectoral (health, economic, and humanitarian), national, and state strategies and policies as the possible responses to

COVID-19. Under health strategies and policies to employ to flatten the curve, the authors agitated for:

- the expansion of national testing capacity,
- establishment of sample collection centres,
- establishment of treatment isolation centres,
- development/adoption of guidelines, and
- enforcement of lockdown.

The economic strategies and policies are further divided into monetary, fiscal, and income strategies and policies. Furthermore, the monetary strategies and policies include

- extension of moratorium on all principal repayments of its intervention facilities for one year,
- reduction of interest rates for all Central Bank of Nigeria (CBN) investment facilities from 9% to 5% per annum for one year, and
- ₦1 trillion loans to improve local development and manufacturing across critical sectors,

The fiscal strategies and policies comprise:

- extension of time limits for filing value-added tax and withholding tax,
- extension of the due date for submission of income tax returns for businesses by one month, and
- facility for taxpayers to file tax returns electronically through e-filing via firs.gov.ng or through approved e-mail accounts provided by the Federal Inland Revenue Service (FIRS). (Sodipe et al., 2020).

COVID-19 and African economies

In African countries, the African Union Commission (2020) reported that the sectors that were visibly affected during the pandemic include: tourism, air transport, and the oil sector. This is not surprising as African governments declared total or partial lockdown immediately COVID-19 cases were increasing. According to the Commission, the African Union member states recorded many cases and deaths. This was because borders were not closed on time. Gondwe (2020) built a simple macroeconometric model of Africa to forecast and simulate the effect of COVID-19 on African economies for relevant policy inference. The major focus was to simulate the impact of the plunge in fuel prices and global recession on Africa's key macroeconomic variables, such as GDP, export, interest rates and revenues. It was found that COVID-19 will lead African economies into a fall of about 1.4% in GDP with smaller economies facing a contraction of up to 7.8%. Further results showed that there will be significant declines in fuel prices which will make African countries lose revenue. In addition, a report by the African Energy Commission (2020) stated that the demand for African crude oil is expected to reduce by at least 10% on average in 2020 when compared to previous years and this will affect the oil prices negatively.

COVID-19 and other economies

In the United States of America, Bekaert et al. (2020) discovered that in the first quarter of 2020, a decrease in aggregate demand caused two-thirds of the fall in GDP, while a decrease in aggregate supply lead to two-thirds of the decline in GDP in the second quarter of the same year. Still, on the US economy, del Rio-Chanona et al. (2020) studied how supply and demand shocks from the COVID-19 pandemic affected individual occupations and industries. The findings from the study revealed that demand shocks are likely to affect the transport sector, while the manufacturing, mining and services sector will be constrained by supply shocks. On the other hand, both supply and demand shocks will influence entertainment, restaurants and the tourism industry. Examining occupation level, the authors showed that low-wage occupations are expected to be affected by the adverse demand and supply shocks, while high-wage occupations are fairly protected from the negative shocks. On inflation, Banerjee et al. (2020) suggested that a decline in output as a result of COVID-19 would lead to greater downside risks to inflation in advanced economies, while in emerging market economies, a rise in upside risks to inflation would be caused by exchange rate depreciation.

COVID-19 and the global economy

Globally, there are a few publications on the effect of COVID-19 on the global economy. Jackson et al. (2020) documented that COVID-19 has greatly impacted global economic costs in terms of loss of human lives, high level of poverty, increasing unemployment, decreasing trade, and economic growth. These findings show that the global world has been adversely hit by this pandemic. Relatedly, Mckibbin and Fernando (2020) investigated the global macroeconomic impact of COVID-19 using seven scenarios. Playing these scenarios revealed that the economic cost of COVID-19 could worsen swiftly if COVID-19 became a global pandemic. The authors, therefore, put forward some policies that would help in reducing the economic costs in both the short and long run. In the short run, central banks and treasuries need to make sure that disrupted economies continue to function while the disease persists (Mckibbin & Fernando, 2020, pp. 25); while in the long run, the public health systems, particularly in less-developed countries, need to be developed. The World Bank is not left out in this global analysis. According to the World Bank Group (2020), COVID-19 has caused economic damage which indicates the largest economic shock experienced by the world. In specific terms, the long-run expectations from the pandemic are: "lower level of investment", "erosion of human capital through lost work and schooling", and "fragmentation of global trade and supply linkages". Cadamuro and Papadia (2020) showed that COVID-19 is an exogenous shock on the global economy as it has negatively affected global stocks and raw material prices, particularly energy and agricultural products.

