

Pan Africa Europe Journal of Science, Technology and Social Sciences

This Journal is listed in the Series at Archive of International Journals of Scientific and Technology Research at www.arcijostech.org ISSN 15582-4338801X, Vol.2, No1, Nov 2021, Online Verification Number: 2/2/2020/113



Current General Chief Editors:

Professor Gabriel Kabanda

Secretary General Zimbabwe Academy of Sciences, the former Pro Vice Chancellor (Research, Innovation and Enterprise Development) of the Zimbabwe Open University
Distinguished Full Professor of Computer Science, Information Systems & Cybersecurity
Zimbabwe Open University

Vice General Chief Editor I

Professor Aiah Gbakima

The University of the Sierra Leone
Associate Professor Ismail ibn Yahya
The University of the Cape Coast, Ghana, West Africa
General Official Email: info@arcijostech.org

Managing Editor,

Dr. P.K. Paul (Gold Medalist), PhD, FIARA, FBSS

Executive Secretary, International Centre for Curriculum & Research Development
Crown University Int'l Chartered Inc. Santa Cruz, Argentina-CP-9400

Deputy Managing Editor I,

Dr. Muiyiwa Ajimuse,

Crown University Intl Chartered Inc.
Email: info@arcijostech.org

Deputy Editor – in Chief

Dist. Prof. Sir Dr. (h.c.) Luis Emilio Abad

Office of Americas Grand Provost of Crown University Intl Chartered Inc., Teaching hospital and
Argentina Campus, Oftalmo Abad, Clinica de Ojos
Orkeke 67, Rio Gallegos, Santa Cruz, Argentina
CP: 9,400
americaprovost@crowintl.education

No paper versions of the journal are provided by us, but we do encourage you to print your own through Our Various Official Emails as listed for the different Journals' email addresses at info@arcijostech.org
We do encourage you to send an email to us direct into this email address at info@arcijostech.org

Promoting the importance of Science, Technology and Social Sciences World-wide, in addition, it recognizes the International input in all aspect of the journal, including content, authorship of papers, readership of papers, paper reviews and Editorial Board Membership

Pan Africa Europe Journal of Science, Technology and Social Sciences

This Journal is listed in the Series at Archive of International Journals of Scientific and Technology Research at www.arcijostech.org ISSN 15582-4338801X, Vol.2, No1, Nov 2021, Online Verification Number: 2/2/2020/113, Topic: Enlightenment The Impact of the Covid-19 Outbreak on the Nigerian Economy, Authors: Sulayman T. H., Abalaka J.N, T .I. Ahure

Pan Africa Europe Journal of Science, Technology and Social Sciences

This Journal is listed in the Series at Archive of International Journals of Scientific and Technology Research at www.arcijostech.org ISSN 15582-4338801X, Vol.2, No1, Nov 2021, Online Verification Number: 2/2/2020/113

Honorary Editorial Board Advisor

Dr. Ishaquo Dauoda

Faculty of Agronomy Building , University of Parakou,
B.P 123 or 02 B.P. 1050 Parakou,
Republic of Benin, West Africa..

Editorial Team

Dr. Ishaquo Dauoda, University of Parakou, Republic of Benin

Guest Editor, Issues on West Africa

Professor Nkum, Kwame Nkruma, University of University of Science and Technology, Kumasi,
Ghana, West Africa

Guest Editor for Special Issue on PBL

Prof. Sikiru Sanni, University of Uyo, Nigeria, West Africa

Chief Editor and Layout Editor

Dr. Sikiru Eniola, Ekiti State University, Ado-Ekiti, Nigeria, West Africa

Guest Editor, Special Issue on Africa

Prof. Sir Muhammed Mujtaba Abdullahi, The National Open University of Nigeria

Guest Editor, Special Issue, Caribbean

Prof. Viama Blama, Adam Smith University of America

Guest Editor, Special Issue on America

Innocent Rusagara, Faculty of Applied Sciences, Department of Mathematic, Kigali Institute of Science and Technology, Rwanda

Professor Terence McIvor, AIIPT/ASU

Guest Editor, Special Issue on Europe and Latin America

International Editorial Advisory Board

Member: PROF. MUHAMMADOU M. A. KAH (GAMBIA)

Member: PROF AIAH A. GBAKIMA (SIERRA LEONE)

Member: PROF YAKEEN ALGHALI (SIERRA LEONE)

Member: PROF FEDRICK GBEGBE (LIBERIA)

Member : PROF VIAMA J. BLAMA (LIBERIA)

Member: PROF. GEORGE ALBERT MAGOHA (KENYA)

Member: PROF. BRUNO BEKOLO EBE (CAMEROON)

Member: PROF. HAYMAN RUSSEL BOTMAN (SOUTH AFRICA)

Member: PROF LARA OGUNDIPE (GHANA)

Member: PROF. KARRAR AHMED BASHIR ELABBADI (SUDAN)

Member: PROF CHARLES L.M. OLWENY (UGANDA)

Member PROF. OLIVE MWIHAKI MUGENDA (KENYA)

Member PROF. NAANA JANE OPOKU-AGYEMANG (GHANA)

Member: PROF. EHOUAN ETIENNE EHILE (COTE D'IVOIRE)

Member: UNESCO LAUREATE PROFESSOR SIR AREMU BASHIRU (NIGERIA)

Member: DR. MEFTAH ALMRABET (LIBYA)

Member: PROF. FILIPÉ JOSÉ COUTO (MOZAMBIQUE)

Member: PROF. LAZARUS HANGULA (NAMIBIA)

Member: PROF. ZOLLO PAUL HENRI AMVAM (CAMEROON)

Member: PROF. CHARLES KITIMA (TANZANIA)

Member: PROF. MOHAMED MUFTAH M SALEH (LIBYA)

Member: PROF. CISCO MAGAGULA (SWAZILAND)

Member: PROF NGWABI MULUNGE BHEBE (ZIMBABWE)

Member: PROF. TERENCE MCIVOR (U.K)

For any further information, feel free to write us: Managing Editor: info@arcijostech.org

(For queries related to publication, to join editorial board, reviewer board.)

General Queries: info@arcijostech.org (For general queries & amp; ISSN details.)

Payment: info@arcijostech.org (For payment related queries) Complaint: info@arcijostech.org

ENLIGHTENMENT THE IMPACT OF THE COVID-19 OUTBREAK ON THE NIGERIAN ECONOMY

***Sulaiman T.H, Abalaka, J.N, T. I. Ahure**

***Faculty of Social Science, Crown University Intl Chartered Inc. Santa Cruz Province, Argentina and partners constituent campuses worldwide**

Abstract

The economic downturn in Nigeria was triggered by a combination of declining oil price and spillovers from the Covid-19 outbreak, which not only led to a fall in the demand for oil products but also stopped economic activities from taking place when social distancing policies were enforced. The government responded to the crisis by providing financial assistance to businesses, not to households that were affected by the outbreak. The monetary authority adopted accommodative monetary policies and offered a targeted 3.5trillion loan support to some sectors.

These efforts should have prevented the economic crisis from occurring but it didn't. Economic agents refused to engage in economic activities for fear of contracting the Covid-19 disease that was spreading very fast at the time. In this paper, I analyse the Covid-19 spillovers to Nigeria and the structural weaknesses in Nigeria's infrastructure that helped bring on the current economic crisis and discuss prospects for reform. The study examines the impact of a coronavirus outbreak on the Nigerian economy using reports from Nigeria Centre for Disease Control and World Health organization for the period of 11th March to 4th August 2020 on total cases of the virus in Nigeria. According to the WHO, the virus has infected about 76,936 people in the mainland China, with additional 2,051 cases of the virus from about 30 other countries and in Nigeria On the 4th of August 44,129 new confirmed cases and 896 deaths were recorded in Nigeria, Till date, 44129 cases have been confirmed, 20,663 cases have been discharged and 896 deaths have been recorded in 36 states and the Federal Capital Territory, The 288 new cases are reported from 15 states- Lagos (88), Kwara (33), Osun (27), FCT (25), Enugu (25), Abia (20), Kaduna (17), Plateau (13), Rivers (13), Delta (10), Gombe (8), Ogun (4), Oyo (3), Katsina (1), Bauchi (1), A multi-sectoral national emergency operations centre (EOC), activated at Level 3, continues to coordinate the national response activities. Therefore, the corona various have been ruled out, the result is pending for 17, while 11 were confirmed positive. Base on the reported cases of the disease, the researchers, therefore, recommend that precautionary measures

that include Regularly and thoroughly wash your hands with soap and water, and use hand sanitizer, maintain at least one and a half metres distance between yourself and anyone who is coughing or sneezing, persons with persistent cough or sneezing should stay home or keep a social distance, but not mix in-crowd and making sure you and people around you, follow good respiratory hygiene, meaning cover your mouth and nose with a tissue or into your sleeve at the bent elbow or tissue when you cough or sneeze and then dispose of the used tissue immediately among others should be taken in consideration.

