

## **Effects of Pandemic on Economy in Sub-Saharan Africa: A Case of Coronavirus (COVID-19)**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. Author OOD conceived and designed the study, wrote the first draft, managed the literature searches and wrote the paper. Author ARI drafted the protocol, contributed materials and wrote the paper. Author OOA designed the study, managed the literature searches, performed the statistical analysis, analyzed and interpreted the data and wrote the paper. Author ATA sourced for relevant materials, proofread the manuscript and wrote the paper. Author TIA helped with literature, proofread the manuscript and wrote the paper. All authors contributed significantly to the paper.*

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### **ABSTRACT**

The Outbreak of the COVID-19 had presented an unprecedented threat to the global economy. The contemporary disease is spreading exponentially across the continent of Africa and the pandemic has been felt in all the countries of Africa. In this study we examined the effects of the pandemic on economy in Sub-Saharan Africa (SSA) using the COVID-19 as a case study, we adopted the envisage model in explaining the interaction between economic agents and how the outbreak of the

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COVID-19 has affected the relationships between them. We used *probit* regression model to analysis the effects of COVID-19 on the economic measures, we found unemployment rate and oil prices statistically significant at 5% and 10% respectively. All the price value are measured in US\$. The study concluded that COVID-19 has affected the SSA economy negatively and we proffer that government should cut down their expenditure especially the salaries of political officers and appointees, however we accounted for the shortcomings of this paper which lies in the erratic and the unstable nature of COVID-19 data.

**Keywords:** COVID-19; pandemic; Sub-Saharan; Africa; economic.

## 1. INTRODUCTION

### 1.1 Background to the Study

Over the years, diseases and maladies have plagued humanity since the incipient stage of the world, however, it should be noted that extensive trade had ushered in new opportunities for human and animal interactions that sped up such epidemics. Smallpox, tuberculosis, malaria, leprosy, influenza, and others first appeared during these early years [1,2].

Evidence has advanced that the more civilized humans became (with different populations of people, animals, organism, ecosystems, more exotic trade routes and increased contact with larger metropolitan and cities), the more inexorable for pandemic to occur. History has subsequently provided us with the fact that interaction between humans created by trade and urbanization has played a pivotal role in the emergency of pandemics; the virulent nature of some diseases has indicated the trajectory of an epidemic.

These outbreaks had caused serious adverse effects on the economies, education, public sector, hospitality and leisure, research and development, health and have threatened the existence of humans of the affected countries [3].

The world at large is currently indisposed by the novel coronavirus diseases commonly known has COVID 19. On 31<sup>st</sup> December 2020, the noble World Health Organization (WHO) acknowledged the information received on the disease outbreak of an alien etiology discerned in a seafood market located in the city of Wuhan, Hubei Province, China.

On 11 February 2020, WHO named the unknown etiology diseases detected in a seafood market located in the city of Wuhan, Hubei Province, China as COVID-19 and declared the infectious disease as a public health emergency, after

spreading from Wuhan, Hubei Province, China to 24 other prominent countries. The coeval diseases are increasing and spreading exponentially around the facet of the world. This transmission of the novel coronavirus has been a rife in at least 215 countries of the world 8,814,000 confirmed cases with 465,6287 death tolls as at 21<sup>st</sup> June 2020 [4].

The United States of America (USA) has recorded the total number of confirmed cases of 2,331,963 with recovered cases of 716,000. United State of America remains the hardest hit of the global pandemic in both South and North American continent and the world at large with the death tolls at 122,550. Spain, with 246,363 confirmed cases and 150,376 deaths. Spain remains the hardest hit country in the continent of Europe (WHO, 2020). United Kingdom (UK), with 303,129 confirmed cases with 1210 recovered cases and deaths toll of 42,589, as at the time of writing this research paper Austria remains the country with the lowest number of deaths cases in the continent of Europe with 7.8 per 100,000 populations. However, Belgium had the highest rate of coronavirus deaths with 847.8 per 100,000 populations.

In the Middle East, Saudi Arabia is the hardest hit country by this ravaging disease with 154,233 confirmed cases, 98,917 and 1,230 deaths toll. Indian remains the hardest hit country in Asia, with 424,516 confirmed cases and the number of recover cases is sum at 228,000 at the time of writing of this paper (June 21<sup>st</sup>, 2020). Similarly, Indian as recorded 13,254 deaths because of the emergency of the COVID-19.

It is important to note that these diseases had spread across all the 54 African countries as against [5,6], as the time of writing their papers All African Countries have reported at least a case of the novel coronavirus. The number of confirmed cases of the novel coronavirus in African countries is increasing exponentially. As at the time of writing this paper, African countries

has recorded 297,112 confirmed cases with 142,622 recovered cases. Furthermore, African countries have recorded deaths tolls of 7,919 as at the time of writing this paper (WHO, 2020). South African is the most hardly hit nation in Africa with 97,547 confirmed cases and 50,32 recovered cases. South African has subsequently deaths resulting from the novel coronavirus, which is reported to be 1,923 as at June 21st, 2020. However, the number of confirmed cases in Egypt is somewhat lesser than the confirmed cases in South African with 55,305 confirmed cases with number of recovered cases which reported to 14,327. This study therefore confirmed that Egypt has the highest number of deaths resulting from the novel coronavirus in African continent with a total of 2,195 deaths tolls.

On the other hand, the author confirmed that the prevalent of the global pandemic COVID-19 is lesser in Gambia compared to other countries in the sub-Sahara Africa region with 36 confirmed cases and 24 recovered cases coupled with 1 death. Furthermore, Nigeria is affected by this global pandemic with confirmed cases of over 22,000 with a recovered case of over 6,000 and deaths of over 500 (WHO, 2020).

## 1.2 Research Objectives

The objectives of this research are to determine the economic effects of COVID 19 on the economy of sub Saharan African countries and offer policy recommendation.

## 1.3 Research Justification

Very few researchers have investigated the impact of COVID-19 on the economy of SSA region, and those that did, has not used enough and vital indices, while some did not adjust for COVID -19 in their estimates. [7] examined the potential impact of COVID-19 on GDP and Trade, However their analysis underestimate the potential economic costs of the pandemic. This study will analysis the potential economic costs of the pandemic. Furthermore this work is so imperative because currently the number of coronavirus cases keeps increasing and there seems to be no solution soon, and the impacts of this pandemic keep hitting the economies of sub-Saharan Africa. There is dire need to estimate the impacts of this pandemic-COVID-19 on the economy so that proper policy recommendation can be provided to alleviate the miseries of the economy.