Conclusively, going by the literature, COVID-19 has done more harm than good due to its adverse effect on macroeconomic performance in the world at large. Consequently, governments around the world need to respond quickly to this pandemic to flatten the curve and reduce its global economic costs.

Effect of COVID-19 Pandemic on Macroeconomic Dynamics and Results

In this section, data is provided on some macroeconomic variables such as exchange rate, purchasing manager index of manufacturing industries, inflation rate, and crude oil export for Nigeria. These were sourced from the Central Bank of Nigeria database. For some data, monthly comparisons were made between year 2020 (during COVID-19) and the previous year, 2019 (before COVID-19). Due to the very small number of observations and the narrow lockdown days during the

COVID-19 pandemic, the variables were assessed in order to cushion the effects of COVID-19 on the Nigerian economy. Descriptive analysis was used and percentage changes were estimated.

Table 1 shows the estimated exchange rate of the naira for the United States dollar (USD) for 2019 and 2020. The data was collected on a daily basis and the averages of the aggregate were computed. The trend of the exchange rate shows that the USD increased sharply from April to August in year 2020 compared to 2019. Table 2 displays the analysis of crude oil prices before and during the pandemic. Crude oil being a major income foreign earner from exportation, the price fell significantly at the peak of the COVID-19 pandemic in March, April and May 2020. The price fell to $30 per barrel. The effect of the low price was severe on budget forecast, and made the execution of major capital projects almost impossible.

Table 1: Estimated Nigeria Exchange Rate (USD)

Month	Pre-COVID-19 (2019)	During COVID-19 (2020)	Difference	% Change
January	306.85	306.96	0.11	0.04
February	306.77	306.96	0.18	0.06
March	306.92	326.63	19.70	6.42
April	306.96	361.00	54.04	17.60
May	306.95	361.00	54.05	17.61
June	306.95	361.00	54.05	17.61
July	306.93	361.00	54.07	17.62
August	306.94	377.52	70.58	23.00
September	306.92	380.00	73.08	23.81
October	306.96	380.00	73.04	23.79
November	306.95	380.00	73.05	23.80

Source: Central Bank of Nigeria.

Table 2: Analysis based on Nigeria's crude oil prices from January to June for both 2019 and 2020

Month	2019	2020	% change
January	62.69	61.07	-2.6
February	66.23	53.76	-18.8
March	69.02	15.07	-78.2
April	73.72	13.88	-81.2
May	75.76	33.91	-55.2
June	-	42.94	

Source: Central Bank of Nigeria.

Furthermore, Table 3 presents the Nigeria Purchasing Managers Index (PMI) for manufacturing industries before and during COVID-19. The PMI is a measure of the prevailing economic trend in the manufacturing sector in Nigeria. The table shows that the month-on-month PMI fell from January to June in 2020 and this can be attributed to the lockdown period. This development indicates the percentage change in the PMI's downward trend from March 2020 to June 2020. This was caused by the inability of the manufacturing sector to function, due to the COVID-19 lockdown. Lastly, Table 4 provides an analysis of inflation rate in Nigeria. The Nigerian inflation data analysis in the early month of 2020 shows that inflation rate increased between January and June 2020, this could be attributed to the lockdown restriction which translated to an upward increase in the prices of consumer goods. The lockdown disrupted the distribution of consumer goods.

Table 3: Nigeria Purchasing Managers Index (PMI), Manufacturing

Month	2019	2020	% change	Remark
January	58.5	59.2	1.2	Marginal increase
February	57.1	58.3	2.1	Marginal increase
March	57.4	51.1	-10.9	Decrease
April	57.7	42.4	-26.5	Decrease
May	57.8	42.4	-26.6	Decrease
June	57.4	41.1	.28.4	Decrease

Source: Central Bank of Nigeria.

Table 4: Analysis of inflation (year on change) from January to June of 2019 and 2020

Month	2019	2020	Difference	% change
January	11.37	12.13	0.76	6.7
February	11.31	12.2	0.89	7.9
March	11.25	12.26	1.01	8.9
April	11.37	12.34	0.97	8.5
May	11.4	12.4	1.0	8.8
June	11.22	12.56	1.34	11.94

Source: Central Bank of Nigeria.