Keywords: Corona virus, Nigeria Economy, Nigeria Centre for Disease Control, WHO outbreak, social distancing, financial crisis, global recession, monetary policy, fiscal policy, liquidity provision, and Central banks.

INTRODUCTION

The corona virus outbreak, later coded as Covid-19, hit the world like a thunderbolt towards the end of December 2019. At its inception in Wuhan city in China, it was regarded as a regional health challenge whose global potential risk was summarily underestimated. Although many countries were in solidarity with China upon this health disaster, Covid-19 was nonetheless not perceived as a threat with a global scale. The World Health Organization (WHO) declared that the health crisis in China had no global potential threat. However, given that the modern world is entrenched in the concept of globalization and the position of China as the manufacturing hub of the world; a seemingly less risky Chinese health issue metamorphosed into a global scale with lethal consequences (Price and van Holm, 2020; Ezeaku and Asongu, 2020). As at the 4th of August 2020, statistics showed that the total global confirmed cases of Covid-19 were **18,263,542** while the global death toll was **693,726**. This indicated a 5.29 per cent fatality rate and about 20 per cent recovery rate (WHO, 2020).

Africa, being a highly vulnerable continent, soon recorded imported cases of Covid-19. As at the time of writing this paper, the total

confirmed cases of Covid-19 in Africa stand at 968,612 cases; with about **629,599** recoveries and 20,628 deaths recorded (WHO, 2020). These represent a 46.3% recovery rate and about 2.3% fatality rate, respectively. However, there have been a lot of debates on the reasons for the low cases of Covid-19 recorded in Africa (World Bank, 2020; OECD, 2020; Diop and Asongu, 2020). This seems ironical given the level of public health infrastructure, governance structure, porous borders, weak institutions, inter alia, in the region. It was rather argued that the low number of confirmed cases of Covid-19 recorded in Africa was due to low testing capacity and not necessarily because of location or the effectiveness of containment policies.

Nigeria recorded the first case of Covid-19 on the 27th of February, 2020. As at 4th August, the total confirmed cases in Nigeria stood at 44,129 with 20,663 discharged and 896 deaths, representing about 35 per cent recovery rate and 2.6 per cent fatality rate, respectively. What is evident in the trend of the Covid-19 pandemic in Nigeria is that there has been an increase in community transmission. Since the gradual relaxing of the lockdown in the country, cases of Covid-19 pandemic have increased by about 60 per cent and the corresponding deaths recorded have also increased by about 33 per

cent; implying that the country has entered the second wave of infection based on community transmission.

The corona virus pandemic represents both public health and economic crisis. While the public health crisis addresses disease containment measures, treatment and development of vaccines; economic crises are reflected in supply and demand shocks as well as oil price shock, consequent upon disruptions in economic activities caused by the global lockdown. The outbreak of the corona virus has thus disrupted the conduct of major macroeconomic policies across the globe.

Like many resource-dependent developing countries, Nigeria has faced the brunt of the fluctuations in the price of crude oil -which accounts for about 70 per cent of her gross domestic product (GDP) and 65 per cent of total government revenue. The rise in government spending driven by the need to combat the effect of Covid-19 had increased the country's fiscal deficit and her susceptibility to high public debt vulnerabilities. Furthermore, the depressing global capital flows which put serious pressure on Nigeria's foreign exchange reserve and exchange rates (KPMG, 2020), has also affected the conduct of sundry monetary policies in the country. This situation is expected to result in macroeconomic consequences on outcomes such as economic growth, inflation, unemployment and exchange rates.

The preponderance of the vulnerabilities of macroeconomic variables due to the consequence of infectious diseases on the economy therefore calls for the proper understanding of the macroeconomic effects of

Covid-19 in Nigeria. This line of research becomes essential for some reasons. First, since the outbreak of the Covid-19 pandemic, there have been several early reviews of its impact from both policy and empirical perspectives. Given its novel nature, the trend is to assess the impact of the pandemic from different perspectives to understand the country-specific characteristics. But the attention of many has been to understandably focus on the short-run effect of Covid-19 on several economic variables. With the second wave of the virus coming due to the ease of the lockdown measures in most countries of the world, the focus would rather be on how to conduct macroeconomic policy in the presence of the pandemic. Such decisions would permeate both public health and economic policies in the post-COVID-19 era in Nigeria.

Second, an optimistic projection of the future trajectory of the effect of the pandemic on the global economy is that it would result into a relatively mild and short-lived global recession, followed by a V-shaped recovery (Wren-Lewis, 2020). It is therefore important for emerging markets to understand the best approach to cushion the effect on their economies. This becomes imperative to position the economy to attract the necessary investment needed to undertake meaningful developmental policies.

Essentially, a developing country like Nigeria already battling with the poor performance of basic development indices is likely to aggravate her challenges with the permanent changes that the pandemic has brought to the world. Given the heterogeneous households and firms characteristics, it is important to understand the country-specific characteristics as the nation

continues the gradual relaxation of the nationwide lockdown to protect livelihoods and save the economy from collapse.

Following the introductory section, the stylized facts about the Covid-19 pandemic in Nigeria are presented in section two. Section three discloses the literature review on the effect of infectious diseases on the economy while section four covers the empirical design and data. Section five discusses the trend analysis and the DOLS estimates generated from the analysis of the macroeconomic effects of the Covid-19 pandemic in Nigeria. The last section presents the conclusion and policy recommendations.

Literature Review

The literature on the macroeconomic effect of Covid-19 is still scant because as we write, the pandemic is still increasing across the world with other regions becoming epic centres. A good premise to start the review therefore is to glean a similar incidence from a historical perspective. Studies on the economic consequences of infectious diseases date back to 1918-19 Spanish Influenza. In retrospect, the Great Influenza provides the primordial premise for the study of the macroeconomic consequence of the Covid-19 pandemic. The past epidemic sheds light on the economic costs especially in the presence or absence of stringent containment policies. Basic macroeconomic consequences of past pandemics such as 1918 influenza included: (i) low sales due to customer sentiments, (ii) high cost to the service sector since they are most affected by the facemask and social distancing, and (iii) strain on economic activities, among

others (Boissay and Rungcharoenkitkul, 2020; Barro et al. 2020).

Studies also exist on the macroeconomics of recent viruses such as HIV/AIDS (1993), SARS (2003), Avian influenza (2003-19) and Ebola (2014), among others. For instance, the HIV/AIDS virus has been found to have significant direct and indirect economic consequences on all the economic agents- individual households, firms and governments. This correspondingly disrupted livelihood, reduced labour supply, limited the level of labour productivity and output and increased provision for social security, among others. Until the development of the antiretroviral therapies which reduced the vulnerabilities of carriers and increased their life spans, various countries had to bear the economic costs of this virus (Cuddington, 1993a, 1993b; McKibbin and Fernando, 2020).

Lee and McKibbin, (2004) estimated the global economic costs of SARS and found that it resulted into about 0.1% loss in global GDP while Hai et al. (2004) assessed the short-term impact of SARS on the Chinese economy and showed that it lowered the GDP growth by 1-2 per cent. Furthermore, Burns et al. (2006) evaluated the economic consequences of avian influenza and found that it resulted in about 0.1 per cent and 4 per cent loss in global GDP and Asian GDP, respectively. The economic consequence of the Ebola epidemic, a virus predominant in the West African region, was the focus of the World Bank Report (2014). The estimates of the computer general equilibrium (CGE) model showed that the Ebola virus lowered the GDP in Guinea, Liberia and Sierra

Leone by about 2.1 per cent, 3.4 per cent and 3.3 per cent respectively, within the first year of the pandemic.

Boissay and Rungcharoenkitkul (2020) did an early review of the macroeconomic effect of Covid-19 using the US data, most especially relative to past pandemics. Basic macroeconomic consequences of past epidemics such as the 1918-19 Influenza, SARS (2003), H5N1 avian influenza (2003-19), Ebola (2014-16) and the present Covid-19 pandemic include: fall in GDP growth and decline in manufacturing production activities, among others. They found that the economic cost of the Covid-19 pandemic can be proxied by GDP foregone, most especially based on the comparison between the current GDP forecast and the Covid-19 outlook. In the light of the April 8th U.S data, the study estimated that Covid-19 would lead to output loss which ranged between 5-9 per cent for the United States and between 4 and 4.5 per cent for the global economy. The study recommended that a better understanding of the transmission channel of the Covid-19 shock to the economy, the interaction between economic decisions and the pandemic and the policy trade-off would assist in reducing the macroeconomic effect of the pandemic.