## 2. SOCIO ECONOMIC PERSPECTIVE OF COVID-19 PANDEMIC IN SUB SAHARA AFRICA

The emergency of the novel coronavirus diseases has perturbed various socio-economic groups; the consequence of this global pandemic will be evident in the socioeconomic group that is adversely affected by this pandemic in an assorted way. It is important to understand the consequences of this present pandemic and to predict the effect of this pandemic on the socio-economic forces in the society.

Furthermore, the socioeconomic factors include lifestyle of the people, the level of education, urban and rural settlement, number of households and house owners and population density. Evidence has advanced that strata with lower socioeconomic status are more prone to danger of this pandemic [4]. The COVID-19 is reported to have spread through human-to-human transmission (Li et al. 2020).

In containing the transmission of this pandemic, Governments of various countries have advanced various measures in preventing the outgrow of this global pandemic by implementing various measures like social distancing quarantine measures, provision of facemasks, hand sanitizers, stimulus, and relief funds. These have invariably caused financial stress on the economies of the countries. As said earlier, not only the economies were adversely affected, but also the socio-economic lives and education sectors of the affected countries, thus we examined the effects of COVID 19 on the economies of the SSA countries.

### 2.1 Socio Economic Effect of Covid-19 Pandemic in Sub Sahara Africa: A Case of Nigeria

The outbreak of the novel coronavirus has presented as unprecedented threat to the socio economic of sub-Sahara Africa. The effects of COVID-19 pandemic in Sub Sahara Africa cannot be undermined on socio economic lives in sub-Sahara Africa. [8] explained that Quarantines, lockdowns and social distancing measures which are essential in curtailing the virus continue to acutely impede sectors that rely on social interactions (such as travel, hospitality, entertainment, and tourism) with more than half of the world's population already under some form of lockdown. The following are the effect poses by the pandemic on the socio-economic lives of sub-Sahara Africa.

### 2.1.1 Devaluation of currency

The impact of the pandemic had been partially felt in the exchange rate in some African countries. Nigeria for example has her naira depreciated by 1.0% since mid-February 2020 but the informal market indicates an expectation of a larger depreciation of the Naira. Amidst the pressure, on March 20th, the Central Bank adjusted the currency to ₦380 per dollar. A week before the announcement, informal sources indicated that the Naira was trading at ₦380 per dollar in the parallel/black market. But as at June 17th, 2020 the naira value devalued to ₦387.048. Currently, prices and supply of goods are also affected indicating the impact of the devaluation on the domestic production and market.

### 2.1.2 Drop in oil prices fall by almost 60 percent

The unprecedented challenge also had a significant impact on crude oil. As of 18 March 2020, the price of crude oil dipped to US\$29.62/barrel. Given that the Federal budget estimates for 2020 have pegged oil prices at US\$57/ barrel and production at 2.18 million barrels per day, if prices continue to remain at this level, it would translate to a decline in 48 percent of expected revenue from oil sales per month. This alone could reduce fiscal revenue by close to \$10B and export earnings by \$19B. The decline in export revenues is projected to have a combined effect of 0.55 percentage points drop in Gross Domestic Products (GDP). The lack of demand could also reduce domestic oil production (supply) in the short to medium term. As such, fiscal space could be narrowed significantly further limiting the Government's ability to cope with an emergency response.

### 2.1.3 Pressure on health care system

The pandemic has placed immense and unprecedented pressure on most developing country's underinvested healthcare system. In Nigeria, Estimates indicate that around 20 percent of COVID-19 cases require hospitalization. In total there are 330 ICU facilities in the country, including 30 in Lagos. Nigeria Center for Disease Control (NCDC) currently has five testing centers and treatment centers designated for COVID-19. An isolation facility in Lagos is equipped with 100 beds but the capacity outside Lagos is very limited. Based on the recent assessment of eight treatment centers by WHO, a majority are not well

equipped and the capacity to respond is particularly weak in the North.

### 2.1.4 Increase in unemployment rate

In Sub Sahara Africa, most graduate who had plan of getting a befitting Job would have to stay home since most companies are not recruiting. Also, a lot of companies had to retrench their staff to reduce cost and still make profit at the long run. As the outbreak intensifies, Nigeria's services, trade and financial sectors continues to suffer significant disruptions.

### 2.1.5 Threat to peace and social cohesion

Pandemics have a significant effect on the social fabric of society. Several reports suggest that health related pandemics have the potential to increase the risks of domestic violence in many homes in Nigeria as well as other nations of the world. Police reports in Nigeria shows that domestic violence tripled during the pandemic; violence against health workers due to serious stress levels that the pandemic places on patients; and abuse and exploitation of women and girls especially care givers (PricewaterCoopers: The Economic Power of Nigeria's Diaspora 2018).

Furthermore, frustrations resulting from economic loss also played into existing regional fault lines within Nigeria. There has been a 20% increase in the number of rape cases in Nigeria. There had also been quite several increases on cybercrimes.

## 2.2 Conceptual Framework

The Environmental Impact and Sustainability Applied General Equilibrium (ENVISAGE) Model [4] of the World Bank is designed to assess the interactions between the economies and the environment as it relates to climate change (Dominique, 2010).

The model analyses baseline emissions of Carbon (iv) oxide (CO<sub>2</sub>) and other greenhouse gases, how economic agents cope with climate change, climate change mitigation policies, land use as coping strategies in future emissions, and impacts of climate change on the households, firms and economy. It incorporates a feedback response between economic agents and the global environment. We adopted the ENVISAGE model as developed by Dominique (2010) and used by Maliszewska et al. [7] because it emphasizes the impact of shock or emergencies

on the economic agents especially focused on the developing countries which are majority of the sub-Saharan Africa region.

Fig. 2 explains the interaction between economic agents and how COVID-19 has affected the relationships between them. The economic agents respond to the product markets and factor markets, demand, and supply of goods and services and transfer of wealth. The COVID-19 affected the:

- (1) Exportation of goods and services through lowering the international trades between countries and reducing international tourism;
- (2) Demand for goods and services through lowering the demand for goods and services due to lock-down and reduced human interactions;
- (3) Supply of inputs through labor under-utilization, decline in investments, and unemployment.