Economic Implications of COVID-19 on the Nigerian Economy

The consequence of the COVID-19 pandemic on the Nigerian economy is starting to manifest. The National Bureau of Statistics 2020 reported that the sharp drop in Nigeria's GDP growth is largely due to the slowdown in economic activity after the country resorted to a lockdown in April 2020 to curb the spread of the virus. In the wake of the pandemic, the World Bank forecast a decline of -3.2% for 2020— a five percent point drop from its previous projections (Kazeem, 2020).

Also, from the NBS (2020) GDP report, the nominal GDP growth of the manufacturing sector in the second quarter of 2020 was recorded at –0.14% (year-on-year), or -37.92% points lower than figures recorded in the corresponding period of 2019 (37.79%) and –28.61% points lower than the preceding quarter's figure of 28.47%. Quarter-on-quarter growth of the sector was recorded at –13.31% while the non-oil sector declined in real terms by -6.05% during the reference quarter (Q2 2020). It was the first decline in real non-oil GDP growth rate since Q3 2017. The recorded growth rate was –7.70% points lower compared to the rate recorded during the same quarter of 2019, and –7.60% points compared to the first quarter of 2020.

Nigeria stood at $5,820.21m for total value of capital importation in the second quarter of 2019. This represents a decrease of -31.41% compared to Q1 2019 and a 5.56% increase compared to the second quarter of 2018.

The largest amount of capital importation by type was received through portfolio investment, which accounted for 73.76% ($4,292.89m) of total capital importation, followed by other investment, which accounted for 22.41% ($1,304.43m) of total capital imported and foreign direct investment (FDI), which accounted for 3.83% ($222.89m) of total capital imported in Q2 2019.

Andam et al. (2020) analysed the economic impact of the COVID-19 pandemic and the policies adopted to curtail the spread of the disease in Nigeria. They reported that this has an implication for understanding the direct and indirect impact of COVID-19, for policy design during the recovery period, and for planning future disease prevention measures while protecting livelihoods and maintaining economic growth. Their report claimed that the pandemic's global reach and impact on the global economy combined with the response policies in Nigeria represent a large sudden shock to the country's economy. Their estimate indicated that during the period of the COVID-19 lockdown, Nigeria's GDP suffered a 34.1 percent loss, amounting to USD 16 billion, with two-thirds of the losses coming from the service sector.

Olubusoye and Ogbonna (2020) opined that considering the effect of the COVID-19 pandemic on Nigeria's economy, it is most likely that Nigeria will experience negative growth in the third and fourth quarters of 2020 and this might lead to a recession by the end of the year 2020. Their projection was a -3.5% economic contraction, which aligns with the IMF's -3.4%. Also, their study revealed that crop production under the agriculture sector will have a greater impact on the variability of the real GDP growth rate, hence, its plausible preference as a tool for recovering from the impending recession. They finally concluded that just like most developing countries, Nigeria's macroeconomic fundamental is at risk of an impending recession.

Concluding Remarks

This paper evaluated the contemporary influence of COVID-19 on macroeconomic factors in Nigeria based on available literature. The COVID-19 pandemic negatively affected the Nigerian economy in various ways. Most prominent are in the area of demand and supply, manufacturing, international trade, and foreign exchange earnings, among others. The pandemic exposed the weakness of Nigeria's economy, especially in its poor agro-industrial base as it is determined majorly by external factors of industrial raw material supply and international trade. The drop in price and cut in international crude oil output by the Organisation of Petroleum Exporting Countries (OPEC) affected Nigeria's production, and this resulted in a reduction in earnings and export proceeds from foreign trade. The closure of manufacturing industries and total lockdown manifested in a hike in the prices of essential needs and food items caused by scarcity across major markets in Nigeria. The gap in production continues to reflect in the inadequate availability of some food items and industrial products. Nigeria's exchange rate is determined by how much USD it can attract compared to its outflow. Therefore, more earnings from exports increase the chance that the exchange rate will be favourable and stable. Unfortunately, in the COVID-19 peak period and subsequent months, there were deficits as crude oil sales dropped and the importation of industrial machines and automobile parts were a source of USD outflow at unfavourable rates.

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