From a pessimistic perspective, Fornaro and Wolf (2020) modelled the impact of Covid-19 on macroeconomic policy to assess the macroeconomic implications of the pandemic. They asserted that Covid-19 would cause a negative supply shock to the world economy by forcing factories to shut down and disrupting global supply chains (OECD, 2020). The virus also depressed global demand. They found that

the corona virus caused a fall in demand and involuntary unemployment. Social distancing impaired the ability of households to spend. The macroeconomic impact of a negative supply shock was triggered by the corona virus spread. Economic agents become pessimistic about future growth, employment and economic activities. They concluded that the corona virus would cause a short-lived negative supply shock. Drastic policy interventions, including both monetary and fiscal, might prevent the negative supply shock from severely affecting employment and productivity.

Loayza and Pennings (2020) examined the conduct of macroeconomic policy in the time of Covid-19 in for developing countries. They opined that the pandemic reflected both worldwide public health emergency and an international economic crisis whose consequences surpassed the global financial crisis of 2008-2009. The study found that first; the human and economic costs of the Covid-19 are likely to be higher in developing countries because of the structure of their economies which aggravates the impact of shutdowns and reduction in economic activities. Second, factors such as lower health care capacity, larger informal sectors, shallower financial markets, less fiscal space, and poorer governance are likely to stymie the gains of sundry containment measures taken. To reduce the vulnerability of citizens due to the pandemic, a viable macroeconomic policy that would strengthen monetary transmission and fiscal space, as well as increase fiscal multipliers, is worthwhile. This would ensure macroeconomic stability and enhance the quality of governance.

The World Bank (2020) explained the late arrival of Covid-19 and the rapid spread across Sub-Saharan Africa. The study asserted that the low number of cases recorded in the region could be best explained by the insufficient testing capacity in many countries which might have understated the true number of infections. This pessimistic view undermines the containment measures taken by these African countries and the possibility of an indigenous cure for the virus which might be viable due to regional specific characteristics. The study projected a grave macroeconomic effect of the pandemic on the region which includes a decline in the economic growth of Sub-Saharan Africa from 2.4 per cent in 2019 to 2.1 and -5.1 in 2020 which might lead to a possible recession in the region. Output loss in the region was estimated to be between US\$37 billion and US\$79 billion while the region's three largest economies—Nigeria, South Africa, and Angola—would witness persistent weak growth and investment consequent upon the fluctuations in commodity prices.

The studies on the short-run and medium-run specific macroeconomic variables provide an early review of the effect of Covid-19 on the performance of these variables using data based on macroeconomic responses to historic pandemic events for aggregate 'Europe' (i.e. France, Germany, the Netherlands, Italy, Spain and the United Kingdom). Jorda et al. (2020) found that the macroeconomic consequence of Covid-19 is similar to that of the great historical pandemic of the last millennium which caused low returns to assets, depressing investment opportunities due to excess capital per unit of surviving labour and increased desire to save as

well as the increase in precautionary savings in a bid to rebuild depleted wealth.

Dingl and Neiman (2020) analysed the employment effect of Covid-19 on U.S labour force due to the cliché of social distancing and work from home which has become the new normal during the pandemic. They found that, based on US jobs classifications done, only about 34% of jobs can plausibly be performed at home and this accounts for about 44% of all wages. The greater percentage attributed to U.S. jobs that cannot be performed from home explained the increase in the number of applications for unemployment benefit in the country. Thus, the share of jobs that cannot be performed at home is an important variable in predicting economic performance during and post-COVID-19. The study concluded that, due to Covid-19, many employees are unable to travel to work. Hence, identifying which jobs cannot be performed from home would be useful for policymakers to target social insurance payment to those that need them.

KPMG (2020) examined the economic impact of Covid-19 in Nigeria with emphasis on business activities. Findings revealed that the pandemic has a twin shock on the Nigerian oil-dependent economy, namely, global and domestic shocks as well as oil price shock. The study opined that the twin shocks are expected to affect the economy through the supply, demand and financial channels. The study concluded that, unlike the threat of Ebola, Zika and SARS viruses which faded with time, the social-economic impact of the pandemic might persist well after the virus had been conquered.

With 1.39 million corona virus cases and 79,382 deaths globally, the world continues to battle the COVID-19 pandemic. Even before the outbreak, the outlook for the world economy- and especially developing countries like Nigeria- was fragile, as global GDP growth was estimated to be only 2.5 per cent in 2020. While many developing countries have recorded relatively fewer cases - Nigeria currently has 238 confirmed cases and 5 deaths as of this writing- the weak capacity of health care systems in these countries is likely to exacerbate the pandemic and its impact on their economies.

The impact on the Nigerian economy

Before the pandemic, the Nigerian government had been grappling with weak recovery from the 2014 oil price shock, with GDP growth tapering around 2.3 per cent in 2019. In February, the IMF revised the 2020 GDP growth rate from 2.5 per cent to 2 per cent, as a result of relatively low oil prices and limited fiscal space. Relatedly, the country's debt profile has been a source of concern for policymakers and development practitioners as the most recent estimate puts the debt service-to-revenue ratio at 60 per cent, which is likely to worsen amid the steep decline in revenue associated with falling oil prices. These constraining factors will aggravate the economic impact of the COVID-19 outbreak and make it more difficult for the government to weather the crisis.

Aggregate demand will fall, but government expenditure will rise

In Nigeria, efforts were already being made to bolster aggregate demand through increased government spending and tax cuts for businesses. The public budget increased from 8.83 trillion naira (\$24.53 billion) in 2019 to 10.59 trillion naira (\$29.42 billion) in 2020, representing 11 per cent of the national GDP, while small businesses have been exempted from company income tax, and the tax rate for medium-sized businesses has been revised downwards from 30 to 20 per cent. Unfortunately, the COVID-19 crisis is causing all components of aggregate demand, except for government purchases, to fall (Figure 1).

The fall in household consumption in Nigeria will stem from 1) partial (or full) restrictions on movement, thus causing consumers to spend primarily on essential goods and services; 2) low expectations of future income, particularly by workers in the gig economy that are engaged on a short-term/contract basis, as well as the working poor in the informal economy; and 3) the erosion of wealth and expected wealth as a result of the decline in assets such as stocks and home equity. The federal government has imposed a lockdown in Lagos and Ogun states as well as Abuja (which have the highest number of corona virus cases combined). Sub-national governments have quickly followed suit by imposing lockdowns in their states. Nigeria has a burgeoning gig economy as well as a large informal sector, which contributes 65 per cent of its economic output. Movement restrictions have not only reduced the consumption of nonessential commodities in general but have affected the income-generating capacity of these groups, thus reducing their consumption expenditure.

Investments by firms will be impeded largely due to the uncertainties that come with the pandemic-limited knowledge about the duration of the outbreak, the effectiveness of policy measures, and the reaction of economic agents to these measures—as well as negative investor sentiments, which are causing turbulence in capital markets around the world. Indeed, the crisis has led to a massive decline in stock prices, as the Nigerian Stock Exchange records its worst performance since the 2008 financial crisis, which has eroded the wealth of investors. Taking into consideration the uncertainty that is associated with the pandemic and the negative profit outlook on possible investment projects, firms are likely to hold off on long-term investment decisions.

On the other hand, government purchases will increase as governments, which typically can afford to run budget deficits, utilize fiscal stimulus measures to counteract the fall in consumer spending. However, for governments that are commodity-dependent, the fall in the global demand for commodities stemming from the pandemic will significantly increase their fiscal deficits. In Nigeria's case, the price of Brent crude was just over \$26 a barrel on April 2, whereas Nigeria's budget assumes a price of \$57 per barrel and would still have run on a 2.18 trillion naira (\$6.05 billion) deficit. Similarly, with oil accounting for 90 per cent of Nigeria's exports, the decline in the demand for oil and oil prices will adversely affect the volume and value of net exports. Indeed, the steep decline in oil prices associated with the pandemic has necessitated that the Nigerian government cut planned expenditure. In fact, on March 18, the minister of finance announced a 1.5 trillion

naira (\$4.17 billion) cut in nonessential capital spending.

The restrictions on the movement of people and border closures foreshadow a decline in exports. Already, countries around the world have closed their borders to nonessential traffic, and global supply chains for exports have been disrupted. Although the exports of countries that devalue their currency due to the fall in the price of commodities (like Nigeria), will become more affordable, the limited markets for nonessential goods and services nullify the envisaged positive effect on net exports.

What are the policy responses by the Nigerian government?

Already, the Central Bank of Nigeria (CBN) has arranged a fiscal stimulus package, including a 50 billion naira (\$138.89 million) credit facility to households and small and medium enterprises most affected by the pandemic, a 100 billion naira (\$277.78 million) loan to the health sector, and 1 trillion naira (\$2.78 billion) to the manufacturing sector. Also, the interest rates on all CBN interventions have been revised downwards from 9 to 5 per cent, and a one-year moratorium on CBN intervention facilities has been introduced, effective March 1.