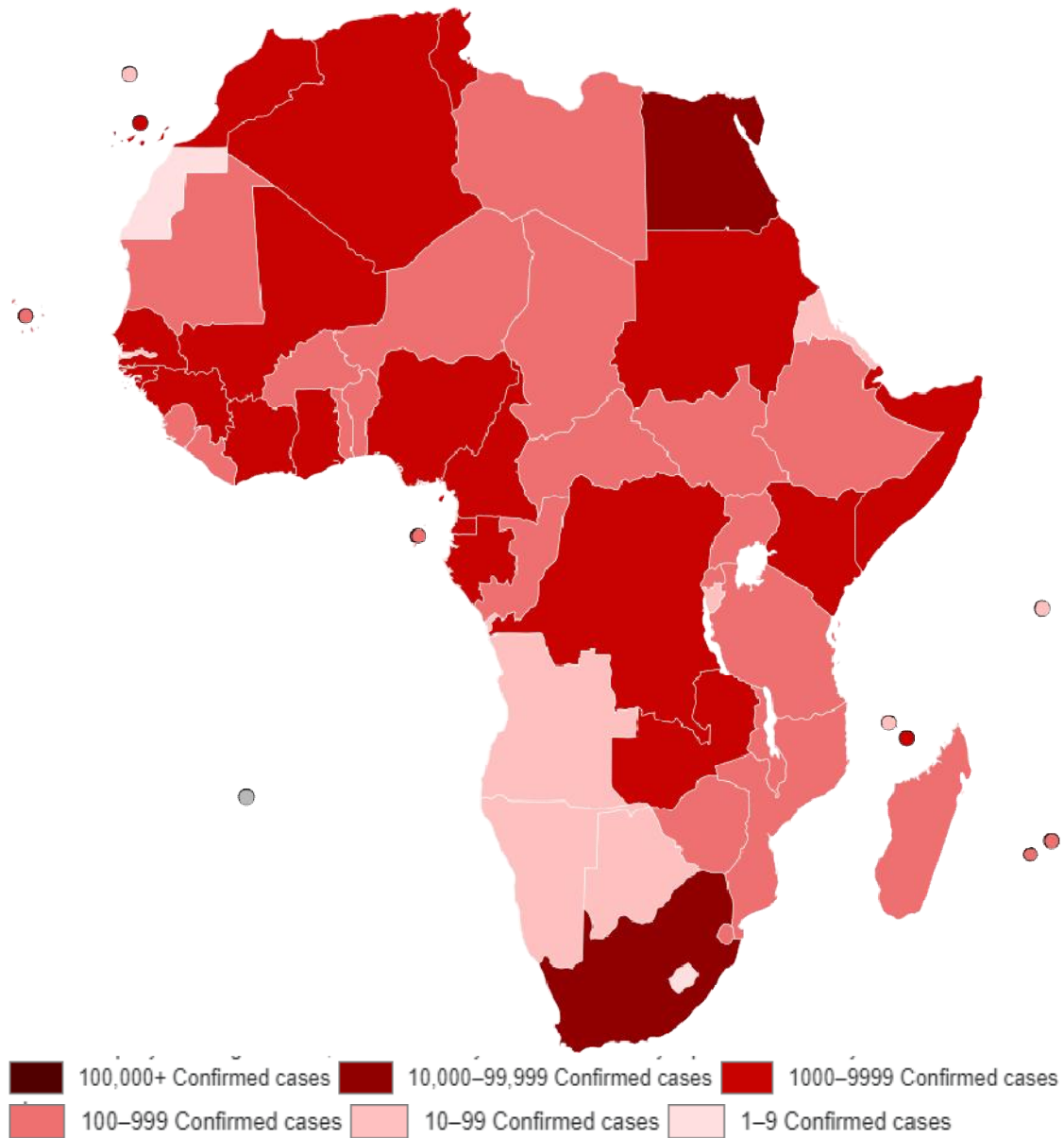


Fig. 1. Satellite map of COVID-19 cases in Africa [9]

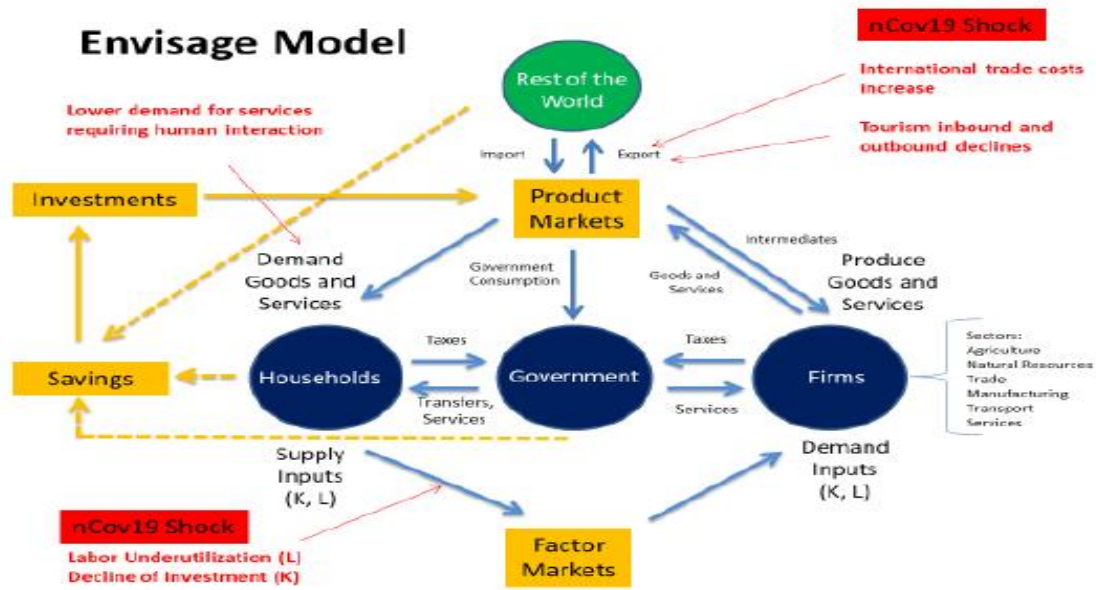


Fig. 2. Envisage model showing the impact of COVID-19 (Maliszewska et al. [7])

### 3. RESARCH METHODOLOGY

#### 3.1 Study Area

The study area is sub-Sahara Africa. The region is the part of Africa that lies south of the Sahara Desert, which has been separated from the North Africa by the extreme climate conditions. The people of the region are dark-skinned with mixed cultural and ethical values as compared to the North who are mostly influenced by the Arab and Islam culture. The region is known for minerals and natural resources which include oil, diamond, gold, copper, metals, aluminum and chromium.