With oil being Nigeria's major source of foreign exchange, amid the steep decline in oil prices, the official exchange rate has been adjusted from 306 to 360 naira. The exchange rate under the investors and exporters (I&E) window has also been adjusted from 360 to 380 naira to unify the exchange rates across the I&E

window, Bureau de Change, and retail and wholesale windows. Furthermore, the government has introduced import duty waivers for pharmaceutical companies and increased efforts toward ensuring that they receive forex.

What other policy responses can be implemented?

Given the size and scope of the economic impact of the pandemic, there is the need to implement other recovery strategies to stimulate demand. Thus, we recommend the following fiscal and monetary policy measures:

- Although there is a cash transfer program in place, the federal government should improve efforts towards enhancing the efficiency and effectiveness of the distributive mechanisms to reach households that are worst-hit by the pandemic.
- The Federal Inland Revenue Service (FIRS), as well as State Inland Revenue Services (SIRS), should waive payments on personal and corporate income tax for the second quarter of 2020, considering that the shock has affected the income and profits of households and businesses.
- The CBN's decision to increase the cash reserve ratio (CRR) from 22.5 per cent to 27.5 per cent in January 2020 should be revisited to provide liquidity for banks so

that banks can, in turn, create credit to the private sector.

- FIRS and SIRS should delay tax collection for the worse-hit sectors including tourism, the airline industry, and hoteliers to enable them to recover from the steep decline in demand.
- To provide additional liquidity in the forex market, the CBN should establish a swap facility with the U.S. Federal Reserve and/or the People’s Bank of China, as was done in 2018, to provide dollar and yen liquidity to financial institutions, investors, and exporters. This move would ease up forex shortage in the financial market and economy.

While the naira has been adjusted as a result of the forex shortage, the CBN must maintain exchange rate stability by deploying external reserves to avoid investors selling off naira-denominated assets.

MITIGATING THE SPREAD OF THE PANDEMIC

Movement restriction

Both the State and Federal governments imposed movement restrictions in some areas across the country to control the spread of the novel corona virus, as shown in table 1.

Table 1: Movement restriction in Nigeria during Covid-19 pandemic		
	Affected sector	Impact
1	Aviation sector	Massive flight cancellations, NCAA suspends all international airports
2	Education sector	Students were sent back home. Private and public schools and

		universities were closed
3	Banking sector	Senior staff work from home. Few branch staff available to attend to depositors
4	Civil service sector	Suspension from work for 14 days for remote quarantine
5	Markets	Major food markets were partially closed
6	Religious sectors	All religious services were banned during the pandemic. A Christian pastor was arrested for holding church service during the ban
7	Sports	All sporting events were cancelled
8	All sectors	A 14-days nationwide stay-at-home lockdown was officially enforced beginning from 30th March 2020.
9	Eleven (11) businesses excluded from the ban	(i) private security companies, (ii) medical establishments, (iii) broadcasters, (iv) food processing and distribution companies, (v) petroleum distribution and retail entities, (vi) power generation, transmission and distribution companies, (vii) hospitals, (viii) telecommunications workers, (ix) health care manufacturing and distribution companies, (x) print media staff, (xi) electronic media personnel.

Using monetary and fiscal policy measures

In response to the Covid-19 outbreak, the monetary authority, the Central bank, said it would provide support to affected households, businesses, regulated financial institutions and other stakeholders to reduce the adverse economic impact of the Covid-19 outbreak. The central bank provided support in six ways. One, it granted an extension of loan moratorium on principal repayments from March 1, 2020. This meant that any intervention loan currently under moratorium would be extended by one year. Two, it offered interest rate reduction on all intervention loan facilities from 9% to 5%

beginning from March 1, 2020. Three, it offered an NGN50bn (US\$131.6m) targeted credit facility to hotels, airline service providers, health care merchants, among others. Four, it provided credit support to the healthcare

2020. three, it offered an NGN50bn (US\$131.6m) targeted credit facility to hotels, airline service providers, health care merchants, among others. Four, it provided credit support to the healthcare industry to meet the increasing demand for healthcare services during the outbreak. The loan was available only to pharmaceutical companies and hospitals. Five, it provided regulatory forbearance to banks

which allowed banks to temporarily restructure the tenor of existing loan within a specific period particularly loans to the oil and gas, agricultural and manufacturing sectors. Six, it strengthened the loan to deposit ratio (LDR) policy which allowed banks to extend more credit to the economy. On the other hand, the fiscal authorities had to review and revise the 2020 national budget of N10.59 trillion (US\$28 billion). The government announced that the budget was reduced by NGN1.5 trillion (\$4.90 billion) as part of the measures to respond to the impact of corona virus on the economy and in response to the oil price crash. The new budget was benchmarked at US\$30 per barrel from US\$57 per barrel in the previous budget.

Structural factors that worsen the economic crisis

In this section of the paper, I present a description of key structural factors that helped to trigger or worsen the current economic crisis.

Poor public health infrastructure

The public health sector in Nigeria has poor infrastructure such as poor emergency services, few ambulance services, ineffective national health insurance systems, insufficient primary health care facilities, and these problems in the public health sector have often been linked to the high maternal and infant mortality rates in the country (Muhammad et al, 2017). Currently, Nigeria operates a two-tiered healthcare system with a large public healthcare sector and a smaller private healthcare sector. Compared to developed countries, the private healthcare sector in Nigeria is very small because of the

limited funding for private health insurance. Also, the majority of Nigeria's healthcare spending is still dominated by out-of-pocket expenditure which accounts for 70% of total health expenditure, which suggests that most Nigerians either do not rely upon or trust the health insurance systems in the country or they are unaware of the availability of health insurance. Despite the introduction of the National Health Insurance Scheme (NHIS) in 2004, the population covered by health insurance in 2019 was about 5 per cent of the total population.

The Nigerian pharmaceutical industry also has its problems. The Nigerian pharmaceutical industry is one of the largest in West Africa and accounts for about 60% of the market share in the region. But most of the active pharmaceutical ingredients (API) used in Nigeria are imported from China, and only 10% of the drugs used in Nigeria are manufactured locally in the country. The industry is facing many problems such as poor infrastructural and unreliable utilities, scarcity of skilled workers, poor access to finance, lack of appropriate government incentives, policy incoherence by the government, poor demand due to robust competition from Asian companies particularly China, high cost of doing business as a result of imported and expensive production inputs, regulatory problems, among others. Nigeria has a drug market that is almost unregulated because the health agencies have difficulty in preventing the importation of illegal drugs and difficulty in tracking informal drug sellers that operate without a registered license (Fatokun, clients and prospective clients around the world using software platforms video conferencing

technologies. All these are possible when there is a robust and well-functioning digital economy. Outside Nigeria, digital technology helped many businesses in developed countries survive the effect of the Covid-19 outbreak, and it created an opportunity to enhance the country's digital economy. In the future, a well-developed digital economy in Nigeria, achieved through intense digital technology penetration, will play a greater role in reducing the effect of recessions in the country, and will also help in supporting economic activities, social activities, and the development of good health care systems.

Lack of social welfare program

Before the Covid-19 outbreak, there were major social problems in Nigeria which include child abandonment, armed robbery, homelessness, mental health problems, divorce, and problems of single parenting. These social problems can only be addressed with serious social welfare policy and program. But, currently, social welfare activities in Nigeria is underdeveloped, poorly funded and is unavailable to the majority of those who need them (Ahmed et al, 2017). Nigeria does not have a national social welfare program that offers assistance to all individuals and families in need such as health care assistance, food stamps, unemployment compensation, disaster relief and educational assistance. The consequence of not having a national social welfare program became evident during the corona virus outbreak of 2020. During the outbreak, people had little to rely on; poor citizens did not have welfare relief that could help them cope with the economic hardship at the time. There were no housing subsidies, energy and utility subsidies, and

assistance for other basic services to individuals that were most affected by the coronavirus outbreak. There are debates on the benefit of using social welfare programs to alleviate poverty and to help citizens cope with disasters (Luenberger, 1996; Dolgoff et al, 1980; Abramovitz, 2001), and social welfare theories provide different perspectives on how social welfare can be designed to meet the basic needs of the people (Fleurbaey and Maniquet, 2011; Arrow et al, 2010; Andersen, 2012).

So far, the provision of social welfare services to vulnerable citizens in the population is the most proven way to protect them from economic hardship in bad times (Ewalt and Jennings Jr, 2014), and the lack of such welfare services for vulnerable people, households and poor individuals during the coronavirus outbreak in Nigeria caused severe pain and economic hardship to households and poor individuals. The implication of this is that social welfare is not a policy priority by policymakers in Nigeria.

Don't waste this crisis

We do not fully know how bad the increasing spread of Covid-19 will be in Nigeria in the coming months if not years. But what we do know is that whatever happens to the economy at the height of the crisis and whatever damage is done, would show that we have to use this crisis as an opportunity to reconstruct the country and its economy. The economy shutting down and the overloaded public healthcare systems show that the entire public healthcare system and the economic system needs to be reinvigorated. We should not waste this opportunity to rebuild the country's

infrastructure. But if we do not get our house in order then we will be severely punished in the months and years ahead when the next crisis comes. At the national level, the President needs to implement a reconstruction and development program for the country. At the individual level, citizens should not waste this crisis. This is a time for us to enrich our physical, spiritual, and emotional health, and not just focusing on avoiding the corona virus. Create a new normal daily routine by eating well, exercise, and get sufficient rest. Enrich our mind by reading some great books, learning a new skill, visualize and document your long-term goals and plan to pursue those goals with passion when the Covid-19 pandemic is over.

Measures to Prevent the Spread of COVID-19 According to the Nigeria Centre for Disease Control

It is important that Nigerians strictly adhere to social distancing and other necessary precautions in place. These measures include taking the following 11 precautions below to protect yourself and your family:

1. Regularly and thoroughly wash your hands with soap and water, and use alcohol-based hand sanitizer.
2. Maintain at least one and a half metres (i.e. 5 feet) distance between yourself and anyone who is coughing or sneezing.
3. Persons with persistent cough or sneezing should stay home or keep a social distance, but not mix in-crowd.
4. Make sure you and people around you, follow good respiratory hygiene, meaning cover your mouth and nose with a tissue or into your sleeve at the bent elbow or tissue

when you cough or sneeze. Then dispose of the used tissue immediately.

5. Stay home if you feel unwell with symptoms like fever, cough and difficulty in breathing. Please call NCDC toll free number which is available day and night, for guidance on 0800-970000-10. Do not engage in self-medication
6. Avoiding/postponing events with large gatherings of people including schools, workplaces, places of worship, crowded supermarkets and pharmacies, social and sporting events.
7. Persons with a persistent cough or sneezing should stay at home until they recover
8. Make sure you and people around you observe hand and respiratory hygiene by:
 - i. Covering your nose with a tissue when sneezing or coughing. Immediately dispose of the tissue in a covered bin and wash your hands with soap and water. Use an alcohol-based sanitizer if no water and soap is available
 - ii. Coughing or sneezing into the sleeve of your bent elbow if no tissue is available.
9. Avoid all non-essential travel to all countries.
10. Stay informed on the latest developments about COVID-19 through official channels on TV and Radio, including the Lagos State Ministry of Health, NCDC and Federal Ministry of Health.
11. Using as much natural vitamin C as possible will help in strengthen the human body immune system since currently there is no cure for the disease.

EMPIRICAL DESIGN AND DATA ANALYSIS

Empirical Design

The aggregate demand and aggregate supply (AD-AS) model, consistent with Blanchard and Quah (1989) and Cover et al. (2006); provides the theoretical motivation for the empirical analysis of the macroeconomic effect of Covid-19 in Nigeria. The AD-AS model presents the framework that explains economic fluctuations based on the interaction of aggregate demand (AD), short-run aggregate supply (SRAS), and long-run aggregate supply (LRAS). Undoubtedly, the Covid-19 pandemic has caused both supply and demand shocks among others. In a bivariate framework, aggregate demand and supply shocks cause significant fluctuations in economic activities. While the AD shock is assumed to have no long-run effect on output, a supply shock causes changes in basic macroeconomic variables; such as output and prices, in line with changes in SRAS and LRAS, respectively.

Taking a cue from Blanchard and Quah (1989) and Cover et al. (2006), the framework of a simple AD-AS model is presented thus:

$$y_t^s = \alpha(t-1)y_t + (\alpha - 1)pt + \varepsilon_t, \quad \alpha > 0 \quad (1)$$

$$(y_t + Pt)^d = (t-1)(y_t + pt) + \mu t \quad (2)$$

$$y_t^d = y_t^s \quad (3)$$

where y_t and pt , are the logarithms of output and the price level respectively, during period t ; $t-1y_t$ and $t-1pt$ are their expected values given the information available at the end of period $t-1$; the superscripts s and d represent supply and demand; while ε_t and μ_t , respectively, denote

the serially uncorrelated structural AS and AD shocks. Equation (1) is a Lucas (1972) AS curve in which output increases in response to unexpected increases in the price level and positive realizations of the AS shock ε_t . Equation (2) is the AD relationship; nominal aggregate demand equals its expected value plus a random demand disturbance, μ_t .

While Equations (1)–(3) represent a simplified model of the aggregate economy, the model implies that demand shocks can play a significant role in the fluctuations of macroeconomic variables. However, in the absence of restrictions, the demand and supply shocks are contemporaneously uncorrelated.

In light of the above foundations, the empirical model for analysing the macroeconomic effects of Covid-19 is expressed as follows:

$$mac_v_t = (c_pandem)_t \quad (4)$$

where mac_v is a vector of macroeconomic variables including growth in the gross domestic product ($gdpgr$), inflation (inf), unemployment ($unemp$), crude oil price (oil_pr) and exchange rate (exr). The identity c_pandem is a vector of variables relating to the Covid-19 pandemic in Nigeria. In estimable form, Equation (4) can be re-specified as follows:

$$mac_v_t = \gamma_0 + \gamma_1 C_Pandem_t + \varepsilon_t \quad (5)$$

Where γ_0 is a constant which shows the level of macroeconomic performance without the effects of the Covid-19 pandemic, v_t is an error term assumed to be normally distributed with zero mean and constant variance.

The dynamic ordinary least square (DOLS) proposed by Stock and Watson (1993) is employed in the study. The use of DOLS estimation technique not only allows for a series of integration of higher-order but also controls for issues surrounding endogeneity and heteroscedasticity by using the lead and lag of independent variables. More importantly, it overcomes the violation of the best linear unbiased estimator (BLUE) assumption which is probable in using the OLS methodology. Following Stock and Watson (1993) and Pablo (2010), the DOLS framework is specified as follows:

$$mac_v_t = \varphi + \varphi_{c_pandem} C_Pandem_t + dc_pande(L) \Delta c_pandem_t + \varepsilon_t \quad (6)$$

All the definitions about the variables remain ditto except for the leads and lags included in the Equation (6).

Data Analysis

The study uses daily data on Covid-19 pandemic from Feb 28th to June 20th 2020 for Nigeria. The Nigeria Centre for Disease Control (NCDC) releases daily updates on Covid-19 cases in Nigeria. The NCDC data represents national figures on total confirmed cases, total discharged, total fatalities and the total number of laboratory tests carried out since the first case of the virus was recorded. The national Covid-19 cases were further disaggregated state cases to represent the spread of the virus across the country. At a later date, the NCDC started providing information on the demographic

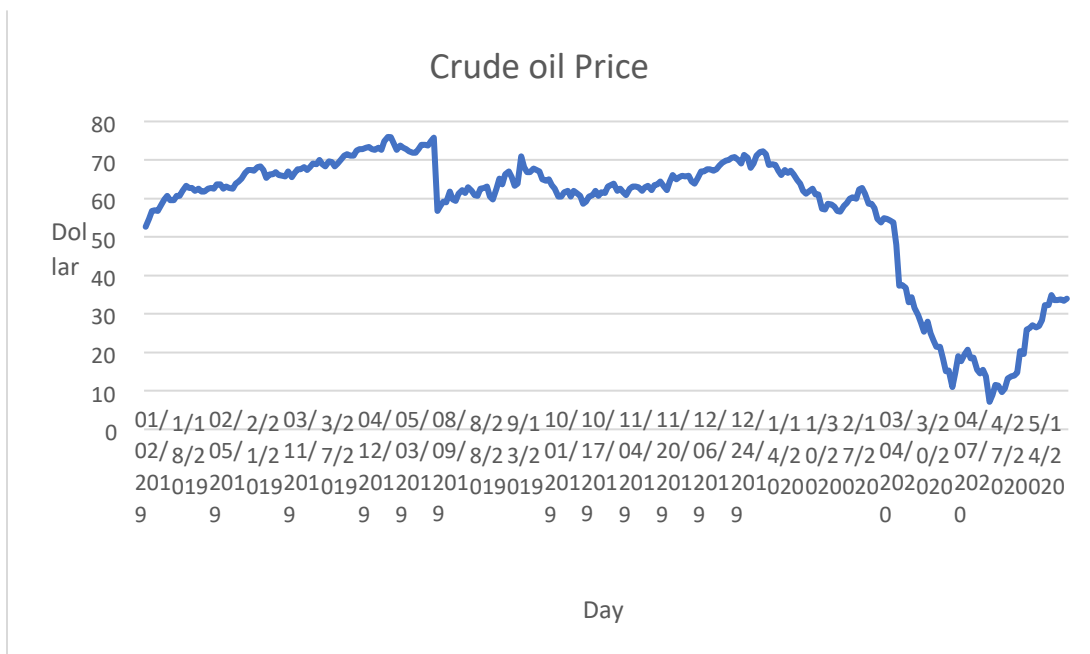
characteristics of the confirmed cases. Data for global cases were sourced from the John Hopkins University database which provides daily updates on global cases of Covid-19 while the Africa Centre for Disease Control provides relevant data on Covid-19 cases in the region.