These resources have helped to improve job employments through extraction, mining, and exportation, thus increasing the Gross Domestic Products (GDP) of the region. The Atlantic Ocean borders the region on the West and South, making it one of the world's most effective areas for oil exploration. Though, the oil exploration has cause past unrest, corruption, adverse climate condition through excessive gas flaring, but has also, contributed significantly to the GDP of the region.

#### 3.2 Data Source

This study made use of literature, reviewed papers, online sources, world health

organization, World Bank and economic agencies of African countries. These sources are considered based on their relevance to our study and integrity of the sources. We investigated few economic indices, which are GDP, unemployment, exchange rates and oil prices.

#### 3.3 Sampling Techniques

Aggregate data of the indices of economic growth was collected and used from secondary sources. The sources were used based on the authenticity and reliability of the data. The sources are African CDC, Brookings Institute, World bank, African Union, International Monetary Fund (IMF) and World Health Organization (WHO).

#### 3.4 Data Analysis

Data gotten from secondary sources and they were analyzed using *probit* regression model.

#### 3.5 Analytical Technique

Data for the study were analyzed using both descriptive and inferential statistics. Based on small sample size, we abide by the recommendations of [11,12] to improve the robustness and consistency of our standard errors.

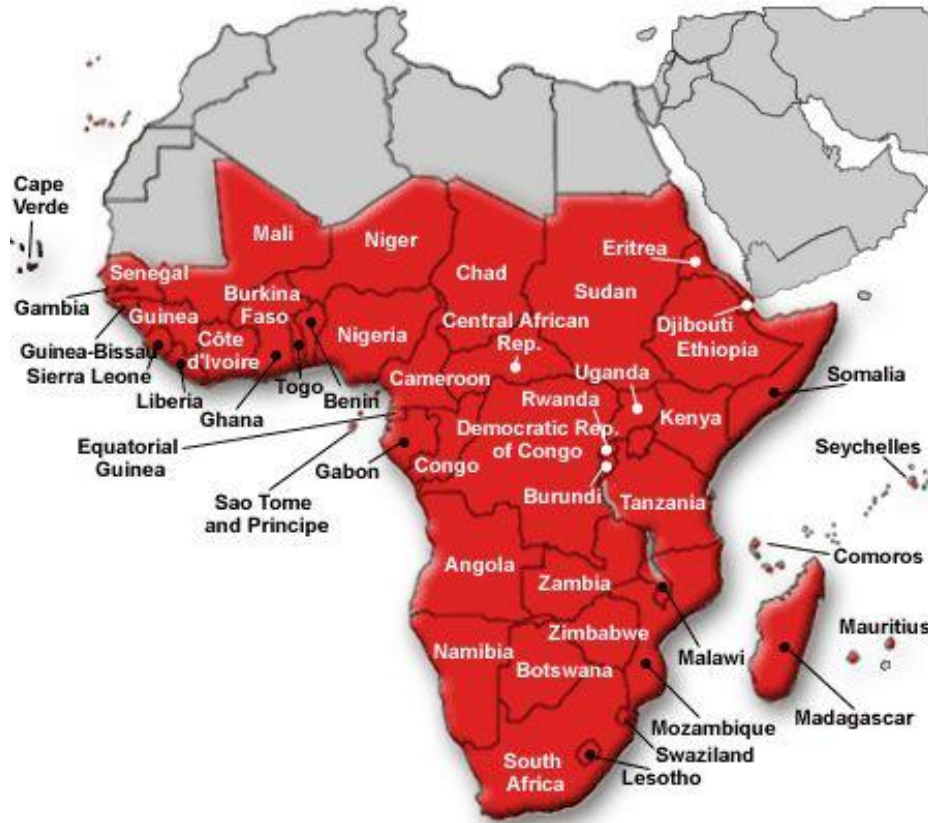


Fig. 3. Map of Sub Saharan African countries [10]

### 3.6 Model Specification

The study employed the *probit* regression analysis to probability of effects of COVID-19 on economic growth, this follows [13] who investigated the effects of health status on income. Variables included in the model were Gross Domestic Products (GDP), Gross Domestic Income (GDI), employment, exchange rates and oil prices. Gross Domestic Product (GDP) takes care of consumption, investment, government spending, and net exports; while Gross Domestic Income (GDI) takes care of labor compensation, business profits, and other sources of income. R studio was used for the analysis.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu$$

Where,

Y= COVID status (1- present, 0 - otherwise)  
 $\beta_0$  = Constant,  
 $\beta_1 = \beta_5$  coefficients of independent variables  
 $X_1$  =GDP growth rate

$X_2$  = GDP per capital  
 $X_3$  = Unemployment rate  
 $X_4$  = Oil prices (Brent Crude oil)  
 $\mu$  = The error term.

### 4. RESULTS AND DISCUSSION

Sub-Saharan Africa region is faced with various opportunities and constant challenges. Known for the world's largest free trade area consisting of 1.2 billion-person market, the region is developing the economic path while building its natural and human resources.

#### 4.1 Effects of COVID-19 on Economic Measures

Table 1 shows the effects of COVID-19 on the economic measures of interest. It is noted that the all except unemployment rate has negative relationship with COVID-19, this shows that the presence of pandemic indicates probability to reduce the GDP growth rate by 0.01, GDP per capital by 3.4 and oil prices by 49%, while unemployment grows by 24%.

**Table 1. Result of regression showing the effects of COVID-19 on economic measures**

Variables	Coefficient	T-ratio
GDP growth rate	-0.01	0.68
GDP per capital	-3.4	1.45
Unemployment rate	0.24**	2.14
Oil prices	-0.49*	1.76

\*\* =significant at 5%; \* =significant at 10% Source: Secondary data

The economy of SSA improved by 1.87% year-on-year in the first quarter of 2020 contrasted to a 2.55% growth in the previous period, against the backdrop of substantial global disturbances resulting from the Covid-19, constrained international trade and a sudden drop in oil prices. The appears to be the slowest economic pace since the third quarter of 2018 and has caused disruptions in the oil sector, non-oil sectors, internal trades, tourisms, accommodation and food services, administrative and support services, agriculture, mining, extraction and manufacturing sectors.