The macroeconomic variables used which are consistent with the recent literature (Mckibbin and Fernando, 2020; Ezeaku and Asongu, 2020) include GDP growth rate, inflation, unemployment, exchange rate and crude oil price. Some of the macroeconomic data were disaggregated in daily frequency to ensure uniformity. The selected macroeconomic data were sourced from the National Bureau of Statistics e-library and the Central Bank of Nigeria Statistical bulletin, respectively.

Analyzing the Macroeconomic Impact of Covid-19 in Nigeria 5.1. Trend Analysis

We first present the trend analysis of the impact of the Covid-19 pandemic on macroeconomic variables in Nigeria. Starting with trend analysis of crude oil prices presented in Figure 1, the corona virus, though public health crises, has significant implications for the global economy due to its plausibility to generate various oil price shocks. Nigeria, as a resource-dependent nation, was therefore hit by different shocks at the global marketplace. The first effect of the pandemic on the Nigerian economy was its vulnerability due to oil price shock. The fall in the prices of crude oil at the international market had serious implications for Nigeria's fiscal fragility.

Trend of Crude Oil Prices from 2019 -2020

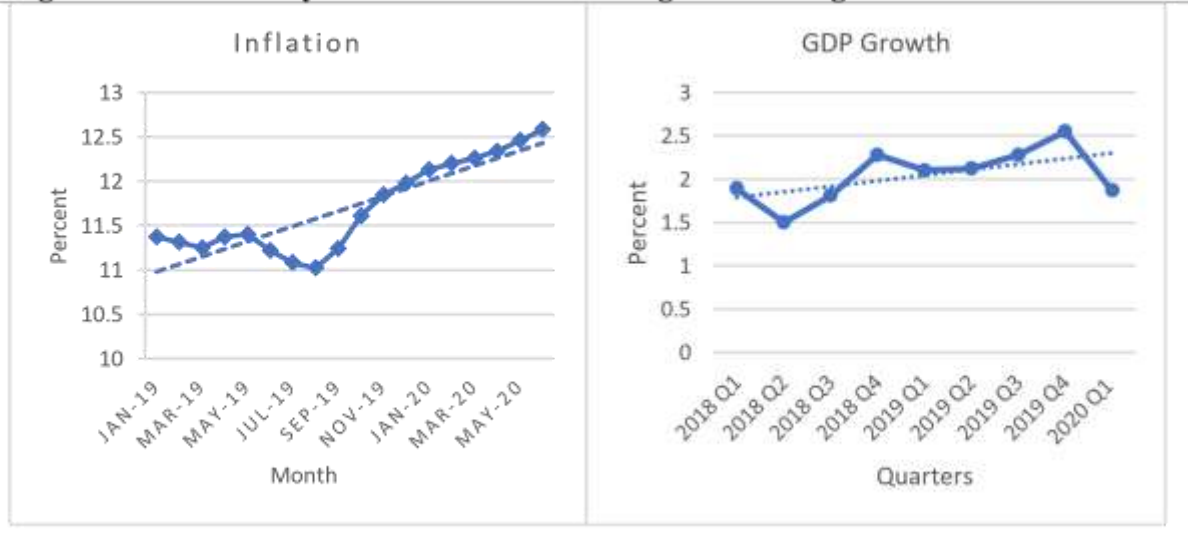


CBN Statistical Bulletin, (2020)

Nigeria lacks the structural capacity to handle the epidemic given an unfavourable public debt-to-GDP ratio since her debt is subject to exchange rate volatility. With a shallow tax base and less efficient tax administration, a countercyclical fiscal policy is hard to implement. With this scenario, the government is unable to meet its fiscal responsibility and hence, the decision to cut the 2020 budget appropriation, which affected critical sectors of the economy such as health and education. The government also issued a Sukuk bond from the capital market to augment government expenditure on the critical project. However, it is not clear whether such domestic debt would yield appropriate benefits for the economy amidst structural deficiencies, weak institutions and fiscal fragility.

GDP Growth: The impact of Covid-19 on the GDP growth in Nigeria is presented in Figure 2. As shown, the country recorded a negative growth rate in the first quarter of 2020 which emanated as a result of different shocks related to disruption in economic activities. Four basic shocks that contribute to the fall in the growth rate of the Nigerian domestic economy are production shocks which include the cost of production, cost of labour input, raw materials, and, transportation. Others are labour shocks and shocks to consumption demand and government expenditure (Mckibbin and Fernando, 2020). These shocks, which are offshoots of general lockdowns, cumulatively resulted in a reduction in economic activities, and hence in economic growth.

Figure 2: Trend Analysis of Inflation and GDP growth in Nigeria

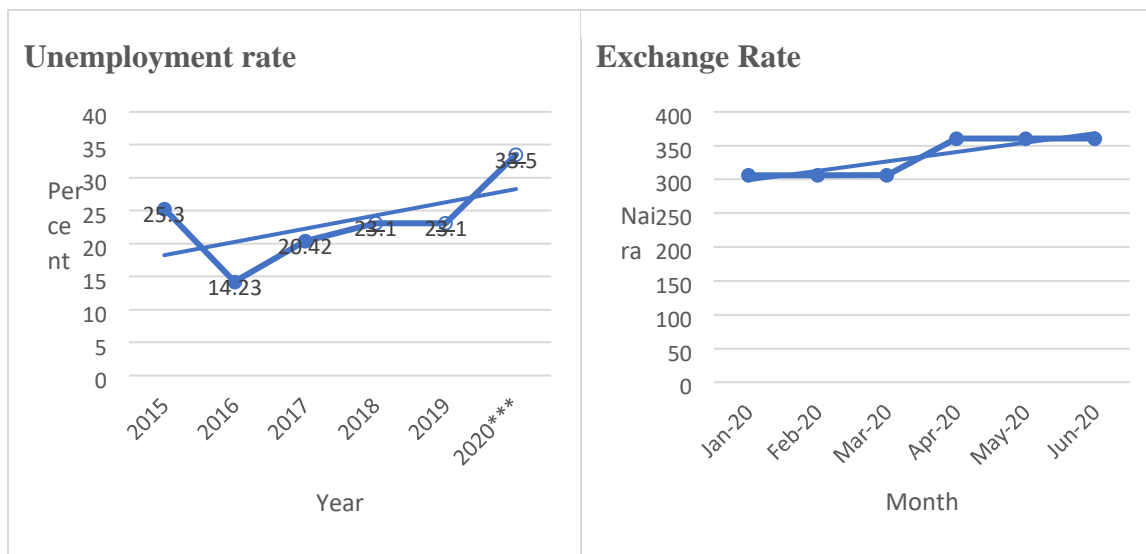


Nigerian Bureau of Statistics (NBS, 2020)

Inflation: Figure 2 further depicts the trend analysis of core inflation between 2019 and 2020. As shown, core inflation was 12.26 per cent in April but increased to 12.40 per cent in June and this corresponds to the decline in GDP growth from 2.55 per cent in the last quarter of 2019 to 1.87 per cent in the first quarter of 2020. The review of petroleum pump price in the country due to the fall in the global crude oil

prices did not have significant effects on domestic prices as both headline inflation and food inflation increased within the period. A good explanation for this in economic theory is that prices are sticky downwards.

Figure 3: Trend Analysis of Unemployment and Exchange Rate



Source: Nigerian Bureau of Statistics (NBS, 2020)*unemployment rate projections.**

Unemployment Rate: Figure 3 shows the effect of Covid-19 on unemployment. The trend shows an increase in the level of unemployment in the country at the incidence of Covid-19. The unemployment rate is projected to be about 33.5 per cent in the year 2020 due to the pandemic. This is plausible because the Covid-19 pandemic caused shocks to labour demand and labour supply. The Ministry of Labour and Productivity put the total number of job losses in Nigeria during the pandemic to about 39.5 million. The employment structure in Nigeria is dominated by informality. Hence, the livelihood of those involved in the informal sector of the economy was seriously affected during the lockdown.

Also, economic activities were disrupted during the total lockdown and even when it was lifted, the implementation of social distancing made it difficult for the economy to return to status quo before the advent of the pandemic. Facing the new normal in the ways of life and social interaction has its economic implication on economic activities. The sector that was most affected is the education sector which consists of both private and public stakeholders.

Since schools are not opened, most private institutions are not paying; hence they are laying off their staff and by extension, throwing the workers into the job market again. The ripple effect of this explains the projections on job loss figures in Nigeria.

Exchange Rate: Figure 3 also shows the trend of the exchange rate during the Covid-19 pandemic in Nigeria. As shown, the naira depreciated sharply against the US dollar on

March 23, 2020, from \$306.50/naira to \$360.5/naira. This depreciation could be explained by depressing global capital flows which put serious pressure on Nigeria's foreign exchange reserve and exchange rates (KPMG, 2020). The pandemic muffled the global capital flows to developing countries like Nigeria due to the disruption in economic activities and level of production. This also suspended trading activities on the capital market which in turn reduced the level of capital flows globally. Since foreign portfolio investment is a driver of investment in both capital and fixed income markets, and as well plays a significant role in enhancing capital importation into the country, this hurts the exchange rate in Nigeria.

Modelling the Impact of Covid-19 on Macroeconomic Variables in Nigeria.

The DOLS results presented in Table 4 show the estimates of the analysis of the macroeconomic impact of Covid-19 in Nigeria. As depicted, the pandemic has negative effects on major macroeconomic variables in Nigeria. Specifically, findings revealed that the total number of confirmed cases of the Covid-19 pandemic resulted in a decline in GDP growth in Nigeria. This is plausible because of the nationwide lockdown which caused significant disruptions in economic activities. Findings also showed a negative effect of confirmed cases on inflation because production/supply shocks put pressure on general prices. Table 4 further showed that total confirmed cases of Covid-19 caused a decline in the unemployment rate and crude oil prices and a rise in the exchange rate which implies a depreciation in naira. However,

it is important to the note that the underlying findings are not significant. Moreover, even when the underlying estimates about nexuses between the number of cases of Covid-19 and economic indicators in Nigeria are not significant; this study is consistent with contemporary literature in reporting insignificant findings because, beyond the need to fight publication bias, insignificant findings have economic/statistical significance.

On the front of publication bias, by reporting insignificant estimates, the study contributes to the literature on fighting publication bias because, in social sciences, strong and significant results are preferred over weak and insignificant findings (Rosenberg, 2005; Franco et al., 2014; Asongu, 2015; Asongu and Biekpe, 2018). Concerning the insignificant estimates, their economic/statistical meaning may be traceable to the fact that the available data do not yet enable researchers to establish the significant effects of the macroeconomic consequences of the Covid-19 pandemic in Nigeria. This line of interpretation is broadly

consistent with contemporary narratives on understanding, *inter alia*: the effects of information asymmetry on the market power in the African banking industry (Boateng et al., 2018) and the greater diffusion of mobile money innovations in Africa (Asongu et al., 2020).

Table 4: DOLS Results of the effect of Covid-19 on Macroeconomic Variables in Nigeria

	(1)	(2)	(3)	(4)	(5)
Regressors	GDP growth	Unemployment	Inflation	Exchange rate	Oil price
t_conf_cases	-7.311	-1.201	-2.010	0.005	-0.002
	(2.180)	(1.370)	(4.800)	(0.052)	(0.019)
t_discharged	5.240	-1.961	-6.300	-0.051	0.0241
	(2.931)	(1.841)	(6.440)	(0.052)	(0.026)
t_death	-3.091	0.002	-0.001	-0.489	0.519
	(4.601)	(0.002)	(0.001)	(0.821)	(0.404)

	2.571	2.651***	8.060**	0.004*	-0.003**
t_no_screened					
	(1.110) **	(6.951)	(2.430)	(0.001)	(0.001)
Constant	1.872	33.512***	12.286***	333.171***	30.590***
	(0.001) ***	(0.002)	(0.007)	(6.015)	(2.961)
Observations	107	107	107	107	107
R²	0.438	0.953	0.635	0.403	0.463

Standard errors are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

Note: t_conf_cases, t_discharged, t_death and t_no_screened represent, total confirmed cases, total discharged, total deaths and total number screened, respectively.

The COVID-19 pandemic is a wake-up call to policymakers as the unusual and unprecedented nature of the crisis has made it impossible for citizens to rely on foreign health care services and more difficult to solicit for international support given the competing demand for medical supplies and equipment. A more integrated response spanning several sectors—including the health, finance, and trade sectors—is required to address structural issues that make the country less resilient to shocks and limit its range of policy responses. In the long term, tougher decisions need to be made, including but not limited to diversifying the country's revenue base away from oil exports and improving investments in the health care sector in ensuring that the economy can recover quickly from difficult conditions in the future.

Conclusion, Policy Recommendation and Future Research Directions

The outbreak of the Covid-19 pandemic, the structural problems in Nigeria at the time prolonged the economic crisis. The scope and severity of the economic crisis is a clear signal that growth and development reforms are needed in Nigeria. In retrospect, the Nigerian government was wise to use fiscal and monetary stimulus package as a partial solution to revive falling aggregate demand during the outbreak. It used public money to slow the rate of business closures and the spread of coronavirus, though some of the policy response has been inefficient. The outbreak of the Covid-19 pandemic is entering the second wave as most nations of the world have begun the gradual relaxation of the lockdown measures earlier imposed. This has, however, increased the number of confirmed cases of the pandemic as well as fatality rates due to increased community transmissions. The proclivity of the Covid-19 pandemic to generate shocks, which cause economic fluctuations, calls for an understanding of the behaviour of macroeconomic variables; as we await to defeat the virus with the development of vaccines and

the embrace of the new normal in the social arena.

This study has examined the macroeconomic impacts of Covid-19 pandemic in Nigeria. In estimating the effect of Covid-19 related shocks, the aggregate demand and aggregate supply model has provided the theoretical anchor with which to explain the performance of macroeconomic variables, as induced by exogenous factors. After an exploratory or trend analysis, dynamic ordinary least squares (DOLS) have been used to assess whether the established correlations can be translated to causality. This methodology is motivated by its desirable characteristics which increase the chances of generating reliable estimates.

Findings from the trend analysis have shown that the Covid-19 pandemic has insignificantly caused a decline in basic macroeconomic variables in Nigeria. This was consequent upon the sundry measures taken to contain the spread of the virus. The number of infected cases has therefore had significant correlations with economic activity from the perspective of trend analysis. However, the estimates of the DOLS show that nexuses between the number of confirmed cases and attendant macroeconomic outcomes are largely insignificant with the expected signs. Moreover, the insignificant positive sign for exchange rate is plausible because the devaluation of the naira was a deliberate policy action which was not motivated by market forces. The findings of this study are consistent with the literature as the Bretton Wood institutions have projected that the GDP growth in Nigeria would fall by as high as 5.4% in the year 2020 which would most likely cause an economic recession in the

country during the same year (IMF, 2020; World Bank, 2020). Ultimately, the differences in significance between findings of the trend analysis and corresponding DOLS estimates imply, time is required before the established correlations withstand empirical scrutiny in terms of causality.

The study recommends a deliberate policy action that would stabilize the fluctuations in the economy and enhance the performance of basic macroeconomic variables. This would involve taking account of the country-specific characteristics to facilitate the process. As the country launches her Economic Sustainable Plan (ESP, 2020), it is hoped that the policy would accelerate Nigeria's economic recovery, restore and insulate critical sectors of the economy from the effects of the Covid-19 pandemic.

The findings of this study leave space for further research especially as it pertains to engaging more updated data to assess if the established correlations can be translated to causality for better-informed policy decisions. Moreover, departing from the macroeconomic realm and examining microeconomic consequences of the Covid-19 pandemic would improve scholarship on the understanding of domestic economic development externalities of the global pandemic.