**4.2 More Discussion**

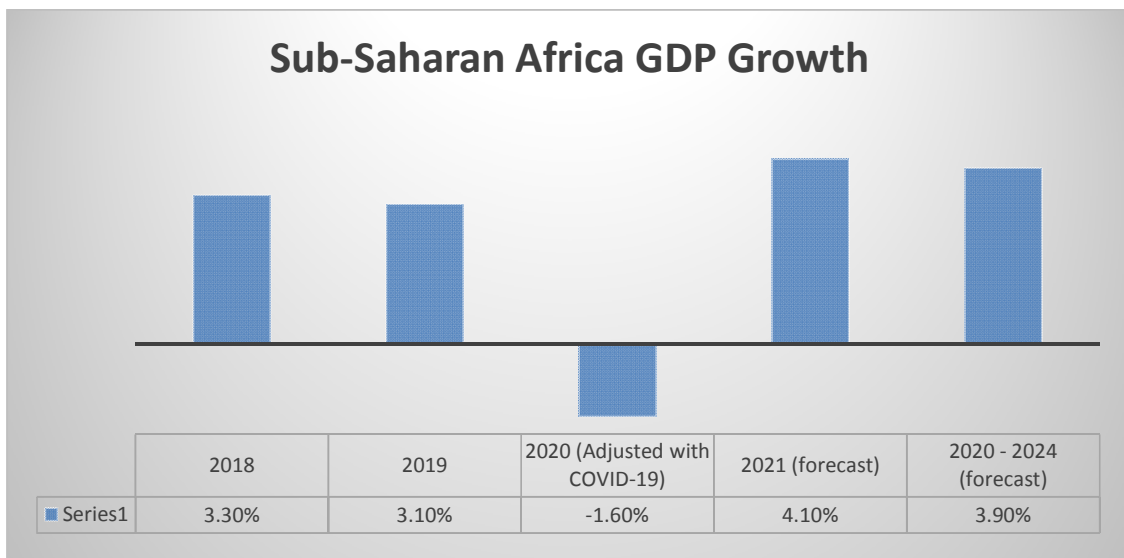
**4.2.1 Gross domestic product (GDP)**

The real GDP of African countries which have experienced a steady growth over the last ten years [14], are currently threatened by the pandemic-COVID 19. The unpredictability of the African community due to COVID-19 pandemic which has taken millions of lives and has pressured the health systems, has posed a continuous negative impact of the socioeconomic lives and economies of SSA.

World Bank (2020) noted that the pandemic has cost SSA region between \$37 and \$79 billion, decreasing agricultural productivity, declining supply chains, endangering trades, rise in unemployment, intensifying political and regulatory ambiguities [15,16]. These challenges have contracted the growth from 2.4% in 2019 to between -2.1 to -5.1 in 2020 sparking the region the first recession in 25 years (World Bank, 2020).

Fig. 4 reveals that SSA’s GDP growth is -1.60%, while South Africa, Zambia and Nigeria are worse hit with 5.8%, 3.5% and 3.4% reduction, respectively. Likewise, export growth of SSA is -1.87 [7].

This shows that the COVID 19 has affected the growth in SSA as opposed to the forecasted growth (Brookings Institute, 2020; International Monetary Fund (IMF), 2020 and World Bank, 2020). Brookings Institution’s annual Foresight Africa Report forecasted the GDP growth for the five years (2020 to 2024), the report estimated Senegal (8.3%), Rwanda (7.9%), Nigeria (2.3%) and South Africa (2.3%).



**Fig. 4. Sub-Saharan Africa GDP growth (IMF, World Bank and African Union)**



### 4.2.2 Employment

Africa is projected to be one-fifth (1/5) of the global labor force by 2030 [17], while majority is informal which is characterized by low pay, job insecurity, dangerous work ethics and unstable work hours. Employment is one of the major indices to measure the growth of the economy.

The impact of COVID-19 may vary from countries to countries in the region, the trickle effects will be a drop in earnings, increased unemployment, and underemployment. The unemployment rates in Africa has been on the increasing side for 5 years now, though some few countries such as Malawi, Lesotho and Tanzania are doing better. But, COVID 19 has worsen the situation, bringing the unemployment rate of African countries to 7.8 as against 6.2 in 2019 (World bank, 2020), also African Union (2020) estimated that almost 20 million jobs will be lost and the effect will be twice felt among youth (15-24 years) than the older adults.

Before COVID-19, the private sector which account for 46% of the employer of labor, has been experiencing the difficulty to access the markets due to insufficient access to infrastructure, high production cost and corruption. Now, the pandemic worsens the scenario due to travel restrictions, lockdown, social distancing, and drastic decline in the demand for goods and services such as hospitality, transportation, tourism and manufacturing, but the essential ones have a fairly steady demand [18].

Many of the 24.3 million jobs in and related to tourism are threatened by the COVID-19 lockdown [19]. Due to the lack of business expansion some companies have laid off 10 to 30 percent of the workers, for example, Uganda’s Premier Distillers laid off 80% of their employees, Access bank, Nigeria laid off 30% of their workers. IHS Markit analysts forecast unemployment in South Africa will reach 40 percent and GDP will drop by 12 percent [20].

Sub Saharan Africa is a home to many natural resources such as oil, gold, diamond, and the extraction of the resources has created jobs for many youths in the region. The number of jobs in the mining and extraction sectors has been relatively low as compared with the output volumes, but the workers are well paid.

The introduction of COVID 19 has further lowered the number of employees and the production volumes, due to low demand for the materials especially from China. Ghana, South Sudan, Angola, Zambia, Gabon, South Africa, the Democratic Republic of the Congo, Equatorial Guinea, and Nigeria will suffer most from the closure of mines.

Public and Civil servants/workers are not expected to loss to their work, due to Unionism and the fact the many African countries are receiving the relief funds from international financial institutions and bilateral partners. Also, politicians and ministers in Rwanda, Mozambique and Kenya have agreed to `cut down their salaries as a forerunner to soften the effect of COVID-19.