REFERENCE

- Abramovitz, M. (2001). Everyone is still on welfare: The role of redistribution in social policy. *Social Work*, 46(4), 297-308.
- Adeniran, A. O., & Sidiq, B. O. (2018). Economic recession and the way-out: Nigeria

- as a case study. *Global Journal of Human Social Science*, 18(1), 181-192.
- Ahmed, H. G., Alhassan, S. M., & Alshammari, F. D. (2017). Social welfare scheme; a neglected component of public health care services in Nigeria. *MOJ Public Health*, 5(3), 101-104.
- Aisen, A., & Veiga, F. J. (2013). How does political instability affect economic growth? *European Journal of Political Economy*, 29, 151-167.
- Andersen, J. G. (2012). Welfare states and welfare state theory. Center for Comparative Welfare Studies, Working Paper.
- Aregbeshola, B. S. (2016). Out-of-pocket payments in Nigeria. *The Lancet*, 387(10037), 2506.
- Aregbeshola, B. S., & Khan, S. M. (2018a). Out-of-pocket payments, catastrophic health expenditure and poverty among households in Nigeria 2010. *International journal of health policy and management*, 7(9), 798.
- Aregbeshola, B. S., & Khan, S. M. (2018b). Determinants of catastrophic health expenditure in Nigeria. *The European Journal of Health Economics*, 19(4), 521-532.
- Arrow, K. J., Sen, A., & Suzumura, K. (Eds.). (2010). *Handbook of social choice and welfare* (Vol. 2). Elsevier.
- Asongu, S. A., Biekpe, N., & Cassimon, D., (2020). "Understanding the greater diffusion of mobile money innovations in Africa", *Telecommunications Policy*, 44(8) September 2020, 102000.
- Bermeo, N., & Bartels, L. (Eds.). (2014). *Mass politics in tough times: opinions, votes and protest in the Great Recession*. Oxford University Press.
- Barro, R, Ursua, J., & Weng, J., (2020). "The coronavirus and the Great Influenza Pandemic: lessons from the 'Spanish flu' for the coronavirus' potential effects on mortality and economic activity", *NBER Working Paper*, No 26866, Cambridge.
- Blanchard, O. J., & Quah, D., (1989). "The dynamic effects of aggregate demand and supply disturbances", *American Economic Review*, 79(4), pp. 655-73.
- Bernburg, J. G. (2016). *Economic crisis and mass protest: The pots and pans revolution in Iceland*. Routledge.
- Bjørnland, H. C. (2000). The dynamic effects of aggregate demand, supply and oil price shocks—a comparative study. *The Manchester School*, 68(5), 578-607.
- Carneiro, A., Portugal, P., & Varejão, J. (2014). Catastrophic job destruction during the Portuguese economic crisis. *Journal of Macroeconomics*, 39, 444-457.
- Chaffour, J. P., & Farole, T. (2009). *Trade finance in crisis: market adjustment or market failure?* The World Bank.
- Cheong, K. S. (2001). Economic crisis and income inequality in Korea. *Asian Economic Journal*, 15(1), 39-60.
- Corona Virus Cases from Countries Around the World were Obtained from Worldometer Website Available at

- <https://www.worldometers.info/coronavirus/coronavirus-cases/>.
- Cuddington, J. T., (1993b). "Modeling the macroeconomic effects of AIDS, with an application to Tanzania". *World Bank Economic Review* 7(2), pp. 173-89.
- Dingl, J., & Neiman, B., (2020). "How many jobs can be done at home?" *COVID Economics*, Issue 1, 3 April 2020, pp 1-8.
- Di Quirico, R. (2010). Italy and the global economic crisis. *Bulletin of Italian Politics*, 2(2), 3-19.
- Dolgoff, R., Feldstein, D., & Skolnik, L. (1980). *Understanding social welfare* (p. 91). New York, NY: Harper & Row.
- Ewalt, J. A. G., & Jennings Jr, E. T. (2014). The Great Recession and social welfare spending in the American States. *International Review of Public Administration*, 19(3), 308-323.
- Ezeaku, H. C., & Asongu, S. A., (2020). "Covid-19 and Cacophony of coughing: Did International commodity Prices catch influenza?", *African Governance and Development Institute Working Paper*, No. 20/040, Yaoundé.
- Fatokun, O. (2016). Curbing the circulation of counterfeit medicines in Nigeria. *The Lancet*, 388(10060), 2603.
- Fleurbaey, M., & Maniquet, F. (2011). *A theory of fairness and social welfare* (Vol. 48). Cambridge University Press.
- Francois, J., & Woerz, J. (2009). The big drop: Trade and the Great Recession. *The Great Trade Collapse: Causes, Consequences, and Prospects*. VoxEU. org.
- Franco, A., Malhotra, N., & Simonovits, G., (2014). "Publication Bias in the Social Sciences: Unlocking the File Drawer", *Science*, 345(6203), pp. 1502-1505.
- Gasiorowski, M. J. (1995). Economic crisis and political regime change: An event history analysis. *American political science review*, 89(4), 882-897.
- Giannakis, E., & Bruggeman, A. (2017). Economic crisis and regional resilience: Evidence from Greece. *Papers in Regional Science*, 96(3), 451-476.
- Giugni, M., & Grasso, M. T. (2016). *Austerity and protest: Popular contention in times of economic crisis*. Routledge.
- Glassman, J. (2001). The economic crisis in Asia: The case of Thailand. *Economic Geography*, 77(2), 122-147.
- Grasso, M. T., & Giugni, M. (2016). Protest participation and economic crisis: The conditioning role of political opportunities. *European Journal of Political Research*, 55(4), 663-680.
- Gomulka, S., & Lane, J. (1997). Recession dynamics following an external price shock in a transition economy. *Structural Change and Economic Dynamics*, 8(2), 177-203.
- Hai, W, Zhao, Z., Wang, J., & Hou, G.Z. (2004). "The short-term impact of SARS on the Chinese economy", *Asian Economic Papers*, vol 3, no 1.

- Hart, P., & Tindall, K. (2009). From 'market correction to 'global catastrophe': framing the economic downturn.
- Honkapohja, S., & Koskela, E. (1999). The economic crisis of the 1990s in Finland. *Economic Policy*, 14(29), 400-436.
- Jones, C. (2016). The credit crunch: short-term UK housing market correction or long-term tipping point? *International Journal of Housing Policy*, 16(1), 70-90.
- Jorda, O., Singh, S. & Taylor, A. M. (2020). "Longer-run Economic Consequences of Pandemics". *COVID Economics* Issue 1, pp 1-15.
- KPMG, (2020). "Covid-19: A Business Impact Series- Economic impact and Pandemic Planning". *KPMG Covid-19 Publication*, Issue 1, pp 1-4.
- Khang, Y. H., Lynch, J. W., & Kaplan, G. A. (2005). Impact of the economic crisis on cause-specific mortality in South Korea. *International journal of epidemiology*, 34(6), 1291-1301.
- Lagravinese, R. (2015). Economic crisis and rising gaps North-South: evidence from the Italian regions. *Cambridge Journal of Regions, Economy and Society*, 8(2), 331-342.
- Loayza, N. V. and Pennings, S. (2020). "Macroeconomic Policy in the Time of COVID-19: A Primer for Developing Countries". *World Bank Research and Policy Brief*, No 28, pp 1-9.
- Lucas, R. E. Jr. (1972). "Expectations and the Neutrality of Money." *Journal of Economic Theory* 4(2), pp. 103-124.
- Mckibbin, W. J., & Fernando, R., (2020). "The global macroeconomic impacts of Covid-19: Seven Scenarios". Centre of Excellence in Population Ageing Research (CEPAR) *Research Paper*, 2 March 2020; pp 1-43.
- Mendis, C. (2002). External shocks and banking crises in developing countries: does the exchange rate regime matter?
- Morales, J. A., & Sachs, J. D. (1989). Bolivia's economic crisis. Developing country debt and the world economy (pp. 57-80). University of Chicago Press.
- Muhammad, F., Abdulkareem, J. H., & Chowdhury, A. A. (2017). Major public health problems in Nigeria: a review. *South-East Asia Journal of Public Health*, 7(1), 6-11.
- Max, R., Hannah, R and Esteban, O. (2020) "Coronavirus Disease (COVID-19) "Published online at Our World In Data. Retrieved from: 'https://ourworldindata.org/coronavirus'.
- Onwujekwe O, Kaur H, Dike N, et al (2009). Quality of anti-malarial drugs provided by public and private healthcare providers in south-east Nigeria. *Malaria Journal*, 8(22), 1-9.
- Ozili, P.K. and Arun, T.G. (2020). Spillover of COVID-19: Impact on the Global Economy. Working paper.
- Ozili, P. K. (2019). 100 Quotes from the Global Financial Crisis: Lessons for the future. Available at SSRN 3500921.
- Petrakos, G. (2014). Economic crisis in Greece. European and domestic market and policy failures. *Région et Développement*, 39, 9-33.
- Ros, J. (1987). Mexico from the oil boom to the debt crisis: An analysis of policy responses to external shocks, 1978-85. In *Latin American*

debt and the adjustment crisis (pp. 68-116).
Palgrave Macmillan, London.

Rady, D. A. M. (2012). Greece debt crisis: Causes, implications and policy options. Academy of Accounting and Financial Studies Journal, 16, 87.

Sanusi, L. S. (2010). The Nigerian Banking Industry: what went wrong and the way forward. Delivered at Annual Convocation Ceremony of Bayero University, Kano held on, 3(1), 2010.

Soininen, J., Puumalainen, K., Sjögrén, H., & Syrjä, P. (2012). The impact of the global economic crisis on SMEs. Management Research Review.

Stiglitz, J. E. (2010). Interpreting the Causes of the Great Recession of 2008. Financial system and macroeconomic resilience: revisited. Bank for International Settlements.

WHO Director General's Opening Remarks at the Media Briefing on COVID-19 11th March 2020.

World Health Organization (2020) Press Conference on Novel Coronavirus Outbreak.