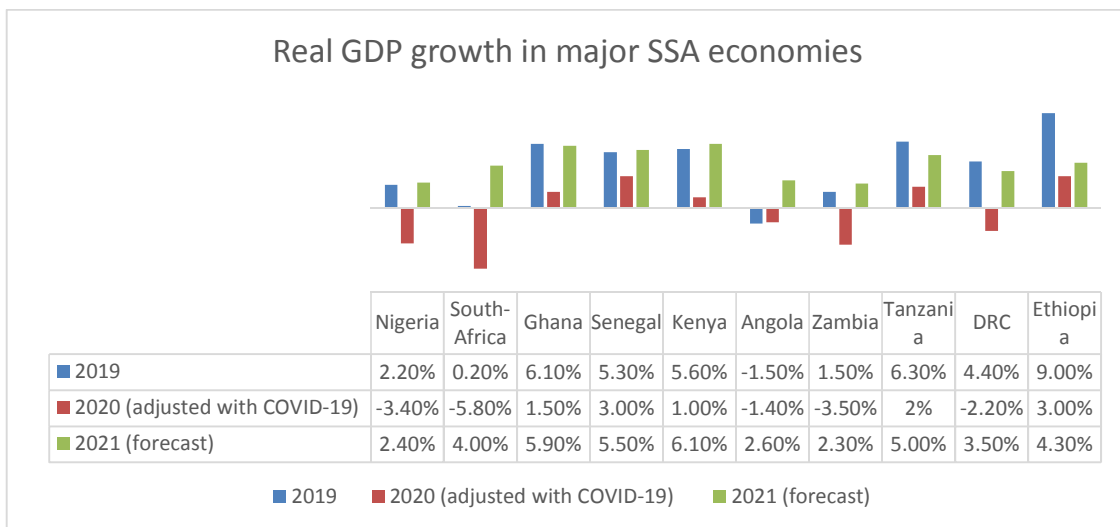
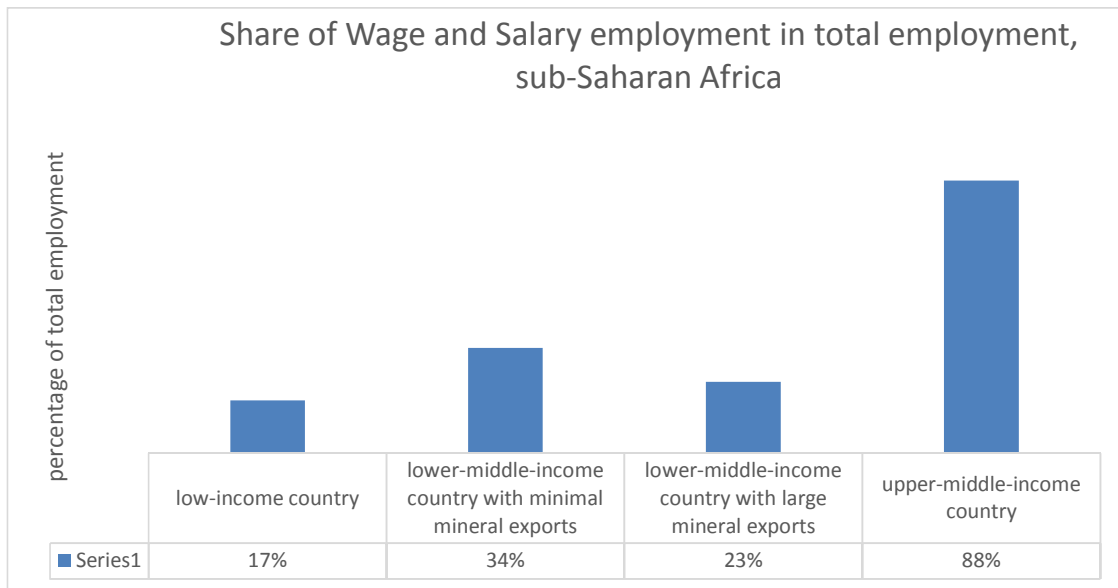


Fig. 5. Real GDP growth in major SSA economies (IMF, World Bank and African Union)



**Fig. 6. Share of Wage and Salary employment in total employment, sub-Saharan Africa (World Bank, Global Jobs Indicators Database, 2020; Brookings Institute, 2020)**

**4.2.3 Exchange rate**

We use US dollar as a base. Fig. 7 explains how the exchange rate has change since December 2019 to June 2020. [21] the exchange rates have been erratic as evidenced from Fig. 7 where we investigated three main economies in SSA. One common thing among these countries is that there is a sharp rise in the exchange rate immediately the virus was introduced into the individual countries. This suggests that pandemic virus tends to increase the exchange rate of SSA's currencies.

been erratic for years, but this has gone worse during the pandemic time. [22] noted that oil prices lost about 50% of their value dropping from US\$ 67 a barrel to below US\$ 30 a barrel. Due to reduced travels and consumption of oil and its products, the producers cut the supply by 1.5 million barrels per day (bpd). From Fig. 7(a-d) shows that energy prices fall significantly in 2020 which is apparently due to COVID-19. Likewise, from Figure VIII d oil prices were stable for the last half of 2019 and begin to drop in December 2019 when the pandemic keeps ravaging China who is a major consumer of oil due to their population and to massive production. The downward trend continues to April 2020 and picks up due to countries opening their economies. However it should be noted that all energy prices are measured in US\$.

**4.2.4 Energy prices**

Energy is one of the major sources of income for SS African countries. Though, the prices have



**Fig. 7. Exchange rate trends for some selected Sub-Saharan African Currencies (XE Currency Charts)**

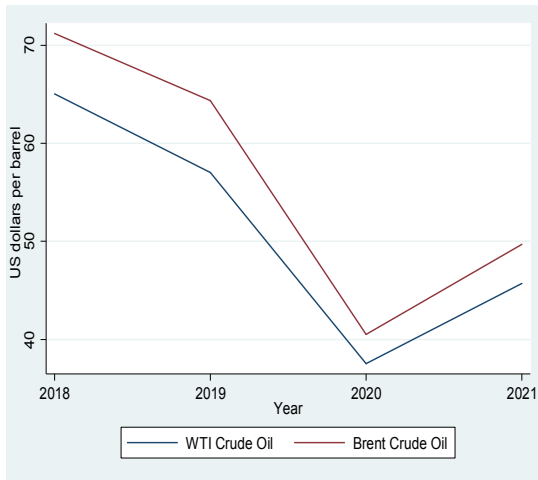


Fig. 7a. Oil prices trends

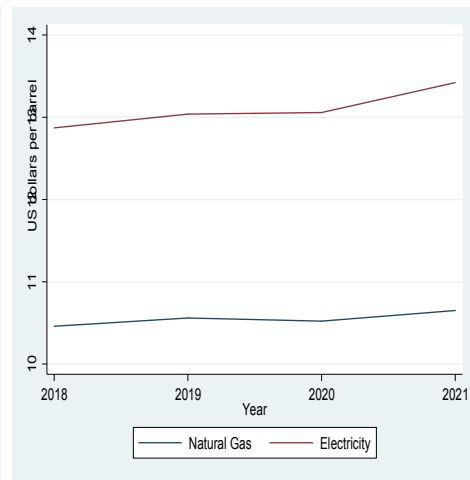


Fig. 7b. Oil prices trends

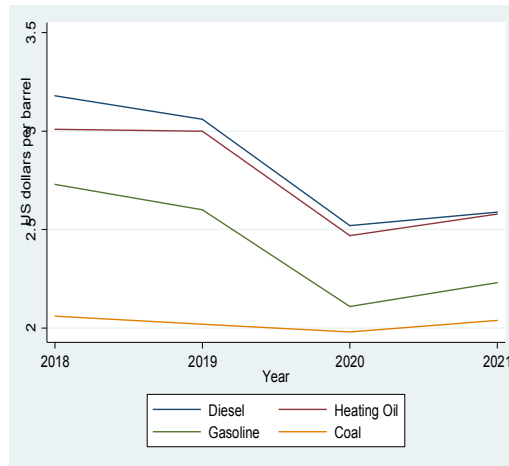


Fig. 7c. Oil prices trends

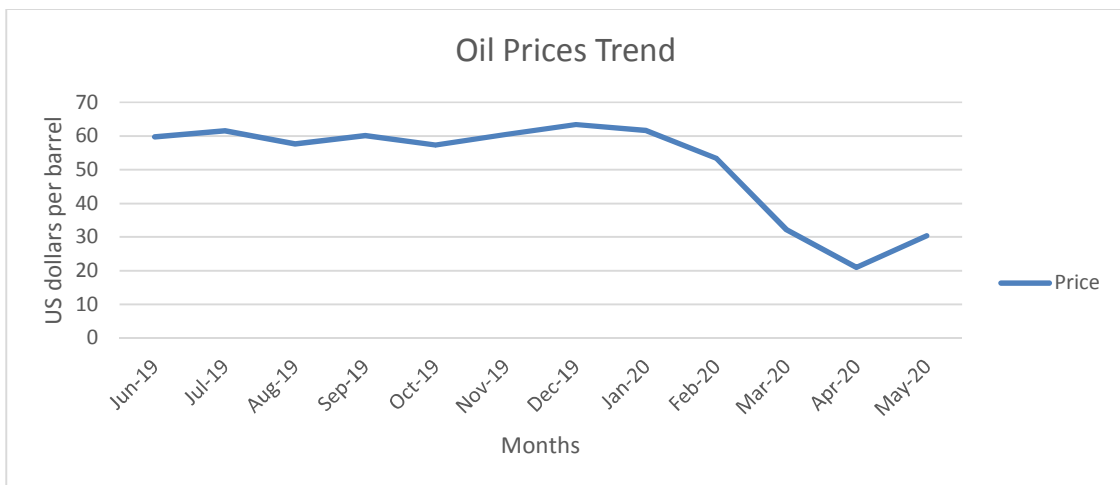


Fig. 7d. Oil prices trends

Source: World Bank

**Description:** Crude oil, average spot price of Brent, Dubai and West Texas Intermediate, equally weighed.

The current decline in crude oil prices has been so rapid and very steep as compared with the decline in 2014, though analysts predicts more terrible fall. Non-oil commodities have also fallen tremendously, for example, natural gas prices have declined by 30% since January (Brookings Institution, 2020).

## 5. CONCLUSION AND RECOMMENDATIONS

The study investigated the impacts of COVID-19 on some sectors of the economy. Our findings revealed that the pandemic has affected the economy of SSA countries. Unemployment and oil prices have been statistically been affected by COVID-19 at 5% and 10% level. Gross Domestic Products of SSA countries declined by 1.6% as against the forecasted growth. More people have lost their jobs during this pandemic and the effects are mostly felt among the young people between the ages of 15 to 24 years.

The value of African currencies reduced due to rise in exchange rates which is caused by the decline in foreign exchange markets because of COVID-19. Oil prices, though the prices have been erratic for years, but the pandemic worsen the situation, which created shock of the economies of oil producing countries in Africa.

The study recommends that government should cut down their expenditure especially the salaries of political officers and appointees, to give more resources to alleviate the impacts of COVID-19. The government and the private organizations should create online and digital jobs for youth, by this they earn and take care of their family. This possibly could add values to the individual currencies and lessen the effects of COVID-19 on the GDP.

International organizations should continue to provide relief funds to sub-Saharan countries, because the funds have proofed to help the poorer countries of the world. Government can help private companies to stay afloat, also the government should enact fiscal, monetary, and financial policies to protect the vulnerable groups, mitigate economic losses and assist economy recovery.

For example, policies to limit the retrenchment of employees by private companies and to make

health facilities affordable to the citizens. Furthermore, the authors advised the government of SSA to target SMES so as urgently start venturing in the bid to help them cope during COVID-19 and post COVID-19. This process could entail the rendering or producing services required in fighting against the pandemic.

## 6. LIMITATION

Due to erratic and unstable nature of COVID-19 data it was practically impossible to get the accurate prediction and impact of COVID-19 on the economy. The urgency of the virus and the impact has made us to have this paper done in the quickest possible time. This limited us to use more resources in our results and discussions. There has been no stable model to capture the whole and accurate effects of COVID-19 on the economy. We hope to review our paper after the COVID-19, by then we will be able address all the limitations of this paper, which will give us enough assertion of the impacts of the virus on the economy.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Velavan TP, Meyer CG. The COVID-19 epidemic. *Trop Med Int Health*. 2020;25(3):278–280.
2. Tyrell DAJ, Bynoe ML. Cultivation of a novel type of a common-cold virus in organs cultures. *Br. Med. J.* 1965;1:14-67.
3. World Bank. *World Bank in Africa*; 2020. Available:<https://www.worldbank.org/en/region/afr/overview>
4. World Health Organization (WHO). *Coronavirus disease 2019 (COVID-19) Situation Report 55*. World Health Organization; 2020. Available:[https://www.who.int/docs/default-source/coronaviruse/situationreports/20200315-sitrep-55-covid-19.pdf?sfvrsn=33daa5cb\\_8](https://www.who.int/docs/default-source/coronaviruse/situationreports/20200315-sitrep-55-covid-19.pdf?sfvrsn=33daa5cb_8) (Accessed 14<sup>th</sup> April 2020)
5. Sarkodie SA, Owusu PA. Investigating the cases of novel coronavirus disease (COVID-19) in China using dynamic statistical techniques. *Heliyon*. 2020;6(4):03747. Available:<https://doi.org/10.1016/j.heliyon.2020.e03747>

6. Ibrahim A. Adekunle, Abayomi Onanuga, Olakitan Wahab, Olanrewaju O. Akinola. Modelling spatial variations of coronavirus disease (COVID-19) in Africa. *Science of the Total Environment*; 2020. Available: <https://doi.org/10.1016/j.scitotenv.2020.138998>
7. Maliszewska Maryla, Mattoo Aaditya, Van Der Mensbrugge Dominique. The potential impact of COVID-19 on GDP and trade: A preliminary assessment (English). Policy Research working paper; no.WPS 9211; COVID-19 (Coronavirus). Washington, D.C. World Bank Group; 2020. Available: <http://documents.worldbank.org/curated/en/295991586526445673/The-Potential-Impact-of-COVID-19-on-GDP-and-Trade-A-Preliminary-Assessment>
8. Deloitte. Economic impact of the COVID-19 pandemic on East African economies summary of government intervention measures and Deloitte insights; 2020.
9. Wikipedia; 2020. Available: [https://www.google.com/imgres?imgurl=https%3A%2F%2Fupload.wikimedia.org%2Fwikipedia%2Fcommons%2Fthumb%2Fc%2Fc6%2FCOVID-19\\_Outbreak\\_Africa\\_Map.svg%2F1200px\\_COVID-19\\_Outbreak\\_Africa\\_Map.svg.png&imgrefurl=https%3A%2F%2Fen.wikipedia.org%2Fwiki%2FCOVID-19\\_pandemic\\_in\\_Africa&tbnid=V\\_8gRSazmmLKaM&vet=12ahUKEwimzuro3Y\\_qAhUJB50JHeLBCkoQMygPegUIARCeAQ..i&docid=Hy37lkb6X3H8MM&w=1200&h=1200&q=map%20of%20sub%20saharan%20africa%20with%20covid%2019&safe=active&ved=2ahUKEwimzuro3Y\\_qAhUJB50JHeLBCkoQMygPegUIARCeAQ](https://www.google.com/imgres?imgurl=https%3A%2F%2Fupload.wikimedia.org%2Fwikipedia%2Fcommons%2Fthumb%2Fc%2Fc6%2FCOVID-19_Outbreak_Africa_Map.svg%2F1200px_COVID-19_Outbreak_Africa_Map.svg.png&imgrefurl=https%3A%2F%2Fen.wikipedia.org%2Fwiki%2FCOVID-19_pandemic_in_Africa&tbnid=V_8gRSazmmLKaM&vet=12ahUKEwimzuro3Y_qAhUJB50JHeLBCkoQMygPegUIARCeAQ..i&docid=Hy37lkb6X3H8MM&w=1200&h=1200&q=map%20of%20sub%20saharan%20africa%20with%20covid%2019&safe=active&ved=2ahUKEwimzuro3Y_qAhUJB50JHeLBCkoQMygPegUIARCeAQ)
10. Maria Hawlwy; 2020. Available: <https://greatlakesvoice.com/one-in-every-nine-children-in-sub-saharan-africa-dies-before-age-of-5-study/>
11. McCaffrey DF, Bell RM. Bias reduction in standard errors for linear and generalized linear models with multi-stage samples. *Proceedings of Statistics Canada Symposium*. 2002;1–10.
12. Imbens GW, Kolesar M. Robust standard errors in small samples: Some practical advice. *Rev. Econ. Stat.* 2016;98(4):701–712.
13. Eastwood DB, Brooker JR, Orr RH. Health and income: The case of farmers in Knoxville, Tennessee. *Southern Journal of Agricultural Economics*. 1987;19:193-194.
14. Gap-minders; 2020. Available: [https://www.gapminder.org/tools/#\\$chart-type=linechart](https://www.gapminder.org/tools/#$chart-type=linechart)
15. United Nations. Policy brief: Impact of COVID-19 in Africa; 2020. Available: <https://qz.com/africa/1783714/african-economies-to-watch-in-2020-debt-and-climate-crisis/>
16. International Monetary Fund (IMF). Regional Economic Outlook: Sub-Saharan Africa; 2020. Available: <https://data.imf.org/?sk=5778F645-51FB-4F37-A775-B8FEC6D6BC69B>
17. African Union. Impact of the Coronavirus (COVID19) on the African Economy; 2020. Available: [https://au.int/sites/default/files/documents/38326-doc-covid-19\\_impact\\_on\\_african\\_economy.pdf](https://au.int/sites/default/files/documents/38326-doc-covid-19_impact_on_african_economy.pdf)
18. Brookings Institute. Unlocking Africa's business potential trends, opportunities, risks and strategies; 2020. Available: <https://www.brookings.edu/book/unlocking-africas-business-potential/>
19. Foreign Policy. Africa is bracing for a head on collision with coronavirus; 2020. Available: <https://foreignpolicy.com/2020/03/26/africa-coronavirus-pandemic-economic-crisis/>
20. Reuters. Coronavirus lockdown pushes South African PMI to record low in April; 2020. Available: <https://af.reuters.com/article/commoditiesNews/idAFL8N2CN68B>
21. XE Currency Charts; 2020. Available: <https://www.xe.com/currencycharts/?from=USD&to=NGN&view=1Y>
22. Macrotrends; 2020. Available: <https://www.macrotrends.net/1369/crude-oil-price-history-chart>

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